



# 13671 - Beyond MACS: A Snapshot Survey of the Most Massive Clusters of Galaxies at $z > 0.5$

Cycle: 22, Proposal Category: SNAP

(Availability Mode: SUPPORTED)

## INVESTIGATORS

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## VISITS

| <i>Visit</i> | <i>Targets used in Visit</i> | <i>Configurations used in Visit</i> | <i>Orbits Used</i> | <i>Last Orbit Planner Run</i> | <i>OP Current with Visit?</i> |
|--------------|------------------------------|-------------------------------------|--------------------|-------------------------------|-------------------------------|
| 01           | (1) EMACSJ0014.9-0056        | ACS/WFC                             | 1                  | 18-Aug-2014 21:01:04.0        | yes                           |
| 1K           | (46) EMACSJ0045.2-0151       | ACS/WFC                             | 1                  | 18-Aug-2014 21:01:05.0        | yes                           |
| 1L           | (47) EMACSJ0101.1+1831       | ACS/WFC                             | 1                  | 18-Aug-2014 21:01:06.0        | yes                           |
| 1M           | (48) EMACSJ1631.1+1528       | ACS/WFC                             | 1                  | 18-Aug-2014 21:01:06.0        | yes                           |

Proposal 13671 (STScI Edit Number: 1, Created: Monday, August 18, 2014 8:02:33 PM EST) - Overview

| <b>Visit</b> | <b>Targets used in Visit</b> | <b>Configurations used in Visit</b> | <b>Orbits Used</b> | <b>Last Orbit Planner Run</b> | <b>OP Current with Visit?</b> |
|--------------|------------------------------|-------------------------------------|--------------------|-------------------------------|-------------------------------|
| 1N           | (49) EMACSJ2229.9-0808A      | ACS/WFC                             | 1                  | 18-Aug-2014 21:01:07.0        | yes                           |
| 02           | (2) EMACSJ0026.2+0120        | ACS/WFC                             | 1                  | 18-Aug-2014 21:01:08.0        | yes                           |
| 03           | (3) EMACSJ0030.5+2618        | ACS/WFC                             | 1                  | 18-Aug-2014 21:01:08.0        | yes                           |
| 04           | (4) EMACSJ0135.2+0847        | ACS/WFC                             | 1                  | 18-Aug-2014 21:01:09.0        | yes                           |
| 05           | (5) EMACSJ0256.7-1623        | ACS/WFC                             | 1                  | 18-Aug-2014 21:01:09.0        | yes                           |
| 06           | (6) EMACSJ0256.9-1631        | ACS/WFC                             | 1                  | 18-Aug-2014 21:01:10.0        | yes                           |
| 07           | (7) EMACSJ0834.2+4524        | ACS/WFC                             | 1                  | 18-Aug-2014 21:01:10.0        | yes                           |
| 08           | (8) EMACSJ0840.2+4421        | ACS/WFC                             | 1                  | 18-Aug-2014 21:01:11.0        | yes                           |
| 09           | (9) EMACSJ0921.6-0621        | ACS/WFC                             | 1                  | 18-Aug-2014 21:01:12.0        | yes                           |
| 10           | (10) EMACSJ0935.1+0614       | ACS/WFC                             | 1                  | 18-Aug-2014 21:01:12.0        | yes                           |
| 11           | (11) EMACSJ0943.3-1842       | ACS/WFC                             | 1                  | 18-Aug-2014 21:01:15.0        | yes                           |
| 12           | (12) EMACSJ1027.2+0345       | ACS/WFC                             | 1                  | 18-Aug-2014 21:01:16.0        | yes                           |
| 13           | (13) EMACSJ1030.5+5132       | ACS/WFC                             | 1                  | 18-Aug-2014 21:01:16.0        | yes                           |
| 14           | (14) EMACSJ1050.6+3548       | ACS/WFC                             | 1                  | 18-Aug-2014 21:01:17.0        | yes                           |
| 15           | (15) EMACSJ1131.1+3553       | ACS/WFC                             | 1                  | 18-Aug-2014 21:01:17.0        | yes                           |
| 16           | (16) EMACSJ1136.8+0005       | ACS/WFC                             | 1                  | 18-Aug-2014 21:01:18.0        | yes                           |
| 17           | (17) EMACSJ1144.2-2836       | ACS/WFC                             | 1                  | 18-Aug-2014 21:01:18.0        | yes                           |
| 18           | (18) EMACSJ1148.0+5116       | ACS/WFC                             | 1                  | 18-Aug-2014 21:01:19.0        | yes                           |
| 19           | (19) EMACSJ1209.4+2640       | ACS/WFC                             | 1                  | 18-Aug-2014 21:01:19.0        | yes                           |
| 20           | (20) EMACSJ1212.5-1216       | ACS/WFC                             | 1                  | 18-Aug-2014 21:01:20.0        | yes                           |
| 21           | (21) EMACSJ1222.3+2418       | ACS/WFC                             | 1                  | 18-Aug-2014 21:01:20.0        | yes                           |
| 22           | (22) EMACSJ1341.9-2442       | ACS/WFC                             | 1                  | 18-Aug-2014 21:01:21.0        | yes                           |
| 23           | (23) EMACSJ1350.7-1055       | ACS/WFC                             | 1                  | 18-Aug-2014 21:01:21.0        | yes                           |
| 24           | (24) EMACSJ1407.0-0015       | ACS/WFC                             | 1                  | 18-Aug-2014 21:01:22.0        | yes                           |
| 25           | (25) EMACSJ1419.1-0624       | ACS/WFC                             | 1                  | 18-Aug-2014 21:01:22.0        | yes                           |

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| <b>Visit</b> | <b>Targets used in Visit</b> | <b>Configurations used in Visit</b> | <b>Orbits Used</b> | <b>Last Orbit Planner Run</b> | <b>OP Current with Visit?</b> |
|--------------|------------------------------|-------------------------------------|--------------------|-------------------------------|-------------------------------|
| 26           | (26) EMACSJ1430.0+4127       | ACS/WFC                             | 1                  | 18-Aug-2014 21:01:23.0        | yes                           |
| 27           | (27) EMACSJ1443.2+0102       | ACS/WFC                             | 1                  | 18-Aug-2014 21:01:24.0        | yes                           |
| 28           | (28) EMACSJ1508.1+5755       | ACS/WFC                             | 1                  | 18-Aug-2014 21:01:24.0        | yes                           |
| 29           | (29) EMACSJ1518.3+2927       | ACS/WFC                             | 1                  | 18-Aug-2014 21:01:25.0        | yes                           |
| 30           | (30) EMACSJ1527.6+2044       | ACS/WFC                             | 1                  | 18-Aug-2014 21:01:25.0        | yes                           |
| 31           | (31) EMACSJ1621.2-0231       | ACS/WFC                             | 1                  | 18-Aug-2014 21:01:26.0        | yes                           |
| 32           | (32) EMACSJ1621.4+7232       | ACS/WFC                             | 1                  | 18-Aug-2014 21:01:26.0        | yes                           |
| 33           | (33) EMACSJ1709.5+4731       | ACS/WFC                             | 1                  | 18-Aug-2014 21:01:27.0        | yes                           |
| 34           | (34) EMACSJ1732.4+1934       | ACS/WFC                             | 1                  | 18-Aug-2014 21:01:27.0        | yes                           |
| 35           | (35) EMACSJ1757.5+3045       | ACS/WFC                             | 1                  | 18-Aug-2014 21:01:28.0        | yes                           |
| 36           | (36) EMACSJ1823.1+7822       | ACS/WFC                             | 1                  | 18-Aug-2014 21:01:28.0        | yes                           |
| 37           | (37) EMACSJ1831.1+6214       | ACS/WFC                             | 1                  | 18-Aug-2014 21:01:29.0        | yes                           |
| 38           | (38) EMACSJ1831.9+5746       | ACS/WFC                             | 1                  | 18-Aug-2014 21:01:29.0        | yes                           |
| 39           | (39) EMACSJ2025.5-2313       | ACS/WFC                             | 1                  | 18-Aug-2014 21:01:30.0        | yes                           |
| 40           | (40) EMACSJ2037.1-2534       | ACS/WFC                             | 1                  | 18-Aug-2014 21:01:30.0        | yes                           |
| 41           | (41) EMACSJ2114.4+0427       | ACS/WFC                             | 1                  | 18-Aug-2014 21:01:31.0        | yes                           |
| 42           | (42) EMACSJ2137.2-2232       | ACS/WFC                             | 1                  | 18-Aug-2014 21:01:31.0        | yes                           |
| 43           | (43) EMACSJ2207.5-0302       | ACS/WFC                             | 1                  | 18-Aug-2014 21:01:32.0        | yes                           |
| 44           | (44) EMACSJ2316.6+1246       | ACS/WFC                             | 1                  | 18-Aug-2014 21:01:32.0        | yes                           |
| 45           | (45) EMACSJ2327.4-0204       | ACS/WFC                             | 1                  | 18-Aug-2014 21:01:33.0        | yes                           |
| 46           | (1) EMACSJ0014.9-0056        | ACS/WFC                             | 1                  | 18-Aug-2014 21:01:33.0        | yes                           |
| 1O           | (46) EMACSJ0045.2-0151       | ACS/WFC                             | 1                  | 18-Aug-2014 21:01:34.0        | yes                           |
| 1P           | (47) EMACSJ0101.1+1831       | ACS/WFC                             | 1                  | 18-Aug-2014 21:01:34.0        | yes                           |
| 1Q           | (48) EMACSJ1631.1+1528       | ACS/WFC                             | 1                  | 18-Aug-2014 21:01:35.0        | yes                           |
| 1R           | (49) EMACSJ2229.9-0808A      | ACS/WFC                             | 1                  | 18-Aug-2014 21:01:35.0        | yes                           |

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|--------------|------------------------------|-------------------------------------|--------------------|-------------------------------|-------------------------------|
| 47           | (2) EMACSJ0026.2+0120        | ACS/WFC                             | 1                  | 18-Aug-2014 21:01:36.0        | yes                           |
| 48           | (3) EMACSJ0030.5+2618        | ACS/WFC                             | 1                  | 18-Aug-2014 21:01:37.0        | yes                           |
| 49           | (4) EMACSJ0135.2+0847        | ACS/WFC                             | 1                  | 18-Aug-2014 21:01:37.0        | yes                           |
| 50           | (5) EMACSJ0256.7-1623        | ACS/WFC                             | 1                  | 18-Aug-2014 21:01:38.0        | yes                           |
| 51           | (6) EMACSJ0256.9-1631        | ACS/WFC                             | 1                  | 18-Aug-2014 21:01:38.0        | yes                           |
| 52           | (7) EMACSJ0834.2+4524        | ACS/WFC                             | 1                  | 18-Aug-2014 21:01:38.0        | yes                           |
| 53           | (8) EMACSJ0840.2+4421        | ACS/WFC                             | 1                  | 18-Aug-2014 21:01:39.0        | yes                           |
| 54           | (9) EMACSJ0921.6-0621        | ACS/WFC                             | 1                  | 18-Aug-2014 21:01:39.0        | yes                           |
| 55           | (10) EMACSJ0935.1+0614       | ACS/WFC                             | 1                  | 18-Aug-2014 21:01:40.0        | yes                           |
| 56           | (11) EMACSJ0943.3-1842       | ACS/WFC                             | 1                  | 18-Aug-2014 21:01:40.0        | yes                           |
| 57           | (12) EMACSJ1027.2+0345       | ACS/WFC                             | 1                  | 18-Aug-2014 21:01:41.0        | yes                           |
| 58           | (13) EMACSJ1030.5+5132       | ACS/WFC                             | 1                  | 18-Aug-2014 21:01:41.0        | yes                           |
| 59           | (14) EMACSJ1050.6+3548       | ACS/WFC                             | 1                  | 18-Aug-2014 21:01:42.0        | yes                           |
| 60           | (15) EMACSJ1131.1+3553       | ACS/WFC                             | 1                  | 18-Aug-2014 21:01:42.0        | yes                           |
| 61           | (16) EMACSJ1136.8+0005       | ACS/WFC                             | 1                  | 18-Aug-2014 21:01:43.0        | yes                           |
| 62           | (17) EMACSJ1144.2-2836       | ACS/WFC                             | 1                  | 18-Aug-2014 21:01:43.0        | yes                           |
| 63           | (18) EMACSJ1148.0+5116       | ACS/WFC                             | 1                  | 18-Aug-2014 21:01:44.0        | yes                           |
| 64           | (19) EMACSJ1209.4+2640       | ACS/WFC                             | 1                  | 18-Aug-2014 21:01:44.0        | yes                           |
| 65           | (20) EMACSJ1212.5-1216       | ACS/WFC                             | 1                  | 18-Aug-2014 21:01:45.0        | yes                           |
| 66           | (21) EMACSJ1222.3+2418       | ACS/WFC                             | 1                  | 18-Aug-2014 21:01:45.0        | yes                           |
| 67           | (22) EMACSJ1341.9-2442       | ACS/WFC                             | 1                  | 18-Aug-2014 21:01:46.0        | yes                           |
| 68           | (23) EMACSJ1350.7-1055       | ACS/WFC                             | 1                  | 18-Aug-2014 21:01:46.0        | yes                           |
| 69           | (24) EMACSJ1407.0-0015       | ACS/WFC                             | 1                  | 18-Aug-2014 21:01:47.0        | yes                           |
| 70           | (25) EMACSJ1419.1-0624       | ACS/WFC                             | 1                  | 18-Aug-2014 21:01:47.0        | yes                           |
| 71           | (26) EMACSJ1430.0+4127       | ACS/WFC                             | 1                  | 18-Aug-2014 21:01:48.0        | yes                           |

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| <b>Visit</b> | <b>Targets used in Visit</b> | <b>Configurations used in Visit</b> | <b>Orbits Used</b> | <b>Last Orbit Planner Run</b> | <b>OP Current with Visit?</b> |
|--------------|------------------------------|-------------------------------------|--------------------|-------------------------------|-------------------------------|
| 72           | (27) EMACSJ1443.2+0102       | ACS/WFC                             | 1                  | 18-Aug-2014 21:01:48.0        | yes                           |
| 73           | (28) EMACSJ1508.1+5755       | ACS/WFC                             | 1                  | 18-Aug-2014 21:01:49.0        | yes                           |
| 74           | (29) EMACSJ1518.3+2927       | ACS/WFC                             | 1                  | 18-Aug-2014 21:01:49.0        | yes                           |
| 75           | (30) EMACSJ1527.6+2044       | ACS/WFC                             | 1                  | 18-Aug-2014 21:01:50.0        | yes                           |
| 76           | (31) EMACSJ1621.2-0231       | ACS/WFC                             | 1                  | 18-Aug-2014 21:01:50.0        | yes                           |
| 77           | (32) EMACSJ1621.4+7232       | ACS/WFC                             | 1                  | 18-Aug-2014 21:01:51.0        | yes                           |
| 78           | (33) EMACSJ1709.5+4731       | ACS/WFC                             | 1                  | 18-Aug-2014 21:01:51.0        | yes                           |
| 79           | (34) EMACSJ1732.4+1934       | ACS/WFC                             | 1                  | 18-Aug-2014 21:01:52.0        | yes                           |
| 80           | (35) EMACSJ1757.5+3045       | ACS/WFC                             | 1                  | 18-Aug-2014 21:01:52.0        | yes                           |
| 81           | (36) EMACSJ1823.1+7822       | ACS/WFC                             | 1                  | 18-Aug-2014 21:01:53.0        | yes                           |
| 82           | (37) EMACSJ1831.1+6214       | ACS/WFC                             | 1                  | 18-Aug-2014 21:01:53.0        | yes                           |
| 83           | (38) EMACSJ1831.9+5746       | ACS/WFC                             | 1                  | 18-Aug-2014 21:01:54.0        | yes                           |
| 84           | (39) EMACSJ2025.5-2313       | ACS/WFC                             | 1                  | 18-Aug-2014 21:01:54.0        | yes                           |
| 85           | (40) EMACSJ2037.1-2534       | ACS/WFC                             | 1                  | 18-Aug-2014 21:01:55.0        | yes                           |
| 86           | (41) EMACSJ2114.4+0427       | ACS/WFC                             | 1                  | 18-Aug-2014 21:01:55.0        | yes                           |
| 87           | (42) EMACSJ2137.2-2232       | ACS/WFC                             | 1                  | 18-Aug-2014 21:01:56.0        | yes                           |
| 88           | (43) EMACSJ2207.5-0302       | ACS/WFC                             | 1                  | 18-Aug-2014 21:01:56.0        | yes                           |
| 89           | (44) EMACSJ2316.6+1246       | ACS/WFC                             | 1                  | 18-Aug-2014 21:01:57.0        | yes                           |
| 90           | (45) EMACSJ2327.4-0204       | ACS/WFC                             | 1                  | 18-Aug-2014 21:01:57.0        | yes                           |
| 91           | (1) EMACSJ0014.9-0056        | WFC3/IR                             | 1                  | 18-Aug-2014 21:01:58.0        | yes                           |
| 1S           | (46) EMACSJ0045.2-0151       | WFC3/IR                             | 1                  | 18-Aug-2014 21:01:59.0        | yes                           |
| 1T           | (47) EMACSJ0101.1+1831       | WFC3/IR                             | 1                  | 18-Aug-2014 21:01:59.0        | yes                           |
| 1U           | (48) EMACSJ1631.1+1528       | WFC3/IR                             | 1                  | 18-Aug-2014 21:02:00.0        | yes                           |
| 1V           | (49) EMACSJ2229.9-0808A      | WFC3/IR                             | 1                  | 18-Aug-2014 21:02:01.0        | yes                           |
| 92           | (2) EMACSJ0026.2+0120        | WFC3/IR                             | 1                  | 18-Aug-2014 21:02:01.0        | yes                           |

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| <b>Visit</b> | <b>Targets used in Visit</b> | <b>Configurations used in Visit</b> | <b>Orbits Used</b> | <b>Last Orbit Planner Run</b> | <b>OP Current with Visit?</b> |
|--------------|------------------------------|-------------------------------------|--------------------|-------------------------------|-------------------------------|
| 93           | (3) EMACSJ0030.5+2618        | WFC3/IR                             | 1                  | 18-Aug-2014 21:02:02.0        | yes                           |
| 94           | (4) EMACSJ0135.2+0847        | WFC3/IR                             | 1                  | 18-Aug-2014 21:02:03.0        | yes                           |
| 95           | (5) EMACSJ0256.7-1623        | WFC3/IR                             | 1                  | 18-Aug-2014 21:02:03.0        | yes                           |
| 96           | (6) EMACSJ0256.9-1631        | WFC3/IR                             | 1                  | 18-Aug-2014 21:02:04.0        | yes                           |
| 97           | (7) EMACSJ0834.2+4524        | WFC3/IR                             | 1                  | 18-Aug-2014 21:02:05.0        | yes                           |
| 98           | (8) EMACSJ0840.2+4421        | WFC3/IR                             | 1                  | 18-Aug-2014 21:02:05.0        | yes                           |
| 99           | (9) EMACSJ0921.6-0621        | WFC3/IR                             | 1                  | 18-Aug-2014 21:02:06.0        | yes                           |
| 0A           | (10) EMACSJ0935.1+0614       | WFC3/IR                             | 1                  | 18-Aug-2014 21:02:07.0        | yes                           |
| 0B           | (11) EMACSJ0943.3-1842       | WFC3/IR                             | 1                  | 18-Aug-2014 21:02:07.0        | yes                           |
| 0C           | (12) EMACSJ1027.2+0345       | WFC3/IR                             | 1                  | 18-Aug-2014 21:02:08.0        | yes                           |
| 0D           | (13) EMACSJ1030.5+5132       | WFC3/IR                             | 1                  | 18-Aug-2014 21:02:09.0        | yes                           |
| 0E           | (14) EMACSJ1050.6+3548       | WFC3/IR                             | 1                  | 18-Aug-2014 21:02:09.0        | yes                           |
| 0F           | (15) EMACSJ1131.1+3553       | WFC3/IR                             | 1                  | 18-Aug-2014 21:02:10.0        | yes                           |
| 0G           | (16) EMACSJ1136.8+0005       | WFC3/IR                             | 1                  | 18-Aug-2014 21:02:11.0        | yes                           |
| 0H           | (17) EMACSJ1144.2-2836       | WFC3/IR                             | 1                  | 18-Aug-2014 21:02:12.0        | yes                           |
| 0I           | (18) EMACSJ1148.0+5116       | WFC3/IR                             | 1                  | 18-Aug-2014 21:02:13.0        | yes                           |
| 0J           | (19) EMACSJ1209.4+2640       | WFC3/IR                             | 1                  | 18-Aug-2014 21:02:14.0        | yes                           |
| 0K           | (20) EMACSJ1212.5-1216       | WFC3/IR                             | 1                  | 18-Aug-2014 21:02:14.0        | yes                           |
| 0L           | (21) EMACSJ1222.3+2418       | WFC3/IR                             | 1                  | 18-Aug-2014 21:02:15.0        | yes                           |
| 0M           | (22) EMACSJ1341.9-2442       | WFC3/IR                             | 1                  | 18-Aug-2014 21:02:16.0        | yes                           |
| 0N           | (23) EMACSJ1350.7-1055       | WFC3/IR                             | 1                  | 18-Aug-2014 21:02:16.0        | yes                           |
| 0O           | (24) EMACSJ1407.0-0015       | WFC3/IR                             | 1                  | 18-Aug-2014 21:02:17.0        | yes                           |
| 0P           | (25) EMACSJ1419.1-0624       | WFC3/IR                             | 1                  | 18-Aug-2014 21:02:18.0        | yes                           |
| 0Q           | (26) EMACSJ1430.0+4127       | WFC3/IR                             | 1                  | 18-Aug-2014 21:02:18.0        | yes                           |
| 0R           | (27) EMACSJ1443.2+0102       | WFC3/IR                             | 1                  | 18-Aug-2014 21:02:19.0        | yes                           |

| <i>Visit</i> | <i>Targets used in Visit</i> | <i>Configurations used in Visit</i> | <i>Orbits Used</i> | <i>Last Orbit Planner Run</i> | <i>OP Current with Visit?</i> |
|--------------|------------------------------|-------------------------------------|--------------------|-------------------------------|-------------------------------|
| 0S           | (28) EMACSJ1508.1+5755       | WFC3/IR                             | 1                  | 18-Aug-2014 21:02:20.0        | yes                           |
| 0T           | (29) EMACSJ1518.3+2927       | WFC3/IR                             | 1                  | 18-Aug-2014 21:02:20.0        | yes                           |
| 0U           | (30) EMACSJ1527.6+2044       | WFC3/IR                             | 1                  | 18-Aug-2014 21:02:21.0        | yes                           |
| 0V           | (31) EMACSJ1621.2-0231       | WFC3/IR                             | 1                  | 18-Aug-2014 21:02:22.0        | yes                           |
| 0W           | (32) EMACSJ1621.4+7232       | WFC3/IR                             | 1                  | 18-Aug-2014 21:02:22.0        | yes                           |
| 0X           | (33) EMACSJ1709.5+4731       | WFC3/IR                             | 1                  | 18-Aug-2014 21:02:23.0        | yes                           |
| 0Y           | (34) EMACSJ1732.4+1934       | WFC3/IR                             | 1                  | 18-Aug-2014 21:02:24.0        | yes                           |
| 0Z           | (35) EMACSJ1757.5+3045       | WFC3/IR                             | 1                  | 18-Aug-2014 21:02:24.0        | yes                           |
| 1A           | (36) EMACSJ1823.1+7822       | WFC3/IR                             | 1                  | 18-Aug-2014 21:02:25.0        | yes                           |
| 1B           | (37) EMACSJ1831.1+6214       | WFC3/IR                             | 1                  | 18-Aug-2014 21:02:26.0        | yes                           |
| 1C           | (38) EMACSJ1831.9+5746       | WFC3/IR                             | 1                  | 18-Aug-2014 21:02:26.0        | yes                           |
| 1D           | (39) EMACSJ2025.5-2313       | WFC3/IR                             | 1                  | 18-Aug-2014 21:02:27.0        | yes                           |
| 1E           | (40) EMACSJ2037.1-2534       | WFC3/IR                             | 1                  | 18-Aug-2014 21:02:28.0        | yes                           |
| 1F           | (41) EMACSJ2114.4+0427       | WFC3/IR                             | 1                  | 18-Aug-2014 21:02:28.0        | yes                           |
| 1G           | (42) EMACSJ2137.2-2232       | WFC3/IR                             | 1                  | 18-Aug-2014 21:02:29.0        | yes                           |
| 1H           | (43) EMACSJ2207.5-0302       | WFC3/IR                             | 1                  | 18-Aug-2014 21:02:30.0        | yes                           |
| 1I           | (44) EMACSJ2316.6+1246       | WFC3/IR                             | 1                  | 18-Aug-2014 21:02:30.0        | yes                           |
| 1J           | (45) EMACSJ2327.4-0204       | WFC3/IR                             | 1                  | 18-Aug-2014 21:02:31.0        | yes                           |

147 Total Orbits Used

## ABSTRACT

X-ray luminous galaxy clusters at  $z > 0.3$  play a pivotal role for a wealth of extragalactic and cosmological research topics, and SNAPshot observations of these systems are ideally suited to identify the most promising cluster targets for further, in-depth study. The power of this approach was demonstrated impressively by ACS/WFC3 SNAPshots of 81 MACS clusters at  $z > 0.3$  obtained by us in previous Cycles (28 of them in all of F606W, F814W, F110W, and F140W). Based on these data, the CLASH MCT program selected 16 out of 25 of their targets to be MACS clusters. The central role of X-ray luminous clusters in particular for gravitational-lensing work is further underlined by the fact that all but one of the six most

powerful cluster lenses selected for in-depth study by the HST Frontier Fields initiative are MACS detections.

We here propose to extend our spectacularly successful SNAPshot survey of the most X-ray luminous distant clusters to a redshift-mass regime that is poorly sampled by any other project. Targeting only extremely massive clusters at  $z > 0.5$  from the X-ray selected eMACS sample, the proposed program will (a) identify the most powerful gravitational telescopes at yet higher redshift for the next generation of in-depth studies of the distant Universe with HST and JWST, (b) provide constraints on the mass distribution within these extreme systems, (c) help improve our understanding of the physical nature of galaxy-galaxy and galaxy-gas interactions in cluster cores, and (d) unveil Distant Red Galaxies as well as  $z > 6$  Ly-alpha emitters as F814W dropouts.

Acknowledging the broad community interest in our sample we waive our data rights for these observations.

## **OBSERVING DESCRIPTION**

We propose ACS and WFC3 SNAPshot observations of 45 eMACS clusters at  $z > 0.5$ . Our targets are uniformly distributed over the high-Galactic latitude sky ( $|b| > 20$  deg),  $\delta > -30$  deg, making ours an ideal SNAPshot sample. Although the first two of our science goals (see Scientific Justification) can at least be partly achieved with just F606W imaging, they too greatly benefit from color information. We thus propose three independent visits per cluster target (one each for ACS/F606W and F814W imaging, and a third one for SNAPshots with WFC3/F110W/F140W). Following the guidelines for SNAPs (Section 3.3.3 of the CfP) we count each cluster as three targets. In the following we describe in more detail the setup and motivation for each of the three visits.

### **ACS/F606W: Strong-lensing features**

Adopting the strategy successfully used for our MACS SNAPshot program, we will conduct the proposed F606W observations in a linear 3-point pattern of 300s exposure each, to ensure efficient cosmic-ray and hot-pixel rejection. The F606W filter represents a good compromise between grasp, emission-line contamination, and K-correction for cluster members and lensed background galaxies. Only at  $z > 5$ , where the Lyman-break leaves the F606W bandpass, will the F606W snapshots be insensitive to a lensed object. Over the majority of the redshift range of  $z_{\text{src}} = 1-4$  within which lensing is most probable for a  $z = 0.5-0.9$  lens, the equivalent rest frame for the background object is centred at 1200-3000Å. The total visit time will be approximately 32 min and thus close to the optimum value in terms of schedulability.

ACS/F814W: added depth and color information for strong lensing, galaxy evolution

In addition to F606W observations, we propose to obtain snapshot exposures of slightly longer duration (3x360s) in the F814W passband. The F814W filter has no spectral overlap with F606W and thus provides maximal leverage at high throughput. The resulting high-resolution color images will be invaluable to securely identify multiple-image systems (lensing is achromatic) that are not readily apparent as such in monochromatic images, and to constrain the properties of the background galaxies lensed into giant gravitational arcs.

Color information will also help greatly to identify star-forming regions and thus shed light on the nature of the physical processes driving galaxy evolution in cluster cores, as well as to constrain the properties of galaxies on and off the cluster red sequence. This is the same observing strategy as used successfully in our SNAP survey of MACS clusters.

For all ACS observations we will place the dominant cluster galaxy in the centre of one WFC chip (WFC1, unless badly affected by hot pixels) to maximise the coverage of the region of any likely Einstein radius (15-40") around the galaxy. Placing the galaxy on the centre of the WFC field of view would potentially limit the detectability of any lensed features due to the chip gap. The roll angle of any observation is not critical although we will flag observations where a bright star might enter the field of view.

WFC3/F110W+F140W: search for F814W drop\outs, photometric redshifts

Finally, but most importantly, we include NIR imaging with WFC3 in the F110W and F140W filters (2x400s each, executable within a single orbit). In combination with ACS images in bluer passbands (above), NIR photometry in two filters will enable us to identify LAEs at  $z > 6$  and Balmer break galaxies at  $z \sim 2$  as dropouts in the F814W filter, as demonstrated by us recently using CLASH and HFF data. Requiring less than an orbit (combined), these WFC3 observations will also allow the detection of extremely red lensing features and the determination of photometric redshifts from all four passbands.

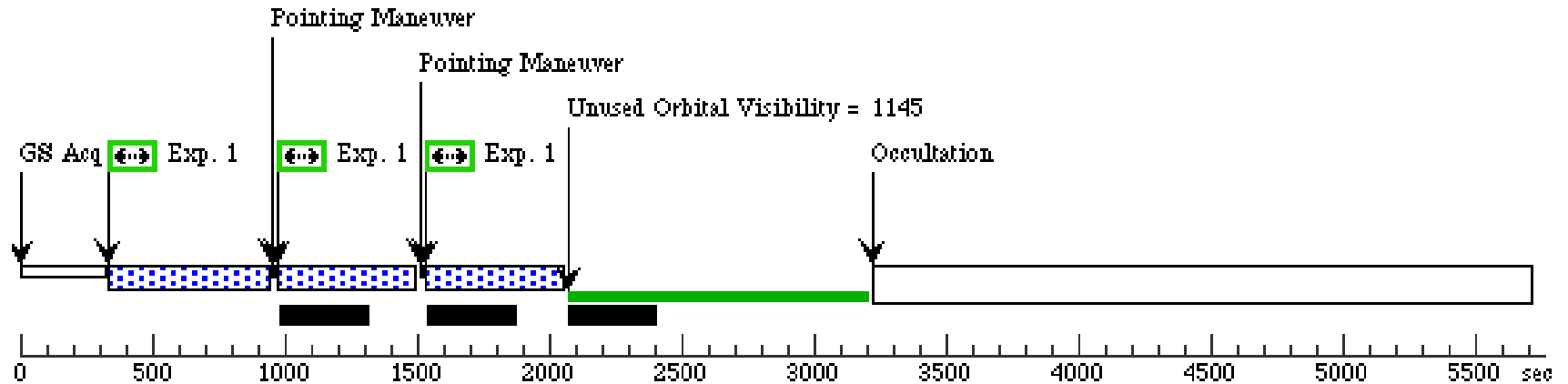
In recognition of the particular value of WFC3/NIR observations for our science goals we will use the following strategy to ensure that, for any given SNAP target, the observations are executed in an optimal order: although all observations will be entered in the pool of visits for this programme, we will set the observations in the bluer filters (ACS/F606W and F814W) to HOLD and release them only when the associated WFC3/F110W+F140W SNAP observation has been performed.

# Proposal 13671 - Visit 01 - Beyond MACS: A Snapshot Survey of the Most Massive Clusters of Galaxies at $z > 0.5$

|               |                                                                                                                 |                                                                                                                      |                                                                                 |                                                                                                       |                                 |
|---------------|-----------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------|---------------------------------|
| Visit         | <b>Proposal 13671, Visit 01, implementation</b> <span style="float: right;">Tue Aug 19 01:02:33 GMT 2014</span> |                                                                                                                      |                                                                                 |                                                                                                       |                                 |
|               | <b>Diagnostic Status: No Diagnostics</b><br>Scientific Instruments: ACS/WFC<br>Special Requirements: (none)     |                                                                                                                      |                                                                                 |                                                                                                       |                                 |
| Patterns      | #                                                                                                               | Primary Pattern                                                                                                      |                                                                                 | Secondary Pattern                                                                                     | Exposures                       |
|               | (1)                                                                                                             | Pattern Type=ACS-WFC-DITHER-<br>LINE<br>Purpose=DITHER<br>Number Of Points=3<br>Point Spacing=3.011<br>Line Spacing= |                                                                                 | Coordinate Frame=POS-TARG<br>Pattern Orientation=85.28<br>Angle Between Sides=<br>Center Pattern=true | (1)                             |
| Fixed Targets | #                                                                                                               | Name                                                                                                                 | Target Coordinates                                                              | Targ. Coord. Corrections                                                                              | Fluxes                          |
|               | (1)                                                                                                             | EMACSJ0014.9-0056                                                                                                    | RA: 00 14 54.1180 (3.7254917d)<br>Dec: -00 57 8.13 (-.95226d)<br>Equinox: J2000 |                                                                                                       | V=20.0                          |
| Exposures     |                                                                                                                 |                                                                                                                      |                                                                                 |                                                                                                       | Miscellaneous                   |
|               | Reference Frame: ICRS                                                                                           |                                                                                                                      |                                                                                 |                                                                                                       |                                 |
| Exposures     | #                                                                                                               | Label                                                                                                                | Target                                                                          | Config,Mode,Aperture                                                                                  | Spectral Els.                   |
|               | 1                                                                                                               | 0014-00_60                                                                                                           | (1) EMACSJ0014.9-0056                                                           | ACS/WFC, ACCUM, WFC                                                                                   | F606W                           |
| Exposures     |                                                                                                                 |                                                                                                                      |                                                                                 |                                                                                                       | Opt. Params.                    |
|               | CR-SPLIT=NO                                                                                                     |                                                                                                                      |                                                                                 |                                                                                                       |                                 |
| Exposures     |                                                                                                                 |                                                                                                                      |                                                                                 |                                                                                                       | Special Reqs.                   |
|               |                                                                                                                 |                                                                                                                      |                                                                                 |                                                                                                       |                                 |
| Exposures     |                                                                                                                 |                                                                                                                      |                                                                                 |                                                                                                       | Groups                          |
|               | Pattern 1, Exps 1-1 in Visit 01 (1)                                                                             |                                                                                                                      |                                                                                 |                                                                                                       |                                 |
| Exposures     |                                                                                                                 |                                                                                                                      |                                                                                 |                                                                                                       | Exp. Time (Total)/[Actual Dur.] |
|               | 400 Secs (1200 Secs)                                                                                            |                                                                                                                      |                                                                                 |                                                                                                       |                                 |
| Exposures     |                                                                                                                 |                                                                                                                      |                                                                                 |                                                                                                       | Orbit                           |
|               | [1]                                                                                                             |                                                                                                                      |                                                                                 |                                                                                                       |                                 |

## Orbit 1

Server Version: 20140605



# Proposal 13671 - Visit 1K - Beyond MACS: A Snapshot Survey of the Most Massive Clusters of Galaxies at $z>0.5$

|                 |                                          |                                                                                                                                                                                                                           |                        |                                                                                    |  |                          |                   |               |                                     |                                                          |                              |           |                          |  |
|-----------------|------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------|------------------------------------------------------------------------------------|--|--------------------------|-------------------|---------------|-------------------------------------|----------------------------------------------------------|------------------------------|-----------|--------------------------|--|
| Visit           | Proposal 13671, Visit 1K, implementation |                                                                                                                                                                                                                           |                        |                                                                                    |  |                          |                   |               |                                     |                                                          | Tue Aug 19 01:02:34 GMT 2014 |           |                          |  |
|                 | Diagnostic Status: No Diagnostics        |                                                                                                                                                                                                                           |                        |                                                                                    |  |                          |                   |               |                                     |                                                          |                              |           |                          |  |
|                 | Scientific Instruments: ACS/WFC          |                                                                                                                                                                                                                           |                        |                                                                                    |  |                          |                   |               |                                     |                                                          |                              |           |                          |  |
|                 | Special Requirements: (none)             |                                                                                                                                                                                                                           |                        |                                                                                    |  |                          |                   |               |                                     |                                                          |                              |           |                          |  |
| Patterns        | #                                        | Primary Pattern                                                                                                                                                                                                           |                        |                                                                                    |  |                          | Secondary Pattern |               |                                     |                                                          |                              | Exposures |                          |  |
|                 | (1)                                      | Pattern Type=ACS-WFC-DITHER-LINE<br>Purpose=DITHER<br>Number Of Points=3<br>Point Spacing=3.011<br>Line Spacing=<br>Coordinate Frame=POS-TARG<br>Pattern Orientation=85.28<br>Angle Between Sides=<br>Center Pattern=true |                        |                                                                                    |  |                          |                   |               |                                     |                                                          |                              | (1)       |                          |  |
| Fixed Targets   | #                                        | Name                                                                                                                                                                                                                      |                        | Target Coordinates                                                                 |  | Targ. Coord. Corrections |                   | Fluxes        |                                     | Miscellaneous                                            |                              |           |                          |  |
|                 | (46)                                     | EMACSJ0045.2-0151                                                                                                                                                                                                         |                        | RA: 00 45 12.5030 (11.3020958d)<br>Dec: -01 52 31.25 (-1.87535d)<br>Equinox: J2000 |  |                          |                   | V=20.0        |                                     | Reference Frame: ICRS                                    |                              |           |                          |  |
| Exposures       | #                                        | Label                                                                                                                                                                                                                     | Target                 | Config,Mode,Aperture                                                               |  | Spectral Els.            | Opt. Params.      | Special Reqs. | Groups                              | Exp. Time (Total)/[Actual Dur.]                          |                              | Orbit     |                          |  |
|                 | 1                                        | 0045-01_606                                                                                                                                                                                                               | (46) EMACSJ0045.2-0151 | ACS/WFC, ACCUM, WFC                                                                |  | F606W                    | CR-SPLIT=NO       |               | Pattern 1, Exps 1-1 in Visit 1K (1) | 400 Secs (1200 Secs)                                     |                              |           |                          |  |
|                 |                                          |                                                                                                                                                                                                                           |                        |                                                                                    |  |                          |                   |               |                                     | [==>(Pattern 1)]<br>[==>(Pattern 2)]<br>[==>(Pattern 3)] |                              | [1]       |                          |  |
| Orbit Structure | Orbit 1                                  |                                                                                                                                                                                                                           |                        |                                                                                    |  |                          |                   |               |                                     |                                                          |                              |           | Server Version: 20140605 |  |
|                 |                                          |                                                                                                                                                                                                                           |                        |                                                                                    |  |                          |                   |               |                                     |                                                          |                              |           |                          |  |

# Proposal 13671 - Visit 1L - Beyond MACS: A Snapshot Survey of the Most Massive Clusters of Galaxies at $z>0.5$

|                 |                                                                                                                 |                                                                                                                                                                                                                               |                                                                                    |                          |                                     |
|-----------------|-----------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|--------------------------|-------------------------------------|
| Visit           | <b>Proposal 13671, Visit 1L, implementation</b> <span style="float: right;">Tue Aug 19 01:02:34 GMT 2014</span> |                                                                                                                                                                                                                               |                                                                                    |                          |                                     |
|                 | <b>Diagnostic Status: No Diagnostics</b><br>Scientific Instruments: ACS/WFC<br>Special Requirements: (none)     |                                                                                                                                                                                                                               |                                                                                    |                          |                                     |
| Patterns        | #                                                                                                               | Primary Pattern                                                                                                                                                                                                               |                                                                                    | Secondary Pattern        | Exposures                           |
|                 | (1)                                                                                                             | Pattern Type=ACS-WFC-DITHER-<br>LINE<br>Purpose=DITHER<br>Number Of Points=3<br>Point Spacing=3.011<br>Line Spacing=<br>Coordinate Frame=POS-TARG<br>Pattern Orientation=85.28<br>Angle Between Sides=<br>Center Pattern=true |                                                                                    |                          | (1)                                 |
| Fixed Targets   | #                                                                                                               | Name                                                                                                                                                                                                                          | Target Coordinates                                                                 | Targ. Coord. Corrections | Fluxes                              |
|                 | (47)                                                                                                            | EMACSJ0101.1+1831                                                                                                                                                                                                             | RA: 01 01 13.7110 (15.3071292d)<br>Dec: +18 31 36.38 (18.52677d)<br>Equinox: J2000 |                          | V=20.0                              |
| Exposures       |                                                                                                                 |                                                                                                                                                                                                                               |                                                                                    |                          | Miscellaneous                       |
|                 | Reference Frame: ICRS                                                                                           |                                                                                                                                                                                                                               |                                                                                    |                          |                                     |
| Exposures       | #                                                                                                               | Label                                                                                                                                                                                                                         | Target                                                                             | Config,Mode,Aperture     | Spectral Els.                       |
|                 | 1                                                                                                               | 0101+18_60                                                                                                                                                                                                                    | (47) EMACSJ0101.1                                                                  | ACS/WFC, ACCUM, WFC      | F606W                               |
| Exposures       | 6                                                                                                               |                                                                                                                                                                                                                               | +1831                                                                              |                          | CR-SPLIT=NO                         |
|                 |                                                                                                                 |                                                                                                                                                                                                                               |                                                                                    |                          | Pattern 1, Exps 1-1 in Visit 1L (1) |
| Exposures       |                                                                                                                 |                                                                                                                                                                                                                               |                                                                                    |                          | Exp. Time (Total)/[Actual Dur.]     |
|                 |                                                                                                                 |                                                                                                                                                                                                                               |                                                                                    |                          | 400 Secs (1200 Secs)                |
| Exposures       |                                                                                                                 |                                                                                                                                                                                                                               |                                                                                    |                          | [==>(Pattern 1)]                    |
|                 |                                                                                                                 |                                                                                                                                                                                                                               |                                                                                    |                          | [==>(Pattern 2)]                    |
| Exposures       |                                                                                                                 |                                                                                                                                                                                                                               |                                                                                    |                          | [==>(Pattern 3)]                    |
|                 |                                                                                                                 |                                                                                                                                                                                                                               |                                                                                    |                          | [1]                                 |
| Orbit Structure | <b>Orbit 1</b> <span style="float: right;">Server Version: 20140605</span>                                      |                                                                                                                                                                                                                               |                                                                                    |                          |                                     |
|                 |                                                                                                                 |                                                                                                                                                                                                                               |                                                                                    |                          |                                     |

# Proposal 13671 - Visit 1M - Beyond MACS: A Snapshot Survey of the Most Massive Clusters of Galaxies at $z>0.5$

|                 |                                                                                                          |                                                                                                                      |                                                                                    |                                                                                                       |                                         |
|-----------------|----------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------|-----------------------------------------|
| Visit           | Proposal 13671, Visit 1M, implementation <span style="float: right;">Tue Aug 19 01:02:34 GMT 2014</span> |                                                                                                                      |                                                                                    |                                                                                                       |                                         |
|                 | Diagnostic Status: No Diagnostics<br>Scientific Instruments: ACS/WFC<br>Special Requirements: (none)     |                                                                                                                      |                                                                                    |                                                                                                       |                                         |
| Patterns        | #                                                                                                        | Primary Pattern                                                                                                      |                                                                                    | Secondary Pattern                                                                                     | Exposures                               |
|                 | (1)                                                                                                      | Pattern Type=ACS-WFC-DITHER-<br>LINE<br>Purpose=DITHER<br>Number Of Points=3<br>Point Spacing=3.011<br>Line Spacing= |                                                                                    | Coordinate Frame=POS-TARG<br>Pattern Orientation=85.28<br>Angle Between Sides=<br>Center Pattern=true | (1)                                     |
| Fixed Targets   | #                                                                                                        | Name                                                                                                                 | Target Coordinates                                                                 | Targ. Coord. Corrections                                                                              | Fluxes                                  |
|                 | (48)                                                                                                     | EMACSJ1631.1+1528                                                                                                    | RA: 16 31 5.8280 (247.7742833d)<br>Dec: +15 29 34.00 (15.49278d)<br>Equinox: J2000 |                                                                                                       | V=20.0                                  |
| Exposures       |                                                                                                          |                                                                                                                      |                                                                                    |                                                                                                       | Miscellaneous                           |
|                 | Reference Frame: ICRS                                                                                    |                                                                                                                      |                                                                                    |                                                                                                       |                                         |
| Exposures       | #                                                                                                        | Label                                                                                                                | Target                                                                             | Config,Mode,Aperture                                                                                  | Spectral Els.                           |
|                 | 1                                                                                                        | 1631+15_60                                                                                                           | (48) EMACSJ1631.1                                                                  | ACS/WFC, ACCUM, WFC                                                                                   | F606W                                   |
| Exposures       | 6                                                                                                        |                                                                                                                      | +1528                                                                              |                                                                                                       |                                         |
|                 |                                                                                                          |                                                                                                                      |                                                                                    |                                                                                                       | CR-SPLIT=NO                             |
| Exposures       |                                                                                                          |                                                                                                                      |                                                                                    |                                                                                                       | Special Reqs.                           |
|                 |                                                                                                          |                                                                                                                      |                                                                                    |                                                                                                       | Groups                                  |
| Exposures       |                                                                                                          |                                                                                                                      |                                                                                    |                                                                                                       | Exp. Time (Total)/[Actual Dur.]         |
|                 |                                                                                                          |                                                                                                                      |                                                                                    |                                                                                                       | Orbit                                   |
| Exposures       |                                                                                                          |                                                                                                                      |                                                                                    |                                                                                                       | Pattern 1, Exps 1-1 i<br>n Visit 1M (1) |
|                 |                                                                                                          |                                                                                                                      |                                                                                    |                                                                                                       | 400 Secs (1200 Secs)                    |
| Exposures       |                                                                                                          |                                                                                                                      |                                                                                    |                                                                                                       | [==>(Pattern 1)]                        |
|                 |                                                                                                          |                                                                                                                      |                                                                                    |                                                                                                       | [==>(Pattern 2)]                        |
| Exposures       |                                                                                                          |                                                                                                                      |                                                                                    |                                                                                                       | [==>(Pattern 3)]                        |
|                 |                                                                                                          |                                                                                                                      |                                                                                    |                                                                                                       | [1]                                     |
| Orbit Structure | Orbit 1 <span style="float: right;">Server Version: 20140605</span>                                      |                                                                                                                      |                                                                                    |                                                                                                       |                                         |
|                 |                                                                                                          |                                                                                                                      |                                                                                    |                                                                                                       |                                         |

# Proposal 13671 - Visit 1N - Beyond MACS: A Snapshot Survey of the Most Massive Clusters of Galaxies at $z>0.5$

|                 |                                          |                                                                                                                                                                                                                           |                         |                                                                                    |  |                          |                   |               |                                     |                                 |                              |           |                          |  |
|-----------------|------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------|------------------------------------------------------------------------------------|--|--------------------------|-------------------|---------------|-------------------------------------|---------------------------------|------------------------------|-----------|--------------------------|--|
| Visit           | Proposal 13671, Visit 1N, implementation |                                                                                                                                                                                                                           |                         |                                                                                    |  |                          |                   |               |                                     |                                 | Tue Aug 19 01:02:34 GMT 2014 |           |                          |  |
|                 | Diagnostic Status: No Diagnostics        |                                                                                                                                                                                                                           |                         |                                                                                    |  |                          |                   |               |                                     |                                 |                              |           |                          |  |
|                 | Scientific Instruments: ACS/WFC          |                                                                                                                                                                                                                           |                         |                                                                                    |  |                          |                   |               |                                     |                                 |                              |           |                          |  |
|                 | Special Requirements: (none)             |                                                                                                                                                                                                                           |                         |                                                                                    |  |                          |                   |               |                                     |                                 |                              |           |                          |  |
| Patterns        | #                                        | Primary Pattern                                                                                                                                                                                                           |                         |                                                                                    |  |                          | Secondary Pattern |               |                                     |                                 |                              | Exposures |                          |  |
|                 | (1)                                      | Pattern Type=ACS-WFC-DITHER-LINE<br>Purpose=DITHER<br>Number Of Points=3<br>Point Spacing=3.011<br>Line Spacing=<br>Coordinate Frame=POS-TARG<br>Pattern Orientation=85.28<br>Angle Between Sides=<br>Center Pattern=true |                         |                                                                                    |  |                          |                   |               |                                     |                                 |                              | (1)       |                          |  |
| Fixed Targets   | #                                        | Name                                                                                                                                                                                                                      |                         | Target Coordinates                                                                 |  | Targ. Coord. Corrections |                   | Fluxes        |                                     | Miscellaneous                   |                              |           |                          |  |
|                 | (49)                                     | EMACSJ2229.9-0808A                                                                                                                                                                                                        |                         | RA: 22 30 6.1360 (337.5255667d)<br>Dec: -08 09 23.31 (-8.15648d)<br>Equinox: J2000 |  |                          |                   | V=20.0        |                                     | Reference Frame: ICRS           |                              |           |                          |  |
| Exposures       | #                                        | Label                                                                                                                                                                                                                     | Target                  | Config,Mode,Aperture                                                               |  | Spectral Els.            | Opt. Params.      | Special Reqs. | Groups                              | Exp. Time (Total)/[Actual Dur.] |                              | Orbit     |                          |  |
|                 | 1                                        | 2229-08a_606                                                                                                                                                                                                              | (49) EMACSJ2229.9-0808A | ACS/WFC, ACCUM, WFC                                                                |  | F606W                    | CR-SPLIT=NO       |               | Pattern 1, Exps 1-1 in Visit 1N (1) | 400 Secs (1200 Secs)            |                              |           |                          |  |
|                 |                                          |                                                                                                                                                                                                                           |                         |                                                                                    |  |                          |                   |               |                                     | [==>(Pattern 1)]                |                              |           |                          |  |
|                 |                                          |                                                                                                                                                                                                                           |                         |                                                                                    |  |                          |                   |               |                                     | [==>(Pattern 2)]                |                              | [1]       |                          |  |
|                 |                                          |                                                                                                                                                                                                                           |                         |                                                                                    |  |                          |                   |               |                                     | [==>(Pattern 3)]                |                              |           |                          |  |
| Orbit Structure | Orbit 1                                  |                                                                                                                                                                                                                           |                         |                                                                                    |  |                          |                   |               |                                     |                                 |                              |           | Server Version: 20140605 |  |
|                 |                                          |                                                                                                                                                                                                                           |                         |                                                                                    |  |                          |                   |               |                                     |                                 |                              |           |                          |  |

# Proposal 13671 - Visit 02 - Beyond MACS: A Snapshot Survey of the Most Massive Clusters of Galaxies at $z>0.5$

|                 |                                                                                                                 |                                                                                                                                                                                                                               |                                                                                  |                          |                                     |
|-----------------|-----------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------|--------------------------|-------------------------------------|
| Visit           | <b>Proposal 13671, Visit 02, implementation</b> <span style="float: right;">Tue Aug 19 01:02:34 GMT 2014</span> |                                                                                                                                                                                                                               |                                                                                  |                          |                                     |
|                 | <b>Diagnostic Status: No Diagnostics</b><br>Scientific Instruments: ACS/WFC<br>Special Requirements: (none)     |                                                                                                                                                                                                                               |                                                                                  |                          |                                     |
| Patterns        | #                                                                                                               | Primary Pattern                                                                                                                                                                                                               |                                                                                  | Secondary Pattern        | Exposures                           |
|                 | (1)                                                                                                             | Pattern Type=ACS-WFC-DITHER-<br>LINE<br>Purpose=DITHER<br>Number Of Points=3<br>Point Spacing=3.011<br>Line Spacing=<br>Coordinate Frame=POS-TARG<br>Pattern Orientation=85.28<br>Angle Between Sides=<br>Center Pattern=true |                                                                                  |                          | (1)                                 |
| Fixed Targets   | #                                                                                                               | Name                                                                                                                                                                                                                          | Target Coordinates                                                               | Targ. Coord. Corrections | Fluxes                              |
|                 | (2)                                                                                                             | EMACSJ0026.2+0120                                                                                                                                                                                                             | RA: 00 26 16.1660 (6.5673583d)<br>Dec: +01 20 34.84 (1.34301d)<br>Equinox: J2000 |                          | V=20.0                              |
| Exposures       |                                                                                                                 |                                                                                                                                                                                                                               |                                                                                  |                          |                                     |
|                 | #                                                                                                               | Label                                                                                                                                                                                                                         | Target                                                                           | Config,Mode,Aperture     | Spectral Els.                       |
|                 | 1                                                                                                               | 0026+01_60                                                                                                                                                                                                                    | (2) EMACSJ0026.2+0120                                                            | ACS/WFC, ACCUM, WFC      | F606W                               |
|                 |                                                                                                                 |                                                                                                                                                                                                                               |                                                                                  |                          | Opt. Params.                        |
|                 |                                                                                                                 |                                                                                                                                                                                                                               |                                                                                  |                          | CR-SPLIT=NO                         |
|                 |                                                                                                                 |                                                                                                                                                                                                                               |                                                                                  |                          | Special Reqs.                       |
|                 |                                                                                                                 |                                                                                                                                                                                                                               |                                                                                  |                          |                                     |
|                 |                                                                                                                 |                                                                                                                                                                                                                               |                                                                                  |                          | Groups                              |
|                 |                                                                                                                 |                                                                                                                                                                                                                               |                                                                                  |                          | Pattern 1, Exps 1-1 in Visit 02 (1) |
|                 |                                                                                                                 |                                                                                                                                                                                                                               |                                                                                  |                          | Exp. Time (Total)/[Actual Dur.]     |
|                 |                                                                                                                 |                                                                                                                                                                                                                               |                                                                                  |                          | 400 Secs (1200 Secs)                |
|                 |                                                                                                                 |                                                                                                                                                                                                                               |                                                                                  |                          | [==>(Pattern 1)]                    |
|                 |                                                                                                                 |                                                                                                                                                                                                                               |                                                                                  |                          | [==>(Pattern 2)]                    |
|                 |                                                                                                                 |                                                                                                                                                                                                                               |                                                                                  |                          | [==>(Pattern 3)]                    |
|                 |                                                                                                                 |                                                                                                                                                                                                                               |                                                                                  |                          | [1]                                 |
| Orbit Structure |                                                                                                                 |                                                                                                                                                                                                                               |                                                                                  |                          |                                     |
|                 | <div> <div>Orbit 1</div> <div>Server Version: 20140605</div> </div>                                             |                                                                                                                                                                                                                               |                                                                                  |                          |                                     |

# Proposal 13671 - Visit 03 - Beyond MACS: A Snapshot Survey of the Most Massive Clusters of Galaxies at $z > 0.5$

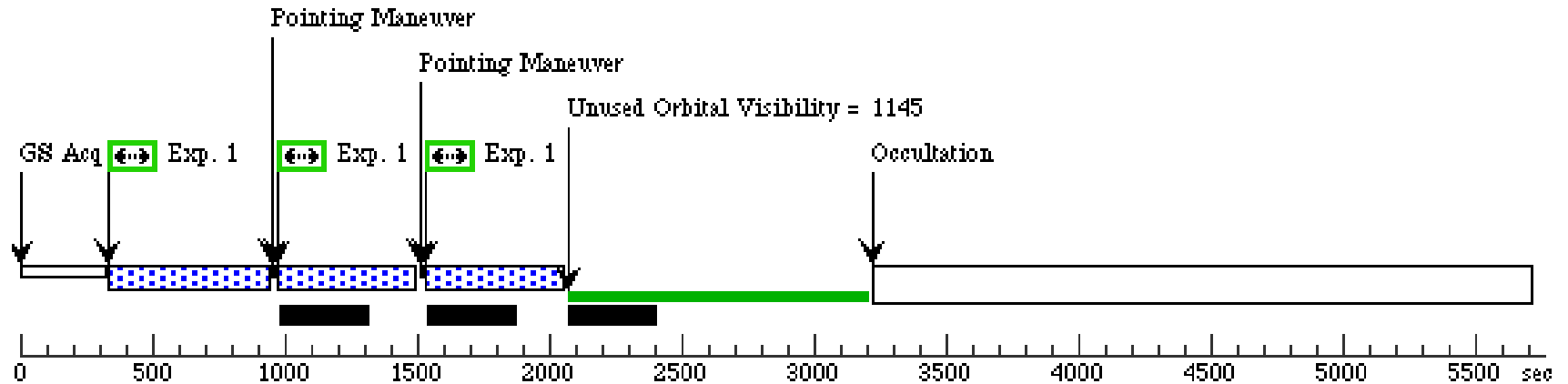
|                 |                                                                                                                 |                                                                                                                                                                                                                               |                                                                                  |                          |                                     |
|-----------------|-----------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------|--------------------------|-------------------------------------|
| Visit           | <b>Proposal 13671, Visit 03, implementation</b> <span style="float: right;">Tue Aug 19 01:02:34 GMT 2014</span> |                                                                                                                                                                                                                               |                                                                                  |                          |                                     |
|                 | <b>Diagnostic Status: No Diagnostics</b><br>Scientific Instruments: ACS/WFC<br>Special Requirements: (none)     |                                                                                                                                                                                                                               |                                                                                  |                          |                                     |
| Patterns        | #                                                                                                               | Primary Pattern                                                                                                                                                                                                               |                                                                                  | Secondary Pattern        | Exposures                           |
|                 | (1)                                                                                                             | Pattern Type=ACS-WFC-DITHER-<br>LINE<br>Purpose=DITHER<br>Number Of Points=3<br>Point Spacing=3.011<br>Line Spacing=<br>Coordinate Frame=POS-TARG<br>Pattern Orientation=85.28<br>Angle Between Sides=<br>Center Pattern=true |                                                                                  |                          | (1)                                 |
| Fixed Targets   | #                                                                                                               | Name                                                                                                                                                                                                                          | Target Coordinates                                                               | Targ. Coord. Corrections | Fluxes                              |
|                 | (3)                                                                                                             | EMACSJ0030.5+2618                                                                                                                                                                                                             | RA: 00 30 34.0230 (7.6417625d)<br>Dec: +26 18 8.93 (26.30248d)<br>Equinox: J2000 |                          | V=20.0                              |
| Exposures       |                                                                                                                 |                                                                                                                                                                                                                               |                                                                                  |                          |                                     |
|                 | #                                                                                                               | Label                                                                                                                                                                                                                         | Target                                                                           | Config,Mode,Aperture     | Spectral Els.                       |
|                 | 1                                                                                                               | 0030+26_60                                                                                                                                                                                                                    | (3) EMACSJ0030.5+2618                                                            | ACS/WFC, ACCUM, WFC      | F606W                               |
|                 |                                                                                                                 |                                                                                                                                                                                                                               |                                                                                  |                          | Opt. Params.                        |
|                 |                                                                                                                 |                                                                                                                                                                                                                               |                                                                                  |                          | CR-SPLIT=NO                         |
|                 |                                                                                                                 |                                                                                                                                                                                                                               |                                                                                  |                          | Special Reqs.                       |
|                 |                                                                                                                 |                                                                                                                                                                                                                               |                                                                                  |                          |                                     |
|                 |                                                                                                                 |                                                                                                                                                                                                                               |                                                                                  |                          | Groups                              |
|                 |                                                                                                                 |                                                                                                                                                                                                                               |                                                                                  |                          | Pattern 1, Exps 1-1 in Visit 03 (1) |
|                 |                                                                                                                 |                                                                                                                                                                                                                               |                                                                                  |                          | Exp. Time (Total)/[Actual Dur.]     |
|                 |                                                                                                                 |                                                                                                                                                                                                                               |                                                                                  |                          | 400 Secs (1200 Secs)                |
|                 |                                                                                                                 |                                                                                                                                                                                                                               |                                                                                  |                          | [==>(Pattern 1)]                    |
|                 |                                                                                                                 |                                                                                                                                                                                                                               |                                                                                  |                          | [==>(Pattern 2)]                    |
|                 |                                                                                                                 |                                                                                                                                                                                                                               |                                                                                  |                          | [==>(Pattern 3)]                    |
|                 |                                                                                                                 |                                                                                                                                                                                                                               |                                                                                  |                          | [1]                                 |
| Orbit Structure |                                                                                                                 |                                                                                                                                                                                                                               |                                                                                  |                          |                                     |
|                 | <div> <div>Orbit 1</div> <div>Server Version: 20140605</div> </div>                                             |                                                                                                                                                                                                                               |                                                                                  |                          |                                     |

# Proposal 13671 - Visit 04 - Beyond MACS: A Snapshot Survey of the Most Massive Clusters of Galaxies at $z > 0.5$

|               |                                                                                                                 |                                                                                                                      |                                                                                  |                                                                                                       |                                 |
|---------------|-----------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------|---------------------------------|
| Visit         | <b>Proposal 13671, Visit 04, implementation</b> <span style="float: right;">Tue Aug 19 01:02:34 GMT 2014</span> |                                                                                                                      |                                                                                  |                                                                                                       |                                 |
|               | <b>Diagnostic Status: No Diagnostics</b><br>Scientific Instruments: ACS/WFC<br>Special Requirements: (none)     |                                                                                                                      |                                                                                  |                                                                                                       |                                 |
| Patterns      | #                                                                                                               | Primary Pattern                                                                                                      |                                                                                  | Secondary Pattern                                                                                     | Exposures                       |
|               | (1)                                                                                                             | Pattern Type=ACS-WFC-DITHER-<br>LINE<br>Purpose=DITHER<br>Number Of Points=3<br>Point Spacing=3.011<br>Line Spacing= |                                                                                  | Coordinate Frame=POS-TARG<br>Pattern Orientation=85.28<br>Angle Between Sides=<br>Center Pattern=true | (1)                             |
| Fixed Targets | #                                                                                                               | Name                                                                                                                 | Target Coordinates                                                               | Targ. Coord. Corrections                                                                              | Fluxes                          |
|               | (4)                                                                                                             | EMACSJ0135.2+0847                                                                                                    | RA: 01 35 13.7600 (23.8073333d)<br>Dec: +08 47 1.14 (8.78365d)<br>Equinox: J2000 |                                                                                                       | V=20.0                          |
| Exposures     |                                                                                                                 |                                                                                                                      |                                                                                  |                                                                                                       | Miscellaneous                   |
|               | Reference Frame: ICRS                                                                                           |                                                                                                                      |                                                                                  |                                                                                                       |                                 |
|               | #                                                                                                               | Label                                                                                                                | Target                                                                           | Config,Mode,Aperture                                                                                  | Spectral Els.                   |
|               | 1                                                                                                               | 0135+08_60                                                                                                           | (4) EMACSJ0135.2+0847                                                            | ACS/WFC, ACCUM, WFC                                                                                   | F606W                           |
|               |                                                                                                                 |                                                                                                                      |                                                                                  |                                                                                                       | Opt. Params.                    |
|               | CR-SPLIT=NO                                                                                                     |                                                                                                                      |                                                                                  |                                                                                                       |                                 |
|               |                                                                                                                 |                                                                                                                      |                                                                                  |                                                                                                       | Special Reqs.                   |
|               |                                                                                                                 |                                                                                                                      |                                                                                  |                                                                                                       |                                 |
|               |                                                                                                                 |                                                                                                                      |                                                                                  |                                                                                                       | Groups                          |
|               | Pattern 1, Exps 1-1 in Visit 04 (1)                                                                             |                                                                                                                      |                                                                                  |                                                                                                       |                                 |
|               |                                                                                                                 |                                                                                                                      |                                                                                  |                                                                                                       | Exp. Time (Total)/[Actual Dur.] |
|               | 400 Secs (1200 Secs)                                                                                            |                                                                                                                      |                                                                                  |                                                                                                       |                                 |
|               |                                                                                                                 |                                                                                                                      |                                                                                  |                                                                                                       | Orbit                           |
|               | [1]                                                                                                             |                                                                                                                      |                                                                                  |                                                                                                       |                                 |

## Orbit 1

Server Version: 20140605

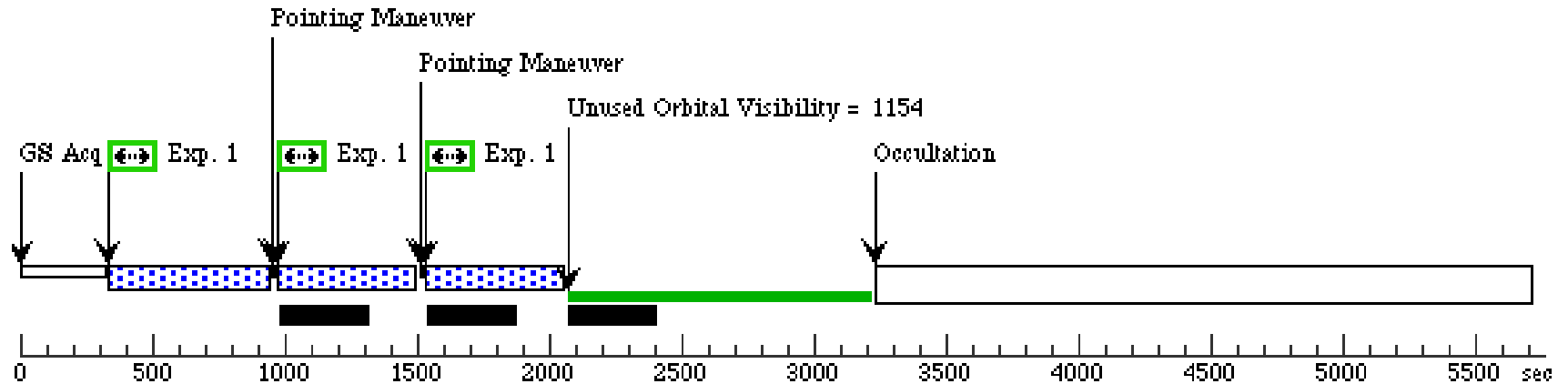


# Proposal 13671 - Visit 05 - Beyond MACS: A Snapshot Survey of the Most Massive Clusters of Galaxies at $z > 0.5$

|                 |                                                                                                                 |                                                                                                                      |                                                                                     |                                                                                                       |                                     |
|-----------------|-----------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------|-------------------------------------|
| Visit           | <b>Proposal 13671, Visit 05, implementation</b> <span style="float: right;">Tue Aug 19 01:02:34 GMT 2014</span> |                                                                                                                      |                                                                                     |                                                                                                       |                                     |
|                 | <b>Diagnostic Status: No Diagnostics</b><br>Scientific Instruments: ACS/WFC<br>Special Requirements: (none)     |                                                                                                                      |                                                                                     |                                                                                                       |                                     |
| Patterns        | #                                                                                                               | Primary Pattern                                                                                                      |                                                                                     | Secondary Pattern                                                                                     | Exposures                           |
|                 | (1)                                                                                                             | Pattern Type=ACS-WFC-DITHER-<br>LINE<br>Purpose=DITHER<br>Number Of Points=3<br>Point Spacing=3.011<br>Line Spacing= |                                                                                     | Coordinate Frame=POS-TARG<br>Pattern Orientation=85.28<br>Angle Between Sides=<br>Center Pattern=true | (1)                                 |
| Fixed Targets   | #                                                                                                               | Name                                                                                                                 | Target Coordinates                                                                  | Targ. Coord. Corrections                                                                              | Fluxes                              |
|                 | (5)                                                                                                             | EMACSJ0256.7-1623                                                                                                    | RA: 02 56 46.4130 (44.1933875d)<br>Dec: -16 23 22.05 (-16.38946d)<br>Equinox: J2000 |                                                                                                       | V=20.0                              |
| Exposures       |                                                                                                                 |                                                                                                                      |                                                                                     |                                                                                                       | Miscellaneous                       |
|                 |                                                                                                                 |                                                                                                                      |                                                                                     |                                                                                                       | Reference Frame: ICRS               |
| Exposures       | #                                                                                                               | Label                                                                                                                | Target                                                                              | Config,Mode,Aperture                                                                                  | Spectral Els.                       |
|                 | 1                                                                                                               | 0256-16_60                                                                                                           | (5) EMACSJ0256.7-1623                                                               | ACS/WFC, ACCUM, WFC                                                                                   | F606W                               |
| Exposures       |                                                                                                                 |                                                                                                                      |                                                                                     |                                                                                                       | Opt. Params.                        |
|                 |                                                                                                                 |                                                                                                                      |                                                                                     |                                                                                                       | CR-SPLIT=NO                         |
| Exposures       |                                                                                                                 |                                                                                                                      |                                                                                     |                                                                                                       | Special Reqs.                       |
|                 |                                                                                                                 |                                                                                                                      |                                                                                     |                                                                                                       |                                     |
| Exposures       |                                                                                                                 |                                                                                                                      |                                                                                     |                                                                                                       | Groups                              |
|                 |                                                                                                                 |                                                                                                                      |                                                                                     |                                                                                                       | Pattern 1, Exps 1-1 in Visit 05 (1) |
| Exposures       |                                                                                                                 |                                                                                                                      |                                                                                     |                                                                                                       | Exp. Time (Total)/[Actual Dur.]     |
|                 |                                                                                                                 |                                                                                                                      |                                                                                     |                                                                                                       | 400 Secs (1200 Secs)                |
| Exposures       |                                                                                                                 |                                                                                                                      |                                                                                     |                                                                                                       | [=>(Pattern 1)]                     |
|                 |                                                                                                                 |                                                                                                                      |                                                                                     |                                                                                                       | [=>(Pattern 2)]                     |
| Exposures       |                                                                                                                 |                                                                                                                      |                                                                                     |                                                                                                       | [=>(Pattern 3)]                     |
|                 |                                                                                                                 |                                                                                                                      |                                                                                     |                                                                                                       | [1]                                 |
| Orbit Structure |                                                                                                                 |                                                                                                                      |                                                                                     |                                                                                                       |                                     |
|                 |                                                                                                                 |                                                                                                                      |                                                                                     |                                                                                                       |                                     |

Orbit 1

Server Version: 20140605



# Proposal 13671 - Visit 06 - Beyond MACS: A Snapshot Survey of the Most Massive Clusters of Galaxies at $z > 0.5$

|                 |                                                                                                                 |                                                                                                                                                                                                                               |                                                                                    |                          |                                         |
|-----------------|-----------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|--------------------------|-----------------------------------------|
| Visit           | <b>Proposal 13671, Visit 06, implementation</b> <span style="float: right;">Tue Aug 19 01:02:34 GMT 2014</span> |                                                                                                                                                                                                                               |                                                                                    |                          |                                         |
|                 | <b>Diagnostic Status: No Diagnostics</b><br>Scientific Instruments: ACS/WFC<br>Special Requirements: (none)     |                                                                                                                                                                                                                               |                                                                                    |                          |                                         |
| Patterns        | #                                                                                                               | Primary Pattern                                                                                                                                                                                                               |                                                                                    | Secondary Pattern        | Exposures                               |
|                 | (1)                                                                                                             | Pattern Type=ACS-WFC-DITHER-<br>LINE<br>Purpose=DITHER<br>Number Of Points=3<br>Point Spacing=3.011<br>Line Spacing=<br>Coordinate Frame=POS-TARG<br>Pattern Orientation=85.28<br>Angle Between Sides=<br>Center Pattern=true |                                                                                    |                          | (1)                                     |
| Fixed Targets   | #                                                                                                               | Name                                                                                                                                                                                                                          | Target Coordinates                                                                 | Targ. Coord. Corrections | Fluxes                                  |
|                 | (6)                                                                                                             | EMACSJ0256.9-1631                                                                                                                                                                                                             | RA: 02 56 57.3070 (44.2387792d)<br>Dec: -16 31 5.69 (-16.51825d)<br>Equinox: J2000 |                          | V=20.0                                  |
| Exposures       |                                                                                                                 |                                                                                                                                                                                                                               |                                                                                    |                          |                                         |
|                 | #                                                                                                               | Label                                                                                                                                                                                                                         | Target                                                                             | Config,Mode,Aperture     | Spectral Els.                           |
|                 | 1                                                                                                               | 0256-16b_6<br>06                                                                                                                                                                                                              | (6) EMACSJ0256.9-<br>1631                                                          | ACS/WFC, ACCUM, WFC      | F606W                                   |
|                 |                                                                                                                 |                                                                                                                                                                                                                               |                                                                                    |                          | CR-SPLIT=NO                             |
|                 |                                                                                                                 |                                                                                                                                                                                                                               |                                                                                    |                          | Special Reqs.                           |
|                 |                                                                                                                 |                                                                                                                                                                                                                               |                                                                                    |                          | Groups                                  |
|                 |                                                                                                                 |                                                                                                                                                                                                                               |                                                                                    |                          | Exp. Time (Total)/[Actual Dur.]         |
|                 |                                                                                                                 |                                                                                                                                                                                                                               |                                                                                    |                          | Orbit                                   |
|                 |                                                                                                                 |                                                                                                                                                                                                                               |                                                                                    |                          | Pattern 1, Exps 1-1 i<br>n Visit 06 (1) |
|                 |                                                                                                                 |                                                                                                                                                                                                                               |                                                                                    |                          | 400 Secs (1200 Secs)                    |
|                 |                                                                                                                 |                                                                                                                                                                                                                               |                                                                                    |                          | [==>(Pattern 1)]                        |
|                 |                                                                                                                 |                                                                                                                                                                                                                               |                                                                                    |                          | [==>(Pattern 2)]                        |
|                 |                                                                                                                 |                                                                                                                                                                                                                               |                                                                                    |                          | [==>(Pattern 3)]                        |
|                 |                                                                                                                 |                                                                                                                                                                                                                               |                                                                                    |                          | [1]                                     |
| Orbit Structure |                                                                                                                 |                                                                                                                                                                                                                               |                                                                                    |                          |                                         |
|                 | <div> <div>Orbit 1</div> <div>Server Version: 20140605</div> </div>                                             |                                                                                                                                                                                                                               |                                                                                    |                          |                                         |

# Proposal 13671 - Visit 07 - Beyond MACS: A Snapshot Survey of the Most Massive Clusters of Galaxies at $z > 0.5$

|                 |                                                                                                          |                                                                                                                  |                                                                                     |                                                                                                       |                                     |
|-----------------|----------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------|-------------------------------------|
| Visit           | Proposal 13671, Visit 07, implementation <span style="float: right;">Tue Aug 19 01:02:34 GMT 2014</span> |                                                                                                                  |                                                                                     |                                                                                                       |                                     |
|                 | Diagnostic Status: No Diagnostics<br>Scientific Instruments: ACS/WFC<br>Special Requirements: (none)     |                                                                                                                  |                                                                                     |                                                                                                       |                                     |
| Patterns        | #                                                                                                        | Primary Pattern                                                                                                  |                                                                                     | Secondary Pattern                                                                                     | Exposures                           |
|                 | (1)                                                                                                      | Pattern Type=ACS-WFC-DITHER-LINE<br>Purpose=DITHER<br>Number Of Points=3<br>Point Spacing=3.011<br>Line Spacing= |                                                                                     | Coordinate Frame=POS-TARG<br>Pattern Orientation=85.28<br>Angle Between Sides=<br>Center Pattern=true | (1)                                 |
| Fixed Targets   | #                                                                                                        | Name                                                                                                             | Target Coordinates                                                                  | Targ. Coord. Corrections                                                                              | Fluxes                              |
|                 | (7)                                                                                                      | EMACSJ0834.2+4524                                                                                                | RA: 08 34 15.2850 (128.5636875d)<br>Dec: +45 24 18.22 (45.40506d)<br>Equinox: J2000 |                                                                                                       | V=20.0                              |
| Exposures       |                                                                                                          |                                                                                                                  |                                                                                     |                                                                                                       |                                     |
|                 | #                                                                                                        | Label                                                                                                            | Target                                                                              | Config,Mode,Aperture                                                                                  | Spectral Els.                       |
|                 | 1                                                                                                        | 0834+45_60                                                                                                       | (7) EMACSJ0834.2+4524                                                               | ACS/WFC, ACCUM, WFC                                                                                   | F606W                               |
|                 |                                                                                                          |                                                                                                                  |                                                                                     |                                                                                                       | Opt. Params.                        |
|                 |                                                                                                          |                                                                                                                  |                                                                                     |                                                                                                       | CR-SPLIT=NO                         |
|                 |                                                                                                          |                                                                                                                  |                                                                                     |                                                                                                       | Special Reqs.                       |
|                 |                                                                                                          |                                                                                                                  |                                                                                     |                                                                                                       |                                     |
|                 |                                                                                                          |                                                                                                                  |                                                                                     |                                                                                                       | Groups                              |
|                 |                                                                                                          |                                                                                                                  |                                                                                     |                                                                                                       | Pattern 1, Exps 1-1 in Visit 07 (1) |
|                 |                                                                                                          |                                                                                                                  |                                                                                     |                                                                                                       | Exp. Time (Total)/[Actual Dur.]     |
|                 |                                                                                                          |                                                                                                                  |                                                                                     |                                                                                                       | 400 Secs (1200 Secs)                |
|                 |                                                                                                          |                                                                                                                  |                                                                                     |                                                                                                       | [==>(Pattern 1)]                    |
|                 |                                                                                                          |                                                                                                                  |                                                                                     |                                                                                                       | [==>(Pattern 2)]                    |
|                 |                                                                                                          |                                                                                                                  |                                                                                     |                                                                                                       | [==>(Pattern 3)]                    |
|                 |                                                                                                          |                                                                                                                  |                                                                                     |                                                                                                       | [1]                                 |
| Orbit Structure | Orbit 1 <span style="float: right;">Server Version: 20140605</span>                                      |                                                                                                                  |                                                                                     |                                                                                                       |                                     |
|                 |                                                                                                          |                                                                                                                  |                                                                                     |                                                                                                       |                                     |

# Proposal 13671 - Visit 08 - Beyond MACS: A Snapshot Survey of the Most Massive Clusters of Galaxies at $z > 0.5$

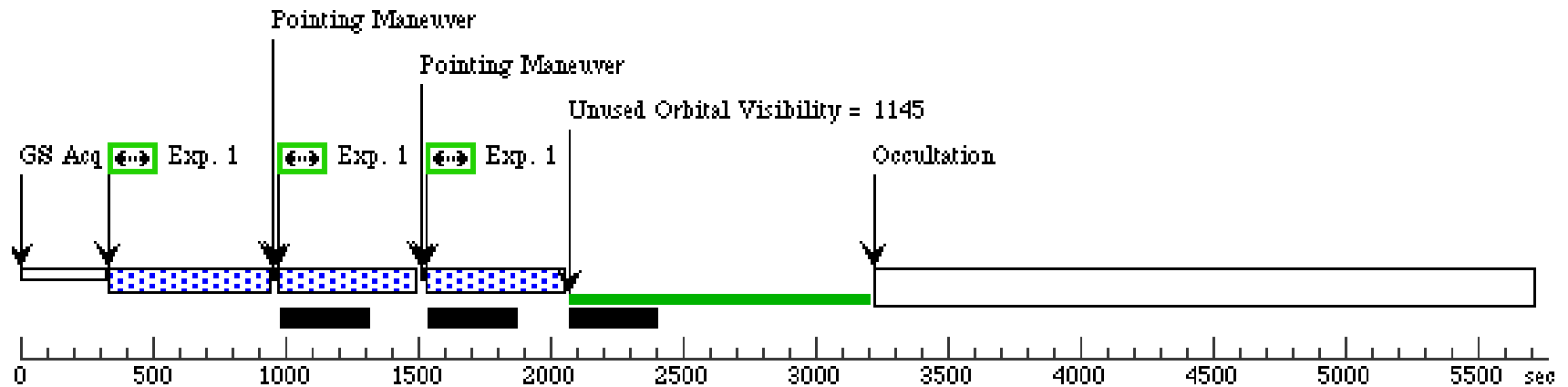
|                 |                                                                                                                 |                                                                                                                                                                                                                               |                                                                                    |                          |                                         |
|-----------------|-----------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|--------------------------|-----------------------------------------|
| Visit           | <b>Proposal 13671, Visit 08, implementation</b> <span style="float: right;">Tue Aug 19 01:02:34 GMT 2014</span> |                                                                                                                                                                                                                               |                                                                                    |                          |                                         |
|                 | <b>Diagnostic Status: No Diagnostics</b><br>Scientific Instruments: ACS/WFC<br>Special Requirements: (none)     |                                                                                                                                                                                                                               |                                                                                    |                          |                                         |
| Patterns        | #                                                                                                               | Primary Pattern                                                                                                                                                                                                               |                                                                                    | Secondary Pattern        | Exposures                               |
|                 | (1)                                                                                                             | Pattern Type=ACS-WFC-DITHER-<br>LINE<br>Purpose=DITHER<br>Number Of Points=3<br>Point Spacing=3.011<br>Line Spacing=<br>Coordinate Frame=POS-TARG<br>Pattern Orientation=85.28<br>Angle Between Sides=<br>Center Pattern=true |                                                                                    |                          | (1)                                     |
| Fixed Targets   | #                                                                                                               | Name                                                                                                                                                                                                                          | Target Coordinates                                                                 | Targ. Coord. Corrections | Fluxes                                  |
|                 | (8)                                                                                                             | EMACSJ0840.2+4421                                                                                                                                                                                                             | RA: 08 40 9.3720 (130.0390500d)<br>Dec: +44 21 53.65 (44.36490d)<br>Equinox: J2000 |                          | V=20.0                                  |
| Exposures       |                                                                                                                 |                                                                                                                                                                                                                               |                                                                                    |                          |                                         |
|                 | #                                                                                                               | Label                                                                                                                                                                                                                         | Target                                                                             | Config,Mode,Aperture     | Spectral Els.                           |
|                 | 1                                                                                                               | 0840+44_60                                                                                                                                                                                                                    | (8) EMACSJ0840.2+                                                                  | ACS/WFC, ACCUM, WFC      | F606W                                   |
|                 | 6                                                                                                               |                                                                                                                                                                                                                               | 4421                                                                               |                          |                                         |
|                 |                                                                                                                 |                                                                                                                                                                                                                               |                                                                                    |                          | CR-SPLIT=NO                             |
|                 |                                                                                                                 |                                                                                                                                                                                                                               |                                                                                    |                          | Special Reqs.                           |
|                 |                                                                                                                 |                                                                                                                                                                                                                               |                                                                                    |                          | Groups                                  |
|                 |                                                                                                                 |                                                                                                                                                                                                                               |                                                                                    |                          | Exp. Time (Total)/[Actual Dur.]         |
|                 |                                                                                                                 |                                                                                                                                                                                                                               |                                                                                    |                          | Orbit                                   |
|                 |                                                                                                                 |                                                                                                                                                                                                                               |                                                                                    |                          | Pattern 1, Exps 1-1 i<br>n Visit 08 (1) |
|                 |                                                                                                                 |                                                                                                                                                                                                                               |                                                                                    |                          | 400 Secs (1200 Secs)                    |
|                 |                                                                                                                 |                                                                                                                                                                                                                               |                                                                                    |                          | [==>(Pattern 1)]                        |
|                 |                                                                                                                 |                                                                                                                                                                                                                               |                                                                                    |                          | [==>(Pattern 2)]                        |
|                 |                                                                                                                 |                                                                                                                                                                                                                               |                                                                                    |                          | [==>(Pattern 3)]                        |
|                 |                                                                                                                 |                                                                                                                                                                                                                               |                                                                                    |                          | [1]                                     |
| Orbit Structure |                                                                                                                 |                                                                                                                                                                                                                               |                                                                                    |                          |                                         |
|                 | <div> <div>Orbit 1</div> <div>Server Version: 20140605</div> </div>                                             |                                                                                                                                                                                                                               |                                                                                    |                          |                                         |

# Proposal 13671 - Visit 09 - Beyond MACS: A Snapshot Survey of the Most Massive Clusters of Galaxies at $z > 0.5$

|               |                                                                                                          |                                                                                                                      |                                                                                     |                                                                                                       |                                 |
|---------------|----------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------|---------------------------------|
| Visit         | Proposal 13671, Visit 09, implementation <span style="float: right;">Tue Aug 19 01:02:34 GMT 2014</span> |                                                                                                                      |                                                                                     |                                                                                                       |                                 |
|               | Diagnostic Status: No Diagnostics<br>Scientific Instruments: ACS/WFC<br>Special Requirements: (none)     |                                                                                                                      |                                                                                     |                                                                                                       |                                 |
| Patterns      | #                                                                                                        | Primary Pattern                                                                                                      |                                                                                     | Secondary Pattern                                                                                     | Exposures                       |
|               | (1)                                                                                                      | Pattern Type=ACS-WFC-DITHER-<br>LINE<br>Purpose=DITHER<br>Number Of Points=3<br>Point Spacing=3.011<br>Line Spacing= |                                                                                     | Coordinate Frame=POS-TARG<br>Pattern Orientation=85.28<br>Angle Between Sides=<br>Center Pattern=true | (1)                             |
| Fixed Targets | #                                                                                                        | Name                                                                                                                 | Target Coordinates                                                                  | Targ. Coord. Corrections                                                                              | Fluxes                          |
|               | (9)                                                                                                      | EMACSJ0921.6-0621                                                                                                    | RA: 09 21 36.6010 (140.4025042d)<br>Dec: -06 21 21.76 (-6.35604d)<br>Equinox: J2000 |                                                                                                       | V=20.0                          |
| Exposures     |                                                                                                          |                                                                                                                      |                                                                                     |                                                                                                       | Miscellaneous                   |
|               | Reference Frame: ICRS                                                                                    |                                                                                                                      |                                                                                     |                                                                                                       |                                 |
| Exposures     | #                                                                                                        | Label                                                                                                                | Target                                                                              | Config,Mode,Aperture                                                                                  | Spectral Els.                   |
|               | 1                                                                                                        | 0921-06_60                                                                                                           | (9) EMACSJ0921.6-0621                                                               | ACS/WFC, ACCUM, WFC                                                                                   | F606W                           |
| Exposures     |                                                                                                          |                                                                                                                      |                                                                                     |                                                                                                       | Opt. Params.                    |
|               | CR-SPLIT=NO                                                                                              |                                                                                                                      |                                                                                     |                                                                                                       |                                 |
| Exposures     |                                                                                                          |                                                                                                                      |                                                                                     |                                                                                                       | Special Reqs.                   |
|               |                                                                                                          |                                                                                                                      |                                                                                     |                                                                                                       |                                 |
| Exposures     |                                                                                                          |                                                                                                                      |                                                                                     |                                                                                                       | Groups                          |
|               | Pattern 1, Exps 1-1 in Visit 09 (1)                                                                      |                                                                                                                      |                                                                                     |                                                                                                       |                                 |
| Exposures     |                                                                                                          |                                                                                                                      |                                                                                     |                                                                                                       | Exp. Time (Total)/[Actual Dur.] |
|               | 400 Secs (1200 Secs)                                                                                     |                                                                                                                      |                                                                                     |                                                                                                       |                                 |
| Exposures     |                                                                                                          |                                                                                                                      |                                                                                     |                                                                                                       | Orbit                           |
|               | [1]                                                                                                      |                                                                                                                      |                                                                                     |                                                                                                       |                                 |

## Orbit 1

Server Version: 20140605



# Proposal 13671 - Visit 10 - Beyond MACS: A Snapshot Survey of the Most Massive Clusters of Galaxies at $z > 0.5$

|                 |                                          |                                                                                                                                                                                                                           |                        |                                                                                   |  |                          |                   |               |                                     |                                 |                              |           |                          |  |
|-----------------|------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------|-----------------------------------------------------------------------------------|--|--------------------------|-------------------|---------------|-------------------------------------|---------------------------------|------------------------------|-----------|--------------------------|--|
| Visit           | Proposal 13671, Visit 10, implementation |                                                                                                                                                                                                                           |                        |                                                                                   |  |                          |                   |               |                                     |                                 | Tue Aug 19 01:02:34 GMT 2014 |           |                          |  |
|                 | Diagnostic Status: No Diagnostics        |                                                                                                                                                                                                                           |                        |                                                                                   |  |                          |                   |               |                                     |                                 |                              |           |                          |  |
|                 | Scientific Instruments: ACS/WFC          |                                                                                                                                                                                                                           |                        |                                                                                   |  |                          |                   |               |                                     |                                 |                              |           |                          |  |
|                 | Special Requirements: (none)             |                                                                                                                                                                                                                           |                        |                                                                                   |  |                          |                   |               |                                     |                                 |                              |           |                          |  |
| Patterns        | #                                        | Primary Pattern                                                                                                                                                                                                           |                        |                                                                                   |  |                          | Secondary Pattern |               |                                     |                                 |                              | Exposures |                          |  |
|                 | (1)                                      | Pattern Type=ACS-WFC-DITHER-LINE<br>Purpose=DITHER<br>Number Of Points=3<br>Point Spacing=3.011<br>Line Spacing=<br>Coordinate Frame=POS-TARG<br>Pattern Orientation=85.28<br>Angle Between Sides=<br>Center Pattern=true |                        |                                                                                   |  |                          |                   |               |                                     |                                 |                              | (1)       |                          |  |
| Fixed Targets   | #                                        | Name                                                                                                                                                                                                                      |                        | Target Coordinates                                                                |  | Targ. Coord. Corrections |                   | Fluxes        |                                     | Miscellaneous                   |                              |           |                          |  |
|                 | (10)                                     | EMACSJ0935.1+0614                                                                                                                                                                                                         |                        | RA: 09 35 3.2220 (143.7634250d)<br>Dec: +06 14 39.05 (6.24418d)<br>Equinox: J2000 |  |                          |                   | V=20.0        |                                     | Reference Frame: ICRS           |                              |           |                          |  |
| Exposures       | #                                        | Label                                                                                                                                                                                                                     | Target                 | Config,Mode,Aperture                                                              |  | Spectral Els.            | Opt. Params.      | Special Reqs. | Groups                              | Exp. Time (Total)/[Actual Dur.] |                              | Orbit     |                          |  |
|                 | 1                                        | 0935+06_606                                                                                                                                                                                                               | (10) EMACSJ0935.1+0614 | ACS/WFC, ACCUM, WFC                                                               |  | F606W                    | CR-SPLIT=NO       |               | Pattern 1, Exps 1-1 in Visit 10 (1) | 400 Secs (1200 Secs)            |                              |           |                          |  |
|                 |                                          |                                                                                                                                                                                                                           |                        |                                                                                   |  |                          |                   |               |                                     | [==>(Pattern 1)]                |                              |           |                          |  |
|                 |                                          |                                                                                                                                                                                                                           |                        |                                                                                   |  |                          |                   |               |                                     | [==>(Pattern 2)]                |                              | [1]       |                          |  |
|                 |                                          |                                                                                                                                                                                                                           |                        |                                                                                   |  |                          |                   |               |                                     | [==>(Pattern 3)]                |                              |           |                          |  |
| Orbit Structure | Orbit 1                                  |                                                                                                                                                                                                                           |                        |                                                                                   |  |                          |                   |               |                                     |                                 |                              |           | Server Version: 20140605 |  |
|                 |                                          |                                                                                                                                                                                                                           |                        |                                                                                   |  |                          |                   |               |                                     |                                 |                              |           |                          |  |

# Proposal 13671 - Visit 11 - Beyond MACS: A Snapshot Survey of the Most Massive Clusters of Galaxies at $z>0.5$

|                 |                                                                                                                 |                                                                                                                                                                                                                           |                                                                                      |                          |                                     |
|-----------------|-----------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|--------------------------|-------------------------------------|
| Visit           | <b>Proposal 13671, Visit 11, implementation</b> <span style="float: right;">Tue Aug 19 01:02:34 GMT 2014</span> |                                                                                                                                                                                                                           |                                                                                      |                          |                                     |
|                 | <b>Diagnostic Status: No Diagnostics</b><br>Scientific Instruments: ACS/WFC<br>Special Requirements: (none)     |                                                                                                                                                                                                                           |                                                                                      |                          |                                     |
| Patterns        | #                                                                                                               | Primary Pattern                                                                                                                                                                                                           |                                                                                      | Secondary Pattern        | Exposures                           |
|                 | (1)                                                                                                             | Pattern Type=ACS-WFC-DITHER-LINE<br>Purpose=DITHER<br>Number Of Points=3<br>Point Spacing=3.011<br>Line Spacing=<br>Coordinate Frame=POS-TARG<br>Pattern Orientation=85.28<br>Angle Between Sides=<br>Center Pattern=true |                                                                                      |                          | (1)                                 |
| Fixed Targets   | #                                                                                                               | Name                                                                                                                                                                                                                      | Target Coordinates                                                                   | Targ. Coord. Corrections | Fluxes                              |
|                 | (11)                                                                                                            | EMACSJ0943.3-1842                                                                                                                                                                                                         | RA: 09 43 18.0090 (145.8250375d)<br>Dec: -18 42 33.88 (-18.70941d)<br>Equinox: J2000 |                          | V=20.0                              |
| Exposures       |                                                                                                                 |                                                                                                                                                                                                                           |                                                                                      |                          |                                     |
|                 | #                                                                                                               | Label                                                                                                                                                                                                                     | Target                                                                               | Config,Mode,Aperture     | Spectral Els.                       |
|                 | 1                                                                                                               | 0943-18_60                                                                                                                                                                                                                | (11) EMACSJ0943.3 -1842                                                              | ACS/WFC, ACCUM, WFC      | F606W                               |
|                 |                                                                                                                 |                                                                                                                                                                                                                           |                                                                                      |                          | Opt. Params.                        |
|                 |                                                                                                                 |                                                                                                                                                                                                                           |                                                                                      |                          | CR-SPLIT=NO                         |
|                 |                                                                                                                 |                                                                                                                                                                                                                           |                                                                                      |                          | Special Reqs.                       |
|                 |                                                                                                                 |                                                                                                                                                                                                                           |                                                                                      |                          |                                     |
|                 |                                                                                                                 |                                                                                                                                                                                                                           |                                                                                      |                          | Groups                              |
|                 |                                                                                                                 |                                                                                                                                                                                                                           |                                                                                      |                          | Pattern 1, Exps 1-1 in Visit 11 (1) |
|                 |                                                                                                                 |                                                                                                                                                                                                                           |                                                                                      |                          | Exp. Time (Total)/[Actual Dur.]     |
|                 |                                                                                                                 |                                                                                                                                                                                                                           |                                                                                      |                          | 400 Secs (1200 Secs)                |
|                 |                                                                                                                 |                                                                                                                                                                                                                           |                                                                                      |                          | [==>(Pattern 1)]                    |
|                 |                                                                                                                 |                                                                                                                                                                                                                           |                                                                                      |                          | [==>(Pattern 2)]                    |
|                 |                                                                                                                 |                                                                                                                                                                                                                           |                                                                                      |                          | [==>(Pattern 3)]                    |
|                 |                                                                                                                 |                                                                                                                                                                                                                           |                                                                                      |                          | [1]                                 |
| Orbit Structure |                                                                                                                 |                                                                                                                                                                                                                           |                                                                                      |                          |                                     |
|                 | <div> <div>Orbit 1</div> <div>Server Version: 20140605</div> </div>                                             |                                                                                                                                                                                                                           |                                                                                      |                          |                                     |

# Proposal 13671 - Visit 12 - Beyond MACS: A Snapshot Survey of the Most Massive Clusters of Galaxies at $z > 0.5$

|                 |                                                                                                                 |                                                                                                                                                                                                                               |                                                                                    |                          |                                         |
|-----------------|-----------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|--------------------------|-----------------------------------------|
| Visit           | <b>Proposal 13671, Visit 12, implementation</b> <span style="float: right;">Tue Aug 19 01:02:35 GMT 2014</span> |                                                                                                                                                                                                                               |                                                                                    |                          |                                         |
|                 | <b>Diagnostic Status: No Diagnostics</b><br>Scientific Instruments: ACS/WFC<br>Special Requirements: (none)     |                                                                                                                                                                                                                               |                                                                                    |                          |                                         |
| Patterns        | #                                                                                                               | Primary Pattern                                                                                                                                                                                                               |                                                                                    | Secondary Pattern        | Exposures                               |
|                 | (1)                                                                                                             | Pattern Type=ACS-WFC-DITHER-<br>LINE<br>Purpose=DITHER<br>Number Of Points=3<br>Point Spacing=3.011<br>Line Spacing=<br>Coordinate Frame=POS-TARG<br>Pattern Orientation=85.28<br>Angle Between Sides=<br>Center Pattern=true |                                                                                    |                          | (1)                                     |
| Fixed Targets   | #                                                                                                               | Name                                                                                                                                                                                                                          | Target Coordinates                                                                 | Targ. Coord. Corrections | Fluxes                                  |
|                 | (12)                                                                                                            | EMACSJ1027.2+0345                                                                                                                                                                                                             | RA: 10 27 14.0280 (156.8084500d)<br>Dec: +03 44 47.70 (3.74658d)<br>Equinox: J2000 |                          | V=20.0                                  |
| Exposures       |                                                                                                                 |                                                                                                                                                                                                                               |                                                                                    |                          |                                         |
|                 | #                                                                                                               | Label                                                                                                                                                                                                                         | Target                                                                             | Config,Mode,Aperture     | Spectral Els.                           |
|                 | 1                                                                                                               | 1027+03_60                                                                                                                                                                                                                    | (12) EMACSJ1027.2                                                                  | ACS/WFC, ACCUM, WFC      | F606W                                   |
|                 | 6                                                                                                               |                                                                                                                                                                                                                               | +0345                                                                              |                          |                                         |
|                 |                                                                                                                 |                                                                                                                                                                                                                               |                                                                                    |                          | CR-SPLIT=NO                             |
|                 |                                                                                                                 |                                                                                                                                                                                                                               |                                                                                    |                          | Special Reqs.                           |
|                 |                                                                                                                 |                                                                                                                                                                                                                               |                                                                                    |                          | Groups                                  |
|                 |                                                                                                                 |                                                                                                                                                                                                                               |                                                                                    |                          | Exp. Time (Total)/[Actual Dur.]         |
|                 |                                                                                                                 |                                                                                                                                                                                                                               |                                                                                    |                          | Orbit                                   |
|                 |                                                                                                                 |                                                                                                                                                                                                                               |                                                                                    |                          | Pattern 1, Exps 1-1 i<br>n Visit 12 (1) |
|                 |                                                                                                                 |                                                                                                                                                                                                                               |                                                                                    |                          | 400 Secs (1200 Secs)                    |
|                 |                                                                                                                 |                                                                                                                                                                                                                               |                                                                                    |                          | [==>(Pattern 1)]                        |
|                 |                                                                                                                 |                                                                                                                                                                                                                               |                                                                                    |                          | [==>(Pattern 2)]                        |
|                 |                                                                                                                 |                                                                                                                                                                                                                               |                                                                                    |                          | [==>(Pattern 3)]                        |
|                 |                                                                                                                 |                                                                                                                                                                                                                               |                                                                                    |                          | [1]                                     |
| Orbit Structure |                                                                                                                 |                                                                                                                                                                                                                               |                                                                                    |                          |                                         |
|                 | <div> <div>Orbit 1</div> <div>Server Version: 20140605</div> </div>                                             |                                                                                                                                                                                                                               |                                                                                    |                          |                                         |

# Proposal 13671 - Visit 13 - Beyond MACS: A Snapshot Survey of the Most Massive Clusters of Galaxies at $z>0.5$

|                 |                                                                                                                 |                                                                                                                                                                                                                               |                                                                                     |                          |                                         |
|-----------------|-----------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|--------------------------|-----------------------------------------|
| Visit           | <b>Proposal 13671, Visit 13, implementation</b> <span style="float: right;">Tue Aug 19 01:02:35 GMT 2014</span> |                                                                                                                                                                                                                               |                                                                                     |                          |                                         |
|                 | <b>Diagnostic Status: No Diagnostics</b><br>Scientific Instruments: ACS/WFC<br>Special Requirements: (none)     |                                                                                                                                                                                                                               |                                                                                     |                          |                                         |
| Patterns        | #                                                                                                               | Primary Pattern                                                                                                                                                                                                               |                                                                                     | Secondary Pattern        | Exposures                               |
|                 | (1)                                                                                                             | Pattern Type=ACS-WFC-DITHER-<br>LINE<br>Purpose=DITHER<br>Number Of Points=3<br>Point Spacing=3.011<br>Line Spacing=<br>Coordinate Frame=POS-TARG<br>Pattern Orientation=85.28<br>Angle Between Sides=<br>Center Pattern=true |                                                                                     |                          | (1)                                     |
| Fixed Targets   | #                                                                                                               | Name                                                                                                                                                                                                                          | Target Coordinates                                                                  | Targ. Coord. Corrections | Fluxes                                  |
|                 | (13)                                                                                                            | EMACSJ1030.5+5132                                                                                                                                                                                                             | RA: 10 30 35.1150 (157.6463125d)<br>Dec: +51 32 32.01 (51.54222d)<br>Equinox: J2000 |                          | V=20.0                                  |
| Exposures       |                                                                                                                 |                                                                                                                                                                                                                               |                                                                                     |                          |                                         |
|                 | #                                                                                                               | Label                                                                                                                                                                                                                         | Target                                                                              | Config,Mode,Aperture     | Spectral Els.                           |
|                 | 1                                                                                                               | 1030+51_60                                                                                                                                                                                                                    | (13) EMACSJ1030.5                                                                   | ACS/WFC, ACCUM, WFC      | F606W                                   |
|                 | 6                                                                                                               |                                                                                                                                                                                                                               | +5132                                                                               |                          |                                         |
|                 |                                                                                                                 |                                                                                                                                                                                                                               |                                                                                     |                          | CR-SPLIT=NO                             |
|                 |                                                                                                                 |                                                                                                                                                                                                                               |                                                                                     |                          | Special Reqs.                           |
|                 |                                                                                                                 |                                                                                                                                                                                                                               |                                                                                     |                          | Groups                                  |
|                 |                                                                                                                 |                                                                                                                                                                                                                               |                                                                                     |                          | Exp. Time (Total)/[Actual Dur.]         |
|                 |                                                                                                                 |                                                                                                                                                                                                                               |                                                                                     |                          | Orbit                                   |
|                 |                                                                                                                 |                                                                                                                                                                                                                               |                                                                                     |                          | Pattern 1, Exps 1-1 i<br>n Visit 13 (1) |
|                 |                                                                                                                 |                                                                                                                                                                                                                               |                                                                                     |                          | 400 Secs (1200 Secs)                    |
|                 |                                                                                                                 |                                                                                                                                                                                                                               |                                                                                     |                          | [==>(Pattern 1)]                        |
|                 |                                                                                                                 |                                                                                                                                                                                                                               |                                                                                     |                          | [==>(Pattern 2)]                        |
|                 |                                                                                                                 |                                                                                                                                                                                                                               |                                                                                     |                          | [==>(Pattern 3)]                        |
|                 |                                                                                                                 |                                                                                                                                                                                                                               |                                                                                     |                          | [1]                                     |
| Orbit Structure |                                                                                                                 |                                                                                                                                                                                                                               |                                                                                     |                          |                                         |
|                 | <div> <div>Orbit 1</div> <div>Server Version: 20140605</div> </div>                                             |                                                                                                                                                                                                                               |                                                                                     |                          |                                         |

# Proposal 13671 - Visit 14 - Beyond MACS: A Snapshot Survey of the Most Massive Clusters of Galaxies at $z>0.5$

|                 |                                                                                                                 |                                                                                                                                                                                                                           |                                                                                     |                          |                                         |
|-----------------|-----------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|--------------------------|-----------------------------------------|
| Visit           | <b>Proposal 13671, Visit 14, implementation</b> <span style="float: right;">Tue Aug 19 01:02:35 GMT 2014</span> |                                                                                                                                                                                                                           |                                                                                     |                          |                                         |
|                 | <b>Diagnostic Status: No Diagnostics</b><br>Scientific Instruments: ACS/WFC<br>Special Requirements: (none)     |                                                                                                                                                                                                                           |                                                                                     |                          |                                         |
| Patterns        | #                                                                                                               | Primary Pattern                                                                                                                                                                                                           |                                                                                     | Secondary Pattern        | Exposures                               |
|                 | (1)                                                                                                             | Pattern Type=ACS-WFC-DITHER-LINE<br>Purpose=DITHER<br>Number Of Points=3<br>Point Spacing=3.011<br>Line Spacing=<br>Coordinate Frame=POS-TARG<br>Pattern Orientation=85.28<br>Angle Between Sides=<br>Center Pattern=true |                                                                                     |                          | (1)                                     |
| Fixed Targets   | #                                                                                                               | Name                                                                                                                                                                                                                      | Target Coordinates                                                                  | Targ. Coord. Corrections | Fluxes                                  |
|                 | (14)                                                                                                            | EMACSJ1050.6+3548                                                                                                                                                                                                         | RA: 10 50 38.5700 (162.6607083d)<br>Dec: +35 49 12.80 (35.82022d)<br>Equinox: J2000 |                          | V=20.0                                  |
| Exposures       |                                                                                                                 |                                                                                                                                                                                                                           |                                                                                     |                          |                                         |
|                 | #                                                                                                               | Label                                                                                                                                                                                                                     | Target                                                                              | Config,Mode,Aperture     | Spectral Els.                           |
|                 | 1                                                                                                               | 1050+35_60                                                                                                                                                                                                                | (14) EMACSJ1050.6                                                                   | ACS/WFC, ACCUM, WFC      | F606W                                   |
|                 | 6                                                                                                               |                                                                                                                                                                                                                           | +3548                                                                               |                          |                                         |
|                 |                                                                                                                 |                                                                                                                                                                                                                           |                                                                                     |                          | CR-SPLIT=NO                             |
|                 |                                                                                                                 |                                                                                                                                                                                                                           |                                                                                     |                          | Special Reqs.                           |
|                 |                                                                                                                 |                                                                                                                                                                                                                           |                                                                                     |                          | Groups                                  |
|                 |                                                                                                                 |                                                                                                                                                                                                                           |                                                                                     |                          | Exp. Time (Total)/[Actual Dur.]         |
|                 |                                                                                                                 |                                                                                                                                                                                                                           |                                                                                     |                          | Orbit                                   |
|                 |                                                                                                                 |                                                                                                                                                                                                                           |                                                                                     |                          | Pattern 1, Exps 1-1 i<br>n Visit 14 (1) |
|                 |                                                                                                                 |                                                                                                                                                                                                                           |                                                                                     |                          | 400 Secs (1200 Secs)                    |
|                 |                                                                                                                 |                                                                                                                                                                                                                           |                                                                                     |                          | [==>(Pattern 1)]                        |
|                 |                                                                                                                 |                                                                                                                                                                                                                           |                                                                                     |                          | [==>(Pattern 2)]                        |
|                 |                                                                                                                 |                                                                                                                                                                                                                           |                                                                                     |                          | [==>(Pattern 3)]                        |
|                 |                                                                                                                 |                                                                                                                                                                                                                           |                                                                                     |                          | [1]                                     |
| Orbit Structure |                                                                                                                 |                                                                                                                                                                                                                           |                                                                                     |                          |                                         |
|                 | <div> <div>Orbit 1</div> <div>Server Version: 20140605</div> </div>                                             |                                                                                                                                                                                                                           |                                                                                     |                          |                                         |

# Proposal 13671 - Visit 15 - Beyond MACS: A Snapshot Survey of the Most Massive Clusters of Galaxies at $z > 0.5$

|                 |                                                                                                                 |                                                                                                                                                                                                                           |                                                                                     |                          |                                     |
|-----------------|-----------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|--------------------------|-------------------------------------|
| Visit           | <b>Proposal 13671, Visit 15, implementation</b> <span style="float: right;">Tue Aug 19 01:02:35 GMT 2014</span> |                                                                                                                                                                                                                           |                                                                                     |                          |                                     |
|                 | <b>Diagnostic Status: No Diagnostics</b><br>Scientific Instruments: ACS/WFC<br>Special Requirements: (none)     |                                                                                                                                                                                                                           |                                                                                     |                          |                                     |
| Patterns        | #                                                                                                               | Primary Pattern                                                                                                                                                                                                           |                                                                                     | Secondary Pattern        | Exposures                           |
|                 | (1)                                                                                                             | Pattern Type=ACS-WFC-DITHER-LINE<br>Purpose=DITHER<br>Number Of Points=3<br>Point Spacing=3.011<br>Line Spacing=<br>Coordinate Frame=POS-TARG<br>Pattern Orientation=85.28<br>Angle Between Sides=<br>Center Pattern=true |                                                                                     |                          | (1)                                 |
| Fixed Targets   | #                                                                                                               | Name                                                                                                                                                                                                                      | Target Coordinates                                                                  | Targ. Coord. Corrections | Fluxes                              |
|                 | (15)                                                                                                            | EMACSJ1131.1+3553                                                                                                                                                                                                         | RA: 11 31 13.6690 (172.8069542d)<br>Dec: +35 54 11.11 (35.90309d)<br>Equinox: J2000 |                          | V=20.0                              |
| Exposures       |                                                                                                                 |                                                                                                                                                                                                                           |                                                                                     |                          |                                     |
|                 | #                                                                                                               | Label                                                                                                                                                                                                                     | Target                                                                              | Config,Mode,Aperture     | Spectral Els.                       |
|                 | 1                                                                                                               | 1131+35_60                                                                                                                                                                                                                | (15) EMACSJ1131.1 +3553                                                             | ACS/WFC, ACCUM, WFC      | F606W                               |
|                 |                                                                                                                 |                                                                                                                                                                                                                           |                                                                                     |                          | Opt. Params.                        |
|                 |                                                                                                                 |                                                                                                                                                                                                                           |                                                                                     |                          | CR-SPLIT=NO                         |
|                 |                                                                                                                 |                                                                                                                                                                                                                           |                                                                                     |                          | Special Reqs.                       |
|                 |                                                                                                                 |                                                                                                                                                                                                                           |                                                                                     |                          |                                     |
|                 |                                                                                                                 |                                                                                                                                                                                                                           |                                                                                     |                          | Groups                              |
|                 |                                                                                                                 |                                                                                                                                                                                                                           |                                                                                     |                          | Pattern 1, Exps 1-1 in Visit 15 (1) |
|                 |                                                                                                                 |                                                                                                                                                                                                                           |                                                                                     |                          | Exp. Time (Total)/[Actual Dur.]     |
|                 |                                                                                                                 |                                                                                                                                                                                                                           |                                                                                     |                          | 400 Secs (1200 Secs)                |
|                 |                                                                                                                 |                                                                                                                                                                                                                           |                                                                                     |                          | [==>(Pattern 1)]                    |
|                 |                                                                                                                 |                                                                                                                                                                                                                           |                                                                                     |                          | [==>(Pattern 2)]                    |
|                 |                                                                                                                 |                                                                                                                                                                                                                           |                                                                                     |                          | [==>(Pattern 3)]                    |
|                 |                                                                                                                 |                                                                                                                                                                                                                           |                                                                                     |                          | [1]                                 |
| Orbit Structure |                                                                                                                 |                                                                                                                                                                                                                           |                                                                                     |                          |                                     |
|                 | <div> <div>Orbit 1</div> <div>Server Version: 20140605</div> </div>                                             |                                                                                                                                                                                                                           |                                                                                     |                          |                                     |

# Proposal 13671 - Visit 16 - Beyond MACS: A Snapshot Survey of the Most Massive Clusters of Galaxies at $z > 0.5$

|                 |                                                                                                                 |                                                                                                                                                                                                                           |                                                                                   |                          |                                     |
|-----------------|-----------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|--------------------------|-------------------------------------|
| Visit           | <b>Proposal 13671, Visit 16, implementation</b> <span style="float: right;">Tue Aug 19 01:02:35 GMT 2014</span> |                                                                                                                                                                                                                           |                                                                                   |                          |                                     |
|                 | <b>Diagnostic Status: No Diagnostics</b><br>Scientific Instruments: ACS/WFC<br>Special Requirements: (none)     |                                                                                                                                                                                                                           |                                                                                   |                          |                                     |
| Patterns        | #                                                                                                               | Primary Pattern                                                                                                                                                                                                           |                                                                                   | Secondary Pattern        | Exposures                           |
|                 | (1)                                                                                                             | Pattern Type=ACS-WFC-DITHER-LINE<br>Purpose=DITHER<br>Number Of Points=3<br>Point Spacing=3.011<br>Line Spacing=<br>Coordinate Frame=POS-TARG<br>Pattern Orientation=85.28<br>Angle Between Sides=<br>Center Pattern=true |                                                                                   |                          | (1)                                 |
| Fixed Targets   | #                                                                                                               | Name                                                                                                                                                                                                                      | Target Coordinates                                                                | Targ. Coord. Corrections | Fluxes                              |
|                 | (16)                                                                                                            | EMACSJ1136.8+0005                                                                                                                                                                                                         | RA: 11 36 52.9230 (174.2205125d)<br>Dec: +00 05 50.59 (.09739d)<br>Equinox: J2000 |                          | V=20.0                              |
| Exposures       |                                                                                                                 |                                                                                                                                                                                                                           |                                                                                   |                          |                                     |
|                 | #                                                                                                               | Label                                                                                                                                                                                                                     | Target                                                                            | Config,Mode,Aperture     | Spectral Els.                       |
|                 | 1                                                                                                               | 1136+00+60                                                                                                                                                                                                                | (16) EMACSJ1136.8 +0005                                                           | ACS/WFC, ACCUM, WFC      | F606W                               |
|                 |                                                                                                                 |                                                                                                                                                                                                                           |                                                                                   |                          | Opt. Params.                        |
|                 |                                                                                                                 |                                                                                                                                                                                                                           |                                                                                   |                          | CR-SPLIT=NO                         |
|                 |                                                                                                                 |                                                                                                                                                                                                                           |                                                                                   |                          | Special Reqs.                       |
|                 |                                                                                                                 |                                                                                                                                                                                                                           |                                                                                   |                          |                                     |
|                 |                                                                                                                 |                                                                                                                                                                                                                           |                                                                                   |                          | Groups                              |
|                 |                                                                                                                 |                                                                                                                                                                                                                           |                                                                                   |                          | Pattern 1, Exps 1-1 in Visit 16 (1) |
|                 |                                                                                                                 |                                                                                                                                                                                                                           |                                                                                   |                          | Exp. Time (Total)/[Actual Dur.]     |
|                 |                                                                                                                 |                                                                                                                                                                                                                           |                                                                                   |                          | 400 Secs (1200 Secs)                |
|                 |                                                                                                                 |                                                                                                                                                                                                                           |                                                                                   |                          | [==>(Pattern 1)]                    |
|                 |                                                                                                                 |                                                                                                                                                                                                                           |                                                                                   |                          | [==>(Pattern 2)]                    |
|                 |                                                                                                                 |                                                                                                                                                                                                                           |                                                                                   |                          | [==>(Pattern 3)]                    |
|                 |                                                                                                                 |                                                                                                                                                                                                                           |                                                                                   |                          | [1]                                 |
| Orbit Structure | <b>Orbit 1</b> <span style="float: right;">Server Version: 20140605</span>                                      |                                                                                                                                                                                                                           |                                                                                   |                          |                                     |
|                 |                                                                                                                 |                                                                                                                                                                                                                           |                                                                                   |                          |                                     |

# Proposal 13671 - Visit 17 - Beyond MACS: A Snapshot Survey of the Most Massive Clusters of Galaxies at $z > 0.5$

|                 |                                                                                                          |                                                                                                                  |                                                                                     |                                                                                                       |                                 |
|-----------------|----------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------|---------------------------------|
| Visit           | Proposal 13671, Visit 17, implementation <span style="float: right;">Tue Aug 19 01:02:35 GMT 2014</span> |                                                                                                                  |                                                                                     |                                                                                                       |                                 |
|                 | Diagnostic Status: No Diagnostics<br>Scientific Instruments: ACS/WFC<br>Special Requirements: (none)     |                                                                                                                  |                                                                                     |                                                                                                       |                                 |
| Patterns        | #                                                                                                        | Primary Pattern                                                                                                  |                                                                                     | Secondary Pattern                                                                                     | Exposures                       |
|                 | (1)                                                                                                      | Pattern Type=ACS-WFC-DITHER-LINE<br>Purpose=DITHER<br>Number Of Points=3<br>Point Spacing=3.011<br>Line Spacing= |                                                                                     | Coordinate Frame=POS-TARG<br>Pattern Orientation=85.28<br>Angle Between Sides=<br>Center Pattern=true | (1)                             |
| Fixed Targets   | #                                                                                                        | Name                                                                                                             | Target Coordinates                                                                  | Targ. Coord. Corrections                                                                              | Fluxes                          |
|                 | (17)                                                                                                     | EMACSJ1144.2-2836                                                                                                | RA: 11 44 9.4960 (176.0395667d)<br>Dec: -28 34 59.81 (-28.58328d)<br>Equinox: J2000 |                                                                                                       | V=20.0                          |
| Exposures       |                                                                                                          |                                                                                                                  |                                                                                     |                                                                                                       | Miscellaneous                   |
|                 | Reference Frame: ICRS                                                                                    |                                                                                                                  |                                                                                     |                                                                                                       |                                 |
| Exposures       | #                                                                                                        | Label                                                                                                            | Target                                                                              | Config,Mode,Aperture                                                                                  | Spectral Els.                   |
|                 | 1                                                                                                        | 1144-28_60                                                                                                       | (17) EMACSJ1144.2                                                                   | ACS/WFC, ACCUM, WFC                                                                                   | F606W                           |
| Exposures       | 6                                                                                                        | -2836                                                                                                            |                                                                                     |                                                                                                       |                                 |
|                 |                                                                                                          |                                                                                                                  |                                                                                     |                                                                                                       | CR-SPLIT=NO                     |
| Exposures       |                                                                                                          |                                                                                                                  |                                                                                     |                                                                                                       | Special Reqs.                   |
|                 |                                                                                                          |                                                                                                                  |                                                                                     |                                                                                                       | Groups                          |
| Exposures       |                                                                                                          |                                                                                                                  |                                                                                     |                                                                                                       | Exp. Time (Total)/[Actual Dur.] |
|                 |                                                                                                          |                                                                                                                  |                                                                                     |                                                                                                       | Orbit                           |
| Exposures       |                                                                                                          |                                                                                                                  |                                                                                     |                                                                                                       | Pattern 1, Exps 1-1 i           |
|                 |                                                                                                          |                                                                                                                  |                                                                                     |                                                                                                       | n Visit 17 (1)                  |
| Exposures       |                                                                                                          |                                                                                                                  |                                                                                     |                                                                                                       | [==>(Pattern 1)]                |
|                 |                                                                                                          |                                                                                                                  |                                                                                     |                                                                                                       | [==>(Pattern 2)]                |
| Exposures       |                                                                                                          |                                                                                                                  |                                                                                     |                                                                                                       | [==>(Pattern 3)]                |
|                 |                                                                                                          |                                                                                                                  |                                                                                     |                                                                                                       | [1]                             |
| Orbit Structure | Orbit 1 <span style="float: right;">Server Version: 20140605</span>                                      |                                                                                                                  |                                                                                     |                                                                                                       |                                 |
|                 |                                                                                                          |                                                                                                                  |                                                                                     |                                                                                                       |                                 |

# Proposal 13671 - Visit 18 - Beyond MACS: A Snapshot Survey of the Most Massive Clusters of Galaxies at $z > 0.5$

|                 |                                                                                                                 |                                                                                                                                                                                                                               |                                                                                    |                          |                                         |
|-----------------|-----------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|--------------------------|-----------------------------------------|
| Visit           | <b>Proposal 13671, Visit 18, implementation</b> <span style="float: right;">Tue Aug 19 01:02:35 GMT 2014</span> |                                                                                                                                                                                                                               |                                                                                    |                          |                                         |
|                 | <b>Diagnostic Status: No Diagnostics</b><br>Scientific Instruments: ACS/WFC<br>Special Requirements: (none)     |                                                                                                                                                                                                                               |                                                                                    |                          |                                         |
| Patterns        | #                                                                                                               | Primary Pattern                                                                                                                                                                                                               |                                                                                    | Secondary Pattern        | Exposures                               |
|                 | (1)                                                                                                             | Pattern Type=ACS-WFC-DITHER-<br>LINE<br>Purpose=DITHER<br>Number Of Points=3<br>Point Spacing=3.011<br>Line Spacing=<br>Coordinate Frame=POS-TARG<br>Pattern Orientation=85.28<br>Angle Between Sides=<br>Center Pattern=true |                                                                                    |                          | (1)                                     |
| Fixed Targets   | #                                                                                                               | Name                                                                                                                                                                                                                          | Target Coordinates                                                                 | Targ. Coord. Corrections | Fluxes                                  |
|                 | (18)                                                                                                            | EMACSJ1148.0+5116                                                                                                                                                                                                             | RA: 11 48 1.6020 (177.0066750d)<br>Dec: +51 16 27.87 (51.27441d)<br>Equinox: J2000 |                          | V=20.0                                  |
| Exposures       |                                                                                                                 |                                                                                                                                                                                                                               |                                                                                    |                          |                                         |
|                 | #                                                                                                               | Label                                                                                                                                                                                                                         | Target                                                                             | Config,Mode,Aperture     | Spectral Els.                           |
|                 | 1                                                                                                               | 1148+51_60                                                                                                                                                                                                                    | (18) EMACSJ1148.0                                                                  | ACS/WFC, ACCUM, WFC      | F606W                                   |
|                 | 6                                                                                                               | +5116                                                                                                                                                                                                                         |                                                                                    |                          |                                         |
|                 |                                                                                                                 |                                                                                                                                                                                                                               |                                                                                    |                          | CR-SPLIT=NO                             |
|                 |                                                                                                                 |                                                                                                                                                                                                                               |                                                                                    |                          | Special Reqs.                           |
|                 |                                                                                                                 |                                                                                                                                                                                                                               |                                                                                    |                          | Groups                                  |
|                 |                                                                                                                 |                                                                                                                                                                                                                               |                                                                                    |                          | Exp. Time (Total)/[Actual Dur.]         |
|                 |                                                                                                                 |                                                                                                                                                                                                                               |                                                                                    |                          | Orbit                                   |
|                 |                                                                                                                 |                                                                                                                                                                                                                               |                                                                                    |                          | Pattern 1, Exps 1-1 i<br>n Visit 18 (1) |
|                 |                                                                                                                 |                                                                                                                                                                                                                               |                                                                                    |                          | 400 Secs (1200 Secs)                    |
|                 |                                                                                                                 |                                                                                                                                                                                                                               |                                                                                    |                          | [==>(Pattern 1)]                        |
|                 |                                                                                                                 |                                                                                                                                                                                                                               |                                                                                    |                          | [==>(Pattern 2)]                        |
|                 |                                                                                                                 |                                                                                                                                                                                                                               |                                                                                    |                          | [==>(Pattern 3)]                        |
|                 |                                                                                                                 |                                                                                                                                                                                                                               |                                                                                    |                          | [1]                                     |
| Orbit Structure |                                                                                                                 |                                                                                                                                                                                                                               |                                                                                    |                          |                                         |
|                 | <div> <div>Orbit 1</div> <div>Server Version: 20140605</div> </div>                                             |                                                                                                                                                                                                                               |                                                                                    |                          |                                         |

# Proposal 13671 - Visit 19 - Beyond MACS: A Snapshot Survey of the Most Massive Clusters of Galaxies at $z > 0.5$

|                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                           |                   |                                                                                     |  |                          |                   |               |                       |                                                          |                              |           |  |
|-----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|-------------------------------------------------------------------------------------|--|--------------------------|-------------------|---------------|-----------------------|----------------------------------------------------------|------------------------------|-----------|--|
| Visit           | Proposal 13671, Visit 19, implementation                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                           |                   |                                                                                     |  |                          |                   |               |                       |                                                          | Tue Aug 19 01:02:35 GMT 2014 |           |  |
|                 | Diagnostic Status: No Diagnostics                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                           |                   |                                                                                     |  |                          |                   |               |                       |                                                          |                              |           |  |
|                 | Scientific Instruments: ACS/WFC                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                           |                   |                                                                                     |  |                          |                   |               |                       |                                                          |                              |           |  |
|                 | Special Requirements: (none)                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                           |                   |                                                                                     |  |                          |                   |               |                       |                                                          |                              |           |  |
| Patterns        | #                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Primary Pattern                                                                                                                                                                                                           |                   |                                                                                     |  |                          | Secondary Pattern |               |                       |                                                          |                              | Exposures |  |
|                 | (1)                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Pattern Type=ACS-WFC-DITHER-LINE<br>Purpose=DITHER<br>Number Of Points=3<br>Point Spacing=3.011<br>Line Spacing=<br>Coordinate Frame=POS-TARG<br>Pattern Orientation=85.28<br>Angle Between Sides=<br>Center Pattern=true |                   |                                                                                     |  |                          |                   |               |                       |                                                          |                              | (1)       |  |
| Fixed Targets   | #                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Name                                                                                                                                                                                                                      |                   | Target Coordinates                                                                  |  | Targ. Coord. Corrections |                   | Fluxes        |                       | Miscellaneous                                            |                              |           |  |
|                 | (19)                                                                                                                                                                                                                                                                                                                                                                                                                                                        | EMACSJ1209.4+2640                                                                                                                                                                                                         |                   | RA: 12 09 23.6760 (182.3486500d)<br>Dec: +26 40 46.67 (26.67963d)<br>Equinox: J2000 |  |                          |                   | V=20.0        |                       | Reference Frame: ICRS                                    |                              |           |  |
| Exposures       | #                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Label                                                                                                                                                                                                                     | Target            | Config,Mode,Aperture                                                                |  | Spectral Els.            | Opt. Params.      | Special Reqs. | Groups                | Exp. Time (Total)/[Actual Dur.]                          |                              | Orbit     |  |
|                 | 1                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 1209+26_60                                                                                                                                                                                                                | (19) EMACSJ1209.4 | ACS/WFC, ACCUM, WFC                                                                 |  | F606W                    | CR-SPLIT=NO       |               | Pattern 1, Exps 1-1 i | 400 Secs (1200 Secs)                                     |                              |           |  |
|                 | 6                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                           | +2640             |                                                                                     |  |                          |                   |               | n Visit 19 (1)        | [==>(Pattern 1)]<br>[==>(Pattern 2)]<br>[==>(Pattern 3)] |                              | [1]       |  |
|                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                           |                   |                                                                                     |  |                          |                   |               |                       |                                                          |                              |           |  |
| Orbit Structure | <div>Orbit 1<div>Server Version: 20140605</div><div><div>Pointing Maneuver</div><div>Pointing Maneuver</div><div>Unused Orbital Visibility = 1164</div><div>Occultation</div><div>GS Acq</div><div>Exp. 1</div><div>Exp. 1</div><div>Exp. 1</div><div>0</div><div>500</div><div>1000</div><div>1500</div><div>2000</div><div>2500</div><div>3000</div><div>3500</div><div>4000</div><div>4500</div><div>5000</div><div>5500</div><div>sec</div></div></div> |                                                                                                                                                                                                                           |                   |                                                                                     |  |                          |                   |               |                       |                                                          |                              |           |  |

# Proposal 13671 - Visit 20 - Beyond MACS: A Snapshot Survey of the Most Massive Clusters of Galaxies at $z > 0.5$

|                 |                                                                                                                 |                                                                                                                                                                                                                           |                                                                                      |                          |                                         |
|-----------------|-----------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|--------------------------|-----------------------------------------|
| Visit           | <b>Proposal 13671, Visit 20, implementation</b> <span style="float: right;">Tue Aug 19 01:02:35 GMT 2014</span> |                                                                                                                                                                                                                           |                                                                                      |                          |                                         |
|                 | <b>Diagnostic Status: No Diagnostics</b><br>Scientific Instruments: ACS/WFC<br>Special Requirements: (none)     |                                                                                                                                                                                                                           |                                                                                      |                          |                                         |
| Patterns        | #                                                                                                               | Primary Pattern                                                                                                                                                                                                           |                                                                                      | Secondary Pattern        | Exposures                               |
|                 | (1)                                                                                                             | Pattern Type=ACS-WFC-DITHER-LINE<br>Purpose=DITHER<br>Number Of Points=3<br>Point Spacing=3.011<br>Line Spacing=<br>Coordinate Frame=POS-TARG<br>Pattern Orientation=85.28<br>Angle Between Sides=<br>Center Pattern=true |                                                                                      |                          | (1)                                     |
| Fixed Targets   | #                                                                                                               | Name                                                                                                                                                                                                                      | Target Coordinates                                                                   | Targ. Coord. Corrections | Fluxes                                  |
|                 | (20)                                                                                                            | EMACSJ1212.5-1216                                                                                                                                                                                                         | RA: 12 12 30.2400 (183.1260000d)<br>Dec: -12 16 19.94 (-12.27221d)<br>Equinox: J2000 |                          | V=20.0                                  |
| Exposures       |                                                                                                                 |                                                                                                                                                                                                                           |                                                                                      |                          |                                         |
|                 | #                                                                                                               | Label                                                                                                                                                                                                                     | Target                                                                               | Config,Mode,Aperture     | Spectral Els.                           |
|                 | 1                                                                                                               | 1212-12_60                                                                                                                                                                                                                | (20) EMACSJ1212.5                                                                    | ACS/WFC, ACCUM, WFC      | F606W                                   |
|                 | 6                                                                                                               | -1216                                                                                                                                                                                                                     |                                                                                      |                          |                                         |
|                 |                                                                                                                 |                                                                                                                                                                                                                           |                                                                                      |                          | CR-SPLIT=NO                             |
|                 |                                                                                                                 |                                                                                                                                                                                                                           |                                                                                      |                          | Special Reqs.                           |
|                 |                                                                                                                 |                                                                                                                                                                                                                           |                                                                                      |                          | Groups                                  |
|                 |                                                                                                                 |                                                                                                                                                                                                                           |                                                                                      |                          | Exp. Time (Total)/[Actual Dur.]         |
|                 |                                                                                                                 |                                                                                                                                                                                                                           |                                                                                      |                          | Orbit                                   |
|                 |                                                                                                                 |                                                                                                                                                                                                                           |                                                                                      |                          | Pattern 1, Exps 1-1 i<br>n Visit 20 (1) |
|                 |                                                                                                                 |                                                                                                                                                                                                                           |                                                                                      |                          | 400 Secs (1200 Secs)                    |
|                 |                                                                                                                 |                                                                                                                                                                                                                           |                                                                                      |                          | [==>(Pattern 1)]                        |
|                 |                                                                                                                 |                                                                                                                                                                                                                           |                                                                                      |                          | [==>(Pattern 2)]                        |
|                 |                                                                                                                 |                                                                                                                                                                                                                           |                                                                                      |                          | [==>(Pattern 3)]                        |
|                 |                                                                                                                 |                                                                                                                                                                                                                           |                                                                                      |                          | [1]                                     |
| Orbit Structure |                                                                                                                 |                                                                                                                                                                                                                           |                                                                                      |                          |                                         |
|                 | <div> <div>Orbit 1</div> <div>Server Version: 20140605</div> </div>                                             |                                                                                                                                                                                                                           |                                                                                      |                          |                                         |

# Proposal 13671 - Visit 21 - Beyond MACS: A Snapshot Survey of the Most Massive Clusters of Galaxies at $z > 0.5$

|                 |                                          |                                                                                                                                                                                                                           |                         |                                                                                    |  |  |               |                          |              |  |                              |                   |                                     |  |                                 |                       |  |  |       |  |  |           |  |
|-----------------|------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------|------------------------------------------------------------------------------------|--|--|---------------|--------------------------|--------------|--|------------------------------|-------------------|-------------------------------------|--|---------------------------------|-----------------------|--|--|-------|--|--|-----------|--|
| Visit           | Proposal 13671, Visit 21, implementation |                                                                                                                                                                                                                           |                         |                                                                                    |  |  |               |                          |              |  | Tue Aug 19 01:02:35 GMT 2014 |                   |                                     |  |                                 |                       |  |  |       |  |  |           |  |
|                 | Diagnostic Status: No Diagnostics        |                                                                                                                                                                                                                           |                         |                                                                                    |  |  |               |                          |              |  |                              |                   |                                     |  |                                 |                       |  |  |       |  |  |           |  |
|                 | Scientific Instruments: ACS/WFC          |                                                                                                                                                                                                                           |                         |                                                                                    |  |  |               |                          |              |  |                              |                   |                                     |  |                                 |                       |  |  |       |  |  |           |  |
|                 | Special Requirements: (none)             |                                                                                                                                                                                                                           |                         |                                                                                    |  |  |               |                          |              |  |                              |                   |                                     |  |                                 |                       |  |  |       |  |  |           |  |
| Patterns        | #                                        | Primary Pattern                                                                                                                                                                                                           |                         |                                                                                    |  |  |               |                          |              |  |                              | Secondary Pattern |                                     |  |                                 |                       |  |  |       |  |  | Exposures |  |
|                 | (1)                                      | Pattern Type=ACS-WFC-DITHER-LINE<br>Purpose=DITHER<br>Number Of Points=3<br>Point Spacing=3.011<br>Line Spacing=<br>Coordinate Frame=POS-TARG<br>Pattern Orientation=85.28<br>Angle Between Sides=<br>Center Pattern=true |                         |                                                                                    |  |  |               |                          |              |  |                              |                   |                                     |  |                                 |                       |  |  |       |  |  | (1)       |  |
| Fixed Targets   | #                                        | Name                                                                                                                                                                                                                      |                         | Target Coordinates                                                                 |  |  |               | Targ. Coord. Corrections |              |  |                              | Fluxes            |                                     |  |                                 | Miscellaneous         |  |  |       |  |  |           |  |
|                 | (21)                                     | EMACSJ1222.3+2418                                                                                                                                                                                                         |                         | RA: 12 22 18.9540 (185.5789750d)<br>Dec: +24 19 1.65 (24.31712d)<br>Equinox: J2000 |  |  |               |                          |              |  |                              | V=20.0            |                                     |  |                                 | Reference Frame: ICRS |  |  |       |  |  |           |  |
| Exposures       | #                                        | Label                                                                                                                                                                                                                     | Target                  | Config,Mode,Aperture                                                               |  |  | Spectral Els. |                          | Opt. Params. |  | Special Reqs.                |                   | Groups                              |  | Exp. Time (Total)/[Actual Dur.] |                       |  |  | Orbit |  |  |           |  |
|                 | 1                                        | 1222+24_606                                                                                                                                                                                                               | (21) EMACSJ1222.3 +2418 | ACS/WFC, ACCUM, WFC                                                                |  |  | F606W         |                          | CR-SPLIT=NO  |  |                              |                   | Pattern 1, Exps 1-1 in Visit 21 (1) |  | 400 Secs (1200 Secs)            |                       |  |  |       |  |  |           |  |
|                 |                                          |                                                                                                                                                                                                                           |                         |                                                                                    |  |  |               |                          |              |  |                              |                   |                                     |  | [==>(Pattern 1)]                |                       |  |  |       |  |  |           |  |
|                 |                                          |                                                                                                                                                                                                                           |                         |                                                                                    |  |  |               |                          |              |  |                              |                   |                                     |  | [==>(Pattern 2)]                |                       |  |  | [1]   |  |  |           |  |
| Orbit Structure | Orbit 1                                  |                                                                                                                                                                                                                           |                         |                                                                                    |  |  |               |                          |              |  | Server Version: 20140605     |                   |                                     |  |                                 |                       |  |  |       |  |  |           |  |
|                 |                                          |                                                                                                                                                                                                                           |                         |                                                                                    |  |  |               |                          |              |  |                              |                   |                                     |  |                                 |                       |  |  |       |  |  |           |  |

# Proposal 13671 - Visit 22 - Beyond MACS: A Snapshot Survey of the Most Massive Clusters of Galaxies at $z>0.5$

|                 |                                                                                                                 |                                                                                                                                                                                                                           |                                                                                    |                          |                                         |
|-----------------|-----------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|--------------------------|-----------------------------------------|
| Visit           | <b>Proposal 13671, Visit 22, implementation</b> <span style="float: right;">Tue Aug 19 01:02:35 GMT 2014</span> |                                                                                                                                                                                                                           |                                                                                    |                          |                                         |
|                 | <b>Diagnostic Status: No Diagnostics</b><br>Scientific Instruments: ACS/WFC<br>Special Requirements: (none)     |                                                                                                                                                                                                                           |                                                                                    |                          |                                         |
| Patterns        | #                                                                                                               | Primary Pattern                                                                                                                                                                                                           |                                                                                    | Secondary Pattern        | Exposures                               |
|                 | (1)                                                                                                             | Pattern Type=ACS-WFC-DITHER-LINE<br>Purpose=DITHER<br>Number Of Points=3<br>Point Spacing=3.011<br>Line Spacing=<br>Coordinate Frame=POS-TARG<br>Pattern Orientation=85.28<br>Angle Between Sides=<br>Center Pattern=true |                                                                                    |                          | (1)                                     |
| Fixed Targets   | #                                                                                                               | Name                                                                                                                                                                                                                      | Target Coordinates                                                                 | Targ. Coord. Corrections | Fluxes                                  |
|                 | (22)                                                                                                            | EMACSJ1341.9-2442                                                                                                                                                                                                         | RA: 13 42 0.2440 (205.5010167d)<br>Dec: -24 42 0.75 (-24.70021d)<br>Equinox: J2000 |                          | V=20.0                                  |
| Exposures       |                                                                                                                 |                                                                                                                                                                                                                           |                                                                                    |                          |                                         |
|                 | #                                                                                                               | Label                                                                                                                                                                                                                     | Target                                                                             | Config,Mode,Aperture     | Spectral Els.                           |
|                 | 1                                                                                                               | 1341-24_60                                                                                                                                                                                                                | (22) EMACSJ1341.9                                                                  | ACS/WFC, ACCUM, WFC      | F606W                                   |
|                 | 6                                                                                                               | -2442                                                                                                                                                                                                                     |                                                                                    |                          |                                         |
|                 |                                                                                                                 |                                                                                                                                                                                                                           |                                                                                    |                          | CR-SPLIT=NO                             |
|                 |                                                                                                                 |                                                                                                                                                                                                                           |                                                                                    |                          | Special Reqs.                           |
|                 |                                                                                                                 |                                                                                                                                                                                                                           |                                                                                    |                          | Groups                                  |
|                 |                                                                                                                 |                                                                                                                                                                                                                           |                                                                                    |                          | Exp. Time (Total)/[Actual Dur.]         |
|                 |                                                                                                                 |                                                                                                                                                                                                                           |                                                                                    |                          | Orbit                                   |
|                 |                                                                                                                 |                                                                                                                                                                                                                           |                                                                                    |                          | Pattern 1, Exps 1-1 i<br>n Visit 22 (1) |
|                 |                                                                                                                 |                                                                                                                                                                                                                           |                                                                                    |                          | 400 Secs (1200 Secs)                    |
|                 |                                                                                                                 |                                                                                                                                                                                                                           |                                                                                    |                          | [==>(Pattern 1)]                        |
|                 |                                                                                                                 |                                                                                                                                                                                                                           |                                                                                    |                          | [==>(Pattern 2)]                        |
|                 |                                                                                                                 |                                                                                                                                                                                                                           |                                                                                    |                          | [==>(Pattern 3)]                        |
|                 |                                                                                                                 |                                                                                                                                                                                                                           |                                                                                    |                          | [1]                                     |
| Orbit Structure |                                                                                                                 |                                                                                                                                                                                                                           |                                                                                    |                          |                                         |
|                 | <div> <div>Orbit 1</div> <div>Server Version: 20140605</div> </div>                                             |                                                                                                                                                                                                                           |                                                                                    |                          |                                         |

# Proposal 13671 - Visit 23 - Beyond MACS: A Snapshot Survey of the Most Massive Clusters of Galaxies at $z>0.5$

|                 |                                                                                                                 |                                                                                                                                                                                                                           |                                                                                      |                          |                                     |
|-----------------|-----------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|--------------------------|-------------------------------------|
| Visit           | <b>Proposal 13671, Visit 23, implementation</b> <span style="float: right;">Tue Aug 19 01:02:35 GMT 2014</span> |                                                                                                                                                                                                                           |                                                                                      |                          |                                     |
|                 | <b>Diagnostic Status: No Diagnostics</b><br>Scientific Instruments: ACS/WFC<br>Special Requirements: (none)     |                                                                                                                                                                                                                           |                                                                                      |                          |                                     |
| Patterns        | #                                                                                                               | Primary Pattern                                                                                                                                                                                                           |                                                                                      | Secondary Pattern        | Exposures                           |
|                 | (1)                                                                                                             | Pattern Type=ACS-WFC-DITHER-LINE<br>Purpose=DITHER<br>Number Of Points=3<br>Point Spacing=3.011<br>Line Spacing=<br>Coordinate Frame=POS-TARG<br>Pattern Orientation=85.28<br>Angle Between Sides=<br>Center Pattern=true |                                                                                      |                          | (1)                                 |
| Fixed Targets   | #                                                                                                               | Name                                                                                                                                                                                                                      | Target Coordinates                                                                   | Targ. Coord. Corrections | Fluxes                              |
|                 | (23)                                                                                                            | EMACSJ1350.7-1055                                                                                                                                                                                                         | RA: 13 50 46.4350 (207.6934792d)<br>Dec: -10 55 32.24 (-10.92562d)<br>Equinox: J2000 |                          | V=20.0                              |
| Exposures       |                                                                                                                 |                                                                                                                                                                                                                           |                                                                                      |                          |                                     |
|                 | #                                                                                                               | Label                                                                                                                                                                                                                     | Target                                                                               | Config,Mode,Aperture     | Spectral Els.                       |
|                 | 1                                                                                                               | 1350-10_60                                                                                                                                                                                                                | (23) EMACSJ1350.7 -1055                                                              | ACS/WFC, ACCUM, WFC      | F606W                               |
|                 |                                                                                                                 |                                                                                                                                                                                                                           |                                                                                      |                          | Opt. Params.                        |
|                 |                                                                                                                 |                                                                                                                                                                                                                           |                                                                                      |                          | CR-SPLIT=NO                         |
|                 |                                                                                                                 |                                                                                                                                                                                                                           |                                                                                      |                          | Special Reqs.                       |
|                 |                                                                                                                 |                                                                                                                                                                                                                           |                                                                                      |                          |                                     |
|                 |                                                                                                                 |                                                                                                                                                                                                                           |                                                                                      |                          | Groups                              |
|                 |                                                                                                                 |                                                                                                                                                                                                                           |                                                                                      |                          | Pattern 1, Exps 1-1 in Visit 23 (1) |
|                 |                                                                                                                 |                                                                                                                                                                                                                           |                                                                                      |                          | Exp. Time (Total)/[Actual Dur.]     |
|                 |                                                                                                                 |                                                                                                                                                                                                                           |                                                                                      |                          | 400 Secs (1200 Secs)                |
|                 |                                                                                                                 |                                                                                                                                                                                                                           |                                                                                      |                          | [==>(Pattern 1)]                    |
|                 |                                                                                                                 |                                                                                                                                                                                                                           |                                                                                      |                          | [==>(Pattern 2)]                    |
|                 |                                                                                                                 |                                                                                                                                                                                                                           |                                                                                      |                          | [==>(Pattern 3)]                    |
|                 |                                                                                                                 |                                                                                                                                                                                                                           |                                                                                      |                          | [1]                                 |
| Orbit Structure |                                                                                                                 |                                                                                                                                                                                                                           |                                                                                      |                          |                                     |
|                 | <div> <div>Orbit 1</div> <div>Server Version: 20140605</div> </div>                                             |                                                                                                                                                                                                                           |                                                                                      |                          |                                     |

# Proposal 13671 - Visit 24 - Beyond MACS: A Snapshot Survey of the Most Massive Clusters of Galaxies at $z>0.5$

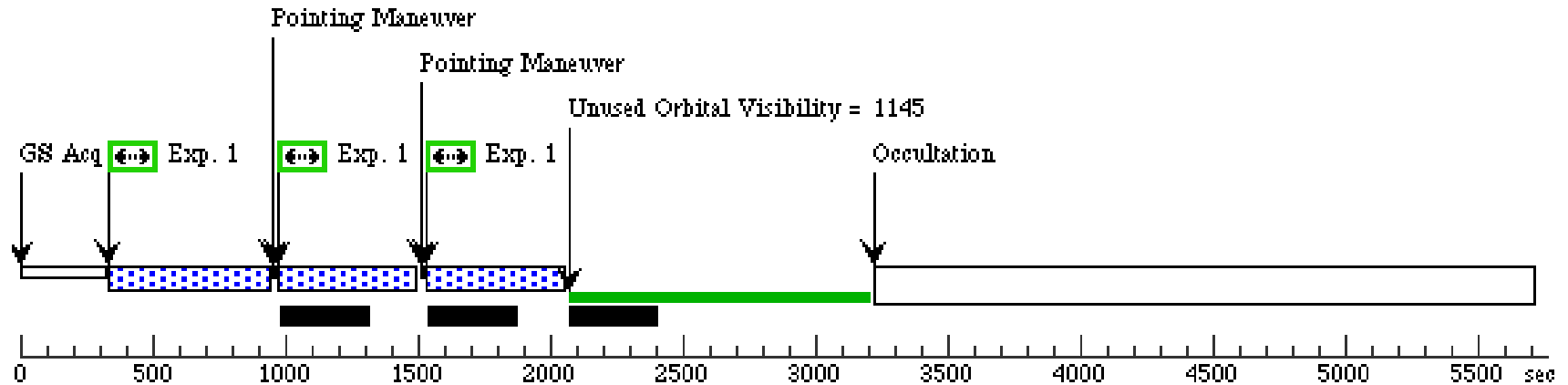
|                 |                                                                                                                 |                                                                                                                                                                                                                               |                                                                                  |                          |                                         |
|-----------------|-----------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------|--------------------------|-----------------------------------------|
| Visit           | <b>Proposal 13671, Visit 24, implementation</b> <span style="float: right;">Tue Aug 19 01:02:35 GMT 2014</span> |                                                                                                                                                                                                                               |                                                                                  |                          |                                         |
|                 | <b>Diagnostic Status: No Diagnostics</b><br>Scientific Instruments: ACS/WFC<br>Special Requirements: (none)     |                                                                                                                                                                                                                               |                                                                                  |                          |                                         |
| Patterns        | #                                                                                                               | Primary Pattern                                                                                                                                                                                                               |                                                                                  | Secondary Pattern        | Exposures                               |
|                 | (1)                                                                                                             | Pattern Type=ACS-WFC-DITHER-<br>LINE<br>Purpose=DITHER<br>Number Of Points=3<br>Point Spacing=3.011<br>Line Spacing=<br>Coordinate Frame=POS-TARG<br>Pattern Orientation=85.28<br>Angle Between Sides=<br>Center Pattern=true |                                                                                  |                          | (1)                                     |
| Fixed Targets   | #                                                                                                               | Name                                                                                                                                                                                                                          | Target Coordinates                                                               | Targ. Coord. Corrections | Fluxes                                  |
|                 | (24)                                                                                                            | EMACSJ1407.0-0015                                                                                                                                                                                                             | RA: 14 07 7.0410 (211.7793375d)<br>Dec: -00 15 5.21 (-.25145d)<br>Equinox: J2000 |                          | V=20.0                                  |
| Exposures       |                                                                                                                 |                                                                                                                                                                                                                               |                                                                                  |                          |                                         |
|                 | #                                                                                                               | Label                                                                                                                                                                                                                         | Target                                                                           | Config,Mode,Aperture     | Spectral Els.                           |
|                 | 1                                                                                                               | 1407-00_60                                                                                                                                                                                                                    | (24) EMACSJ1407.0                                                                | ACS/WFC, ACCUM, WFC      | F606W                                   |
|                 | 6                                                                                                               | -0015                                                                                                                                                                                                                         |                                                                                  |                          |                                         |
|                 |                                                                                                                 |                                                                                                                                                                                                                               |                                                                                  |                          | CR-SPLIT=NO                             |
|                 |                                                                                                                 |                                                                                                                                                                                                                               |                                                                                  |                          | Special Reqs.                           |
|                 |                                                                                                                 |                                                                                                                                                                                                                               |                                                                                  |                          | Groups                                  |
|                 |                                                                                                                 |                                                                                                                                                                                                                               |                                                                                  |                          | Exp. Time (Total)/[Actual Dur.]         |
|                 |                                                                                                                 |                                                                                                                                                                                                                               |                                                                                  |                          | Orbit                                   |
|                 |                                                                                                                 |                                                                                                                                                                                                                               |                                                                                  |                          | Pattern 1, Exps 1-1 i<br>n Visit 24 (1) |
|                 |                                                                                                                 |                                                                                                                                                                                                                               |                                                                                  |                          | 400 Secs (1200 Secs)                    |
|                 |                                                                                                                 |                                                                                                                                                                                                                               |                                                                                  |                          | [==>(Pattern 1)]                        |
|                 |                                                                                                                 |                                                                                                                                                                                                                               |                                                                                  |                          | [==>(Pattern 2)]                        |
|                 |                                                                                                                 |                                                                                                                                                                                                                               |                                                                                  |                          | [==>(Pattern 3)]                        |
|                 |                                                                                                                 |                                                                                                                                                                                                                               |                                                                                  |                          | [1]                                     |
| Orbit Structure |                                                                                                                 |                                                                                                                                                                                                                               |                                                                                  |                          |                                         |
|                 | <div> <div>Orbit 1</div> <div>Server Version: 20140605</div> </div>                                             |                                                                                                                                                                                                                               |                                                                                  |                          |                                         |

# Proposal 13671 - Visit 25 - Beyond MACS: A Snapshot Survey of the Most Massive Clusters of Galaxies at $z > 0.5$

|               |                                                                                                                 |                                                                                                                      |                                                                                    |                                                                                                       |                                 |
|---------------|-----------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------|---------------------------------|
| Visit         | <b>Proposal 13671, Visit 25, implementation</b> <span style="float: right;">Tue Aug 19 01:02:35 GMT 2014</span> |                                                                                                                      |                                                                                    |                                                                                                       |                                 |
|               | <b>Diagnostic Status: No Diagnostics</b><br>Scientific Instruments: ACS/WFC<br>Special Requirements: (none)     |                                                                                                                      |                                                                                    |                                                                                                       |                                 |
| Patterns      | #                                                                                                               | Primary Pattern                                                                                                      |                                                                                    | Secondary Pattern                                                                                     | Exposures                       |
|               | (1)                                                                                                             | Pattern Type=ACS-WFC-DITHER-<br>LINE<br>Purpose=DITHER<br>Number Of Points=3<br>Point Spacing=3.011<br>Line Spacing= |                                                                                    | Coordinate Frame=POS-TARG<br>Pattern Orientation=85.28<br>Angle Between Sides=<br>Center Pattern=true | (1)                             |
| Fixed Targets | #                                                                                                               | Name                                                                                                                 | Target Coordinates                                                                 | Targ. Coord. Corrections                                                                              | Fluxes                          |
|               | (25)                                                                                                            | EMACSJ1419.1-0624                                                                                                    | RA: 14 19 3.2610 (214.7635875d)<br>Dec: -06 24 33.97 (-6.40944d)<br>Equinox: J2000 |                                                                                                       | V=20.0                          |
| Exposures     |                                                                                                                 |                                                                                                                      |                                                                                    |                                                                                                       | Miscellaneous                   |
|               | Reference Frame: ICRS                                                                                           |                                                                                                                      |                                                                                    |                                                                                                       |                                 |
| Exposures     | #                                                                                                               | Label                                                                                                                | Target                                                                             | Config,Mode,Aperture                                                                                  | Spectral Els.                   |
|               | 1                                                                                                               | 1419-06_60                                                                                                           | (25) EMACSJ1419.1-0624                                                             | ACS/WFC, ACCUM, WFC                                                                                   | F606W                           |
| Exposures     |                                                                                                                 |                                                                                                                      |                                                                                    |                                                                                                       | Opt. Params.                    |
|               | CR-SPLIT=NO                                                                                                     |                                                                                                                      |                                                                                    |                                                                                                       |                                 |
| Exposures     |                                                                                                                 |                                                                                                                      |                                                                                    |                                                                                                       | Special Reqs.                   |
|               |                                                                                                                 |                                                                                                                      |                                                                                    |                                                                                                       |                                 |
| Exposures     |                                                                                                                 |                                                                                                                      |                                                                                    |                                                                                                       | Groups                          |
|               | Pattern 1, Exps 1-1 in Visit 25 (1)                                                                             |                                                                                                                      |                                                                                    |                                                                                                       |                                 |
| Exposures     |                                                                                                                 |                                                                                                                      |                                                                                    |                                                                                                       | Exp. Time (Total)/[Actual Dur.] |
|               | 400 Secs (1200 Secs)                                                                                            |                                                                                                                      |                                                                                    |                                                                                                       |                                 |
| Exposures     |                                                                                                                 |                                                                                                                      |                                                                                    |                                                                                                       | Orbit                           |
|               | [1]                                                                                                             |                                                                                                                      |                                                                                    |                                                                                                       |                                 |

## Orbit 1

Server Version: 20140605



# Proposal 13671 - Visit 26 - Beyond MACS: A Snapshot Survey of the Most Massive Clusters of Galaxies at $z > 0.5$

|                 |                                                                                                                 |                                                                                                                                                                                                                               |                                                                                   |                          |                                         |
|-----------------|-----------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|--------------------------|-----------------------------------------|
| Visit           | <b>Proposal 13671, Visit 26, implementation</b> <span style="float: right;">Tue Aug 19 01:02:35 GMT 2014</span> |                                                                                                                                                                                                                               |                                                                                   |                          |                                         |
|                 | <b>Diagnostic Status: No Diagnostics</b><br>Scientific Instruments: ACS/WFC<br>Special Requirements: (none)     |                                                                                                                                                                                                                               |                                                                                   |                          |                                         |
| Patterns        | #                                                                                                               | Primary Pattern                                                                                                                                                                                                               |                                                                                   | Secondary Pattern        | Exposures                               |
|                 | (1)                                                                                                             | Pattern Type=ACS-WFC-DITHER-<br>LINE<br>Purpose=DITHER<br>Number Of Points=3<br>Point Spacing=3.011<br>Line Spacing=<br>Coordinate Frame=POS-TARG<br>Pattern Orientation=85.28<br>Angle Between Sides=<br>Center Pattern=true |                                                                                   |                          | (1)                                     |
| Fixed Targets   | #                                                                                                               | Name                                                                                                                                                                                                                          | Target Coordinates                                                                | Targ. Coord. Corrections | Fluxes                                  |
|                 | (26)                                                                                                            | EMACSJ1430.0+4127                                                                                                                                                                                                             | RA: 14 30 4.9720 (217.5207167d)<br>Dec: +41 27 7.22 (41.45201d)<br>Equinox: J2000 |                          | V=20.0                                  |
| Exposures       |                                                                                                                 |                                                                                                                                                                                                                               |                                                                                   |                          | Miscellaneous                           |
|                 |                                                                                                                 |                                                                                                                                                                                                                               |                                                                                   |                          | Reference Frame: ICRS                   |
| Exposures       | #                                                                                                               | Label                                                                                                                                                                                                                         | Target                                                                            | Config,Mode,Aperture     | Spectral Els.                           |
|                 | 1                                                                                                               | 1430+41_60                                                                                                                                                                                                                    | (26) EMACSJ1430.0                                                                 | ACS/WFC, ACCUM, WFC      | F606W                                   |
| Exposures       | 6                                                                                                               |                                                                                                                                                                                                                               | +4127                                                                             |                          |                                         |
|                 |                                                                                                                 |                                                                                                                                                                                                                               |                                                                                   |                          | CR-SPLIT=NO                             |
| Exposures       |                                                                                                                 |                                                                                                                                                                                                                               |                                                                                   |                          | Special Reqs.                           |
|                 |                                                                                                                 |                                                                                                                                                                                                                               |                                                                                   |                          | Groups                                  |
| Exposures       |                                                                                                                 |                                                                                                                                                                                                                               |                                                                                   |                          | Exp. Time (Total)/[Actual Dur.]         |
|                 |                                                                                                                 |                                                                                                                                                                                                                               |                                                                                   |                          | Orbit                                   |
| Exposures       |                                                                                                                 |                                                                                                                                                                                                                               |                                                                                   |                          | Pattern 1, Exps 1-1 i<br>n Visit 26 (1) |
|                 |                                                                                                                 |                                                                                                                                                                                                                               |                                                                                   |                          | 400 Secs (1200 Secs)                    |
| Exposures       |                                                                                                                 |                                                                                                                                                                                                                               |                                                                                   |                          | [==>(Pattern 1)]                        |
|                 |                                                                                                                 |                                                                                                                                                                                                                               |                                                                                   |                          | [==>(Pattern 2)]                        |
| Exposures       |                                                                                                                 |                                                                                                                                                                                                                               |                                                                                   |                          | [==>(Pattern 3)]                        |
|                 |                                                                                                                 |                                                                                                                                                                                                                               |                                                                                   |                          | [1]                                     |
| Orbit Structure | <b>Orbit 1</b> <span style="float: right;">Server Version: 20140605</span>                                      |                                                                                                                                                                                                                               |                                                                                   |                          |                                         |
|                 |                                                                                                                 |                                                                                                                                                                                                                               |                                                                                   |                          |                                         |

# Proposal 13671 - Visit 27 - Beyond MACS: A Snapshot Survey of the Most Massive Clusters of Galaxies at $z > 0.5$

|                 |                                          |                                                                                                                                                                                                                           |                                                                                   |                      |  |                          |                   |               |                                     |                                 |                              |           |  |
|-----------------|------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|----------------------|--|--------------------------|-------------------|---------------|-------------------------------------|---------------------------------|------------------------------|-----------|--|
| Visit           | Proposal 13671, Visit 27, implementation |                                                                                                                                                                                                                           |                                                                                   |                      |  |                          |                   |               |                                     |                                 | Tue Aug 19 01:02:35 GMT 2014 |           |  |
|                 | Diagnostic Status: No Diagnostics        |                                                                                                                                                                                                                           |                                                                                   |                      |  |                          |                   |               |                                     |                                 |                              |           |  |
|                 | Scientific Instruments: ACS/WFC          |                                                                                                                                                                                                                           |                                                                                   |                      |  |                          |                   |               |                                     |                                 |                              |           |  |
|                 | Special Requirements: (none)             |                                                                                                                                                                                                                           |                                                                                   |                      |  |                          |                   |               |                                     |                                 |                              |           |  |
| Patterns        | #                                        | Primary Pattern                                                                                                                                                                                                           |                                                                                   |                      |  |                          | Secondary Pattern |               |                                     |                                 |                              | Exposures |  |
|                 | (1)                                      | Pattern Type=ACS-WFC-DITHER-LINE<br>Purpose=DITHER<br>Number Of Points=3<br>Point Spacing=3.011<br>Line Spacing=<br>Coordinate Frame=POS-TARG<br>Pattern Orientation=85.28<br>Angle Between Sides=<br>Center Pattern=true |                                                                                   |                      |  |                          |                   |               |                                     |                                 |                              | (1)       |  |
| Fixed Targets   | #                                        | Name                                                                                                                                                                                                                      | Target Coordinates                                                                |                      |  | Targ. Coord. Corrections |                   |               | Fluxes                              |                                 | Miscellaneous                |           |  |
|                 | (27)                                     | EMACSJ1443.2+0102                                                                                                                                                                                                         | RA: 14 43 9.3080 (220.7887833d)<br>Dec: +01 02 12.20 (1.03672d)<br>Equinox: J2000 |                      |  |                          |                   |               | V=20.0                              |                                 | Reference Frame: ICRS        |           |  |
| Exposures       | #                                        | Label                                                                                                                                                                                                                     | Target                                                                            | Config,Mode,Aperture |  | Spectral Els.            | Opt. Params.      | Special Reqs. | Groups                              | Exp. Time (Total)/[Actual Dur.] |                              | Orbit     |  |
|                 | 1                                        | 1443+01_60                                                                                                                                                                                                                | (27) EMACSJ1443.2 +0102                                                           | ACS/WFC, ACCUM, WFC  |  | F606W                    | CR-SPLIT=NO       |               | Pattern 1, Exps 1-1 in Visit 27 (1) | 400 Secs (1200 Secs)            |                              |           |  |
|                 | 6                                        |                                                                                                                                                                                                                           |                                                                                   |                      |  |                          |                   |               |                                     | [=>(Pattern 1)]                 |                              | [1]       |  |
|                 |                                          |                                                                                                                                                                                                                           |                                                                                   |                      |  |                          |                   |               |                                     | [=>(Pattern 2)]                 |                              |           |  |
|                 |                                          |                                                                                                                                                                                                                           |                                                                                   |                      |  |                          |                   |               | [=>(Pattern 3)]                     |                                 |                              |           |  |
| Orbit Structure | Orbit 1                                  |                                                                                                                                                                                                                           |                                                                                   |                      |  |                          |                   |               |                                     |                                 | Server Version: 20140605     |           |  |
|                 |                                          |                                                                                                                                                                                                                           |                                                                                   |                      |  |                          |                   |               |                                     |                                 |                              |           |  |

# Proposal 13671 - Visit 28 - Beyond MACS: A Snapshot Survey of the Most Massive Clusters of Galaxies at $z > 0.5$

|                 |                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                           |                                                                                     |                      |                          |              |                   |                       |                                                       |           |                              |
|-----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|----------------------|--------------------------|--------------|-------------------|-----------------------|-------------------------------------------------------|-----------|------------------------------|
| Visit           | Proposal 13671, Visit 28, implementation                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                           |                                                                                     |                      |                          |              |                   |                       |                                                       |           | Tue Aug 19 01:02:35 GMT 2014 |
|                 | Diagnostic Status: No Diagnostics                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                           |                                                                                     |                      |                          |              |                   |                       |                                                       |           |                              |
|                 | Scientific Instruments: ACS/WFC                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                           |                                                                                     |                      |                          |              |                   |                       |                                                       |           |                              |
|                 | Special Requirements: (none)                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                           |                                                                                     |                      |                          |              |                   |                       |                                                       |           |                              |
| Patterns        | #                                                                                                                                                                                                                                                                                                                       | Primary Pattern                                                                                                                                                                                                           |                                                                                     |                      |                          |              | Secondary Pattern |                       |                                                       | Exposures |                              |
|                 | (1)                                                                                                                                                                                                                                                                                                                     | Pattern Type=ACS-WFC-DITHER-LINE<br>Purpose=DITHER<br>Number Of Points=3<br>Point Spacing=3.011<br>Line Spacing=<br>Coordinate Frame=POS-TARG<br>Pattern Orientation=85.28<br>Angle Between Sides=<br>Center Pattern=true |                                                                                     |                      |                          |              |                   |                       |                                                       | (1)       |                              |
| Fixed Targets   | #                                                                                                                                                                                                                                                                                                                       | Name                                                                                                                                                                                                                      | Target Coordinates                                                                  |                      | Targ. Coord. Corrections |              | Fluxes            |                       | Miscellaneous                                         |           |                              |
|                 | (28)                                                                                                                                                                                                                                                                                                                    | EMACSJ1508.1+5755                                                                                                                                                                                                         | RA: 15 08 17.0960 (227.0712333d)<br>Dec: +57 54 37.39 (57.91039d)<br>Equinox: J2000 |                      |                          |              | V=20.0            |                       | Reference Frame: ICRS                                 |           |                              |
| Exposures       | #                                                                                                                                                                                                                                                                                                                       | Label                                                                                                                                                                                                                     | Target                                                                              | Config,Mode,Aperture | Spectral Els.            | Opt. Params. | Special Reqs.     | Groups                | Exp. Time (Total)/[Actual Dur.]                       |           | Orbit                        |
|                 | 1                                                                                                                                                                                                                                                                                                                       | 1508+57_60                                                                                                                                                                                                                | (28) EMACSJ1508.1                                                                   | ACS/WFC, ACCUM, WFC  | F606W                    | CR-SPLIT=NO  |                   | Pattern 1, Exps 1-1 i | 400 Secs (1200 Secs)                                  |           |                              |
|                 | 6                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                           | +5755                                                                               |                      |                          |              |                   | n Visit 28 (1)        | [=>(Pattern 1)]<br>[=>(Pattern 2)]<br>[=>(Pattern 3)] |           | [1]                          |
| Orbit Structure | <div>Orbit 1<div>Server Version: 20140605</div><div><div>Pointing Maneuver</div><div>Pointing Maneuver</div><div>GS Acq</div><div>Exp. 1</div><div>Exp. 1</div><div>Exp. 1</div><div>Unused Orbital Visibility = 1393</div><div>Occultation</div><div>05001000150020002500300035004000450050005500sec</div></div></div> |                                                                                                                                                                                                                           |                                                                                     |                      |                          |              |                   |                       |                                                       |           |                              |

# Proposal 13671 - Visit 29 - Beyond MACS: A Snapshot Survey of the Most Massive Clusters of Galaxies at $z > 0.5$

|                 |                                                                                                                 |                                                                                                                                                                                                                           |                                                                                     |                          |                                     |
|-----------------|-----------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|--------------------------|-------------------------------------|
| Visit           | <b>Proposal 13671, Visit 29, implementation</b> <span style="float: right;">Tue Aug 19 01:02:35 GMT 2014</span> |                                                                                                                                                                                                                           |                                                                                     |                          |                                     |
|                 | <b>Diagnostic Status: No Diagnostics</b><br>Scientific Instruments: ACS/WFC<br>Special Requirements: (none)     |                                                                                                                                                                                                                           |                                                                                     |                          |                                     |
| Patterns        | #                                                                                                               | Primary Pattern                                                                                                                                                                                                           |                                                                                     | Secondary Pattern        | Exposures                           |
|                 | (1)                                                                                                             | Pattern Type=ACS-WFC-DITHER-LINE<br>Purpose=DITHER<br>Number Of Points=3<br>Point Spacing=3.011<br>Line Spacing=<br>Coordinate Frame=POS-TARG<br>Pattern Orientation=85.28<br>Angle Between Sides=<br>Center Pattern=true |                                                                                     |                          | (1)                                 |
| Fixed Targets   | #                                                                                                               | Name                                                                                                                                                                                                                      | Target Coordinates                                                                  | Targ. Coord. Corrections | Fluxes                              |
|                 | (29)                                                                                                            | EMACSJ1518.3+2927                                                                                                                                                                                                         | RA: 15 18 20.5740 (229.5857250d)<br>Dec: +29 27 40.52 (29.46126d)<br>Equinox: J2000 |                          | V=20.0                              |
| Exposures       |                                                                                                                 |                                                                                                                                                                                                                           |                                                                                     |                          | Miscellaneous                       |
|                 |                                                                                                                 |                                                                                                                                                                                                                           |                                                                                     |                          | Reference Frame: ICRS               |
|                 | #                                                                                                               | Label                                                                                                                                                                                                                     | Target                                                                              | Config,Mode,Aperture     | Spectral Els.                       |
|                 | 1                                                                                                               | 1518+29_60                                                                                                                                                                                                                | (29) EMACSJ1518.3 +2927                                                             | ACS/WFC, ACCUM, WFC      | F606W                               |
|                 |                                                                                                                 |                                                                                                                                                                                                                           |                                                                                     |                          | Opt. Params.                        |
|                 |                                                                                                                 |                                                                                                                                                                                                                           |                                                                                     |                          | CR-SPLIT=NO                         |
|                 |                                                                                                                 |                                                                                                                                                                                                                           |                                                                                     |                          | Special Reqs.                       |
|                 |                                                                                                                 |                                                                                                                                                                                                                           |                                                                                     |                          |                                     |
|                 |                                                                                                                 |                                                                                                                                                                                                                           |                                                                                     |                          | Groups                              |
|                 |                                                                                                                 |                                                                                                                                                                                                                           |                                                                                     |                          | Pattern 1, Exps 1-1 in Visit 29 (1) |
|                 |                                                                                                                 |                                                                                                                                                                                                                           |                                                                                     |                          | Exp. Time (Total)/[Actual Dur.]     |
|                 |                                                                                                                 |                                                                                                                                                                                                                           |                                                                                     |                          | 400 Secs (1200 Secs)                |
|                 |                                                                                                                 |                                                                                                                                                                                                                           |                                                                                     |                          | [==>(Pattern 1)]                    |
|                 |                                                                                                                 |                                                                                                                                                                                                                           |                                                                                     |                          | [==>(Pattern 2)]                    |
|                 |                                                                                                                 |                                                                                                                                                                                                                           |                                                                                     |                          | [==>(Pattern 3)]                    |
|                 |                                                                                                                 |                                                                                                                                                                                                                           |                                                                                     |                          | [1]                                 |
| Orbit Structure | <b>Orbit 1</b> <span style="float: right;">Server Version: 20140605</span>                                      |                                                                                                                                                                                                                           |                                                                                     |                          |                                     |
|                 |                                                                                                                 |                                                                                                                                                                                                                           |                                                                                     |                          |                                     |

# Proposal 13671 - Visit 30 - Beyond MACS: A Snapshot Survey of the Most Massive Clusters of Galaxies at $z > 0.5$

|                 |                                                                     |                                                                                                                  |                        |                                                                                     |  |                          |                                                                                                       |               |                                     |                                                          |                              |           |  |
|-----------------|---------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------|------------------------|-------------------------------------------------------------------------------------|--|--------------------------|-------------------------------------------------------------------------------------------------------|---------------|-------------------------------------|----------------------------------------------------------|------------------------------|-----------|--|
| Visit           | Proposal 13671, Visit 30, implementation                            |                                                                                                                  |                        |                                                                                     |  |                          |                                                                                                       |               |                                     |                                                          | Tue Aug 19 01:02:35 GMT 2014 |           |  |
|                 | Diagnostic Status: No Diagnostics                                   |                                                                                                                  |                        |                                                                                     |  |                          |                                                                                                       |               |                                     |                                                          |                              |           |  |
|                 | Scientific Instruments: ACS/WFC                                     |                                                                                                                  |                        |                                                                                     |  |                          |                                                                                                       |               |                                     |                                                          |                              |           |  |
|                 | Special Requirements: (none)                                        |                                                                                                                  |                        |                                                                                     |  |                          |                                                                                                       |               |                                     |                                                          |                              |           |  |
| Patterns        | #                                                                   | Primary Pattern                                                                                                  |                        |                                                                                     |  |                          | Secondary Pattern                                                                                     |               |                                     |                                                          |                              | Exposures |  |
|                 | (1)                                                                 | Pattern Type=ACS-WFC-DITHER-LINE<br>Purpose=DITHER<br>Number Of Points=3<br>Point Spacing=3.011<br>Line Spacing= |                        |                                                                                     |  |                          | Coordinate Frame=POS-TARG<br>Pattern Orientation=85.28<br>Angle Between Sides=<br>Center Pattern=true |               |                                     |                                                          |                              | (1)       |  |
| Fixed Targets   | #                                                                   | Name                                                                                                             |                        | Target Coordinates                                                                  |  | Targ. Coord. Corrections |                                                                                                       | Fluxes        |                                     | Miscellaneous                                            |                              |           |  |
|                 | (30)                                                                | EMACSJ1527.6+2044                                                                                                |                        | RA: 15 27 42.1040 (231.9254333d)<br>Dec: +20 44 38.64 (20.74407d)<br>Equinox: J2000 |  |                          |                                                                                                       | V=20.0        |                                     | Reference Frame: ICRS                                    |                              |           |  |
| Exposures       | #                                                                   | Label                                                                                                            | Target                 | Config,Mode,Aperture                                                                |  | Spectral Els.            | Opt. Params.                                                                                          | Special Reqs. | Groups                              | Exp. Time (Total)/[Actual Dur.]                          |                              | Orbit     |  |
|                 | 1                                                                   | 1527+20_606                                                                                                      | (30) EMACSJ1527.6+2044 | ACS/WFC, ACCUM, WFC                                                                 |  | F606W                    | CR-SPLIT=NO                                                                                           |               | Pattern 1, Exps 1-1 in Visit 30 (1) | 400 Secs (1200 Secs)                                     |                              |           |  |
|                 |                                                                     |                                                                                                                  |                        |                                                                                     |  |                          |                                                                                                       |               |                                     | [==>(Pattern 1)]<br>[==>(Pattern 2)]<br>[==>(Pattern 3)] |                              | [1]       |  |
| Orbit Structure | <div>Orbit 1<span>Server Version: 20140605</span></div> <div></div> |                                                                                                                  |                        |                                                                                     |  |                          |                                                                                                       |               |                                     |                                                          |                              |           |  |

# Proposal 13671 - Visit 31 - Beyond MACS: A Snapshot Survey of the Most Massive Clusters of Galaxies at $z > 0.5$

|                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                           |                   |                                                                                     |  |  |  |                          |  |              |                              |                   |  |                       |  |                                 |  |  |  |       |  |           |  |
|-----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|-------------------------------------------------------------------------------------|--|--|--|--------------------------|--|--------------|------------------------------|-------------------|--|-----------------------|--|---------------------------------|--|--|--|-------|--|-----------|--|
| Visit           | Proposal 13671, Visit 31, implementation                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                           |                   |                                                                                     |  |  |  |                          |  |              | Tue Aug 19 01:02:35 GMT 2014 |                   |  |                       |  |                                 |  |  |  |       |  |           |  |
|                 | Diagnostic Status: No Diagnostics                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                           |                   |                                                                                     |  |  |  |                          |  |              |                              |                   |  |                       |  |                                 |  |  |  |       |  |           |  |
|                 | Scientific Instruments: ACS/WFC                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                           |                   |                                                                                     |  |  |  |                          |  |              |                              |                   |  |                       |  |                                 |  |  |  |       |  |           |  |
|                 | Special Requirements: (none)                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                           |                   |                                                                                     |  |  |  |                          |  |              |                              |                   |  |                       |  |                                 |  |  |  |       |  |           |  |
| Patterns        | #                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Primary Pattern                                                                                                                                                                                                           |                   |                                                                                     |  |  |  |                          |  |              |                              | Secondary Pattern |  |                       |  |                                 |  |  |  |       |  | Exposures |  |
|                 | (1)                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Pattern Type=ACS-WFC-DITHER-LINE<br>Purpose=DITHER<br>Number Of Points=3<br>Point Spacing=3.011<br>Line Spacing=<br>Coordinate Frame=POS-TARG<br>Pattern Orientation=85.28<br>Angle Between Sides=<br>Center Pattern=true |                   |                                                                                     |  |  |  |                          |  |              |                              |                   |  |                       |  |                                 |  |  |  |       |  | (1)       |  |
| Fixed Targets   | #                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Name                                                                                                                                                                                                                      |                   | Target Coordinates                                                                  |  |  |  | Targ. Coord. Corrections |  |              |                              | Fluxes            |  |                       |  | Miscellaneous                   |  |  |  |       |  |           |  |
|                 | (31)                                                                                                                                                                                                                                                                                                                                                                                                                                                        | EMACSJ1621.2-0231                                                                                                                                                                                                         |                   | RA: 16 21 18.8270 (245.3284458d)<br>Dec: -02 32 44.73 (-2.54576d)<br>Equinox: J2000 |  |  |  |                          |  |              |                              | V=20.0            |  |                       |  | Reference Frame: ICRS           |  |  |  |       |  |           |  |
| Exposures       | #                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Label                                                                                                                                                                                                                     | Target            | Config,Mode,Aperture                                                                |  |  |  | Spectral Els.            |  | Opt. Params. |                              | Special Reqs.     |  | Groups                |  | Exp. Time (Total)/[Actual Dur.] |  |  |  | Orbit |  |           |  |
|                 | 1                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 1621-02_60                                                                                                                                                                                                                | (31) EMACSJ1621.2 | ACS/WFC, ACCUM, WFC                                                                 |  |  |  | F606W                    |  | CR-SPLIT=NO  |                              |                   |  | Pattern 1, Exps 1-1 i |  | 400 Secs (1200 Secs)            |  |  |  |       |  |           |  |
|                 | 6                                                                                                                                                                                                                                                                                                                                                                                                                                                           | -0231                                                                                                                                                                                                                     | -0231             |                                                                                     |  |  |  |                          |  |              |                              |                   |  | n Visit 31 (1)        |  | [==>(Pattern 1)]                |  |  |  |       |  |           |  |
|                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                           |                   |                                                                                     |  |  |  |                          |  |              |                              |                   |  |                       |  | [==>(Pattern 2)]                |  |  |  | [1]   |  |           |  |
| Orbit Structure | <div>Orbit 1<div>Server Version: 20140605</div><div><div>Pointing Maneuver</div><div>Pointing Maneuver</div><div>Unused Orbital Visibility = 1145</div><div>Occultation</div><div>GS Acq</div><div>Exp. 1</div><div>Exp. 1</div><div>Exp. 1</div><div>0</div><div>500</div><div>1000</div><div>1500</div><div>2000</div><div>2500</div><div>3000</div><div>3500</div><div>4000</div><div>4500</div><div>5000</div><div>5500</div><div>sec</div></div></div> |                                                                                                                                                                                                                           |                   |                                                                                     |  |  |  |                          |  |              |                              |                   |  |                       |  |                                 |  |  |  |       |  |           |  |

# Proposal 13671 - Visit 32 - Beyond MACS: A Snapshot Survey of the Most Massive Clusters of Galaxies at $z > 0.5$

|                 |                                                                                                                 |                                                                                                                                                                                                                               |                                                                                     |                          |               |
|-----------------|-----------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|--------------------------|---------------|
| Visit           | <b>Proposal 13671, Visit 32, implementation</b> <span style="float: right;">Tue Aug 19 01:02:35 GMT 2014</span> |                                                                                                                                                                                                                               |                                                                                     |                          |               |
|                 | <b>Diagnostic Status: No Diagnostics</b><br>Scientific Instruments: ACS/WFC<br>Special Requirements: (none)     |                                                                                                                                                                                                                               |                                                                                     |                          |               |
| Patterns        | #                                                                                                               | Primary Pattern                                                                                                                                                                                                               |                                                                                     | Secondary Pattern        | Exposures     |
|                 | (1)                                                                                                             | Pattern Type=ACS-WFC-DITHER-<br>LINE<br>Purpose=DITHER<br>Number Of Points=3<br>Point Spacing=3.011<br>Line Spacing=<br>Coordinate Frame=POS-TARG<br>Pattern Orientation=85.28<br>Angle Between Sides=<br>Center Pattern=true |                                                                                     |                          | (1)           |
| Fixed Targets   | #                                                                                                               | Name                                                                                                                                                                                                                          | Target Coordinates                                                                  | Targ. Coord. Corrections | Fluxes        |
|                 | (32)                                                                                                            | EMACSJ1621.4+7232                                                                                                                                                                                                             | RA: 16 21 22.7260 (245.3446917d)<br>Dec: +72 32 49.02 (72.54695d)<br>Equinox: J2000 |                          | V=20.0        |
| Exposures       |                                                                                                                 |                                                                                                                                                                                                                               |                                                                                     |                          | Miscellaneous |
|                 | Reference Frame: ICRS                                                                                           |                                                                                                                                                                                                                               |                                                                                     |                          |               |
| Exposures       | #                                                                                                               | Label                                                                                                                                                                                                                         | Target                                                                              | Config,Mode,Aperture     | Spectral Els. |
|                 | 1                                                                                                               | 1621+72_60                                                                                                                                                                                                                    | (32) EMACSJ1621.4                                                                   | ACS/WFC, ACCUM, WFC      | F606W         |
| Exposures       | 6                                                                                                               |                                                                                                                                                                                                                               | +7232                                                                               |                          |               |
|                 | CR-SPLIT=NO                                                                                                     |                                                                                                                                                                                                                               |                                                                                     |                          |               |
| Exposures       | Special Reqs.                                                                                                   |                                                                                                                                                                                                                               |                                                                                     |                          |               |
|                 | Groups                                                                                                          |                                                                                                                                                                                                                               |                                                                                     |                          |               |
| Exposures       | Exp. Time (Total)/[Actual Dur.]                                                                                 |                                                                                                                                                                                                                               |                                                                                     |                          |               |
|                 | Orbit                                                                                                           |                                                                                                                                                                                                                               |                                                                                     |                          |               |
| Exposures       | Pattern 1, Exps 1-1 i                                                                                           |                                                                                                                                                                                                                               |                                                                                     |                          |               |
|                 | n Visit 32 (1)                                                                                                  |                                                                                                                                                                                                                               |                                                                                     |                          |               |
| Exposures       | 400 Secs (1200 Secs)                                                                                            |                                                                                                                                                                                                                               |                                                                                     |                          |               |
|                 | [=>(Pattern 1)]                                                                                                 |                                                                                                                                                                                                                               |                                                                                     |                          |               |
| Exposures       | [=>(Pattern 2)]                                                                                                 |                                                                                                                                                                                                                               |                                                                                     |                          |               |
|                 | [=>(Pattern 3)]                                                                                                 |                                                                                                                                                                                                                               |                                                                                     |                          |               |
| Exposures       | [1]                                                                                                             |                                                                                                                                                                                                                               |                                                                                     |                          |               |
|                 |                                                                                                                 |                                                                                                                                                                                                                               |                                                                                     |                          |               |
| Orbit Structure | Orbit 1                                                                                                         |                                                                                                                                                                                                                               |                                                                                     |                          |               |
|                 | Server Version: 20140605                                                                                        |                                                                                                                                                                                                                               |                                                                                     |                          |               |
| Orbit Structure |                                                                                                                 |                                                                                                                                                                                                                               |                                                                                     |                          |               |
|                 | 0 500 1000 1500 2000 2500 3000 3500 4000 4500 5000 5500 sec                                                     |                                                                                                                                                                                                                               |                                                                                     |                          |               |

# Proposal 13671 - Visit 33 - Beyond MACS: A Snapshot Survey of the Most Massive Clusters of Galaxies at $z > 0.5$

|                 |                                                                                                                 |                                                                                                                      |                                                                                     |                                                                                                       |                                         |
|-----------------|-----------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------|-----------------------------------------|
| Visit           | <b>Proposal 13671, Visit 33, implementation</b> <span style="float: right;">Tue Aug 19 01:02:36 GMT 2014</span> |                                                                                                                      |                                                                                     |                                                                                                       |                                         |
|                 | <b>Diagnostic Status: No Diagnostics</b><br>Scientific Instruments: ACS/WFC<br>Special Requirements: (none)     |                                                                                                                      |                                                                                     |                                                                                                       |                                         |
| Patterns        | #                                                                                                               | Primary Pattern                                                                                                      |                                                                                     | Secondary Pattern                                                                                     | Exposures                               |
|                 | (1)                                                                                                             | Pattern Type=ACS-WFC-DITHER-<br>LINE<br>Purpose=DITHER<br>Number Of Points=3<br>Point Spacing=3.011<br>Line Spacing= |                                                                                     | Coordinate Frame=POS-TARG<br>Pattern Orientation=85.28<br>Angle Between Sides=<br>Center Pattern=true | (1)                                     |
| Fixed Targets   | #                                                                                                               | Name                                                                                                                 | Target Coordinates                                                                  | Targ. Coord. Corrections                                                                              | Fluxes                                  |
|                 | (33)                                                                                                            | EMACSJ1709.5+4731                                                                                                    | RA: 17 09 34.5410 (257.3939208d)<br>Dec: +47 32 35.60 (47.54322d)<br>Equinox: J2000 |                                                                                                       | V=20.0                                  |
| Exposures       |                                                                                                                 |                                                                                                                      |                                                                                     |                                                                                                       |                                         |
|                 | #                                                                                                               | Label                                                                                                                | Target                                                                              | Config,Mode,Aperture                                                                                  | Spectral Els.                           |
|                 | 1                                                                                                               | 1709+47_60                                                                                                           | (33) EMACSJ1709.5                                                                   | ACS/WFC, ACCUM, WFC                                                                                   | F606W                                   |
|                 | 6                                                                                                               |                                                                                                                      | +4731                                                                               |                                                                                                       |                                         |
|                 |                                                                                                                 |                                                                                                                      |                                                                                     |                                                                                                       | Opt. Params.                            |
|                 |                                                                                                                 |                                                                                                                      |                                                                                     |                                                                                                       | CR-SPLIT=NO                             |
|                 |                                                                                                                 |                                                                                                                      |                                                                                     |                                                                                                       | Special Reqs.                           |
|                 |                                                                                                                 |                                                                                                                      |                                                                                     |                                                                                                       |                                         |
|                 |                                                                                                                 |                                                                                                                      |                                                                                     |                                                                                                       | Groups                                  |
|                 |                                                                                                                 |                                                                                                                      |                                                                                     |                                                                                                       | Pattern 1, Exps 1-1 i<br>n Visit 33 (1) |
|                 |                                                                                                                 |                                                                                                                      |                                                                                     |                                                                                                       | Exp. Time (Total)/[Actual Dur.]         |
|                 |                                                                                                                 |                                                                                                                      |                                                                                     |                                                                                                       | 400 Secs (1200 Secs)                    |
|                 |                                                                                                                 |                                                                                                                      |                                                                                     |                                                                                                       | [==>(Pattern 1)]                        |
|                 |                                                                                                                 |                                                                                                                      |                                                                                     |                                                                                                       | [==>(Pattern 2)]                        |
|                 |                                                                                                                 |                                                                                                                      |                                                                                     |                                                                                                       | [==>(Pattern 3)]                        |
|                 |                                                                                                                 |                                                                                                                      |                                                                                     |                                                                                                       | [1]                                     |
| Orbit Structure |                                                                                                                 |                                                                                                                      |                                                                                     |                                                                                                       |                                         |
|                 | <div> <div>Orbit 1</div> <div>Server Version: 20140605</div> </div>                                             |                                                                                                                      |                                                                                     |                                                                                                       |                                         |

# Proposal 13671 - Visit 34 - Beyond MACS: A Snapshot Survey of the Most Massive Clusters of Galaxies at $z > 0.5$

|                 |                                          |                                                                                                                                                                                                                           |                                                                                     |                      |                          |                              |              |                       |                                 |  |       |                          |  |  |  |  |  |  |  |  |  |  |  |
|-----------------|------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|----------------------|--------------------------|------------------------------|--------------|-----------------------|---------------------------------|--|-------|--------------------------|--|--|--|--|--|--|--|--|--|--|--|
| Visit           | Proposal 13671, Visit 34, implementation |                                                                                                                                                                                                                           |                                                                                     |                      |                          | Tue Aug 19 01:02:36 GMT 2014 |              |                       |                                 |  |       |                          |  |  |  |  |  |  |  |  |  |  |  |
|                 | Diagnostic Status: No Diagnostics        |                                                                                                                                                                                                                           |                                                                                     |                      |                          |                              |              |                       |                                 |  |       |                          |  |  |  |  |  |  |  |  |  |  |  |
|                 | Scientific Instruments: ACS/WFC          |                                                                                                                                                                                                                           |                                                                                     |                      |                          |                              |              |                       |                                 |  |       |                          |  |  |  |  |  |  |  |  |  |  |  |
|                 | Special Requirements: (none)             |                                                                                                                                                                                                                           |                                                                                     |                      |                          |                              |              |                       |                                 |  |       |                          |  |  |  |  |  |  |  |  |  |  |  |
| Patterns        | #                                        | Primary Pattern                                                                                                                                                                                                           |                                                                                     |                      | Secondary Pattern        |                              | Exposures    |                       |                                 |  |       |                          |  |  |  |  |  |  |  |  |  |  |  |
|                 | (1)                                      | Pattern Type=ACS-WFC-DITHER-LINE<br>Purpose=DITHER<br>Number Of Points=3<br>Point Spacing=3.011<br>Line Spacing=<br>Coordinate Frame=POS-TARG<br>Pattern Orientation=85.28<br>Angle Between Sides=<br>Center Pattern=true |                                                                                     |                      |                          |                              | (1)          |                       |                                 |  |       |                          |  |  |  |  |  |  |  |  |  |  |  |
| Fixed Targets   | #                                        | Name                                                                                                                                                                                                                      | Target Coordinates                                                                  |                      | Targ. Coord. Corrections |                              | Fluxes       |                       | Miscellaneous                   |  |       |                          |  |  |  |  |  |  |  |  |  |  |  |
|                 | (34)                                     | EMACSJ1732.4+1934                                                                                                                                                                                                         | RA: 17 32 24.0830 (263.1003458d)<br>Dec: +19 33 16.56 (19.55460d)<br>Equinox: J2000 |                      |                          |                              | V=20.0       |                       | Reference Frame: ICRS           |  |       |                          |  |  |  |  |  |  |  |  |  |  |  |
| Exposures       | #                                        | Label                                                                                                                                                                                                                     | Target                                                                              | Config,Mode,Aperture | Spectral Els.            | Opt. Params.                 | Special Req. | Groups                | Exp. Time (Total)/[Actual Dur.] |  | Orbit |                          |  |  |  |  |  |  |  |  |  |  |  |
|                 | 1                                        | 1732+19_60                                                                                                                                                                                                                | (34) EMACSJ1732.4                                                                   | ACS/WFC, ACCUM, WFC  | F606W                    | CR-SPLIT=NO                  |              | Pattern 1, Exps 1-1 i | 400 Secs (1200 Secs)            |  |       |                          |  |  |  |  |  |  |  |  |  |  |  |
|                 | 6                                        | +1934                                                                                                                                                                                                                     |                                                                                     |                      |                          |                              |              | n Visit 34 (1)        | [==>(Pattern 1)]                |  |       |                          |  |  |  |  |  |  |  |  |  |  |  |
|                 |                                          |                                                                                                                                                                                                                           |                                                                                     |                      |                          |                              |              |                       | [==>(Pattern 2)]                |  | [1]   |                          |  |  |  |  |  |  |  |  |  |  |  |
|                 |                                          |                                                                                                                                                                                                                           |                                                                                     |                      |                          |                              |              |                       | [==>(Pattern 3)]                |  |       |                          |  |  |  |  |  |  |  |  |  |  |  |
| Orbit Structure | Orbit 1                                  |                                                                                                                                                                                                                           |                                                                                     |                      |                          |                              |              |                       |                                 |  |       | Server Version: 20140605 |  |  |  |  |  |  |  |  |  |  |  |
|                 |                                          |                                                                                                                                                                                                                           |                                                                                     |                      |                          |                              |              |                       |                                 |  |       |                          |  |  |  |  |  |  |  |  |  |  |  |

# Proposal 13671 - Visit 35 - Beyond MACS: A Snapshot Survey of the Most Massive Clusters of Galaxies at $z > 0.5$

|                 |                                                                                                                 |                                                                                                                      |                                                                                     |                                                                                                       |                                         |
|-----------------|-----------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------|-----------------------------------------|
| Visit           | <b>Proposal 13671, Visit 35, implementation</b> <span style="float: right;">Tue Aug 19 01:02:36 GMT 2014</span> |                                                                                                                      |                                                                                     |                                                                                                       |                                         |
|                 | <b>Diagnostic Status: No Diagnostics</b><br>Scientific Instruments: ACS/WFC<br>Special Requirements: (none)     |                                                                                                                      |                                                                                     |                                                                                                       |                                         |
| Patterns        | #                                                                                                               | Primary Pattern                                                                                                      |                                                                                     | Secondary Pattern                                                                                     | Exposures                               |
|                 | (1)                                                                                                             | Pattern Type=ACS-WFC-DITHER-<br>LINE<br>Purpose=DITHER<br>Number Of Points=3<br>Point Spacing=3.011<br>Line Spacing= |                                                                                     | Coordinate Frame=POS-TARG<br>Pattern Orientation=85.28<br>Angle Between Sides=<br>Center Pattern=true | (1)                                     |
| Fixed Targets   | #                                                                                                               | Name                                                                                                                 | Target Coordinates                                                                  | Targ. Coord. Corrections                                                                              | Fluxes                                  |
|                 | (35)                                                                                                            | EMACSJ1757.5+3045                                                                                                    | RA: 17 57 29.4130 (269.3725542d)<br>Dec: +30 45 53.85 (30.76496d)<br>Equinox: J2000 |                                                                                                       | V=20.0                                  |
| Exposures       |                                                                                                                 |                                                                                                                      |                                                                                     |                                                                                                       |                                         |
|                 | #                                                                                                               | Label                                                                                                                | Target                                                                              | Config,Mode,Aperture                                                                                  | Spectral Els.                           |
|                 | 1                                                                                                               | 1757+30_60                                                                                                           | (35) EMACSJ1757.5                                                                   | ACS/WFC, ACCUM, WFC                                                                                   | F606W                                   |
|                 | 6                                                                                                               |                                                                                                                      | +3045                                                                               |                                                                                                       |                                         |
|                 |                                                                                                                 |                                                                                                                      |                                                                                     |                                                                                                       | Opt. Params.                            |
|                 |                                                                                                                 |                                                                                                                      |                                                                                     |                                                                                                       | CR-SPLIT=NO                             |
|                 |                                                                                                                 |                                                                                                                      |                                                                                     |                                                                                                       | Special Reqs.                           |
|                 |                                                                                                                 |                                                                                                                      |                                                                                     |                                                                                                       |                                         |
|                 |                                                                                                                 |                                                                                                                      |                                                                                     |                                                                                                       | Groups                                  |
|                 |                                                                                                                 |                                                                                                                      |                                                                                     |                                                                                                       | Pattern 1, Exps 1-1 i<br>n Visit 35 (1) |
|                 |                                                                                                                 |                                                                                                                      |                                                                                     |                                                                                                       | Exp. Time (Total)/[Actual Dur.]         |
|                 |                                                                                                                 |                                                                                                                      |                                                                                     |                                                                                                       | 400 Secs (1200 Secs)                    |
|                 |                                                                                                                 |                                                                                                                      |                                                                                     |                                                                                                       | [==>(Pattern 1)]                        |
|                 |                                                                                                                 |                                                                                                                      |                                                                                     |                                                                                                       | [==>(Pattern 2)]                        |
|                 |                                                                                                                 |                                                                                                                      |                                                                                     |                                                                                                       | [==>(Pattern 3)]                        |
|                 |                                                                                                                 |                                                                                                                      |                                                                                     |                                                                                                       | [1]                                     |
| Orbit Structure |                                                                                                                 |                                                                                                                      |                                                                                     |                                                                                                       |                                         |
|                 | <div> <div>Orbit 1</div> <div>Server Version: 20140605</div> </div>                                             |                                                                                                                      |                                                                                     |                                                                                                       |                                         |

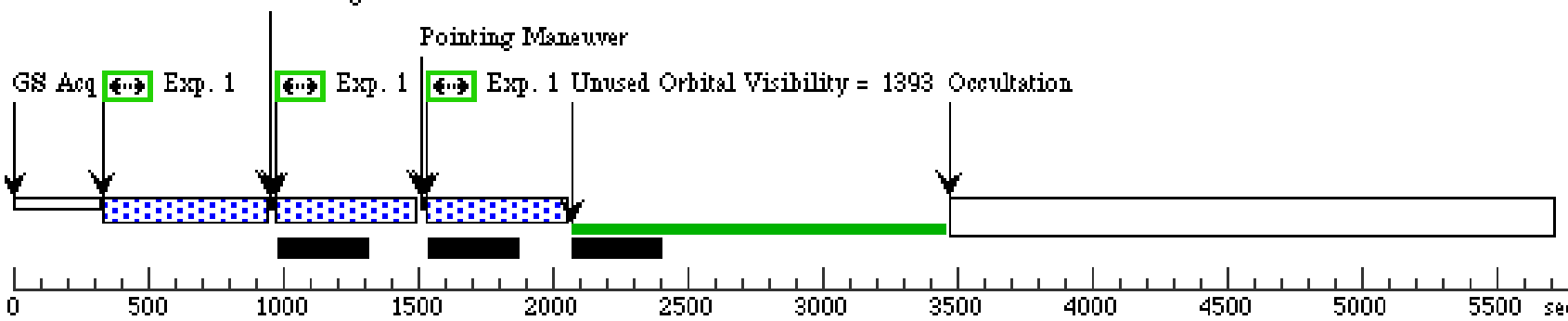
# Proposal 13671 - Visit 36 - Beyond MACS: A Snapshot Survey of the Most Massive Clusters of Galaxies at $z > 0.5$

|                 |                                                                                                                 |                                                                                                                                                                                                                               |                                                                                     |                          |                                         |
|-----------------|-----------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|--------------------------|-----------------------------------------|
| Visit           | <b>Proposal 13671, Visit 36, implementation</b> <span style="float: right;">Tue Aug 19 01:02:36 GMT 2014</span> |                                                                                                                                                                                                                               |                                                                                     |                          |                                         |
|                 | <b>Diagnostic Status: No Diagnostics</b><br>Scientific Instruments: ACS/WFC<br>Special Requirements: (none)     |                                                                                                                                                                                                                               |                                                                                     |                          |                                         |
| Patterns        | #                                                                                                               | Primary Pattern                                                                                                                                                                                                               |                                                                                     | Secondary Pattern        | Exposures                               |
|                 | (1)                                                                                                             | Pattern Type=ACS-WFC-DITHER-<br>LINE<br>Purpose=DITHER<br>Number Of Points=3<br>Point Spacing=3.011<br>Line Spacing=<br>Coordinate Frame=POS-TARG<br>Pattern Orientation=85.28<br>Angle Between Sides=<br>Center Pattern=true |                                                                                     |                          | (1)                                     |
| Fixed Targets   | #                                                                                                               | Name                                                                                                                                                                                                                          | Target Coordinates                                                                  | Targ. Coord. Corrections | Fluxes                                  |
|                 | (36)                                                                                                            | EMACSJ1823.1+7822                                                                                                                                                                                                             | RA: 18 23 22.9990 (275.8458292d)<br>Dec: +78 23 12.91 (78.38692d)<br>Equinox: J2000 |                          | V=20.0                                  |
| Exposures       |                                                                                                                 |                                                                                                                                                                                                                               |                                                                                     |                          |                                         |
|                 | #                                                                                                               | Label                                                                                                                                                                                                                         | Target                                                                              | Config,Mode,Aperture     | Spectral Els.                           |
|                 | 1                                                                                                               | 1823+78_60                                                                                                                                                                                                                    | (36) EMACSJ1823.1                                                                   | ACS/WFC, ACCUM, WFC      | F606W                                   |
|                 | 6                                                                                                               | +7822                                                                                                                                                                                                                         |                                                                                     |                          |                                         |
|                 |                                                                                                                 |                                                                                                                                                                                                                               |                                                                                     |                          | CR-SPLIT=NO                             |
|                 |                                                                                                                 |                                                                                                                                                                                                                               |                                                                                     |                          | Special Reqs.                           |
|                 |                                                                                                                 |                                                                                                                                                                                                                               |                                                                                     |                          | Groups                                  |
|                 |                                                                                                                 |                                                                                                                                                                                                                               |                                                                                     |                          | Exp. Time (Total)/[Actual Dur.]         |
|                 |                                                                                                                 |                                                                                                                                                                                                                               |                                                                                     |                          | Orbit                                   |
|                 |                                                                                                                 |                                                                                                                                                                                                                               |                                                                                     |                          | Pattern 1, Exps 1-1 i<br>n Visit 36 (1) |
|                 |                                                                                                                 |                                                                                                                                                                                                                               |                                                                                     |                          | 400 Secs (1200 Secs)                    |
|                 |                                                                                                                 |                                                                                                                                                                                                                               |                                                                                     |                          | [==>(Pattern 1)]                        |
|                 |                                                                                                                 |                                                                                                                                                                                                                               |                                                                                     |                          | [==>(Pattern 2)]                        |
|                 |                                                                                                                 |                                                                                                                                                                                                                               |                                                                                     |                          | [==>(Pattern 3)]                        |
|                 |                                                                                                                 |                                                                                                                                                                                                                               |                                                                                     |                          | [1]                                     |
| Orbit Structure |                                                                                                                 |                                                                                                                                                                                                                               |                                                                                     |                          |                                         |
|                 | <div> <div>Orbit 1</div> <div>Server Version: 20140605</div> </div>                                             |                                                                                                                                                                                                                               |                                                                                     |                          |                                         |

# Proposal 13671 - Visit 37 - Beyond MACS: A Snapshot Survey of the Most Massive Clusters of Galaxies at $z > 0.5$

|                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      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| Visit           | Proposal 13671, Visit 37, implementation                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             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|                 | Diagnostic Status: No Diagnostics                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    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|                 | Scientific Instruments: ACS/WFC                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      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|                 | Special Requirements: (none)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         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| Patterns        | #                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Primary Pattern                                                                                                                                                                                                           |                   |                                                                                    |  |                          | Secondary Pattern |               |                                     |                                                          |                              | Exposures |  |
|                 | (1)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Pattern Type=ACS-WFC-DITHER-LINE<br>Purpose=DITHER<br>Number Of Points=3<br>Point Spacing=3.011<br>Line Spacing=<br>Coordinate Frame=POS-TARG<br>Pattern Orientation=85.28<br>Angle Between Sides=<br>Center Pattern=true |                   |                                                                                    |  |                          |                   |               |                                     |                                                          |                              | (1)       |  |
| Fixed Targets   | #                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    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Coord. Corrections |                   | Fluxes        |                                     | Miscellaneous                                            |                              |           |  |
|                 | (37)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | EMACSJ1831.1+6214                                                                                                                                                                                                         |                   | RA: 18 31 9.0250 (277.7876042d)<br>Dec: +62 14 57.13 (62.24920d)<br>Equinox: J2000 |  |                          |                   | V=20.0        |                                     | Reference Frame: ICRS                                    |                              |           |  |
| Exposures       | #                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    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Params.      | Special Reqs. | Groups                              | Exp. Time (Total)/[Actual Dur.]                          |                              | Orbit     |  |
|                 | 1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 1831+62_60                                                                                                                                                                                                                | (37) EMACSJ1831.1 | ACS/WFC, ACCUM, WFC                                                                |  | F606W                    | CR-SPLIT=NO       |               | Pattern 1, Exps 1-1 in Visit 37 (1) | 400 Secs (1200 Secs)                                     |                              |           |  |
|                 | 6                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | +6214                                                                                                                                                                                                                     |                   |                                                                                    |  |                          |                   |               |                                     | [==>(Pattern 1)]<br>[==>(Pattern 2)]<br>[==>(Pattern 3)] |                              | [1]       |  |
| Orbit Structure | <div>Orbit 1</div> <div>Server Version: 20140605</div> <div><div>Pointing Maneuver</div><div>Pointing Maneuver</div><div>GS Acq</div><div>Exp. 1</div><div>Exp. 1</div><div>Exp. 1</div><div>Unused Orbital Visibility = 1417</div><div>Occultation</div><div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><d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# Proposal 13671 - Visit 38 - Beyond MACS: A Snapshot Survey of the Most Massive Clusters of Galaxies at $z > 0.5$

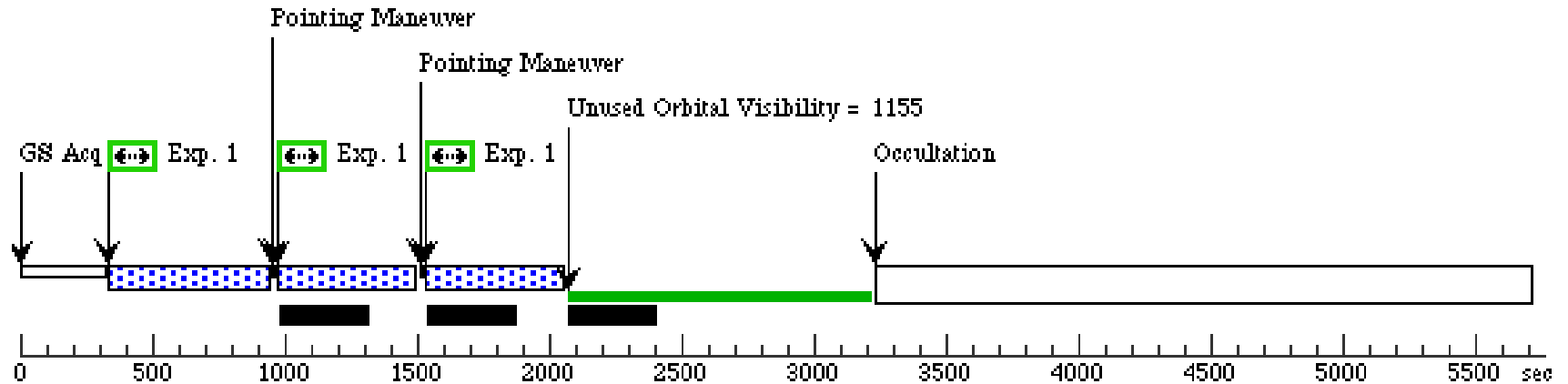
|                 |                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                  |                   |                                                                                     |  |                          |                                                                                                       |               |                                     |                                                          |                              |           |  |
|-----------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------|-------------------|-------------------------------------------------------------------------------------|--|--------------------------|-------------------------------------------------------------------------------------------------------|---------------|-------------------------------------|----------------------------------------------------------|------------------------------|-----------|--|
| Visit           | Proposal 13671, Visit 38, implementation                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                  |                   |                                                                                     |  |                          |                                                                                                       |               |                                     |                                                          | Tue Aug 19 01:02:36 GMT 2014 |           |  |
|                 | Diagnostic Status: No Diagnostics                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                  |                   |                                                                                     |  |                          |                                                                                                       |               |                                     |                                                          |                              |           |  |
|                 | Scientific Instruments: ACS/WFC                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                  |                   |                                                                                     |  |                          |                                                                                                       |               |                                     |                                                          |                              |           |  |
|                 | Special Requirements: (none)                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                                  |                   |                                                                                     |  |                          |                                                                                                       |               |                                     |                                                          |                              |           |  |
| Patterns        | #                                                                                                                                                                                                                                                                                                                                                                                                                          | Primary Pattern                                                                                                  |                   |                                                                                     |  |                          | Secondary Pattern                                                                                     |               |                                     |                                                          |                              | Exposures |  |
|                 | (1)                                                                                                                                                                                                                                                                                                                                                                                                                        | Pattern Type=ACS-WFC-DITHER-LINE<br>Purpose=DITHER<br>Number Of Points=3<br>Point Spacing=3.011<br>Line Spacing= |                   |                                                                                     |  |                          | Coordinate Frame=POS-TARG<br>Pattern Orientation=85.28<br>Angle Between Sides=<br>Center Pattern=true |               |                                     |                                                          |                              | (1)       |  |
| Fixed Targets   | #                                                                                                                                                                                                                                                                                                                                                                                                                          | Name                                                                                                             |                   | Target Coordinates                                                                  |  | Targ. Coord. Corrections |                                                                                                       | Fluxes        |                                     | Miscellaneous                                            |                              |           |  |
|                 | (38)                                                                                                                                                                                                                                                                                                                                                                                                                       | EMACSJ1831.9+5746                                                                                                |                   | RA: 18 31 58.1320 (277.9922167d)<br>Dec: +57 46 45.16 (57.77921d)<br>Equinox: J2000 |  |                          |                                                                                                       | V=20.0        |                                     | Reference Frame: ICRS                                    |                              |           |  |
| Exposures       | #                                                                                                                                                                                                                                                                                                                                                                                                                          | Label                                                                                                            | Target            | Config,Mode,Aperture                                                                |  | Spectral Els.            | Opt. Params.                                                                                          | Special Reqs. | Groups                              | Exp. Time (Total)/[Actual Dur.]                          |                              | Orbit     |  |
|                 | 1                                                                                                                                                                                                                                                                                                                                                                                                                          | 1831+57_60                                                                                                       | (38) EMACSJ1831.9 | ACS/WFC, ACCUM, WFC                                                                 |  | F606W                    | CR-SPLIT=NO                                                                                           |               | Pattern 1, Exps 1-1 in Visit 38 (1) | 400 Secs (1200 Secs)                                     |                              |           |  |
|                 | 6                                                                                                                                                                                                                                                                                                                                                                                                                          | +5746                                                                                                            |                   |                                                                                     |  |                          |                                                                                                       |               |                                     | [==>(Pattern 1)]<br>[==>(Pattern 2)]<br>[==>(Pattern 3)] |                              | [1]       |  |
|                 |                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                  |                   |                                                                                     |  |                          |                                                                                                       |               |                                     |                                                          |                              |           |  |
| Orbit Structure | <div>Orbit 1</div> <div>Server Version: 20140605</div> <div><div>GS Acq</div><div>Exp. 1</div><div>Pointing Maneuver</div><div>Exp. 1</div><div>Pointing Maneuver</div><div>Exp. 1</div><div>Unused Orbital Visibility = 1393</div><div>Occultation</div></div> <div></div> <div>05001000150020002500300035004000450050005500 sec</div> |                                                                                                                  |                   |                                                                                     |  |                          |                                                                                                       |               |                                     |                                                          |                              |           |  |

# Proposal 13671 - Visit 39 - Beyond MACS: A Snapshot Survey of the Most Massive Clusters of Galaxies at $z > 0.5$

|                 |                                                                                                                 |                                                                                                                      |                                                                                     |                                                                                                       |                       |
|-----------------|-----------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------|-----------------------|
| Visit           | <b>Proposal 13671, Visit 39, implementation</b> <span style="float: right;">Tue Aug 19 01:02:36 GMT 2014</span> |                                                                                                                      |                                                                                     |                                                                                                       |                       |
|                 | <b>Diagnostic Status: No Diagnostics</b><br>Scientific Instruments: ACS/WFC<br>Special Requirements: (none)     |                                                                                                                      |                                                                                     |                                                                                                       |                       |
| Patterns        | #                                                                                                               | Primary Pattern                                                                                                      |                                                                                     | Secondary Pattern                                                                                     | Exposures             |
|                 | (1)                                                                                                             | Pattern Type=ACS-WFC-DITHER-<br>LINE<br>Purpose=DITHER<br>Number Of Points=3<br>Point Spacing=3.011<br>Line Spacing= |                                                                                     | Coordinate Frame=POS-TARG<br>Pattern Orientation=85.28<br>Angle Between Sides=<br>Center Pattern=true | (1)                   |
| Fixed Targets   | #                                                                                                               | Name                                                                                                                 | Target Coordinates                                                                  | Targ. Coord. Corrections                                                                              | Fluxes                |
|                 | (39)                                                                                                            | EMACSJ2025.5-2313                                                                                                    | RA: 20 25 31.1630 (306.3798458d)<br>Dec: -23 13 9.40 (-23.21928d)<br>Equinox: J2000 |                                                                                                       | V=20.0                |
| Exposures       |                                                                                                                 |                                                                                                                      |                                                                                     |                                                                                                       | Miscellaneous         |
|                 |                                                                                                                 |                                                                                                                      |                                                                                     |                                                                                                       | Reference Frame: ICRS |
|                 | #                                                                                                               | Label                                                                                                                | Target                                                                              | Config,Mode,Aperture                                                                                  | Spectral Els.         |
|                 | 1                                                                                                               | 2025-23_60                                                                                                           | (39) EMACSJ2025.5                                                                   | ACS/WFC, ACCUM, WFC                                                                                   | F606W                 |
|                 |                                                                                                                 |                                                                                                                      |                                                                                     |                                                                                                       | Opt. Params.          |
|                 |                                                                                                                 |                                                                                                                      |                                                                                     |                                                                                                       | CR-SPLIT=NO           |
|                 |                                                                                                                 |                                                                                                                      |                                                                                     |                                                                                                       | Special Reqs.         |
|                 |                                                                                                                 |                                                                                                                      |                                                                                     |                                                                                                       |                       |
|                 |                                                                                                                 |                                                                                                                      |                                                                                     |                                                                                                       | Groups                |
|                 |                                                                                                                 |                                                                                                                      |                                                                                     |                                                                                                       | Pattern 1, Exps 1-1 i |
|                 |                                                                                                                 |                                                                                                                      |                                                                                     |                                                                                                       | n Visit 39 (1)        |
|                 |                                                                                                                 |                                                                                                                      |                                                                                     |                                                                                                       | 400 Secs (1200 Secs)  |
|                 |                                                                                                                 |                                                                                                                      |                                                                                     |                                                                                                       | [==>(Pattern 1)]      |
|                 |                                                                                                                 |                                                                                                                      |                                                                                     |                                                                                                       | [==>(Pattern 2)]      |
|                 |                                                                                                                 |                                                                                                                      |                                                                                     |                                                                                                       | [==>(Pattern 3)]      |
|                 |                                                                                                                 |                                                                                                                      |                                                                                     |                                                                                                       | [1]                   |
| Orbit Structure |                                                                                                                 |                                                                                                                      |                                                                                     |                                                                                                       |                       |
|                 |                                                                                                                 |                                                                                                                      |                                                                                     |                                                                                                       |                       |

Orbit 1

Server Version: 20140605



# Proposal 13671 - Visit 40 - Beyond MACS: A Snapshot Survey of the Most Massive Clusters of Galaxies at $z>0.5$

|                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                           |                   |                                                                                     |  |  |  |                          |  |              |                              |                   |  |                                     |  |                                 |                  |  |  |       |     |           |  |
|-----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|-------------------------------------------------------------------------------------|--|--|--|--------------------------|--|--------------|------------------------------|-------------------|--|-------------------------------------|--|---------------------------------|------------------|--|--|-------|-----|-----------|--|
| Visit           | Proposal 13671, Visit 40, implementation                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                           |                   |                                                                                     |  |  |  |                          |  |              | Tue Aug 19 01:02:36 GMT 2014 |                   |  |                                     |  |                                 |                  |  |  |       |     |           |  |
|                 | Diagnostic Status: No Diagnostics                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                           |                   |                                                                                     |  |  |  |                          |  |              |                              |                   |  |                                     |  |                                 |                  |  |  |       |     |           |  |
|                 | Scientific Instruments: ACS/WFC                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                           |                   |                                                                                     |  |  |  |                          |  |              |                              |                   |  |                                     |  |                                 |                  |  |  |       |     |           |  |
|                 | Special Requirements: (none)                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                           |                   |                                                                                     |  |  |  |                          |  |              |                              |                   |  |                                     |  |                                 |                  |  |  |       |     |           |  |
| Patterns        | #                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Primary Pattern                                                                                                                                                                                                           |                   |                                                                                     |  |  |  |                          |  |              |                              | Secondary Pattern |  |                                     |  |                                 |                  |  |  |       |     | Exposures |  |
|                 | (1)                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Pattern Type=ACS-WFC-DITHER-LINE<br>Purpose=DITHER<br>Number Of Points=3<br>Point Spacing=3.011<br>Line Spacing=<br>Coordinate Frame=POS-TARG<br>Pattern Orientation=85.28<br>Angle Between Sides=<br>Center Pattern=true |                   |                                                                                     |  |  |  |                          |  |              |                              |                   |  |                                     |  |                                 |                  |  |  |       |     | (1)       |  |
| Fixed Targets   | #                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Name                                                                                                                                                                                                                      |                   | Target Coordinates                                                                  |  |  |  | Targ. Coord. Corrections |  |              |                              | Fluxes            |  |                                     |  | Miscellaneous                   |                  |  |  |       |     |           |  |
|                 | (40)                                                                                                                                                                                                                                                                                                                                                                                                                                                        | EMACSJ2037.1-2534                                                                                                                                                                                                         |                   | RA: 20 37 4.3160 (309.2679833d)<br>Dec: -25 34 58.56 (-25.58293d)<br>Equinox: J2000 |  |  |  |                          |  |              |                              | V=20.0            |  |                                     |  | Reference Frame: ICRS           |                  |  |  |       |     |           |  |
| Exposures       | #                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Label                                                                                                                                                                                                                     | Target            | Config,Mode,Aperture                                                                |  |  |  | Spectral Els.            |  | Opt. Params. |                              | Special Req.      |  | Groups                              |  | Exp. Time (Total)/[Actual Dur.] |                  |  |  | Orbit |     |           |  |
|                 | 1                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 2037-25_60                                                                                                                                                                                                                | (40) EMACSJ2037.1 | ACS/WFC, ACCUM, WFC                                                                 |  |  |  | F606W                    |  | CR-SPLIT=NO  |                              |                   |  | Pattern 1, Exps 1-1 in Visit 40 (1) |  | 400 Secs (1200 Secs)            |                  |  |  |       |     |           |  |
|                 | 6                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                           | -2534             |                                                                                     |  |  |  |                          |  |              |                              |                   |  |                                     |  | [==>(Pattern 1)]                |                  |  |  |       |     |           |  |
|                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                           |                   |                                                                                     |  |  |  |                          |  |              |                              |                   |  |                                     |  |                                 | [==>(Pattern 2)] |  |  |       | [1] |           |  |
| Orbit Structure | <div>Orbit 1<div>Server Version: 20140605</div><div><div>Pointing Maneuver</div><div>Pointing Maneuver</div><div>Unused Orbital Visibility = 1164</div><div>Oscultation</div><div>GS Acq</div><div>Exp. 1</div><div>Exp. 1</div><div>Exp. 1</div><div>0</div><div>500</div><div>1000</div><div>1500</div><div>2000</div><div>2500</div><div>3000</div><div>3500</div><div>4000</div><div>4500</div><div>5000</div><div>5500</div><div>sec</div></div></div> |                                                                                                                                                                                                                           |                   |                                                                                     |  |  |  |                          |  |              |                              |                   |  |                                     |  |                                 |                  |  |  |       |     |           |  |

# Proposal 13671 - Visit 41 - Beyond MACS: A Snapshot Survey of the Most Massive Clusters of Galaxies at $z > 0.5$

|                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                      |                                                                                    |                                                                                                       |                                                          |
|-----------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------|----------------------------------------------------------|
| Visit           | Proposal 13671, Visit 41, implementation <span style="float: right;">Tue Aug 19 01:02:36 GMT 2014</span>                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                      |                                                                                    |                                                                                                       |                                                          |
|                 | Diagnostic Status: No Diagnostics<br>Scientific Instruments: ACS/WFC<br>Special Requirements: (none)                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                      |                                                                                    |                                                                                                       |                                                          |
| Patterns        | #                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Primary Pattern                                                                                                      |                                                                                    | Secondary Pattern                                                                                     | Exposures                                                |
|                 | (1)                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Pattern Type=ACS-WFC-DITHER-<br>LINE<br>Purpose=DITHER<br>Number Of Points=3<br>Point Spacing=3.011<br>Line Spacing= |                                                                                    | Coordinate Frame=POS-TARG<br>Pattern Orientation=85.28<br>Angle Between Sides=<br>Center Pattern=true | (1)                                                      |
| Fixed Targets   | #                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Name                                                                                                                 | Target Coordinates                                                                 | Targ. Coord. Corrections                                                                              | Fluxes                                                   |
|                 | (41)                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | EMACSJ2114.4+0427                                                                                                    | RA: 21 14 27.2800 (318.6136667d)<br>Dec: +04 27 44.68 (4.46241d)<br>Equinox: J2000 |                                                                                                       | V=20.0                                                   |
| Exposures       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                      |                                                                                    |                                                                                                       | Miscellaneous                                            |
|                 | Reference Frame: ICRS                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                      |                                                                                    |                                                                                                       |                                                          |
| Exposures       | #                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Label                                                                                                                | Target                                                                             | Config,Mode,Aperture                                                                                  | Spectral Els.                                            |
|                 | 1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 2114+04_60                                                                                                           | (41) EMACSJ2114.4                                                                  | ACS/WFC, ACCUM, WFC                                                                                   | F606W                                                    |
| Exposures       | 6                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                      | +0427                                                                              |                                                                                                       | CR-SPLIT=NO                                              |
|                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                      |                                                                                    |                                                                                                       | Pattern 1, Exps 1-1 i<br>n Visit 41 (1)                  |
| Exposures       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                      |                                                                                    |                                                                                                       | Exp. Time (Total)/[Actual Dur.]<br>400 Secs (1200 Secs)  |
|                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                      |                                                                                    |                                                                                                       | [==>(Pattern 1)]<br>[==>(Pattern 2)]<br>[==>(Pattern 3)] |
| Exposures       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                      |                                                                                    |                                                                                                       | [1]                                                      |
|                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                      |                                                                                    |                                                                                                       |                                                          |
| Orbit Structure | Orbit 1 <span style="float: right;">Server Version: 20140605</span>                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                      |                                                                                    |                                                                                                       |                                                          |
|                 | <p>The diagram illustrates the orbit structure over a 5500-second period. Key events include:</p> <ul style="list-style-type: none"> <li><b>GS Acq</b>: Green acquisition segment at the start.</li> <li><b>Exp. 1</b>: Three green exposure segments, each preceded by a pointing maneuver (black bar).</li> <li><b>Unused Orbital Visibility</b>: A green segment following the exposures.</li> <li><b>Occultation</b>: A white segment at the end of the timeline.</li> </ul> |                                                                                                                      |                                                                                    |                                                                                                       |                                                          |

# Proposal 13671 - Visit 42 - Beyond MACS: A Snapshot Survey of the Most Massive Clusters of Galaxies at $z > 0.5$

|                 |                                                                                                          |                                                                                                                      |                                                                                      |                                                                                                       |                                 |
|-----------------|----------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------|---------------------------------|
| Visit           | Proposal 13671, Visit 42, implementation <span style="float: right;">Tue Aug 19 01:02:36 GMT 2014</span> |                                                                                                                      |                                                                                      |                                                                                                       |                                 |
|                 | Diagnostic Status: No Diagnostics<br>Scientific Instruments: ACS/WFC<br>Special Requirements: (none)     |                                                                                                                      |                                                                                      |                                                                                                       |                                 |
| Patterns        | #                                                                                                        | Primary Pattern                                                                                                      |                                                                                      | Secondary Pattern                                                                                     | Exposures                       |
|                 | (1)                                                                                                      | Pattern Type=ACS-WFC-DITHER-<br>LINE<br>Purpose=DITHER<br>Number Of Points=3<br>Point Spacing=3.011<br>Line Spacing= |                                                                                      | Coordinate Frame=POS-TARG<br>Pattern Orientation=85.28<br>Angle Between Sides=<br>Center Pattern=true | (1)                             |
| Fixed Targets   | #                                                                                                        | Name                                                                                                                 | Target Coordinates                                                                   | Targ. Coord. Corrections                                                                              | Fluxes                          |
|                 | (42)                                                                                                     | EMACSJ2137.2-2232                                                                                                    | RA: 21 37 14.7210 (324.3113375d)<br>Dec: -22 32 15.31 (-22.53759d)<br>Equinox: J2000 |                                                                                                       | V=20.0                          |
| Exposures       |                                                                                                          |                                                                                                                      |                                                                                      |                                                                                                       | Miscellaneous                   |
|                 | Reference Frame: ICRS                                                                                    |                                                                                                                      |                                                                                      |                                                                                                       |                                 |
| Exposures       | #                                                                                                        | Label                                                                                                                | Target                                                                               | Config,Mode,Aperture                                                                                  | Spectral Els.                   |
|                 | 1                                                                                                        | 2137-22_60                                                                                                           | (42) EMACSJ2137.2                                                                    | ACS/WFC, ACCUM, WFC                                                                                   | F606W                           |
| Exposures       | 6                                                                                                        |                                                                                                                      | -2232                                                                                |                                                                                                       |                                 |
|                 |                                                                                                          |                                                                                                                      |                                                                                      |                                                                                                       | CR-SPLIT=NO                     |
| Exposures       |                                                                                                          |                                                                                                                      | Special Reqs.                                                                        | Groups                                                                                                | Exp. Time (Total)/[Actual Dur.] |
|                 |                                                                                                          |                                                                                                                      |                                                                                      | Pattern 1, Exps 1-1 i<br>n Visit 42 (1)                                                               | 400 Secs (1200 Secs)            |
| Exposures       |                                                                                                          |                                                                                                                      |                                                                                      |                                                                                                       | [==>(Pattern 1)]                |
|                 |                                                                                                          |                                                                                                                      |                                                                                      |                                                                                                       | [==>(Pattern 2)]                |
| Exposures       |                                                                                                          |                                                                                                                      |                                                                                      |                                                                                                       | [==>(Pattern 3)]                |
|                 |                                                                                                          |                                                                                                                      |                                                                                      |                                                                                                       | [1]                             |
| Orbit Structure | Orbit 1 <span style="float: right;">Server Version: 20140605</span>                                      |                                                                                                                      |                                                                                      |                                                                                                       |                                 |
|                 |                                                                                                          |                                                                                                                      |                                                                                      |                                                                                                       |                                 |

# Proposal 13671 - Visit 43 - Beyond MACS: A Snapshot Survey of the Most Massive Clusters of Galaxies at $z > 0.5$

|                 |                                                                                                                                                                                                                                         |                                                                                                                  |                                                                                     |                                                                                                       |                                     |
|-----------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------|-------------------------------------|
| Visit           | Proposal 13671, Visit 43, implementation <span style="float: right;">Tue Aug 19 01:02:36 GMT 2014</span>                                                                                                                                |                                                                                                                  |                                                                                     |                                                                                                       |                                     |
|                 | Diagnostic Status: No Diagnostics<br>Scientific Instruments: ACS/WFC<br>Special Requirements: (none)                                                                                                                                    |                                                                                                                  |                                                                                     |                                                                                                       |                                     |
| Patterns        | #                                                                                                                                                                                                                                       | Primary Pattern                                                                                                  |                                                                                     | Secondary Pattern                                                                                     | Exposures                           |
|                 | (1)                                                                                                                                                                                                                                     | Pattern Type=ACS-WFC-DITHER-LINE<br>Purpose=DITHER<br>Number Of Points=3<br>Point Spacing=3.011<br>Line Spacing= |                                                                                     | Coordinate Frame=POS-TARG<br>Pattern Orientation=85.28<br>Angle Between Sides=<br>Center Pattern=true | (1)                                 |
| Fixed Targets   | #                                                                                                                                                                                                                                       | Name                                                                                                             | Target Coordinates                                                                  | Targ. Coord. Corrections                                                                              | Fluxes                              |
|                 | (43)                                                                                                                                                                                                                                    | EMACSJ2207.5-0302                                                                                                | RA: 22 07 34.0510 (331.8918792d)<br>Dec: -03 02 18.07 (-3.03835d)<br>Equinox: J2000 |                                                                                                       | V=20.0                              |
| Exposures       |                                                                                                                                                                                                                                         |                                                                                                                  |                                                                                     |                                                                                                       |                                     |
|                 | #                                                                                                                                                                                                                                       | Label                                                                                                            | Target                                                                              | Config,Mode,Aperture                                                                                  | Spectral Els.                       |
|                 | 1                                                                                                                                                                                                                                       | 2207-03_60                                                                                                       | (43) EMACSJ2207.5-0302                                                              | ACS/WFC, ACCUM, WFC                                                                                   | F606W                               |
|                 |                                                                                                                                                                                                                                         |                                                                                                                  |                                                                                     |                                                                                                       | Opt. Params.                        |
|                 |                                                                                                                                                                                                                                         |                                                                                                                  |                                                                                     |                                                                                                       | CR-SPLIT=NO                         |
|                 |                                                                                                                                                                                                                                         |                                                                                                                  |                                                                                     |                                                                                                       | Special Reqs.                       |
|                 |                                                                                                                                                                                                                                         |                                                                                                                  |                                                                                     |                                                                                                       |                                     |
|                 |                                                                                                                                                                                                                                         |                                                                                                                  |                                                                                     |                                                                                                       | Groups                              |
|                 |                                                                                                                                                                                                                                         |                                                                                                                  |                                                                                     |                                                                                                       | Pattern 1, Exps 1-1 in Visit 43 (1) |
|                 |                                                                                                                                                                                                                                         |                                                                                                                  |                                                                                     |                                                                                                       | Exp. Time (Total)/[Actual Dur.]     |
|                 |                                                                                                                                                                                                                                         |                                                                                                                  |                                                                                     |                                                                                                       | 400 Secs (1200 Secs)                |
|                 |                                                                                                                                                                                                                                         |                                                                                                                  |                                                                                     |                                                                                                       | [==>(Pattern 1)]                    |
|                 |                                                                                                                                                                                                                                         |                                                                                                                  |                                                                                     |                                                                                                       | [==>(Pattern 2)]                    |
|                 |                                                                                                                                                                                                                                         |                                                                                                                  |                                                                                     |                                                                                                       | [==>(Pattern 3)]                    |
|                 |                                                                                                                                                                                                                                         |                                                                                                                  |                                                                                     |                                                                                                       | [1]                                 |
| Orbit Structure | Orbit 1 <span style="float: right;">Server Version: 20140605</span>                                                                                                                                                                     |                                                                                                                  |                                                                                     |                                                                                                       |                                     |
|                 | <p>GS Acq</p> <p>Exp. 1</p> <p>Pointing Maneuver</p> <p>Exp. 1</p> <p>Pointing Maneuver</p> <p>Exp. 1</p> <p>Unused Orbital Visibility = 1145</p> <p>Occultation</p> <p>0 500 1000 1500 2000 2500 3000 3500 4000 4500 5000 5500 sec</p> |                                                                                                                  |                                                                                     |                                                                                                       |                                     |

# Proposal 13671 - Visit 44 - Beyond MACS: A Snapshot Survey of the Most Massive Clusters of Galaxies at $z > 0.5$

|                 |                                          |                                                                                                                                                                                                                           |                        |                                                                                     |  |                          |                   |               |                                     |                                                                                  |                              |           |                          |  |
|-----------------|------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------|-------------------------------------------------------------------------------------|--|--------------------------|-------------------|---------------|-------------------------------------|----------------------------------------------------------------------------------|------------------------------|-----------|--------------------------|--|
| Visit           | Proposal 13671, Visit 44, implementation |                                                                                                                                                                                                                           |                        |                                                                                     |  |                          |                   |               |                                     |                                                                                  | Tue Aug 19 01:02:36 GMT 2014 |           |                          |  |
|                 | Diagnostic Status: No Diagnostics        |                                                                                                                                                                                                                           |                        |                                                                                     |  |                          |                   |               |                                     |                                                                                  |                              |           |                          |  |
|                 | Scientific Instruments: ACS/WFC          |                                                                                                                                                                                                                           |                        |                                                                                     |  |                          |                   |               |                                     |                                                                                  |                              |           |                          |  |
|                 | Special Requirements: (none)             |                                                                                                                                                                                                                           |                        |                                                                                     |  |                          |                   |               |                                     |                                                                                  |                              |           |                          |  |
| Patterns        | #                                        | Primary Pattern                                                                                                                                                                                                           |                        |                                                                                     |  |                          | Secondary Pattern |               |                                     |                                                                                  |                              | Exposures |                          |  |
|                 | (1)                                      | Pattern Type=ACS-WFC-DITHER-LINE<br>Purpose=DITHER<br>Number Of Points=3<br>Point Spacing=3.011<br>Line Spacing=<br>Coordinate Frame=POS-TARG<br>Pattern Orientation=85.28<br>Angle Between Sides=<br>Center Pattern=true |                        |                                                                                     |  |                          |                   |               |                                     |                                                                                  |                              | (1)       |                          |  |
| Fixed Targets   | #                                        | Name                                                                                                                                                                                                                      |                        | Target Coordinates                                                                  |  | Targ. Coord. Corrections |                   | Fluxes        |                                     | Miscellaneous                                                                    |                              |           |                          |  |
|                 | (44)                                     | EMACSJ2316.6+1246                                                                                                                                                                                                         |                        | RA: 23 16 42.9240 (349.1788500d)<br>Dec: +12 46 54.73 (12.78187d)<br>Equinox: J2000 |  |                          |                   | V=20.0        |                                     | Reference Frame: ICRS                                                            |                              |           |                          |  |
| Exposures       | #                                        | Label                                                                                                                                                                                                                     | Target                 | Config,Mode,Aperture                                                                |  | Spectral Els.            | Opt. Params.      | Special Reqs. | Groups                              | Exp. Time (Total)/[Actual Dur.]                                                  |                              | Orbit     |                          |  |
|                 | 1                                        | 2316+12_606                                                                                                                                                                                                               | (44) EMACSJ2316.6+1246 | ACS/WFC, ACCUM, WFC                                                                 |  | F606W                    | CR-SPLIT=NO       |               | Pattern 1, Exps 1-1 in Visit 44 (1) | 400 Secs (1200 Secs)<br>[==>(Pattern 1)]<br>[==>(Pattern 2)]<br>[==>(Pattern 3)] |                              | [1]       |                          |  |
| Orbit Structure | Orbit 1                                  |                                                                                                                                                                                                                           |                        |                                                                                     |  |                          |                   |               |                                     |                                                                                  |                              |           | Server Version: 20140605 |  |
|                 |                                          |                                                                                                                                                                                                                           |                        |                                                                                     |  |                          |                   |               |                                     |                                                                                  |                              |           |                          |  |

# Proposal 13671 - Visit 45 - Beyond MACS: A Snapshot Survey of the Most Massive Clusters of Galaxies at $z > 0.5$

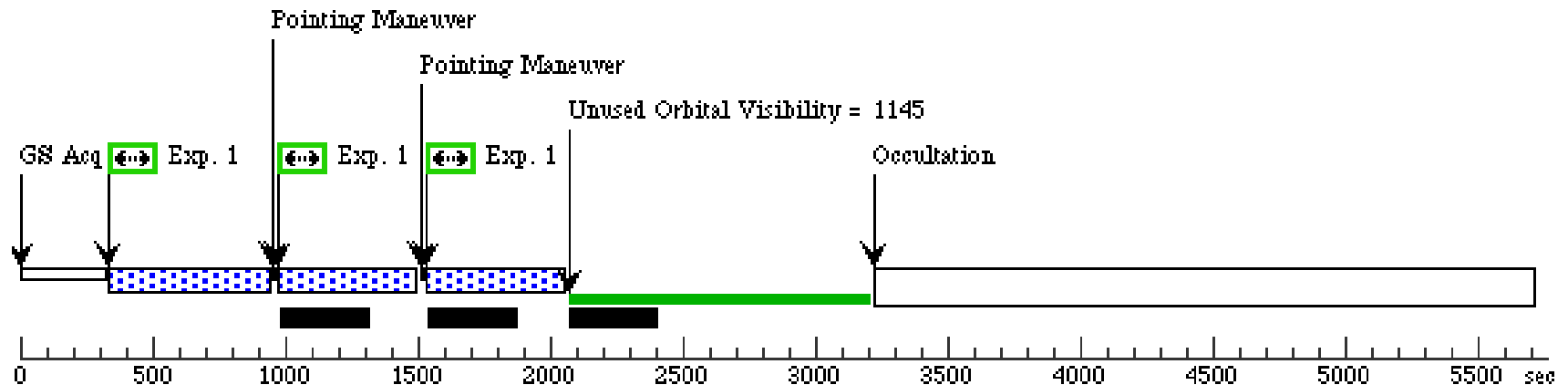
|                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                           |                   |                                                                                     |  |                          |                   |              |                       |                       |                                 |                  |                          |     |
|-----------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|-------------------------------------------------------------------------------------|--|--------------------------|-------------------|--------------|-----------------------|-----------------------|---------------------------------|------------------|--------------------------|-----|
| Visit           | Proposal 13671, Visit 45, implementation                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                           |                   |                                                                                     |  |                          |                   |              |                       |                       | Tue Aug 19 01:02:36 GMT 2014    |                  |                          |     |
|                 | Diagnostic Status: No Diagnostics                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                           |                   |                                                                                     |  |                          |                   |              |                       |                       |                                 |                  |                          |     |
|                 | Scientific Instruments: ACS/WFC                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                           |                   |                                                                                     |  |                          |                   |              |                       |                       |                                 |                  |                          |     |
|                 | Special Requirements: (none)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                           |                   |                                                                                     |  |                          |                   |              |                       |                       |                                 |                  |                          |     |
| Patterns        | #                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Primary Pattern                                                                                                                                                                                                           |                   |                                                                                     |  |                          | Secondary Pattern |              |                       |                       |                                 | Exposures        |                          |     |
|                 | (1)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Pattern Type=ACS-WFC-DITHER-LINE<br>Purpose=DITHER<br>Number Of Points=3<br>Point Spacing=3.011<br>Line Spacing=<br>Coordinate Frame=POS-TARG<br>Pattern Orientation=85.28<br>Angle Between Sides=<br>Center Pattern=true |                   |                                                                                     |  |                          |                   |              |                       |                       |                                 | (1)              |                          |     |
| Fixed Targets   | #                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Name                                                                                                                                                                                                                      |                   | Target Coordinates                                                                  |  | Targ. Coord. Corrections |                   | Fluxes       |                       | Miscellaneous         |                                 |                  |                          |     |
|                 | (45)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | EMACSJ2327.4-0204                                                                                                                                                                                                         |                   | RA: 23 27 27.5950 (351.8649792d)<br>Dec: -02 04 37.24 (-2.07701d)<br>Equinox: J2000 |  |                          |                   | V=20.0       |                       | Reference Frame: ICRS |                                 |                  |                          |     |
| Exposures       | #                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Label                                                                                                                                                                                                                     | Target            | Config,Mode,Aperture                                                                |  | Spectral Els.            | Opt. Params.      | Special Req. | Groups                |                       | Exp. Time (Total)/[Actual Dur.] |                  | Orbit                    |     |
|                 | 1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 2327-02_60                                                                                                                                                                                                                | (45) EMACSJ2327.4 | ACS/WFC, ACCUM, WFC                                                                 |  | F606W                    | CR-SPLIT=NO       |              | Pattern 1, Exps 1-1 i |                       | 400 Secs (1200 Secs)            |                  |                          |     |
|                 | 6                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | -0204                                                                                                                                                                                                                     | -0204             |                                                                                     |  |                          |                   |              | n Visit 45 (1)        |                       | [==>(Pattern 1)]                |                  |                          |     |
|                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                           |                   |                                                                                     |  |                          |                   |              |                       |                       |                                 | [==>(Pattern 2)] |                          | [1] |
|                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                           |                   |                                                                                     |  |                          |                   |              |                       |                       | [==>(Pattern 3)]                |                  |                          |     |
|                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                           |                   |                                                                                     |  |                          |                   |              |                       |                       |                                 |                  |                          |     |
| Orbit Structure | Orbit 1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                           |                   |                                                                                     |  |                          |                   |              |                       |                       |                                 |                  | Server Version: 20140605 |     |
|                 | <p>The diagram illustrates the orbit structure over a 5500-second period. Key events include:</p> <ul style="list-style-type: none"><li><b>GS Acq</b>: Green box with a target icon at approximately 300s.</li><li><b>Exp. 1</b>: Three green boxes with target icons at approximately 400s, 1000s, and 1500s.</li><li><b>Pointing Maneuver</b>: Two vertical arrows at approximately 1000s and 1500s.</li><li><b>Unused Orbital Visibility</b>: A green bar from approximately 2100s to 3200s.</li><li><b>Occultation</b>: A white bar from approximately 3200s to 5500s.</li></ul> <p>Checkered blue bars are present between the exposures, and black bars are at the bottom of the timeline.</p> |                                                                                                                                                                                                                           |                   |                                                                                     |  |                          |                   |              |                       |                       |                                 |                  |                          |     |

# Proposal 13671 - Visit 46 - Beyond MACS: A Snapshot Survey of the Most Massive Clusters of Galaxies at $z>0.5$

|                 |                                                                                                                 |                                                                                                                      |                                                                                 |                                                                                                       |                                     |
|-----------------|-----------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------|-------------------------------------|
| Visit           | <b>Proposal 13671, Visit 46, implementation</b> <span style="float: right;">Tue Aug 19 01:02:36 GMT 2014</span> |                                                                                                                      |                                                                                 |                                                                                                       |                                     |
|                 | <b>Diagnostic Status: No Diagnostics</b><br>Scientific Instruments: ACS/WFC<br>Special Requirements: (none)     |                                                                                                                      |                                                                                 |                                                                                                       |                                     |
| Patterns        | #                                                                                                               | Primary Pattern                                                                                                      |                                                                                 | Secondary Pattern                                                                                     | Exposures                           |
|                 | (1)                                                                                                             | Pattern Type=ACS-WFC-DITHER-<br>LINE<br>Purpose=DITHER<br>Number Of Points=3<br>Point Spacing=3.011<br>Line Spacing= |                                                                                 | Coordinate Frame=POS-TARG<br>Pattern Orientation=85.28<br>Angle Between Sides=<br>Center Pattern=true | (1)                                 |
| Fixed Targets   | #                                                                                                               | Name                                                                                                                 | Target Coordinates                                                              | Targ. Coord. Corrections                                                                              | Fluxes                              |
|                 | (1)                                                                                                             | EMACSJ0014.9-0056                                                                                                    | RA: 00 14 54.1180 (3.7254917d)<br>Dec: -00 57 8.13 (-.95226d)<br>Equinox: J2000 |                                                                                                       | V=20.0                              |
| Exposures       |                                                                                                                 |                                                                                                                      |                                                                                 |                                                                                                       | Miscellaneous                       |
|                 |                                                                                                                 |                                                                                                                      |                                                                                 |                                                                                                       | Reference Frame: ICRS               |
| Exposures       | #                                                                                                               | Label                                                                                                                | Target                                                                          | Config,Mode,Aperture                                                                                  | Spectral Els.                       |
|                 | 1                                                                                                               | 0014-00_81                                                                                                           | (1) EMACSJ0014.9-0056                                                           | ACS/WFC, ACCUM, WFC                                                                                   | F814W                               |
| Exposures       |                                                                                                                 |                                                                                                                      |                                                                                 |                                                                                                       | Opt. Params.                        |
|                 |                                                                                                                 |                                                                                                                      |                                                                                 |                                                                                                       | CR-SPLIT=NO                         |
| Exposures       |                                                                                                                 |                                                                                                                      |                                                                                 |                                                                                                       | Special Reqs.                       |
|                 |                                                                                                                 |                                                                                                                      |                                                                                 |                                                                                                       |                                     |
| Exposures       |                                                                                                                 |                                                                                                                      |                                                                                 |                                                                                                       | Groups                              |
|                 |                                                                                                                 |                                                                                                                      |                                                                                 |                                                                                                       | Pattern 1, Exps 1-1 in Visit 46 (1) |
| Exposures       |                                                                                                                 |                                                                                                                      |                                                                                 |                                                                                                       | Exp. Time (Total)/[Actual Dur.]     |
|                 |                                                                                                                 |                                                                                                                      |                                                                                 |                                                                                                       | 400 Secs (1200 Secs)                |
| Exposures       |                                                                                                                 |                                                                                                                      |                                                                                 |                                                                                                       | [==>(Pattern 1)]                    |
|                 |                                                                                                                 |                                                                                                                      |                                                                                 |                                                                                                       | [==>(Pattern 2)]                    |
| Exposures       |                                                                                                                 |                                                                                                                      |                                                                                 |                                                                                                       | [==>(Pattern 3)]                    |
|                 |                                                                                                                 |                                                                                                                      |                                                                                 |                                                                                                       | [1]                                 |
| Orbit Structure |                                                                                                                 |                                                                                                                      |                                                                                 |                                                                                                       |                                     |
|                 |                                                                                                                 |                                                                                                                      |                                                                                 |                                                                                                       |                                     |

Orbit 1

Server Version: 20140605



# Proposal 13671 - Visit 1O - Beyond MACS: A Snapshot Survey of the Most Massive Clusters of Galaxies at $z>0.5$

|                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                           |                   |                                                                                    |  |  |               |                          |              |  |                              |                   |                       |  |                                 |                       |  |  |       |  |  |           |  |
|-----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|------------------------------------------------------------------------------------|--|--|---------------|--------------------------|--------------|--|------------------------------|-------------------|-----------------------|--|---------------------------------|-----------------------|--|--|-------|--|--|-----------|--|
| Visit           | Proposal 13671, Visit 1O, implementation                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                           |                   |                                                                                    |  |  |               |                          |              |  | Tue Aug 19 01:02:36 GMT 2014 |                   |                       |  |                                 |                       |  |  |       |  |  |           |  |
|                 | Diagnostic Status: No Diagnostics                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                           |                   |                                                                                    |  |  |               |                          |              |  |                              |                   |                       |  |                                 |                       |  |  |       |  |  |           |  |
|                 | Scientific Instruments: ACS/WFC                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                           |                   |                                                                                    |  |  |               |                          |              |  |                              |                   |                       |  |                                 |                       |  |  |       |  |  |           |  |
|                 | Special Requirements: (none)                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                           |                   |                                                                                    |  |  |               |                          |              |  |                              |                   |                       |  |                                 |                       |  |  |       |  |  |           |  |
| Patterns        | #                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Primary Pattern                                                                                                                                                                                                           |                   |                                                                                    |  |  |               |                          |              |  |                              | Secondary Pattern |                       |  |                                 |                       |  |  |       |  |  | Exposures |  |
|                 | (1)                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Pattern Type=ACS-WFC-DITHER-LINE<br>Purpose=DITHER<br>Number Of Points=3<br>Point Spacing=3.011<br>Line Spacing=<br>Coordinate Frame=POS-TARG<br>Pattern Orientation=85.28<br>Angle Between Sides=<br>Center Pattern=true |                   |                                                                                    |  |  |               |                          |              |  |                              |                   |                       |  |                                 |                       |  |  |       |  |  | (1)       |  |
| Fixed Targets   | #                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Name                                                                                                                                                                                                                      |                   | Target Coordinates                                                                 |  |  |               | Targ. Coord. Corrections |              |  |                              | Fluxes            |                       |  |                                 | Miscellaneous         |  |  |       |  |  |           |  |
|                 | (46)                                                                                                                                                                                                                                                                                                                                                                                                                                                        | EMACSJ0045.2-0151                                                                                                                                                                                                         |                   | RA: 00 45 12.5030 (11.3020958d)<br>Dec: -01 52 31.25 (-1.87535d)<br>Equinox: J2000 |  |  |               |                          |              |  |                              | V=20.0            |                       |  |                                 | Reference Frame: ICRS |  |  |       |  |  |           |  |
| Exposures       | #                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Label                                                                                                                                                                                                                     | Target            | Config,Mode,Aperture                                                               |  |  | Spectral Els. |                          | Opt. Params. |  | Special Reqs.                |                   | Groups                |  | Exp. Time (Total)/[Actual Dur.] |                       |  |  | Orbit |  |  |           |  |
|                 | 1                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 0045-01_81                                                                                                                                                                                                                | (46) EMACSJ0045.2 | ACS/WFC, ACCUM, WFC                                                                |  |  | F814W         |                          | CR-SPLIT=NO  |  |                              |                   | Pattern 1, Exps 1-1 i |  | 400 Secs (1200 Secs)            |                       |  |  |       |  |  |           |  |
|                 | 4                                                                                                                                                                                                                                                                                                                                                                                                                                                           | -0151                                                                                                                                                                                                                     |                   |                                                                                    |  |  |               |                          |              |  |                              |                   | n Visit 1O (1)        |  | [==>(Pattern 1)]                |                       |  |  |       |  |  |           |  |
|                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                           |                   |                                                                                    |  |  |               |                          |              |  |                              |                   |                       |  | [==>(Pattern 2)]                |                       |  |  | [1]   |  |  |           |  |
| Orbit Structure | <div>Orbit 1<div>Server Version: 20140605</div><div><div>Pointing Maneuver</div><div>Pointing Maneuver</div><div>Unused Orbital Visibility = 1145</div><div>Occultation</div><div>GS Acq</div><div>Exp. 1</div><div>Exp. 1</div><div>Exp. 1</div><div>0</div><div>500</div><div>1000</div><div>1500</div><div>2000</div><div>2500</div><div>3000</div><div>3500</div><div>4000</div><div>4500</div><div>5000</div><div>5500</div><div>sec</div></div></div> |                                                                                                                                                                                                                           |                   |                                                                                    |  |  |               |                          |              |  |                              |                   |                       |  |                                 |                       |  |  |       |  |  |           |  |

# Proposal 13671 - Visit 1P - Beyond MACS: A Snapshot Survey of the Most Massive Clusters of Galaxies at z>0.5

|                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                               |                                                                                    |                          |                                         |
|-----------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|--------------------------|-----------------------------------------|
| Visit           | <b>Proposal 13671, Visit 1P, implementation</b> <span style="float: right;">Tue Aug 19 01:02:36 GMT 2014</span>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                               |                                                                                    |                          |                                         |
|                 | <b>Diagnostic Status: No Diagnostics</b><br>Scientific Instruments: ACS/WFC<br>Special Requirements: (none)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                               |                                                                                    |                          |                                         |
| Patterns        | #                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Primary Pattern                                                                                                                                                                                                               |                                                                                    | Secondary Pattern        | Exposures                               |
|                 | (1)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Pattern Type=ACS-WFC-DITHER-<br>LINE<br>Purpose=DITHER<br>Number Of Points=3<br>Point Spacing=3.011<br>Line Spacing=<br>Coordinate Frame=POS-TARG<br>Pattern Orientation=85.28<br>Angle Between Sides=<br>Center Pattern=true |                                                                                    |                          | (1)                                     |
| Fixed Targets   | #                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Name                                                                                                                                                                                                                          | Target Coordinates                                                                 | Targ. Coord. Corrections | Fluxes                                  |
|                 | (47)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | EMACSJ0101.1+1831                                                                                                                                                                                                             | RA: 01 01 13.7110 (15.3071292d)<br>Dec: +18 31 36.38 (18.52677d)<br>Equinox: J2000 |                          | V=20.0                                  |
| Exposures       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                               |                                                                                    |                          |                                         |
|                 | #                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Label                                                                                                                                                                                                                         | Target                                                                             | Config,Mode,Aperture     | Spectral Els.                           |
|                 | 1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 0101+18_81                                                                                                                                                                                                                    | (47) EMACSJ0101.1                                                                  | ACS/WFC, ACCUM, WFC      | F814W                                   |
|                 | 4                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                               | +1831                                                                              |                          |                                         |
|                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                               |                                                                                    |                          | CR-SPLIT=NO                             |
|                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                               |                                                                                    |                          | Special Reqs.                           |
|                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                               |                                                                                    |                          | Groups                                  |
|                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                               |                                                                                    |                          | Exp. Time (Total)/[Actual Dur.]         |
|                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                               |                                                                                    |                          | Orbit                                   |
|                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                               |                                                                                    |                          | Pattern 1, Exps 1-1 i<br>n Visit 1P (1) |
|                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                               |                                                                                    |                          | 400 Secs (1200 Secs)                    |
|                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                               |                                                                                    |                          | [==>(Pattern 1)]                        |
|                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                               |                                                                                    |                          | [==>(Pattern 2)]                        |
|                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                               |                                                                                    |                          | [==>(Pattern 3)]                        |
|                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                               |                                                                                    |                          | [1]                                     |
| Orbit Structure |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                               |                                                                                    |                          |                                         |
|                 | <div> <div>Orbit 1</div> <div>Server Version: 20140605</div> <p>The diagram illustrates the orbit structure over a 5500-second period. Key events include:</p> <ul style="list-style-type: none"> <li><b>GS Acq</b>: Green box at approximately 300s.</li> <li><b>Exp. 1</b>: Three green boxes at approximately 400s, 1000s, and 1600s.</li> <li><b>Pointing Maneuver</b>: Two vertical arrows at approximately 1000s and 1600s.</li> <li><b>Unused Orbital Visibility</b>: A green bar from approximately 2100s to 3200s.</li> <li><b>Occultation</b>: A long white bar from approximately 3200s to 5500s.</li> </ul> </div> |                                                                                                                                                                                                                               |                                                                                    |                          |                                         |

# Proposal 13671 - Visit 1Q - Beyond MACS: A Snapshot Survey of the Most Massive Clusters of Galaxies at $z>0.5$

|                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                           |                   |                                                                                    |  |                          |                   |              |  |                       |                              |                                     |                                                          |  |                          |  |
|-----------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|------------------------------------------------------------------------------------|--|--------------------------|-------------------|--------------|--|-----------------------|------------------------------|-------------------------------------|----------------------------------------------------------|--|--------------------------|--|
| Visit           | Proposal 13671, Visit 1Q, implementation                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                           |                   |                                                                                    |  |                          |                   |              |  |                       | Tue Aug 19 01:02:36 GMT 2014 |                                     |                                                          |  |                          |  |
|                 | Diagnostic Status: No Diagnostics                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                           |                   |                                                                                    |  |                          |                   |              |  |                       |                              |                                     |                                                          |  |                          |  |
|                 | Scientific Instruments: ACS/WFC                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                           |                   |                                                                                    |  |                          |                   |              |  |                       |                              |                                     |                                                          |  |                          |  |
|                 | Special Requirements: (none)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                           |                   |                                                                                    |  |                          |                   |              |  |                       |                              |                                     |                                                          |  |                          |  |
| Patterns        | #                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Primary Pattern                                                                                                                                                                                                           |                   |                                                                                    |  |                          | Secondary Pattern |              |  |                       |                              | Exposures                           |                                                          |  |                          |  |
|                 | (1)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Pattern Type=ACS-WFC-DITHER-LINE<br>Purpose=DITHER<br>Number Of Points=3<br>Point Spacing=3.011<br>Line Spacing=<br>Coordinate Frame=POS-TARG<br>Pattern Orientation=85.28<br>Angle Between Sides=<br>Center Pattern=true |                   |                                                                                    |  |                          |                   |              |  |                       |                              | (1)                                 |                                                          |  |                          |  |
| Fixed Targets   | #                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Name                                                                                                                                                                                                                      |                   | Target Coordinates                                                                 |  | Targ. Coord. Corrections |                   | Fluxes       |  | Miscellaneous         |                              |                                     |                                                          |  |                          |  |
|                 | (48)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | EMACSJ1631.1+1528                                                                                                                                                                                                         |                   | RA: 16 31 5.8280 (247.7742833d)<br>Dec: +15 29 34.00 (15.49278d)<br>Equinox: J2000 |  |                          |                   | V=20.0       |  | Reference Frame: ICRS |                              |                                     |                                                          |  |                          |  |
| Exposures       | #                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Label                                                                                                                                                                                                                     | Target            | Config,Mode,Aperture                                                               |  | Spectral Els.            |                   | Opt. Params. |  | Special Req.          |                              | Groups                              | Exp. Time (Total)/[Actual Dur.]                          |  | Orbit                    |  |
|                 | 1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 1631+15_81                                                                                                                                                                                                                | (48) EMACSJ1631.1 | ACS/WFC, ACCUM, WFC                                                                |  | F814W                    |                   | CR-SPLIT=NO  |  |                       |                              | Pattern 1, Exps 1-1 in Visit 1Q (1) | 400 Secs (1200 Secs)                                     |  |                          |  |
|                 | 4                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | +1528                                                                                                                                                                                                                     |                   |                                                                                    |  |                          |                   |              |  |                       |                              |                                     | [==>(Pattern 1)]<br>[==>(Pattern 2)]<br>[==>(Pattern 3)] |  | [1]                      |  |
|                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                           |                   |                                                                                    |  |                          |                   |              |  |                       |                              |                                     |                                                          |  |                          |  |
| Orbit Structure | Orbit 1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                                                                                                                                           |                   |                                                                                    |  |                          |                   |              |  |                       |                              |                                     |                                                          |  | Server Version: 20140605 |  |
|                 | <p>The diagram illustrates the orbit structure over a 5500-second period. Key events include:</p> <ul style="list-style-type: none"><li><b>GS Acq</b>: Green box with a camera icon at approximately 300s.</li><li><b>Exp. 1</b>: Three green boxes with camera icons at approximately 1000s, 1500s, and 1700s.</li><li><b>Pointing Maneuver</b>: Two vertical arrows at approximately 1000s and 1500s.</li><li><b>Unused Orbital Visibility</b>: A label above a gap in the timeline at approximately 2100s.</li><li><b>Occultation</b>: A long white bar starting at approximately 3200s and ending at 5500s.</li></ul> <p>The timeline is marked with ticks every 500 seconds.</p> |                                                                                                                                                                                                                           |                   |                                                                                    |  |                          |                   |              |  |                       |                              |                                     |                                                          |  |                          |  |

# Proposal 13671 - Visit 1R - Beyond MACS: A Snapshot Survey of the Most Massive Clusters of Galaxies at $z>0.5$

|                 |                                          |                                                                                                                                                                                                                           |                             |                                                                                    |  |  |               |                          |              |  |                              |                   |                                         |  |                                                          |                       |  |  |       |  |                          |           |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|-----------------|------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------|------------------------------------------------------------------------------------|--|--|---------------|--------------------------|--------------|--|------------------------------|-------------------|-----------------------------------------|--|----------------------------------------------------------|-----------------------|--|--|-------|--|--------------------------|-----------|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|
| Visit           | Proposal 13671, Visit 1R, implementation |                                                                                                                                                                                                                           |                             |                                                                                    |  |  |               |                          |              |  | Tue Aug 19 01:02:36 GMT 2014 |                   |                                         |  |                                                          |                       |  |  |       |  |                          |           |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|                 | Diagnostic Status: No Diagnostics        |                                                                                                                                                                                                                           |                             |                                                                                    |  |  |               |                          |              |  |                              |                   |                                         |  |                                                          |                       |  |  |       |  |                          |           |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|                 | Scientific Instruments: ACS/WFC          |                                                                                                                                                                                                                           |                             |                                                                                    |  |  |               |                          |              |  |                              |                   |                                         |  |                                                          |                       |  |  |       |  |                          |           |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|                 | Special Requirements: (none)             |                                                                                                                                                                                                                           |                             |                                                                                    |  |  |               |                          |              |  |                              |                   |                                         |  |                                                          |                       |  |  |       |  |                          |           |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Patterns        | #                                        | Primary Pattern                                                                                                                                                                                                           |                             |                                                                                    |  |  |               |                          |              |  |                              | Secondary Pattern |                                         |  |                                                          |                       |  |  |       |  |                          | Exposures |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|                 | (1)                                      | Pattern Type=ACS-WFC-DITHER-LINE<br>Purpose=DITHER<br>Number Of Points=3<br>Point Spacing=3.011<br>Line Spacing=<br>Coordinate Frame=POS-TARG<br>Pattern Orientation=85.28<br>Angle Between Sides=<br>Center Pattern=true |                             |                                                                                    |  |  |               |                          |              |  |                              |                   |                                         |  |                                                          |                       |  |  |       |  |                          | (1)       |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Fixed Targets   | #                                        | Name                                                                                                                                                                                                                      |                             | Target Coordinates                                                                 |  |  |               | Targ. Coord. Corrections |              |  |                              | Fluxes            |                                         |  |                                                          | Miscellaneous         |  |  |       |  |                          |           |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|                 | (49)                                     | EMACSJ2229.9-0808A                                                                                                                                                                                                        |                             | RA: 22 30 6.1360 (337.5255667d)<br>Dec: -08 09 23.31 (-8.15648d)<br>Equinox: J2000 |  |  |               |                          |              |  |                              | V=20.0            |                                         |  |                                                          | Reference Frame: ICRS |  |  |       |  |                          |           |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Exposures       | #                                        | Label                                                                                                                                                                                                                     | Target                      | Config,Mode,Aperture                                                               |  |  | Spectral Els. |                          | Opt. Params. |  | Special Reqs.                |                   | Groups                                  |  | Exp. Time (Total)/[Actual Dur.]                          |                       |  |  | Orbit |  |                          |           |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|                 | 1                                        | 2229-08a_8<br>14                                                                                                                                                                                                          | (49) EMACSJ2229.9<br>-0808A | ACS/WFC, ACCUM, WFC                                                                |  |  | F814W         |                          | CR-SPLIT=NO  |  |                              |                   | Pattern 1, Exps 1-1 i<br>n Visit 1R (1) |  | 400 Secs (1200 Secs)                                     |                       |  |  |       |  |                          |           |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|                 |                                          |                                                                                                                                                                                                                           |                             |                                                                                    |  |  |               |                          |              |  |                              |                   |                                         |  | [==>(Pattern 1)]<br>[==>(Pattern 2)]<br>[==>(Pattern 3)] |                       |  |  | [1]   |  |                          |           |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Orbit Structure | Orbit 1                                  |                                                                                                                                                                                                                           |                             |                                                                                    |  |  |               |                          |              |  |                              |                   |                                         |  |                                                          |                       |  |  |       |  | Server Version: 20140605 |           |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|                 |                                          |                                                                                                                                                                                                                           |                             |                                                                                    |  |  |               |                          |              |  |                              |                   |                                         |  |                                                          |                       |  |  |       |  |                          |           |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

# Proposal 13671 - Visit 47 - Beyond MACS: A Snapshot Survey of the Most Massive Clusters of Galaxies at $z > 0.5$

|                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                      |                                                                                  |                                                                                                       |                                     |
|-----------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------|-------------------------------------|
| Visit           | Proposal 13671, Visit 47, implementation <span style="float: right;">Tue Aug 19 01:02:36 GMT 2014</span>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                      |                                                                                  |                                                                                                       |                                     |
|                 | Diagnostic Status: No Diagnostics<br>Scientific Instruments: ACS/WFC<br>Special Requirements: (none)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                      |                                                                                  |                                                                                                       |                                     |
| Patterns        | #                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Primary Pattern                                                                                                      |                                                                                  | Secondary Pattern                                                                                     | Exposures                           |
|                 | (1)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Pattern Type=ACS-WFC-DITHER-<br>LINE<br>Purpose=DITHER<br>Number Of Points=3<br>Point Spacing=3.011<br>Line Spacing= |                                                                                  | Coordinate Frame=POS-TARG<br>Pattern Orientation=85.28<br>Angle Between Sides=<br>Center Pattern=true | (1)                                 |
| Fixed Targets   | #                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Name                                                                                                                 | Target Coordinates                                                               | Targ. Coord. Corrections                                                                              | Fluxes                              |
|                 | (2)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | EMACSJ0026.2+0120                                                                                                    | RA: 00 26 16.1660 (6.5673583d)<br>Dec: +01 20 34.84 (1.34301d)<br>Equinox: J2000 |                                                                                                       | V=20.0                              |
| Exposures       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                      |                                                                                  |                                                                                                       | Miscellaneous                       |
|                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                      |                                                                                  |                                                                                                       | Reference Frame: ICRS               |
| Exposures       | #                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Label                                                                                                                | Target                                                                           | Config,Mode,Aperture                                                                                  | Spectral Els.                       |
|                 | 1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 0026+01_81                                                                                                           | (2) EMACSJ0026.2+0120                                                            | ACS/WFC, ACCUM, WFC                                                                                   | F814W                               |
| Exposures       | 4                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                      |                                                                                  |                                                                                                       | Opt. Params.                        |
|                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                      |                                                                                  |                                                                                                       | CR-SPLIT=NO                         |
| Exposures       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                      |                                                                                  |                                                                                                       | Special Reqs.                       |
|                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                      |                                                                                  |                                                                                                       |                                     |
| Exposures       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                      |                                                                                  |                                                                                                       | Groups                              |
|                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                      |                                                                                  |                                                                                                       | Pattern 1, Exps 1-1 in Visit 47 (1) |
| Exposures       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                      |                                                                                  |                                                                                                       | Exp. Time (Total)/[Actual Dur.]     |
|                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                      |                                                                                  |                                                                                                       | 400 Secs (1200 Secs)                |
| Exposures       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                      |                                                                                  |                                                                                                       | [==>(Pattern 1)]                    |
|                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                      |                                                                                  |                                                                                                       | [==>(Pattern 2)]                    |
| Exposures       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                      |                                                                                  |                                                                                                       | [==>(Pattern 3)]                    |
|                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                      |                                                                                  |                                                                                                       | [1]                                 |
| Orbit Structure | Orbit 1 <span style="float: right;">Server Version: 20140605</span>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                      |                                                                                  |                                                                                                       |                                     |
|                 | <p>The diagram illustrates the orbit structure for Orbit 1, spanning from 0 to 5500 seconds. Key events and durations are as follows:</p> <ul style="list-style-type: none"> <li><b>GS Acq:</b> Occurs at the beginning of the timeline.</li> <li><b>Exp. 1:</b> Three exposures are scheduled, each represented by a green box with a camera icon.</li> <li><b>Pointing Maneuver:</b> Two maneuvers are indicated by vertical arrows.</li> <li><b>Unused Orbital Visibility:</b> A duration of 1145 seconds is marked.</li> <li><b>Occultation:</b> A period where observations are blocked, shown as a white segment.</li> <li><b>Observation Periods:</b> A blue checkered bar represents the primary observation period, and a green bar represents the secondary observation period.</li> </ul> |                                                                                                                      |                                                                                  |                                                                                                       |                                     |

# Proposal 13671 - Visit 48 - Beyond MACS: A Snapshot Survey of the Most Massive Clusters of Galaxies at $z > 0.5$

|                 |                                                                                                                 |                                                                                                                      |                                                                                  |                                                                                                       |                                     |
|-----------------|-----------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------|-------------------------------------|
| Visit           | <b>Proposal 13671, Visit 48, implementation</b> <span style="float: right;">Tue Aug 19 01:02:36 GMT 2014</span> |                                                                                                                      |                                                                                  |                                                                                                       |                                     |
|                 | <b>Diagnostic Status: No Diagnostics</b><br>Scientific Instruments: ACS/WFC<br>Special Requirements: (none)     |                                                                                                                      |                                                                                  |                                                                                                       |                                     |
| Patterns        | #                                                                                                               | Primary Pattern                                                                                                      |                                                                                  | Secondary Pattern                                                                                     | Exposures                           |
|                 | (1)                                                                                                             | Pattern Type=ACS-WFC-DITHER-<br>LINE<br>Purpose=DITHER<br>Number Of Points=3<br>Point Spacing=3.011<br>Line Spacing= |                                                                                  | Coordinate Frame=POS-TARG<br>Pattern Orientation=85.28<br>Angle Between Sides=<br>Center Pattern=true | (1)                                 |
| Fixed Targets   | #                                                                                                               | Name                                                                                                                 | Target Coordinates                                                               | Targ. Coord. Corrections                                                                              | Fluxes                              |
|                 | (3)                                                                                                             | EMACSJ0030.5+2618                                                                                                    | RA: 00 30 34.0230 (7.6417625d)<br>Dec: +26 18 8.93 (26.30248d)<br>Equinox: J2000 |                                                                                                       | V=20.0                              |
| Exposures       |                                                                                                                 |                                                                                                                      |                                                                                  |                                                                                                       | Miscellaneous                       |
|                 | Reference Frame: ICRS                                                                                           |                                                                                                                      |                                                                                  |                                                                                                       |                                     |
| Exposures       | #                                                                                                               | Label                                                                                                                | Target                                                                           | Config,Mode,Aperture                                                                                  | Spectral Els.                       |
|                 | 1                                                                                                               | 0030+26_81                                                                                                           | (3) EMACSJ0030.5+2618                                                            | ACS/WFC, ACCUM, WFC                                                                                   | F814W                               |
| Exposures       | 4                                                                                                               |                                                                                                                      |                                                                                  |                                                                                                       | Opt. Params.                        |
|                 |                                                                                                                 |                                                                                                                      |                                                                                  |                                                                                                       | CR-SPLIT=NO                         |
| Exposures       |                                                                                                                 |                                                                                                                      |                                                                                  |                                                                                                       | Special Reqs.                       |
|                 |                                                                                                                 |                                                                                                                      |                                                                                  |                                                                                                       |                                     |
| Exposures       |                                                                                                                 |                                                                                                                      |                                                                                  |                                                                                                       | Groups                              |
|                 |                                                                                                                 |                                                                                                                      |                                                                                  |                                                                                                       | Pattern 1, Exps 1-1 in Visit 48 (1) |
| Exposures       |                                                                                                                 |                                                                                                                      |                                                                                  |                                                                                                       | Exp. Time (Total)/[Actual Dur.]     |
|                 |                                                                                                                 |                                                                                                                      |                                                                                  |                                                                                                       | 400 Secs (1200 Secs)                |
| Exposures       |                                                                                                                 |                                                                                                                      |                                                                                  |                                                                                                       | [==>(Pattern 1)]                    |
|                 |                                                                                                                 |                                                                                                                      |                                                                                  |                                                                                                       | [==>(Pattern 2)]                    |
| Exposures       |                                                                                                                 |                                                                                                                      |                                                                                  |                                                                                                       | [==>(Pattern 3)]                    |
|                 |                                                                                                                 |                                                                                                                      |                                                                                  |                                                                                                       | [1]                                 |
| Orbit Structure | <b>Orbit 1</b> <span style="float: right;">Server Version: 20140605</span>                                      |                                                                                                                      |                                                                                  |                                                                                                       |                                     |
|                 |                                                                                                                 |                                                                                                                      |                                                                                  |                                                                                                       |                                     |

# Proposal 13671 - Visit 49 - Beyond MACS: A Snapshot Survey of the Most Massive Clusters of Galaxies at $z>0.5$

|                 |                                          |                                                                                                                                                                                                                           |                       |                                                                                  |  |  |  |                          |  |              |                              |                   |  |                                     |  |                                                          |  |  |  |       |                          |           |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|-----------------|------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|----------------------------------------------------------------------------------|--|--|--|--------------------------|--|--------------|------------------------------|-------------------|--|-------------------------------------|--|----------------------------------------------------------|--|--|--|-------|--------------------------|-----------|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|
| Visit           | Proposal 13671, Visit 49, implementation |                                                                                                                                                                                                                           |                       |                                                                                  |  |  |  |                          |  |              | Tue Aug 19 01:02:36 GMT 2014 |                   |  |                                     |  |                                                          |  |  |  |       |                          |           |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|                 | Diagnostic Status: No Diagnostics        |                                                                                                                                                                                                                           |                       |                                                                                  |  |  |  |                          |  |              |                              |                   |  |                                     |  |                                                          |  |  |  |       |                          |           |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|                 | Scientific Instruments: ACS/WFC          |                                                                                                                                                                                                                           |                       |                                                                                  |  |  |  |                          |  |              |                              |                   |  |                                     |  |                                                          |  |  |  |       |                          |           |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|                 | Special Requirements: (none)             |                                                                                                                                                                                                                           |                       |                                                                                  |  |  |  |                          |  |              |                              |                   |  |                                     |  |                                                          |  |  |  |       |                          |           |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Patterns        | #                                        | Primary Pattern                                                                                                                                                                                                           |                       |                                                                                  |  |  |  |                          |  |              |                              | Secondary Pattern |  |                                     |  |                                                          |  |  |  |       |                          | Exposures |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|                 | (1)                                      | Pattern Type=ACS-WFC-DITHER-LINE<br>Purpose=DITHER<br>Number Of Points=3<br>Point Spacing=3.011<br>Line Spacing=<br>Coordinate Frame=POS-TARG<br>Pattern Orientation=85.28<br>Angle Between Sides=<br>Center Pattern=true |                       |                                                                                  |  |  |  |                          |  |              |                              |                   |  |                                     |  |                                                          |  |  |  |       |                          | (1)       |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Fixed Targets   | #                                        | Name                                                                                                                                                                                                                      |                       | Target Coordinates                                                               |  |  |  | Targ. Coord. Corrections |  |              |                              | Fluxes            |  |                                     |  | Miscellaneous                                            |  |  |  |       |                          |           |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|                 | (4)                                      | EMACSJ0135.2+0847                                                                                                                                                                                                         |                       | RA: 01 35 13.7600 (23.8073333d)<br>Dec: +08 47 1.14 (8.78365d)<br>Equinox: J2000 |  |  |  |                          |  |              |                              | V=20.0            |  |                                     |  | Reference Frame: ICRS                                    |  |  |  |       |                          |           |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Exposures       | #                                        | Label                                                                                                                                                                                                                     | Target                | Config,Mode,Aperture                                                             |  |  |  | Spectral Els.            |  | Opt. Params. |                              | Special Reqs.     |  | Groups                              |  | Exp. Time (Total)/[Actual Dur.]                          |  |  |  | Orbit |                          |           |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|                 | 1                                        | 0135+08_814                                                                                                                                                                                                               | (4) EMACSJ0135.2+0847 | ACS/WFC, ACCUM, WFC                                                              |  |  |  | F814W                    |  | CR-SPLIT=NO  |                              |                   |  | Pattern 1, Exps 1-1 in Visit 49 (1) |  | 400 Secs (1200 Secs)                                     |  |  |  |       |                          |           |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|                 |                                          |                                                                                                                                                                                                                           |                       |                                                                                  |  |  |  |                          |  |              |                              |                   |  |                                     |  | [==>(Pattern 1)]<br>[==>(Pattern 2)]<br>[==>(Pattern 3)] |  |  |  | [1]   |                          |           |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Orbit Structure | Orbit 1                                  |                                                                                                                                                                                                                           |                       |                                                                                  |  |  |  |                          |  |              |                              |                   |  |                                     |  |                                                          |  |  |  |       | Server Version: 20140605 |           |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|                 |                                          |                                                                                                                                                                                                                           |                       |                                                                                  |  |  |  |                          |  |              |                              |                   |  |                                     |  |                                                          |  |  |  |       |                          |           |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

# Proposal 13671 - Visit 50 - Beyond MACS: A Snapshot Survey of the Most Massive Clusters of Galaxies at $z > 0.5$

|                 |                                                                                                                 |                                                                                                                                                                                                                               |                                                                                     |                          |                                     |
|-----------------|-----------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|--------------------------|-------------------------------------|
| Visit           | <b>Proposal 13671, Visit 50, implementation</b> <span style="float: right;">Tue Aug 19 01:02:36 GMT 2014</span> |                                                                                                                                                                                                                               |                                                                                     |                          |                                     |
|                 | <b>Diagnostic Status: No Diagnostics</b><br>Scientific Instruments: ACS/WFC<br>Special Requirements: (none)     |                                                                                                                                                                                                                               |                                                                                     |                          |                                     |
| Patterns        | #                                                                                                               | Primary Pattern                                                                                                                                                                                                               |                                                                                     | Secondary Pattern        | Exposures                           |
|                 | (1)                                                                                                             | Pattern Type=ACS-WFC-DITHER-<br>LINE<br>Purpose=DITHER<br>Number Of Points=3<br>Point Spacing=3.011<br>Line Spacing=<br>Coordinate Frame=POS-TARG<br>Pattern Orientation=85.28<br>Angle Between Sides=<br>Center Pattern=true |                                                                                     |                          | (1)                                 |
| Fixed Targets   | #                                                                                                               | Name                                                                                                                                                                                                                          | Target Coordinates                                                                  | Targ. Coord. Corrections | Fluxes                              |
|                 | (5)                                                                                                             | EMACSJ0256.7-1623                                                                                                                                                                                                             | RA: 02 56 46.4130 (44.1933875d)<br>Dec: -16 23 22.05 (-16.38946d)<br>Equinox: J2000 |                          | V=20.0                              |
| Exposures       |                                                                                                                 |                                                                                                                                                                                                                               |                                                                                     |                          |                                     |
|                 | #                                                                                                               | Label                                                                                                                                                                                                                         | Target                                                                              | Config,Mode,Aperture     | Spectral Els.                       |
|                 | 1                                                                                                               | 0256-16_81                                                                                                                                                                                                                    | (5) EMACSJ0256.7-1623                                                               | ACS/WFC, ACCUM, WFC      | F814W                               |
|                 |                                                                                                                 |                                                                                                                                                                                                                               |                                                                                     |                          | Opt. Params.                        |
|                 |                                                                                                                 |                                                                                                                                                                                                                               |                                                                                     |                          | CR-SPLIT=NO                         |
|                 |                                                                                                                 |                                                                                                                                                                                                                               |                                                                                     |                          | Special Reqs.                       |
|                 |                                                                                                                 |                                                                                                                                                                                                                               |                                                                                     |                          |                                     |
|                 |                                                                                                                 |                                                                                                                                                                                                                               |                                                                                     |                          | Groups                              |
|                 |                                                                                                                 |                                                                                                                                                                                                                               |                                                                                     |                          | Pattern 1, Exps 1-1 in Visit 50 (1) |
|                 |                                                                                                                 |                                                                                                                                                                                                                               |                                                                                     |                          | Exp. Time (Total)/[Actual Dur.]     |
|                 |                                                                                                                 |                                                                                                                                                                                                                               |                                                                                     |                          | 400 Secs (1200 Secs)                |
|                 |                                                                                                                 |                                                                                                                                                                                                                               |                                                                                     |                          | [=>(Pattern 1)]                     |
|                 |                                                                                                                 |                                                                                                                                                                                                                               |                                                                                     |                          | [=>(Pattern 2)]                     |
|                 |                                                                                                                 |                                                                                                                                                                                                                               |                                                                                     |                          | [=>(Pattern 3)]                     |
|                 |                                                                                                                 |                                                                                                                                                                                                                               |                                                                                     |                          | [1]                                 |
| Orbit Structure |                                                                                                                 |                                                                                                                                                                                                                               |                                                                                     |                          |                                     |
|                 | <div> <div>Orbit 1</div> <div>Server Version: 20140605</div> </div>                                             |                                                                                                                                                                                                                               |                                                                                     |                          |                                     |

# Proposal 13671 - Visit 51 - Beyond MACS: A Snapshot Survey of the Most Massive Clusters of Galaxies at $z > 0.5$

|                 |                                                                                                                 |                                                                                                                                                                                                                               |                                                                                    |                          |                                         |
|-----------------|-----------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|--------------------------|-----------------------------------------|
| Visit           | <b>Proposal 13671, Visit 51, implementation</b> <span style="float: right;">Tue Aug 19 01:02:36 GMT 2014</span> |                                                                                                                                                                                                                               |                                                                                    |                          |                                         |
|                 | <b>Diagnostic Status: No Diagnostics</b><br>Scientific Instruments: ACS/WFC<br>Special Requirements: (none)     |                                                                                                                                                                                                                               |                                                                                    |                          |                                         |
| Patterns        | #                                                                                                               | Primary Pattern                                                                                                                                                                                                               |                                                                                    | Secondary Pattern        | Exposures                               |
|                 | (1)                                                                                                             | Pattern Type=ACS-WFC-DITHER-<br>LINE<br>Purpose=DITHER<br>Number Of Points=3<br>Point Spacing=3.011<br>Line Spacing=<br>Coordinate Frame=POS-TARG<br>Pattern Orientation=85.28<br>Angle Between Sides=<br>Center Pattern=true |                                                                                    |                          | (1)                                     |
| Fixed Targets   | #                                                                                                               | Name                                                                                                                                                                                                                          | Target Coordinates                                                                 | Targ. Coord. Corrections | Fluxes                                  |
|                 | (6)                                                                                                             | EMACSJ0256.9-1631                                                                                                                                                                                                             | RA: 02 56 57.3070 (44.2387792d)<br>Dec: -16 31 5.69 (-16.51825d)<br>Equinox: J2000 |                          | V=20.0                                  |
| Exposures       |                                                                                                                 |                                                                                                                                                                                                                               |                                                                                    |                          |                                         |
|                 | #                                                                                                               | Label                                                                                                                                                                                                                         | Target                                                                             | Config,Mode,Aperture     | Spectral Els.                           |
|                 | 1                                                                                                               | 0256-16b_8<br>14                                                                                                                                                                                                              | (6) EMACSJ0256.9-<br>1631                                                          | ACS/WFC, ACCUM, WFC      | F814W                                   |
|                 |                                                                                                                 |                                                                                                                                                                                                                               |                                                                                    |                          | Opt. Params.                            |
|                 |                                                                                                                 |                                                                                                                                                                                                                               |                                                                                    |                          | CR-SPLIT=NO                             |
|                 |                                                                                                                 |                                                                                                                                                                                                                               |                                                                                    |                          | Special Reqs.                           |
|                 |                                                                                                                 |                                                                                                                                                                                                                               |                                                                                    |                          |                                         |
|                 |                                                                                                                 |                                                                                                                                                                                                                               |                                                                                    |                          | Groups                                  |
|                 |                                                                                                                 |                                                                                                                                                                                                                               |                                                                                    |                          | Pattern 1, Exps 1-1 i<br>n Visit 51 (1) |
|                 |                                                                                                                 |                                                                                                                                                                                                                               |                                                                                    |                          | Exp. Time (Total)/[Actual Dur.]         |
|                 |                                                                                                                 |                                                                                                                                                                                                                               |                                                                                    |                          | 400 Secs (1200 Secs)                    |
|                 |                                                                                                                 |                                                                                                                                                                                                                               |                                                                                    |                          | [==>(Pattern 1)]                        |
|                 |                                                                                                                 |                                                                                                                                                                                                                               |                                                                                    |                          | [==>(Pattern 2)]                        |
|                 |                                                                                                                 |                                                                                                                                                                                                                               |                                                                                    |                          | [==>(Pattern 3)]                        |
|                 |                                                                                                                 |                                                                                                                                                                                                                               |                                                                                    |                          | [1]                                     |
| Orbit Structure |                                                                                                                 |                                                                                                                                                                                                                               |                                                                                    |                          |                                         |
|                 | <div> <div>Orbit 1</div> <div>Server Version: 20140605</div> </div>                                             |                                                                                                                                                                                                                               |                                                                                    |                          |                                         |

# Proposal 13671 - Visit 52 - Beyond MACS: A Snapshot Survey of the Most Massive Clusters of Galaxies at $z > 0.5$

|                 |                                          |                                                                                                                                                                                                                           |                   |                                                                                     |  |                          |                   |               |                       |                                                          |                              |           |  |
|-----------------|------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|-------------------------------------------------------------------------------------|--|--------------------------|-------------------|---------------|-----------------------|----------------------------------------------------------|------------------------------|-----------|--|
| Visit           | Proposal 13671, Visit 52, implementation |                                                                                                                                                                                                                           |                   |                                                                                     |  |                          |                   |               |                       |                                                          | Tue Aug 19 01:02:36 GMT 2014 |           |  |
|                 | Diagnostic Status: No Diagnostics        |                                                                                                                                                                                                                           |                   |                                                                                     |  |                          |                   |               |                       |                                                          |                              |           |  |
|                 | Scientific Instruments: ACS/WFC          |                                                                                                                                                                                                                           |                   |                                                                                     |  |                          |                   |               |                       |                                                          |                              |           |  |
|                 | Special Requirements: (none)             |                                                                                                                                                                                                                           |                   |                                                                                     |  |                          |                   |               |                       |                                                          |                              |           |  |
| Patterns        | #                                        | Primary Pattern                                                                                                                                                                                                           |                   |                                                                                     |  |                          | Secondary Pattern |               |                       |                                                          |                              | Exposures |  |
|                 | (1)                                      | Pattern Type=ACS-WFC-DITHER-LINE<br>Purpose=DITHER<br>Number Of Points=3<br>Point Spacing=3.011<br>Line Spacing=<br>Coordinate Frame=POS-TARG<br>Pattern Orientation=85.28<br>Angle Between Sides=<br>Center Pattern=true |                   |                                                                                     |  |                          |                   |               |                       |                                                          |                              | (1)       |  |
| Fixed Targets   | #                                        | Name                                                                                                                                                                                                                      |                   | Target Coordinates                                                                  |  | Targ. Coord. Corrections |                   | Fluxes        |                       | Miscellaneous                                            |                              |           |  |
|                 | (7)                                      | EMACSJ0834.2+4524                                                                                                                                                                                                         |                   | RA: 08 34 15.2850 (128.5636875d)<br>Dec: +45 24 18.22 (45.40506d)<br>Equinox: J2000 |  |                          |                   | V=20.0        |                       | Reference Frame: ICRS                                    |                              |           |  |
| Exposures       | #                                        | Label                                                                                                                                                                                                                     | Target            | Config,Mode,Aperture                                                                |  | Spectral Els.            | Opt. Params.      | Special Reqs. | Groups                | Exp. Time (Total)/[Actual Dur.]                          |                              | Orbit     |  |
|                 | 1                                        | 0834+45_81                                                                                                                                                                                                                | (7) EMACSJ0834.2+ | ACS/WFC, ACCUM, WFC                                                                 |  | F814W                    | CR-SPLIT=NO       |               | Pattern 1, Exps 1-1 i | 400 Secs (1200 Secs)                                     |                              |           |  |
|                 | 4                                        | 4524                                                                                                                                                                                                                      | 4524              |                                                                                     |  |                          |                   |               | n Visit 52 (1)        | [==>(Pattern 1)]<br>[==>(Pattern 2)]<br>[==>(Pattern 3)] |                              | [1]       |  |
|                 |                                          |                                                                                                                                                                                                                           |                   |                                                                                     |  |                          |                   |               |                       |                                                          |                              |           |  |
| Orbit Structure | Orbit 1                                  |                                                                                                                                                                                                                           |                   |                                                                                     |  |                          |                   |               |                       |                                                          | Server Version: 20140605     |           |  |
|                 |                                          |                                                                                                                                                                                                                           |                   |                                                                                     |  |                          |                   |               |                       |                                                          |                              |           |  |

# Proposal 13671 - Visit 53 - Beyond MACS: A Snapshot Survey of the Most Massive Clusters of Galaxies at $z > 0.5$

|                 |                                          |                                                                                                                  |                       |                                                                                    |  |                          |                                                                                                       |               |                                     |                                                          |                              |           |                          |  |
|-----------------|------------------------------------------|------------------------------------------------------------------------------------------------------------------|-----------------------|------------------------------------------------------------------------------------|--|--------------------------|-------------------------------------------------------------------------------------------------------|---------------|-------------------------------------|----------------------------------------------------------|------------------------------|-----------|--------------------------|--|
| Visit           | Proposal 13671, Visit 53, implementation |                                                                                                                  |                       |                                                                                    |  |                          |                                                                                                       |               |                                     |                                                          | Tue Aug 19 01:02:36 GMT 2014 |           |                          |  |
|                 | Diagnostic Status: No Diagnostics        |                                                                                                                  |                       |                                                                                    |  |                          |                                                                                                       |               |                                     |                                                          |                              |           |                          |  |
|                 | Scientific Instruments: ACS/WFC          |                                                                                                                  |                       |                                                                                    |  |                          |                                                                                                       |               |                                     |                                                          |                              |           |                          |  |
|                 | Special Requirements: (none)             |                                                                                                                  |                       |                                                                                    |  |                          |                                                                                                       |               |                                     |                                                          |                              |           |                          |  |
| Patterns        | #                                        | Primary Pattern                                                                                                  |                       |                                                                                    |  |                          | Secondary Pattern                                                                                     |               |                                     |                                                          |                              | Exposures |                          |  |
|                 | (1)                                      | Pattern Type=ACS-WFC-DITHER-LINE<br>Purpose=DITHER<br>Number Of Points=3<br>Point Spacing=3.011<br>Line Spacing= |                       |                                                                                    |  |                          | Coordinate Frame=POS-TARG<br>Pattern Orientation=85.28<br>Angle Between Sides=<br>Center Pattern=true |               |                                     |                                                          |                              | (1)       |                          |  |
| Fixed Targets   | #                                        | Name                                                                                                             |                       | Target Coordinates                                                                 |  | Targ. Coord. Corrections |                                                                                                       | Fluxes        |                                     | Miscellaneous                                            |                              |           |                          |  |
|                 | (8)                                      | EMACSJ0840.2+4421                                                                                                |                       | RA: 08 40 9.3720 (130.0390500d)<br>Dec: +44 21 53.65 (44.36490d)<br>Equinox: J2000 |  |                          |                                                                                                       | V=20.0        |                                     | Reference Frame: ICRS                                    |                              |           |                          |  |
| Exposures       | #                                        | Label                                                                                                            | Target                | Config,Mode,Aperture                                                               |  | Spectral Els.            | Opt. Params.                                                                                          | Special Reqs. | Groups                              | Exp. Time (Total)/[Actual Dur.]                          |                              | Orbit     |                          |  |
|                 | 1                                        | 0840+44_814                                                                                                      | (8) EMACSJ0840.2+4421 | ACS/WFC, ACCUM, WFC                                                                |  | F814W                    | CR-SPLIT=NO                                                                                           |               | Pattern 1, Exps 1-1 in Visit 53 (1) | 400 Secs (1200 Secs)                                     |                              |           |                          |  |
|                 |                                          |                                                                                                                  |                       |                                                                                    |  |                          |                                                                                                       |               |                                     | [==>(Pattern 1)]<br>[==>(Pattern 2)]<br>[==>(Pattern 3)] |                              | [1]       |                          |  |
| Orbit Structure | Orbit 1                                  |                                                                                                                  |                       |                                                                                    |  |                          |                                                                                                       |               |                                     |                                                          |                              |           | Server Version: 20140605 |  |
|                 |                                          |                                                                                                                  |                       |                                                                                    |  |                          |                                                                                                       |               |                                     |                                                          |                              |           |                          |  |

# Proposal 13671 - Visit 54 - Beyond MACS: A Snapshot Survey of the Most Massive Clusters of Galaxies at $z > 0.5$

|                 |                                                                                                          |                                                                                                                  |                                                                                     |                                                                                                       |                                     |
|-----------------|----------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------|-------------------------------------|
| Visit           | Proposal 13671, Visit 54, implementation <span style="float: right;">Tue Aug 19 01:02:37 GMT 2014</span> |                                                                                                                  |                                                                                     |                                                                                                       |                                     |
|                 | Diagnostic Status: No Diagnostics<br>Scientific Instruments: ACS/WFC<br>Special Requirements: (none)     |                                                                                                                  |                                                                                     |                                                                                                       |                                     |
| Patterns        | #                                                                                                        | Primary Pattern                                                                                                  |                                                                                     | Secondary Pattern                                                                                     | Exposures                           |
|                 | (1)                                                                                                      | Pattern Type=ACS-WFC-DITHER-LINE<br>Purpose=DITHER<br>Number Of Points=3<br>Point Spacing=3.011<br>Line Spacing= |                                                                                     | Coordinate Frame=POS-TARG<br>Pattern Orientation=85.28<br>Angle Between Sides=<br>Center Pattern=true | (1)                                 |
| Fixed Targets   | #                                                                                                        | Name                                                                                                             | Target Coordinates                                                                  | Targ. Coord. Corrections                                                                              | Fluxes                              |
|                 | (9)                                                                                                      | EMACSJ0921.6-0621                                                                                                | RA: 09 21 36.6010 (140.4025042d)<br>Dec: -06 21 21.76 (-6.35604d)<br>Equinox: J2000 |                                                                                                       | V=20.0                              |
| Exposures       |                                                                                                          |                                                                                                                  |                                                                                     |                                                                                                       |                                     |
|                 | #                                                                                                        | Label                                                                                                            | Target                                                                              | Config,Mode,Aperture                                                                                  | Spectral Els.                       |
|                 | 1                                                                                                        | 0921-06_814                                                                                                      | (9) EMACSJ0921.6-0621                                                               | ACS/WFC, ACCUM, WFC                                                                                   | F814W                               |
|                 |                                                                                                          |                                                                                                                  |                                                                                     |                                                                                                       | Opt. Params.                        |
|                 |                                                                                                          |                                                                                                                  |                                                                                     |                                                                                                       | CR-SPLIT=NO                         |
|                 |                                                                                                          |                                                                                                                  |                                                                                     |                                                                                                       | Special Reqs.                       |
|                 |                                                                                                          |                                                                                                                  |                                                                                     |                                                                                                       |                                     |
|                 |                                                                                                          |                                                                                                                  |                                                                                     |                                                                                                       | Groups                              |
|                 |                                                                                                          |                                                                                                                  |                                                                                     |                                                                                                       | Pattern 1, Exps 1-1 in Visit 54 (1) |
|                 |                                                                                                          |                                                                                                                  |                                                                                     |                                                                                                       | Exp. Time (Total)/[Actual Dur.]     |
|                 |                                                                                                          |                                                                                                                  |                                                                                     |                                                                                                       | 400 Secs (1200 Secs)                |
|                 |                                                                                                          |                                                                                                                  |                                                                                     |                                                                                                       | [=>(Pattern 1)]                     |
|                 |                                                                                                          |                                                                                                                  |                                                                                     |                                                                                                       | [=>(Pattern 2)]                     |
|                 |                                                                                                          |                                                                                                                  |                                                                                     |                                                                                                       | [=>(Pattern 3)]                     |
|                 |                                                                                                          |                                                                                                                  |                                                                                     |                                                                                                       | [1]                                 |
| Orbit Structure |                                                                                                          |                                                                                                                  |                                                                                     |                                                                                                       |                                     |
|                 | <div> <div>Orbit 1</div> <div>Server Version: 20140605</div> </div>                                      |                                                                                                                  |                                                                                     |                                                                                                       |                                     |

# Proposal 13671 - Visit 55 - Beyond MACS: A Snapshot Survey of the Most Massive Clusters of Galaxies at $z > 0.5$

|                 |                                                                                                                 |                                                                                                                                                                                                                               |                                                                                   |                          |                                         |
|-----------------|-----------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|--------------------------|-----------------------------------------|
| Visit           | <b>Proposal 13671, Visit 55, implementation</b> <span style="float: right;">Tue Aug 19 01:02:37 GMT 2014</span> |                                                                                                                                                                                                                               |                                                                                   |                          |                                         |
|                 | <b>Diagnostic Status: No Diagnostics</b><br>Scientific Instruments: ACS/WFC<br>Special Requirements: (none)     |                                                                                                                                                                                                                               |                                                                                   |                          |                                         |
| Patterns        | #                                                                                                               | Primary Pattern                                                                                                                                                                                                               |                                                                                   | Secondary Pattern        | Exposures                               |
|                 | (1)                                                                                                             | Pattern Type=ACS-WFC-DITHER-<br>LINE<br>Purpose=DITHER<br>Number Of Points=3<br>Point Spacing=3.011<br>Line Spacing=<br>Coordinate Frame=POS-TARG<br>Pattern Orientation=85.28<br>Angle Between Sides=<br>Center Pattern=true |                                                                                   |                          | (1)                                     |
| Fixed Targets   | #                                                                                                               | Name                                                                                                                                                                                                                          | Target Coordinates                                                                | Targ. Coord. Corrections | Fluxes                                  |
|                 | (10)                                                                                                            | EMACSJ0935.1+0614                                                                                                                                                                                                             | RA: 09 35 3.2220 (143.7634250d)<br>Dec: +06 14 39.05 (6.24418d)<br>Equinox: J2000 |                          | V=20.0                                  |
| Exposures       |                                                                                                                 |                                                                                                                                                                                                                               |                                                                                   |                          |                                         |
|                 | #                                                                                                               | Label                                                                                                                                                                                                                         | Target                                                                            | Config,Mode,Aperture     | Spectral Els.                           |
|                 | 1                                                                                                               | 0935+06_81                                                                                                                                                                                                                    | (10) EMACSJ0935.1                                                                 | ACS/WFC, ACCUM, WFC      | F814W                                   |
|                 | 4                                                                                                               |                                                                                                                                                                                                                               | +0614                                                                             |                          |                                         |
|                 |                                                                                                                 |                                                                                                                                                                                                                               |                                                                                   |                          | CR-SPLIT=NO                             |
|                 |                                                                                                                 |                                                                                                                                                                                                                               |                                                                                   |                          | Special Reqs.                           |
|                 |                                                                                                                 |                                                                                                                                                                                                                               |                                                                                   |                          | Groups                                  |
|                 |                                                                                                                 |                                                                                                                                                                                                                               |                                                                                   |                          | Exp. Time (Total)/[Actual Dur.]         |
|                 |                                                                                                                 |                                                                                                                                                                                                                               |                                                                                   |                          | Orbit                                   |
|                 |                                                                                                                 |                                                                                                                                                                                                                               |                                                                                   |                          | Pattern 1, Exps 1-1 i<br>n Visit 55 (1) |
|                 |                                                                                                                 |                                                                                                                                                                                                                               |                                                                                   |                          | 400 Secs (1200 Secs)                    |
|                 |                                                                                                                 |                                                                                                                                                                                                                               |                                                                                   |                          | [==>(Pattern 1)]                        |
|                 |                                                                                                                 |                                                                                                                                                                                                                               |                                                                                   |                          | [==>(Pattern 2)]                        |
|                 |                                                                                                                 |                                                                                                                                                                                                                               |                                                                                   |                          | [==>(Pattern 3)]                        |
|                 |                                                                                                                 |                                                                                                                                                                                                                               |                                                                                   |                          | [1]                                     |
| Orbit Structure |                                                                                                                 |                                                                                                                                                                                                                               |                                                                                   |                          |                                         |
|                 | <div> <div>Orbit 1</div> <div>Server Version: 20140605</div> </div>                                             |                                                                                                                                                                                                                               |                                                                                   |                          |                                         |

# Proposal 13671 - Visit 56 - Beyond MACS: A Snapshot Survey of the Most Massive Clusters of Galaxies at $z > 0.5$

|                 |                                                                                                                 |                                                                                                                                                                                                                               |                                                                                      |                                         |                                 |
|-----------------|-----------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|-----------------------------------------|---------------------------------|
| Visit           | <b>Proposal 13671, Visit 56, implementation</b> <span style="float: right;">Tue Aug 19 01:02:37 GMT 2014</span> |                                                                                                                                                                                                                               |                                                                                      |                                         |                                 |
|                 | <b>Diagnostic Status: No Diagnostics</b><br>Scientific Instruments: ACS/WFC<br>Special Requirements: (none)     |                                                                                                                                                                                                                               |                                                                                      |                                         |                                 |
| Patterns        | #                                                                                                               | Primary Pattern                                                                                                                                                                                                               |                                                                                      | Secondary Pattern                       | Exposures                       |
|                 | (1)                                                                                                             | Pattern Type=ACS-WFC-DITHER-<br>LINE<br>Purpose=DITHER<br>Number Of Points=3<br>Point Spacing=3.011<br>Line Spacing=<br>Coordinate Frame=POS-TARG<br>Pattern Orientation=85.28<br>Angle Between Sides=<br>Center Pattern=true |                                                                                      |                                         | (1)                             |
| Fixed Targets   | #                                                                                                               | Name                                                                                                                                                                                                                          | Target Coordinates                                                                   | Targ. Coord. Corrections                | Fluxes                          |
|                 | (11)                                                                                                            | EMACSJ0943.3-1842                                                                                                                                                                                                             | RA: 09 43 18.0090 (145.8250375d)<br>Dec: -18 42 33.88 (-18.70941d)<br>Equinox: J2000 |                                         | V=20.0                          |
| Exposures       |                                                                                                                 |                                                                                                                                                                                                                               |                                                                                      |                                         | Miscellaneous                   |
|                 | Reference Frame: ICRS                                                                                           |                                                                                                                                                                                                                               |                                                                                      |                                         |                                 |
| Exposures       | #                                                                                                               | Label                                                                                                                                                                                                                         | Target                                                                               | Config,Mode,Aperture                    | Spectral Els.                   |
|                 | 1                                                                                                               | 0943-18_81                                                                                                                                                                                                                    | (11) EMACSJ0943.3                                                                    | ACS/WFC, ACCUM, WFC                     | F814W                           |
| Exposures       | 4                                                                                                               |                                                                                                                                                                                                                               | -1842                                                                                |                                         |                                 |
|                 |                                                                                                                 |                                                                                                                                                                                                                               |                                                                                      |                                         | CR-SPLIT=NO                     |
| Exposures       |                                                                                                                 |                                                                                                                                                                                                                               | Special Reqs.                                                                        | Groups                                  | Exp. Time (Total)/[Actual Dur.] |
|                 |                                                                                                                 |                                                                                                                                                                                                                               |                                                                                      | Pattern 1, Exps 1-1 i<br>n Visit 56 (1) | 400 Secs (1200 Secs)            |
| Exposures       |                                                                                                                 |                                                                                                                                                                                                                               |                                                                                      |                                         | [==>(Pattern 1)]                |
|                 |                                                                                                                 |                                                                                                                                                                                                                               |                                                                                      |                                         | [==>(Pattern 2)]                |
| Exposures       |                                                                                                                 |                                                                                                                                                                                                                               |                                                                                      |                                         | [==>(Pattern 3)]                |
|                 |                                                                                                                 |                                                                                                                                                                                                                               |                                                                                      |                                         | [1]                             |
| Orbit Structure | <b>Orbit 1</b> <span style="float: right;">Server Version: 20140605</span>                                      |                                                                                                                                                                                                                               |                                                                                      |                                         |                                 |
|                 |                                                                                                                 |                                                                                                                                                                                                                               |                                                                                      |                                         |                                 |

# Proposal 13671 - Visit 57 - Beyond MACS: A Snapshot Survey of the Most Massive Clusters of Galaxies at $z>0.5$

|                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                      |                                                                                    |                      |                          |                                                                                                       |               |                                         |                                                                                  |           |
|-----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|----------------------|--------------------------|-------------------------------------------------------------------------------------------------------|---------------|-----------------------------------------|----------------------------------------------------------------------------------|-----------|
| Visit           | <b>Proposal 13671, Visit 57, implementation</b> <span style="float: right;">Tue Aug 19 01:02:37 GMT 2014</span>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                      |                                                                                    |                      |                          |                                                                                                       |               |                                         |                                                                                  |           |
|                 | <b>Diagnostic Status: No Diagnostics</b><br>Scientific Instruments: ACS/WFC<br>Special Requirements: (none)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                                      |                                                                                    |                      |                          |                                                                                                       |               |                                         |                                                                                  |           |
| Patterns        | #                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Primary Pattern                                                                                                      |                                                                                    |                      |                          | Secondary Pattern                                                                                     |               |                                         |                                                                                  | Exposures |
|                 | (1)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Pattern Type=ACS-WFC-DITHER-<br>LINE<br>Purpose=DITHER<br>Number Of Points=3<br>Point Spacing=3.011<br>Line Spacing= |                                                                                    |                      |                          | Coordinate Frame=POS-TARG<br>Pattern Orientation=85.28<br>Angle Between Sides=<br>Center Pattern=true |               |                                         |                                                                                  | (1)       |
| Fixed Targets   | #                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Name                                                                                                                 | Target Coordinates                                                                 |                      | Targ. Coord. Corrections |                                                                                                       | Fluxes        |                                         | Miscellaneous                                                                    |           |
|                 | (12)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | EMACSJ1027.2+0345                                                                                                    | RA: 10 27 14.0280 (156.8084500d)<br>Dec: +03 44 47.70 (3.74658d)<br>Equinox: J2000 |                      |                          |                                                                                                       | V=20.0        |                                         | Reference Frame: ICRS                                                            |           |
| Exposures       | #                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Label                                                                                                                | Target                                                                             | Config,Mode,Aperture | Spectral Els.            | Opt. Params.                                                                                          | Special Reqs. | Groups                                  | Exp. Time (Total)/[Actual Dur.]                                                  | Orbit     |
|                 | 1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 1027+03_81<br>4                                                                                                      | (12) EMACSJ1027.2<br>+0345                                                         | ACS/WFC, ACCUM, WFC  | F814W                    | CR-SPLIT=NO                                                                                           |               | Pattern 1, Exps 1-1 i<br>n Visit 57 (1) | 400 Secs (1200 Secs)<br>[==>(Pattern 1)]<br>[==>(Pattern 2)]<br>[==>(Pattern 3)] | [1]       |
| Orbit Structure | <b>Orbit 1</b> <span style="float: right;">Server Version: 20140605</span>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                      |                                                                                    |                      |                          |                                                                                                       |               |                                         |                                                                                  |           |
|                 | <p>The diagram illustrates the timeline of Orbit 1. It begins with a GS Acq (green bar) at approximately 250 seconds, followed by an exposure (Exp. 1, green bar with crosshairs) at 400 seconds. This is followed by a pointing maneuver (black bar) at 1000 seconds, another exposure (Exp. 1) at 1200 seconds, a second pointing maneuver at 1500 seconds, a third exposure (Exp. 1) at 1700 seconds, and a final pointing maneuver at 2000 seconds. The remaining time, from 2000 to 3145 seconds, is labeled as 'Unused Orbital Visibility = 1145' (green bar). The orbit ends with an occultation (black bar) at 3145 seconds. The total duration of the orbit is 5500 seconds.</p> |                                                                                                                      |                                                                                    |                      |                          |                                                                                                       |               |                                         |                                                                                  |           |

# Proposal 13671 - Visit 58 - Beyond MACS: A Snapshot Survey of the Most Massive Clusters of Galaxies at $z > 0.5$

|                 |                                          |                                                                                                                                                                                                                           |                   |                                                                                     |  |                          |                   |               |                       |                                                          |                              |           |                          |  |
|-----------------|------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|-------------------------------------------------------------------------------------|--|--------------------------|-------------------|---------------|-----------------------|----------------------------------------------------------|------------------------------|-----------|--------------------------|--|
| Visit           | Proposal 13671, Visit 58, implementation |                                                                                                                                                                                                                           |                   |                                                                                     |  |                          |                   |               |                       |                                                          | Tue Aug 19 01:02:37 GMT 2014 |           |                          |  |
|                 | Diagnostic Status: No Diagnostics        |                                                                                                                                                                                                                           |                   |                                                                                     |  |                          |                   |               |                       |                                                          |                              |           |                          |  |
|                 | Scientific Instruments: ACS/WFC          |                                                                                                                                                                                                                           |                   |                                                                                     |  |                          |                   |               |                       |                                                          |                              |           |                          |  |
|                 | Special Requirements: (none)             |                                                                                                                                                                                                                           |                   |                                                                                     |  |                          |                   |               |                       |                                                          |                              |           |                          |  |
| Patterns        | #                                        | Primary Pattern                                                                                                                                                                                                           |                   |                                                                                     |  |                          | Secondary Pattern |               |                       |                                                          |                              | Exposures |                          |  |
|                 | (1)                                      | Pattern Type=ACS-WFC-DITHER-LINE<br>Purpose=DITHER<br>Number Of Points=3<br>Point Spacing=3.011<br>Line Spacing=<br>Coordinate Frame=POS-TARG<br>Pattern Orientation=85.28<br>Angle Between Sides=<br>Center Pattern=true |                   |                                                                                     |  |                          |                   |               |                       |                                                          |                              | (1)       |                          |  |
| Fixed Targets   | #                                        | Name                                                                                                                                                                                                                      |                   | Target Coordinates                                                                  |  | Targ. Coord. Corrections |                   | Fluxes        |                       | Miscellaneous                                            |                              |           |                          |  |
|                 | (13)                                     | EMACSJ1030.5+5132                                                                                                                                                                                                         |                   | RA: 10 30 35.1150 (157.6463125d)<br>Dec: +51 32 32.01 (51.54222d)<br>Equinox: J2000 |  |                          |                   | V=20.0        |                       | Reference Frame: ICRS                                    |                              |           |                          |  |
| Exposures       | #                                        | Label                                                                                                                                                                                                                     | Target            | Config,Mode,Aperture                                                                |  | Spectral Els.            | Opt. Params.      | Special Reqs. | Groups                | Exp. Time (Total)/[Actual Dur.]                          |                              | Orbit     |                          |  |
|                 | 1                                        | 1030+51_81                                                                                                                                                                                                                | (13) EMACSJ1030.5 | ACS/WFC, ACCUM, WFC                                                                 |  | F814W                    | CR-SPLIT=NO       |               | Pattern 1, Exps 1-1 i | 400 Secs (1200 Secs)                                     |                              |           |                          |  |
|                 | 4                                        |                                                                                                                                                                                                                           | +5132             |                                                                                     |  |                          |                   |               | n Visit 58 (1)        | [==>(Pattern 1)]<br>[==>(Pattern 2)]<br>[==>(Pattern 3)] |                              | [1]       |                          |  |
|                 |                                          |                                                                                                                                                                                                                           |                   |                                                                                     |  |                          |                   |               |                       |                                                          |                              |           |                          |  |
| Orbit Structure | Orbit 1                                  |                                                                                                                                                                                                                           |                   |                                                                                     |  |                          |                   |               |                       |                                                          |                              |           | Server Version: 20140605 |  |
|                 |                                          |                                                                                                                                                                                                                           |                   |                                                                                     |  |                          |                   |               |                       |                                                          |                              |           |                          |  |

# Proposal 13671 - Visit 59 - Beyond MACS: A Snapshot Survey of the Most Massive Clusters of Galaxies at $z > 0.5$

|                 |                                                                                                                 |                                                                                                                                                                                                                               |                                                                                     |                          |                                         |
|-----------------|-----------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|--------------------------|-----------------------------------------|
| Visit           | <b>Proposal 13671, Visit 59, implementation</b> <span style="float: right;">Tue Aug 19 01:02:37 GMT 2014</span> |                                                                                                                                                                                                                               |                                                                                     |                          |                                         |
|                 | <b>Diagnostic Status: No Diagnostics</b><br>Scientific Instruments: ACS/WFC<br>Special Requirements: (none)     |                                                                                                                                                                                                                               |                                                                                     |                          |                                         |
| Patterns        | #                                                                                                               | Primary Pattern                                                                                                                                                                                                               |                                                                                     | Secondary Pattern        | Exposures                               |
|                 | (1)                                                                                                             | Pattern Type=ACS-WFC-DITHER-<br>LINE<br>Purpose=DITHER<br>Number Of Points=3<br>Point Spacing=3.011<br>Line Spacing=<br>Coordinate Frame=POS-TARG<br>Pattern Orientation=85.28<br>Angle Between Sides=<br>Center Pattern=true |                                                                                     |                          | (1)                                     |
| Fixed Targets   | #                                                                                                               | Name                                                                                                                                                                                                                          | Target Coordinates                                                                  | Targ. Coord. Corrections | Fluxes                                  |
|                 | (14)                                                                                                            | EMACSJ1050.6+3548                                                                                                                                                                                                             | RA: 10 50 38.5700 (162.6607083d)<br>Dec: +35 49 12.80 (35.82022d)<br>Equinox: J2000 |                          | V=20.0                                  |
| Exposures       |                                                                                                                 |                                                                                                                                                                                                                               |                                                                                     |                          |                                         |
|                 | #                                                                                                               | Label                                                                                                                                                                                                                         | Target                                                                              | Config,Mode,Aperture     | Spectral Els.                           |
|                 | 1                                                                                                               | 1050+35_81                                                                                                                                                                                                                    | (14) EMACSJ1050.6                                                                   | ACS/WFC, ACCUM, WFC      | F814W                                   |
|                 | 4                                                                                                               |                                                                                                                                                                                                                               | +3548                                                                               |                          |                                         |
|                 |                                                                                                                 |                                                                                                                                                                                                                               |                                                                                     |                          | CR-SPLIT=NO                             |
|                 |                                                                                                                 |                                                                                                                                                                                                                               |                                                                                     |                          | Special Reqs.                           |
|                 |                                                                                                                 |                                                                                                                                                                                                                               |                                                                                     |                          | Groups                                  |
|                 |                                                                                                                 |                                                                                                                                                                                                                               |                                                                                     |                          | Exp. Time (Total)/[Actual Dur.]         |
|                 |                                                                                                                 |                                                                                                                                                                                                                               |                                                                                     |                          | Orbit                                   |
|                 |                                                                                                                 |                                                                                                                                                                                                                               |                                                                                     |                          | Pattern 1, Exps 1-1 i<br>n Visit 59 (1) |
|                 |                                                                                                                 |                                                                                                                                                                                                                               |                                                                                     |                          | 400 Secs (1200 Secs)                    |
|                 |                                                                                                                 |                                                                                                                                                                                                                               |                                                                                     |                          | [==>(Pattern 1)]                        |
|                 |                                                                                                                 |                                                                                                                                                                                                                               |                                                                                     |                          | [==>(Pattern 2)]                        |
|                 |                                                                                                                 |                                                                                                                                                                                                                               |                                                                                     |                          | [==>(Pattern 3)]                        |
|                 |                                                                                                                 |                                                                                                                                                                                                                               |                                                                                     |                          | [1]                                     |
| Orbit Structure |                                                                                                                 |                                                                                                                                                                                                                               |                                                                                     |                          |                                         |
|                 | <div> <div>Orbit 1</div> <div>Server Version: 20140605</div> </div>                                             |                                                                                                                                                                                                                               |                                                                                     |                          |                                         |

# Proposal 13671 - Visit 60 - Beyond MACS: A Snapshot Survey of the Most Massive Clusters of Galaxies at $z > 0.5$

|                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                           |  |                   |  |                      |                                                                                     |  |  |  |                              |                          |              |  |               |  |                       |  |                                 |  |  |                       |  |       |  |  |  |  |  |  |  |
|-----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|-------------------|--|----------------------|-------------------------------------------------------------------------------------|--|--|--|------------------------------|--------------------------|--------------|--|---------------|--|-----------------------|--|---------------------------------|--|--|-----------------------|--|-------|--|--|--|--|--|--|--|
| Visit           | Proposal 13671, Visit 60, implementation                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                           |  |                   |  |                      |                                                                                     |  |  |  | Tue Aug 19 01:02:37 GMT 2014 |                          |              |  |               |  |                       |  |                                 |  |  |                       |  |       |  |  |  |  |  |  |  |
|                 | Diagnostic Status: No Diagnostics                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                           |  |                   |  |                      |                                                                                     |  |  |  |                              |                          |              |  |               |  |                       |  |                                 |  |  |                       |  |       |  |  |  |  |  |  |  |
|                 | Scientific Instruments: ACS/WFC                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                           |  |                   |  |                      |                                                                                     |  |  |  |                              |                          |              |  |               |  |                       |  |                                 |  |  |                       |  |       |  |  |  |  |  |  |  |
|                 | Special Requirements: (none)                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                           |  |                   |  |                      |                                                                                     |  |  |  |                              |                          |              |  |               |  |                       |  |                                 |  |  |                       |  |       |  |  |  |  |  |  |  |
| Patterns        | #                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Primary Pattern                                                                                                                                                                                                           |  |                   |  |                      |                                                                                     |  |  |  |                              | Secondary Pattern        |              |  |               |  |                       |  |                                 |  |  | Exposures             |  |       |  |  |  |  |  |  |  |
|                 | (1)                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Pattern Type=ACS-WFC-DITHER-LINE<br>Purpose=DITHER<br>Number Of Points=3<br>Point Spacing=3.011<br>Line Spacing=<br>Coordinate Frame=POS-TARG<br>Pattern Orientation=85.28<br>Angle Between Sides=<br>Center Pattern=true |  |                   |  |                      |                                                                                     |  |  |  |                              |                          |              |  |               |  |                       |  |                                 |  |  | (1)                   |  |       |  |  |  |  |  |  |  |
| Fixed Targets   | #                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Name                                                                                                                                                                                                                      |  |                   |  |                      | Target Coordinates                                                                  |  |  |  |                              | Targ. Coord. Corrections |              |  |               |  | Fluxes                |  |                                 |  |  | Miscellaneous         |  |       |  |  |  |  |  |  |  |
|                 | (15)                                                                                                                                                                                                                                                                                                                                                                                                                                                        | EMACSJ1131.1+3553                                                                                                                                                                                                         |  |                   |  |                      | RA: 11 31 13.6690 (172.8069542d)<br>Dec: +35 54 11.11 (35.90309d)<br>Equinox: J2000 |  |  |  |                              |                          |              |  |               |  | V=20.0                |  |                                 |  |  | Reference Frame: ICRS |  |       |  |  |  |  |  |  |  |
| Exposures       | #                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Label                                                                                                                                                                                                                     |  | Target            |  | Config,Mode,Aperture |                                                                                     |  |  |  | Spectral Els.                |                          | Opt. Params. |  | Special Reqs. |  | Groups                |  | Exp. Time (Total)/[Actual Dur.] |  |  |                       |  | Orbit |  |  |  |  |  |  |  |
|                 | 1                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 1131+35_81                                                                                                                                                                                                                |  | (15) EMACSJ1131.1 |  | ACS/WFC, ACCUM, WFC  |                                                                                     |  |  |  | F814W                        |                          | CR-SPLIT=NO  |  |               |  | Pattern 1, Exps 1-1 i |  | 400 Secs (1200 Secs)            |  |  |                       |  |       |  |  |  |  |  |  |  |
|                 | 4                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                           |  | +3553             |  |                      |                                                                                     |  |  |  |                              |                          |              |  |               |  | n Visit 60 (1)        |  | [==>(Pattern 1)]                |  |  |                       |  |       |  |  |  |  |  |  |  |
|                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                           |  |                   |  |                      |                                                                                     |  |  |  |                              |                          |              |  |               |  |                       |  | [==>(Pattern 2)]                |  |  |                       |  | [1]   |  |  |  |  |  |  |  |
| Orbit Structure | <div>Orbit 1<div>Server Version: 20140605</div><div><div>Pointing Maneuver</div><div>Pointing Maneuver</div><div>Unused Orbital Visibility = 1201</div><div>Occultation</div><div>GS Acq</div><div>Exp. 1</div><div>Exp. 1</div><div>Exp. 1</div><div>0</div><div>500</div><div>1000</div><div>1500</div><div>2000</div><div>2500</div><div>3000</div><div>3500</div><div>4000</div><div>4500</div><div>5000</div><div>5500</div><div>sec</div></div></div> |                                                                                                                                                                                                                           |  |                   |  |                      |                                                                                     |  |  |  |                              |                          |              |  |               |  |                       |  |                                 |  |  |                       |  |       |  |  |  |  |  |  |  |

# Proposal 13671 - Visit 61 - Beyond MACS: A Snapshot Survey of the Most Massive Clusters of Galaxies at $z > 0.5$

|                 |                                                                                                                                                                                                                                         |                                                                                                                                                                                                                               |                                                                                   |                          |                                         |
|-----------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|--------------------------|-----------------------------------------|
| Visit           | <b>Proposal 13671, Visit 61, implementation</b> <span style="float: right;">Tue Aug 19 01:02:37 GMT 2014</span>                                                                                                                         |                                                                                                                                                                                                                               |                                                                                   |                          |                                         |
|                 | <b>Diagnostic Status: No Diagnostics</b><br>Scientific Instruments: ACS/WFC<br>Special Requirements: (none)                                                                                                                             |                                                                                                                                                                                                                               |                                                                                   |                          |                                         |
| Patterns        | #                                                                                                                                                                                                                                       | Primary Pattern                                                                                                                                                                                                               |                                                                                   | Secondary Pattern        | Exposures                               |
|                 | (1)                                                                                                                                                                                                                                     | Pattern Type=ACS-WFC-DITHER-<br>LINE<br>Purpose=DITHER<br>Number Of Points=3<br>Point Spacing=3.011<br>Line Spacing=<br>Coordinate Frame=POS-TARG<br>Pattern Orientation=85.28<br>Angle Between Sides=<br>Center Pattern=true |                                                                                   |                          | (1)                                     |
| Fixed Targets   | #                                                                                                                                                                                                                                       | Name                                                                                                                                                                                                                          | Target Coordinates                                                                | Targ. Coord. Corrections | Fluxes                                  |
|                 | (16)                                                                                                                                                                                                                                    | EMACSJ1136.8+0005                                                                                                                                                                                                             | RA: 11 36 52.9230 (174.2205125d)<br>Dec: +00 05 50.59 (.09739d)<br>Equinox: J2000 |                          | V=20.0                                  |
| Exposures       |                                                                                                                                                                                                                                         |                                                                                                                                                                                                                               |                                                                                   |                          | Miscellaneous                           |
|                 |                                                                                                                                                                                                                                         |                                                                                                                                                                                                                               |                                                                                   |                          | Reference Frame: ICRS                   |
|                 | #                                                                                                                                                                                                                                       | Label                                                                                                                                                                                                                         | Target                                                                            | Config,Mode,Aperture     | Spectral Els.                           |
|                 | 1                                                                                                                                                                                                                                       | 1136+00+81                                                                                                                                                                                                                    | (16) EMACSJ1136.8                                                                 | ACS/WFC, ACCUM, WFC      | F814W                                   |
|                 |                                                                                                                                                                                                                                         |                                                                                                                                                                                                                               |                                                                                   |                          | Opt. Params.                            |
|                 | 4                                                                                                                                                                                                                                       |                                                                                                                                                                                                                               | +0005                                                                             |                          | CR-SPLIT=NO                             |
|                 |                                                                                                                                                                                                                                         |                                                                                                                                                                                                                               |                                                                                   |                          | Special Reqs.                           |
|                 |                                                                                                                                                                                                                                         |                                                                                                                                                                                                                               |                                                                                   |                          |                                         |
|                 |                                                                                                                                                                                                                                         |                                                                                                                                                                                                                               |                                                                                   |                          | Groups                                  |
|                 |                                                                                                                                                                                                                                         |                                                                                                                                                                                                                               |                                                                                   |                          | Pattern 1, Exps 1-1 i<br>n Visit 61 (1) |
|                 |                                                                                                                                                                                                                                         |                                                                                                                                                                                                                               |                                                                                   |                          | Exp. Time (Total)/[Actual Dur.]         |
|                 |                                                                                                                                                                                                                                         |                                                                                                                                                                                                                               |                                                                                   |                          | 400 Secs (1200 Secs)                    |
|                 |                                                                                                                                                                                                                                         |                                                                                                                                                                                                                               |                                                                                   |                          | [==>(Pattern 1)]                        |
|                 |                                                                                                                                                                                                                                         |                                                                                                                                                                                                                               |                                                                                   |                          | [==>(Pattern 2)]                        |
|                 |                                                                                                                                                                                                                                         |                                                                                                                                                                                                                               |                                                                                   |                          | [==>(Pattern 3)]                        |
|                 |                                                                                                                                                                                                                                         |                                                                                                                                                                                                                               |                                                                                   |                          | [1]                                     |
| Orbit Structure | <b>Orbit 1</b> <span style="float: right;">Server Version: 20140605</span>                                                                                                                                                              |                                                                                                                                                                                                                               |                                                                                   |                          |                                         |
|                 | <p>GS Acq</p> <p>Exp. 1</p> <p>Pointing Maneuver</p> <p>Exp. 1</p> <p>Pointing Maneuver</p> <p>Exp. 1</p> <p>Unused Orbital Visibility = 1145</p> <p>Occultation</p> <p>0 500 1000 1500 2000 2500 3000 3500 4000 4500 5000 5500 sec</p> |                                                                                                                                                                                                                               |                                                                                   |                          |                                         |

# Proposal 13671 - Visit 62 - Beyond MACS: A Snapshot Survey of the Most Massive Clusters of Galaxies at $z > 0.5$

|                 |                                                                                                          |                                                                                                                      |                                                                                     |                                                                                                       |               |
|-----------------|----------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------|---------------|
| Visit           | Proposal 13671, Visit 62, implementation <span style="float: right;">Tue Aug 19 01:02:37 GMT 2014</span> |                                                                                                                      |                                                                                     |                                                                                                       |               |
|                 | Diagnostic Status: No Diagnostics<br>Scientific Instruments: ACS/WFC<br>Special Requirements: (none)     |                                                                                                                      |                                                                                     |                                                                                                       |               |
| Patterns        | #                                                                                                        | Primary Pattern                                                                                                      |                                                                                     | Secondary Pattern                                                                                     | Exposures     |
|                 | (1)                                                                                                      | Pattern Type=ACS-WFC-DITHER-<br>LINE<br>Purpose=DITHER<br>Number Of Points=3<br>Point Spacing=3.011<br>Line Spacing= |                                                                                     | Coordinate Frame=POS-TARG<br>Pattern Orientation=85.28<br>Angle Between Sides=<br>Center Pattern=true | (1)           |
| Fixed Targets   | #                                                                                                        | Name                                                                                                                 | Target Coordinates                                                                  | Targ. Coord. Corrections                                                                              | Fluxes        |
|                 | (17)                                                                                                     | EMACSJ1144.2-2836                                                                                                    | RA: 11 44 9.4960 (176.0395667d)<br>Dec: -28 34 59.81 (-28.58328d)<br>Equinox: J2000 |                                                                                                       | V=20.0        |
| Exposures       |                                                                                                          |                                                                                                                      |                                                                                     |                                                                                                       | Miscellaneous |
|                 | Reference Frame: ICRS                                                                                    |                                                                                                                      |                                                                                     |                                                                                                       |               |
| Exposures       | #                                                                                                        | Label                                                                                                                | Target                                                                              | Config,Mode,Aperture                                                                                  | Spectral Els. |
|                 | 1                                                                                                        | 1144-28_81                                                                                                           | (17) EMACSJ1144.2                                                                   | ACS/WFC, ACCUM, WFC                                                                                   | F814W         |
| Exposures       | 4                                                                                                        |                                                                                                                      | -2836                                                                               |                                                                                                       |               |
|                 | CR-SPLIT=NO                                                                                              |                                                                                                                      |                                                                                     |                                                                                                       |               |
| Exposures       | Special Reqs.                                                                                            |                                                                                                                      |                                                                                     |                                                                                                       |               |
|                 | Groups                                                                                                   |                                                                                                                      |                                                                                     |                                                                                                       |               |
| Exposures       | Exp. Time (Total)/[Actual Dur.]                                                                          |                                                                                                                      |                                                                                     |                                                                                                       |               |
|                 | Orbit                                                                                                    |                                                                                                                      |                                                                                     |                                                                                                       |               |
| Exposures       | Pattern 1, Exps 1-1 i                                                                                    |                                                                                                                      |                                                                                     |                                                                                                       |               |
|                 | n Visit 62 (1)                                                                                           |                                                                                                                      |                                                                                     |                                                                                                       |               |
| Exposures       | [==>(Pattern 1)]                                                                                         |                                                                                                                      |                                                                                     |                                                                                                       |               |
|                 | [==>(Pattern 2)]                                                                                         |                                                                                                                      |                                                                                     |                                                                                                       |               |
| Exposures       | [==>(Pattern 3)]                                                                                         |                                                                                                                      |                                                                                     |                                                                                                       |               |
|                 | [1]                                                                                                      |                                                                                                                      |                                                                                     |                                                                                                       |               |
| Orbit Structure | Orbit 1                                                                                                  |                                                                                                                      |                                                                                     |                                                                                                       |               |
|                 | Server Version: 20140605                                                                                 |                                                                                                                      |                                                                                     |                                                                                                       |               |
| Orbit Structure | Pointing Maneuver<br>Pointing Maneuver<br>Unused Orbital Visibility = 1164<br>Occultation                |                                                                                                                      |                                                                                     |                                                                                                       |               |
|                 | GS Acq Exp. 1<br>Exp. 1<br>Exp. 1<br>Exp. 1                                                              |                                                                                                                      |                                                                                     |                                                                                                       |               |
| Orbit Structure |                                                                                                          |                                                                                                                      |                                                                                     |                                                                                                       |               |
|                 | 0 500 1000 1500 2000 2500 3000 3500 4000 4500 5000 5500 sec                                              |                                                                                                                      |                                                                                     |                                                                                                       |               |

# Proposal 13671 - Visit 63 - Beyond MACS: A Snapshot Survey of the Most Massive Clusters of Galaxies at $z > 0.5$

|                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                           |  |                   |  |                      |                                                                                    |  |  |  |                              |                          |  |  |  |              |        |  |  |  |               |                       |  |  |  |                       |  |  |  |  |                                 |  |  |  |  |       |  |  |  |  |
|-----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|-------------------|--|----------------------|------------------------------------------------------------------------------------|--|--|--|------------------------------|--------------------------|--|--|--|--------------|--------|--|--|--|---------------|-----------------------|--|--|--|-----------------------|--|--|--|--|---------------------------------|--|--|--|--|-------|--|--|--|--|
| Visit           | Proposal 13671, Visit 63, implementation                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                           |  |                   |  |                      |                                                                                    |  |  |  | Tue Aug 19 01:02:37 GMT 2014 |                          |  |  |  |              |        |  |  |  |               |                       |  |  |  |                       |  |  |  |  |                                 |  |  |  |  |       |  |  |  |  |
|                 | Diagnostic Status: No Diagnostics                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                           |  |                   |  |                      |                                                                                    |  |  |  |                              |                          |  |  |  |              |        |  |  |  |               |                       |  |  |  |                       |  |  |  |  |                                 |  |  |  |  |       |  |  |  |  |
|                 | Scientific Instruments: ACS/WFC                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                           |  |                   |  |                      |                                                                                    |  |  |  |                              |                          |  |  |  |              |        |  |  |  |               |                       |  |  |  |                       |  |  |  |  |                                 |  |  |  |  |       |  |  |  |  |
|                 | Special Requirements: (none)                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                           |  |                   |  |                      |                                                                                    |  |  |  |                              |                          |  |  |  |              |        |  |  |  |               |                       |  |  |  |                       |  |  |  |  |                                 |  |  |  |  |       |  |  |  |  |
| Patterns        | #                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Primary Pattern                                                                                                                                                                                                           |  |                   |  |                      |                                                                                    |  |  |  |                              | Secondary Pattern        |  |  |  |              |        |  |  |  |               | Exposures             |  |  |  |                       |  |  |  |  |                                 |  |  |  |  |       |  |  |  |  |
|                 | (1)                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Pattern Type=ACS-WFC-DITHER-LINE<br>Purpose=DITHER<br>Number Of Points=3<br>Point Spacing=3.011<br>Line Spacing=<br>Coordinate Frame=POS-TARG<br>Pattern Orientation=85.28<br>Angle Between Sides=<br>Center Pattern=true |  |                   |  |                      |                                                                                    |  |  |  |                              |                          |  |  |  |              |        |  |  |  |               | (1)                   |  |  |  |                       |  |  |  |  |                                 |  |  |  |  |       |  |  |  |  |
| Fixed Targets   | #                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Name                                                                                                                                                                                                                      |  |                   |  |                      | Target Coordinates                                                                 |  |  |  |                              | Targ. Coord. Corrections |  |  |  |              | Fluxes |  |  |  |               | Miscellaneous         |  |  |  |                       |  |  |  |  |                                 |  |  |  |  |       |  |  |  |  |
|                 | (18)                                                                                                                                                                                                                                                                                                                                                                                                                                                        | EMACSJ1148.0+5116                                                                                                                                                                                                         |  |                   |  |                      | RA: 11 48 1.6020 (177.0066750d)<br>Dec: +51 16 27.87 (51.27441d)<br>Equinox: J2000 |  |  |  |                              |                          |  |  |  |              | V=20.0 |  |  |  |               | Reference Frame: ICRS |  |  |  |                       |  |  |  |  |                                 |  |  |  |  |       |  |  |  |  |
| Exposures       | #                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Label                                                                                                                                                                                                                     |  | Target            |  | Config,Mode,Aperture |                                                                                    |  |  |  | Spectral Els.                |                          |  |  |  | Opt. Params. |        |  |  |  | Special Reqs. |                       |  |  |  | Groups                |  |  |  |  | Exp. Time (Total)/[Actual Dur.] |  |  |  |  | Orbit |  |  |  |  |
|                 | 1                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 1148+51_81                                                                                                                                                                                                                |  | (18) EMACSJ1148.0 |  | ACS/WFC, ACCUM, WFC  |                                                                                    |  |  |  | F814W                        |                          |  |  |  | CR-SPLIT=NO  |        |  |  |  |               |                       |  |  |  | Pattern 1, Exps 1-1 i |  |  |  |  | 400 Secs (1200 Secs)            |  |  |  |  |       |  |  |  |  |
|                 | 4                                                                                                                                                                                                                                                                                                                                                                                                                                                           | +5116                                                                                                                                                                                                                     |  |                   |  |                      |                                                                                    |  |  |  |                              |                          |  |  |  |              |        |  |  |  |               |                       |  |  |  | n Visit 63 (1)        |  |  |  |  | [==>(Pattern 1)]                |  |  |  |  |       |  |  |  |  |
|                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                           |  |                   |  |                      |                                                                                    |  |  |  |                              |                          |  |  |  |              |        |  |  |  |               |                       |  |  |  |                       |  |  |  |  | [==>(Pattern 2)]                |  |  |  |  | [1]   |  |  |  |  |
| Orbit Structure | <div>Orbit 1<div>Server Version: 20140605</div><div><div>Pointing Maneuver</div><div>Pointing Maneuver</div><div>Unused Orbital Visibility = 1332</div><div>Occultation</div><div>GS Acq</div><div>Exp. 1</div><div>Exp. 1</div><div>Exp. 1</div><div>0</div><div>500</div><div>1000</div><div>1500</div><div>2000</div><div>2500</div><div>3000</div><div>3500</div><div>4000</div><div>4500</div><div>5000</div><div>5500</div><div>sec</div></div></div> |                                                                                                                                                                                                                           |  |                   |  |                      |                                                                                    |  |  |  |                              |                          |  |  |  |              |        |  |  |  |               |                       |  |  |  |                       |  |  |  |  |                                 |  |  |  |  |       |  |  |  |  |

# Proposal 13671 - Visit 64 - Beyond MACS: A Snapshot Survey of the Most Massive Clusters of Galaxies at $z > 0.5$

|                 |                                          |                                                                                                                  |                        |                                                                                     |  |                          |                                                                                                       |               |                                     |                                                          |                              |           |                          |  |
|-----------------|------------------------------------------|------------------------------------------------------------------------------------------------------------------|------------------------|-------------------------------------------------------------------------------------|--|--------------------------|-------------------------------------------------------------------------------------------------------|---------------|-------------------------------------|----------------------------------------------------------|------------------------------|-----------|--------------------------|--|
| Visit           | Proposal 13671, Visit 64, implementation |                                                                                                                  |                        |                                                                                     |  |                          |                                                                                                       |               |                                     |                                                          | Tue Aug 19 01:02:37 GMT 2014 |           |                          |  |
|                 | Diagnostic Status: No Diagnostics        |                                                                                                                  |                        |                                                                                     |  |                          |                                                                                                       |               |                                     |                                                          |                              |           |                          |  |
|                 | Scientific Instruments: ACS/WFC          |                                                                                                                  |                        |                                                                                     |  |                          |                                                                                                       |               |                                     |                                                          |                              |           |                          |  |
|                 | Special Requirements: (none)             |                                                                                                                  |                        |                                                                                     |  |                          |                                                                                                       |               |                                     |                                                          |                              |           |                          |  |
| Patterns        | #                                        | Primary Pattern                                                                                                  |                        |                                                                                     |  |                          | Secondary Pattern                                                                                     |               |                                     |                                                          |                              | Exposures |                          |  |
|                 | (1)                                      | Pattern Type=ACS-WFC-DITHER-LINE<br>Purpose=DITHER<br>Number Of Points=3<br>Point Spacing=3.011<br>Line Spacing= |                        |                                                                                     |  |                          | Coordinate Frame=POS-TARG<br>Pattern Orientation=85.28<br>Angle Between Sides=<br>Center Pattern=true |               |                                     |                                                          |                              | (1)       |                          |  |
| Fixed Targets   | #                                        | Name                                                                                                             |                        | Target Coordinates                                                                  |  | Targ. Coord. Corrections |                                                                                                       | Fluxes        |                                     | Miscellaneous                                            |                              |           |                          |  |
|                 | (19)                                     | EMACSJ1209.4+2640                                                                                                |                        | RA: 12 09 23.6760 (182.3486500d)<br>Dec: +26 40 46.67 (26.67963d)<br>Equinox: J2000 |  |                          |                                                                                                       | V=20.0        |                                     | Reference Frame: ICRS                                    |                              |           |                          |  |
| Exposures       | #                                        | Label                                                                                                            | Target                 | Config,Mode,Aperture                                                                |  | Spectral Els.            | Opt. Params.                                                                                          | Special Reqs. | Groups                              | Exp. Time (Total)/[Actual Dur.]                          |                              | Orbit     |                          |  |
|                 | 1                                        | 1209+26_814                                                                                                      | (19) EMACSJ1209.4+2640 | ACS/WFC, ACCUM, WFC                                                                 |  | F814W                    | CR-SPLIT=NO                                                                                           |               | Pattern 1, Exps 1-1 in Visit 64 (1) | 400 Secs (1200 Secs)                                     |                              |           |                          |  |
|                 |                                          |                                                                                                                  |                        |                                                                                     |  |                          |                                                                                                       |               |                                     | [==>(Pattern 1)]<br>[==>(Pattern 2)]<br>[==>(Pattern 3)] |                              | [1]       |                          |  |
| Orbit Structure | Orbit 1                                  |                                                                                                                  |                        |                                                                                     |  |                          |                                                                                                       |               |                                     |                                                          |                              |           | Server Version: 20140605 |  |
|                 |                                          |                                                                                                                  |                        |                                                                                     |  |                          |                                                                                                       |               |                                     |                                                          |                              |           |                          |  |

# Proposal 13671 - Visit 65 - Beyond MACS: A Snapshot Survey of the Most Massive Clusters of Galaxies at $z > 0.5$

|                 |                                                                                                                                                                                                                                         |                                                                                                                  |                                                                                      |                                                                                                       |                                     |
|-----------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------|-------------------------------------|
| Visit           | Proposal 13671, Visit 65, implementation <span style="float: right;">Tue Aug 19 01:02:37 GMT 2014</span>                                                                                                                                |                                                                                                                  |                                                                                      |                                                                                                       |                                     |
|                 | Diagnostic Status: No Diagnostics<br>Scientific Instruments: ACS/WFC<br>Special Requirements: (none)                                                                                                                                    |                                                                                                                  |                                                                                      |                                                                                                       |                                     |
| Patterns        | #                                                                                                                                                                                                                                       | Primary Pattern                                                                                                  |                                                                                      | Secondary Pattern                                                                                     | Exposures                           |
|                 | (1)                                                                                                                                                                                                                                     | Pattern Type=ACS-WFC-DITHER-LINE<br>Purpose=DITHER<br>Number Of Points=3<br>Point Spacing=3.011<br>Line Spacing= |                                                                                      | Coordinate Frame=POS-TARG<br>Pattern Orientation=85.28<br>Angle Between Sides=<br>Center Pattern=true | (1)                                 |
| Fixed Targets   | #                                                                                                                                                                                                                                       | Name                                                                                                             | Target Coordinates                                                                   | Targ. Coord. Corrections                                                                              | Fluxes                              |
|                 | (20)                                                                                                                                                                                                                                    | EMACSJ1212.5-1216                                                                                                | RA: 12 12 30.2400 (183.1260000d)<br>Dec: -12 16 19.94 (-12.27221d)<br>Equinox: J2000 |                                                                                                       | V=20.0                              |
| Exposures       |                                                                                                                                                                                                                                         |                                                                                                                  |                                                                                      |                                                                                                       |                                     |
|                 | #                                                                                                                                                                                                                                       | Label                                                                                                            | Target                                                                               | Config,Mode,Aperture                                                                                  | Spectral Els.                       |
|                 | 1                                                                                                                                                                                                                                       | 1212-12_81                                                                                                       | (20) EMACSJ1212.5                                                                    | ACS/WFC, ACCUM, WFC                                                                                   | F814W                               |
|                 | 4                                                                                                                                                                                                                                       | -1216                                                                                                            |                                                                                      |                                                                                                       |                                     |
|                 |                                                                                                                                                                                                                                         |                                                                                                                  |                                                                                      |                                                                                                       | CR-SPLIT=NO                         |
|                 |                                                                                                                                                                                                                                         |                                                                                                                  |                                                                                      |                                                                                                       | Special Reqs.                       |
|                 |                                                                                                                                                                                                                                         |                                                                                                                  |                                                                                      |                                                                                                       | Groups                              |
|                 |                                                                                                                                                                                                                                         |                                                                                                                  |                                                                                      |                                                                                                       | Exp. Time (Total)/[Actual Dur.]     |
|                 |                                                                                                                                                                                                                                         |                                                                                                                  |                                                                                      |                                                                                                       | Orbit                               |
|                 |                                                                                                                                                                                                                                         |                                                                                                                  |                                                                                      |                                                                                                       | Pattern 1, Exps 1-1 in Visit 65 (1) |
|                 |                                                                                                                                                                                                                                         |                                                                                                                  |                                                                                      |                                                                                                       | 400 Secs (1200 Secs)                |
|                 |                                                                                                                                                                                                                                         |                                                                                                                  |                                                                                      |                                                                                                       | [==>(Pattern 1)]                    |
|                 |                                                                                                                                                                                                                                         |                                                                                                                  |                                                                                      |                                                                                                       | [==>(Pattern 2)]                    |
|                 |                                                                                                                                                                                                                                         |                                                                                                                  |                                                                                      |                                                                                                       | [==>(Pattern 3)]                    |
|                 |                                                                                                                                                                                                                                         |                                                                                                                  |                                                                                      |                                                                                                       | [1]                                 |
| Orbit Structure | Orbit 1 <span style="float: right;">Server Version: 20140605</span>                                                                                                                                                                     |                                                                                                                  |                                                                                      |                                                                                                       |                                     |
|                 | <p>GS Acq</p> <p>Exp. 1</p> <p>Pointing Maneuver</p> <p>Exp. 1</p> <p>Pointing Maneuver</p> <p>Exp. 1</p> <p>Unused Orbital Visibility = 1149</p> <p>Occultation</p> <p>0 500 1000 1500 2000 2500 3000 3500 4000 4500 5000 5500 sec</p> |                                                                                                                  |                                                                                      |                                                                                                       |                                     |

# Proposal 13671 - Visit 66 - Beyond MACS: A Snapshot Survey of the Most Massive Clusters of Galaxies at $z > 0.5$

|                 |                                                                                                                 |                                                                                                                                                                                                                               |                                                                                    |                          |                                         |
|-----------------|-----------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|--------------------------|-----------------------------------------|
| Visit           | <b>Proposal 13671, Visit 66, implementation</b> <span style="float: right;">Tue Aug 19 01:02:37 GMT 2014</span> |                                                                                                                                                                                                                               |                                                                                    |                          |                                         |
|                 | <b>Diagnostic Status: No Diagnostics</b><br>Scientific Instruments: ACS/WFC<br>Special Requirements: (none)     |                                                                                                                                                                                                                               |                                                                                    |                          |                                         |
| Patterns        | #                                                                                                               | Primary Pattern                                                                                                                                                                                                               |                                                                                    | Secondary Pattern        | Exposures                               |
|                 | (1)                                                                                                             | Pattern Type=ACS-WFC-DITHER-<br>LINE<br>Purpose=DITHER<br>Number Of Points=3<br>Point Spacing=3.011<br>Line Spacing=<br>Coordinate Frame=POS-TARG<br>Pattern Orientation=85.28<br>Angle Between Sides=<br>Center Pattern=true |                                                                                    |                          | (1)                                     |
| Fixed Targets   | #                                                                                                               | Name                                                                                                                                                                                                                          | Target Coordinates                                                                 | Targ. Coord. Corrections | Fluxes                                  |
|                 | (21)                                                                                                            | EMACSJ1222.3+2418                                                                                                                                                                                                             | RA: 12 22 18.9540 (185.5789750d)<br>Dec: +24 19 1.65 (24.31712d)<br>Equinox: J2000 |                          | V=20.0                                  |
| Exposures       |                                                                                                                 |                                                                                                                                                                                                                               |                                                                                    |                          |                                         |
|                 | #                                                                                                               | Label                                                                                                                                                                                                                         | Target                                                                             | Config,Mode,Aperture     | Spectral Els.                           |
|                 | 1                                                                                                               | 1222+24_81                                                                                                                                                                                                                    | (21) EMACSJ1222.3                                                                  | ACS/WFC, ACCUM, WFC      | F814W                                   |
|                 | 4                                                                                                               |                                                                                                                                                                                                                               | +2418                                                                              |                          |                                         |
|                 |                                                                                                                 |                                                                                                                                                                                                                               |                                                                                    |                          | CR-SPLIT=NO                             |
|                 |                                                                                                                 |                                                                                                                                                                                                                               |                                                                                    |                          | Special Reqs.                           |
|                 |                                                                                                                 |                                                                                                                                                                                                                               |                                                                                    |                          | Groups                                  |
|                 |                                                                                                                 |                                                                                                                                                                                                                               |                                                                                    |                          | Exp. Time (Total)/[Actual Dur.]         |
|                 |                                                                                                                 |                                                                                                                                                                                                                               |                                                                                    |                          | Orbit                                   |
|                 |                                                                                                                 |                                                                                                                                                                                                                               |                                                                                    |                          | Pattern 1, Exps 1-1 i<br>n Visit 66 (1) |
|                 |                                                                                                                 |                                                                                                                                                                                                                               |                                                                                    |                          | 400 Secs (1200 Secs)                    |
|                 |                                                                                                                 |                                                                                                                                                                                                                               |                                                                                    |                          | [==>(Pattern 1)]                        |
|                 |                                                                                                                 |                                                                                                                                                                                                                               |                                                                                    |                          | [==>(Pattern 2)]                        |
|                 |                                                                                                                 |                                                                                                                                                                                                                               |                                                                                    |                          | [==>(Pattern 3)]                        |
|                 |                                                                                                                 |                                                                                                                                                                                                                               |                                                                                    |                          | [1]                                     |
| Orbit Structure |                                                                                                                 |                                                                                                                                                                                                                               |                                                                                    |                          |                                         |
|                 | <div> <div>Orbit 1</div> <div>Server Version: 20140605</div> </div>                                             |                                                                                                                                                                                                                               |                                                                                    |                          |                                         |

# Proposal 13671 - Visit 67 - Beyond MACS: A Snapshot Survey of the Most Massive Clusters of Galaxies at $z > 0.5$

|                 |                                                                                                                                                  |                                                                                                                  |                                                                                    |                      |                                                                                                       |                              |               |                                     |                                                                                  |       |
|-----------------|--------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|----------------------|-------------------------------------------------------------------------------------------------------|------------------------------|---------------|-------------------------------------|----------------------------------------------------------------------------------|-------|
| Visit           | Proposal 13671, Visit 67, implementation<br>Diagnostic Status: No Diagnostics<br>Scientific Instruments: ACS/WFC<br>Special Requirements: (none) |                                                                                                                  |                                                                                    |                      |                                                                                                       | Tue Aug 19 01:02:37 GMT 2014 |               |                                     |                                                                                  |       |
|                 |                                                                                                                                                  |                                                                                                                  |                                                                                    |                      |                                                                                                       |                              |               |                                     |                                                                                  |       |
| Patterns        | #                                                                                                                                                | Primary Pattern                                                                                                  |                                                                                    |                      | Secondary Pattern                                                                                     |                              |               | Exposures                           |                                                                                  |       |
|                 | (1)                                                                                                                                              | Pattern Type=ACS-WFC-DITHER-LINE<br>Purpose=DITHER<br>Number Of Points=3<br>Point Spacing=3.011<br>Line Spacing= |                                                                                    |                      | Coordinate Frame=POS-TARG<br>Pattern Orientation=85.28<br>Angle Between Sides=<br>Center Pattern=true |                              |               | (1)                                 |                                                                                  |       |
| Fixed Targets   | #                                                                                                                                                | Name                                                                                                             | Target Coordinates                                                                 |                      | Targ. Coord. Corrections                                                                              |                              | Fluxes        |                                     | Miscellaneous                                                                    |       |
|                 | (22)                                                                                                                                             | EMACSJ1341.9-2442                                                                                                | RA: 13 42 0.2440 (205.5010167d)<br>Dec: -24 42 0.75 (-24.70021d)<br>Equinox: J2000 |                      |                                                                                                       |                              | V=20.0        |                                     | Reference Frame: ICRS                                                            |       |
| Exposures       | #                                                                                                                                                | Label                                                                                                            | Target                                                                             | Config,Mode,Aperture | Spectral Els.                                                                                         | Opt. Params.                 | Special Reqs. | Groups                              | Exp. Time (Total)/[Actual Dur.]                                                  | Orbit |
|                 | 1                                                                                                                                                | 1341-24_814                                                                                                      | (22) EMACSJ1341.9-2442                                                             | ACS/WFC, ACCUM, WFC  | F814W                                                                                                 | CR-SPLIT=NO                  |               | Pattern 1, Exps 1-1 in Visit 67 (1) | 400 Secs (1200 Secs)<br>[==>(Pattern 1)]<br>[==>(Pattern 2)]<br>[==>(Pattern 3)] | [1]   |
| Orbit Structure | <b>Orbit 1</b>                                                                                                                                   |                                                                                                                  |                                                                                    |                      |                                                                                                       |                              |               |                                     |                                                                                  |       |
|                 | <div> <div>Server Version: 20140605</div> </div>                                                                                                 |                                                                                                                  |                                                                                    |                      |                                                                                                       |                              |               |                                     |                                                                                  |       |

# Proposal 13671 - Visit 68 - Beyond MACS: A Snapshot Survey of the Most Massive Clusters of Galaxies at $z>0.5$

|                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                           |                   |                                                                                      |  |                          |                   |               |                       |                                                          |                              |           |  |
|-----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|--------------------------------------------------------------------------------------|--|--------------------------|-------------------|---------------|-----------------------|----------------------------------------------------------|------------------------------|-----------|--|
| Visit           | Proposal 13671, Visit 68, implementation                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                           |                   |                                                                                      |  |                          |                   |               |                       |                                                          | Tue Aug 19 01:02:37 GMT 2014 |           |  |
|                 | Diagnostic Status: No Diagnostics                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                           |                   |                                                                                      |  |                          |                   |               |                       |                                                          |                              |           |  |
|                 | Scientific Instruments: ACS/WFC                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                           |                   |                                                                                      |  |                          |                   |               |                       |                                                          |                              |           |  |
|                 | Special Requirements: (none)                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                           |                   |                                                                                      |  |                          |                   |               |                       |                                                          |                              |           |  |
| Patterns        | #                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Primary Pattern                                                                                                                                                                                                           |                   |                                                                                      |  |                          | Secondary Pattern |               |                       |                                                          |                              | Exposures |  |
|                 | (1)                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Pattern Type=ACS-WFC-DITHER-LINE<br>Purpose=DITHER<br>Number Of Points=3<br>Point Spacing=3.011<br>Line Spacing=<br>Coordinate Frame=POS-TARG<br>Pattern Orientation=85.28<br>Angle Between Sides=<br>Center Pattern=true |                   |                                                                                      |  |                          |                   |               |                       |                                                          |                              | (1)       |  |
| Fixed Targets   | #                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Name                                                                                                                                                                                                                      |                   | Target Coordinates                                                                   |  | Targ. Coord. Corrections |                   | Fluxes        |                       | Miscellaneous                                            |                              |           |  |
|                 | (23)                                                                                                                                                                                                                                                                                                                                                                                                                                                        | EMACSJ1350.7-1055                                                                                                                                                                                                         |                   | RA: 13 50 46.4350 (207.6934792d)<br>Dec: -10 55 32.24 (-10.92562d)<br>Equinox: J2000 |  |                          |                   | V=20.0        |                       | Reference Frame: ICRS                                    |                              |           |  |
| Exposures       | #                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Label                                                                                                                                                                                                                     | Target            | Config,Mode,Aperture                                                                 |  | Spectral Els.            | Opt. Params.      | Special Reqs. | Groups                | Exp. Time (Total)/[Actual Dur.]                          |                              | Orbit     |  |
|                 | 1                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 1350-10_81                                                                                                                                                                                                                | (23) EMACSJ1350.7 | ACS/WFC, ACCUM, WFC                                                                  |  | F814W                    | CR-SPLIT=NO       |               | Pattern 1, Exps 1-1 i | 400 Secs (1200 Secs)                                     |                              |           |  |
|                 | 4                                                                                                                                                                                                                                                                                                                                                                                                                                                           | -1055                                                                                                                                                                                                                     |                   |                                                                                      |  |                          |                   |               | n Visit 68 (1)        | [==>(Pattern 1)]<br>[==>(Pattern 2)]<br>[==>(Pattern 3)] |                              | [1]       |  |
|                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                           |                   |                                                                                      |  |                          |                   |               |                       |                                                          |                              |           |  |
| Orbit Structure | <div>Orbit 1<div>Server Version: 20140605</div><div><div>Pointing Maneuver</div><div>Pointing Maneuver</div><div>Unused Orbital Visibility = 1149</div><div>Occultation</div><div>GS Acq</div><div>Exp. 1</div><div>Exp. 1</div><div>Exp. 1</div><div>0</div><div>500</div><div>1000</div><div>1500</div><div>2000</div><div>2500</div><div>3000</div><div>3500</div><div>4000</div><div>4500</div><div>5000</div><div>5500</div><div>sec</div></div></div> |                                                                                                                                                                                                                           |                   |                                                                                      |  |                          |                   |               |                       |                                                          |                              |           |  |

# Proposal 13671 - Visit 69 - Beyond MACS: A Snapshot Survey of the Most Massive Clusters of Galaxies at $z > 0.5$

|                 |                                                                                                          |                                                                                                                  |                                                                                  |                                                                                                       |                                         |
|-----------------|----------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------|-----------------------------------------|
| Visit           | Proposal 13671, Visit 69, implementation <span style="float: right;">Tue Aug 19 01:02:37 GMT 2014</span> |                                                                                                                  |                                                                                  |                                                                                                       |                                         |
|                 | Diagnostic Status: No Diagnostics<br>Scientific Instruments: ACS/WFC<br>Special Requirements: (none)     |                                                                                                                  |                                                                                  |                                                                                                       |                                         |
| Patterns        | #                                                                                                        | Primary Pattern                                                                                                  |                                                                                  | Secondary Pattern                                                                                     | Exposures                               |
|                 | (1)                                                                                                      | Pattern Type=ACS-WFC-DITHER-LINE<br>Purpose=DITHER<br>Number Of Points=3<br>Point Spacing=3.011<br>Line Spacing= |                                                                                  | Coordinate Frame=POS-TARG<br>Pattern Orientation=85.28<br>Angle Between Sides=<br>Center Pattern=true | (1)                                     |
| Fixed Targets   | #                                                                                                        | Name                                                                                                             | Target Coordinates                                                               | Targ. Coord. Corrections                                                                              | Fluxes                                  |
|                 | (24)                                                                                                     | EMACSJ1407.0-0015                                                                                                | RA: 14 07 7.0410 (211.7793375d)<br>Dec: -00 15 5.21 (-.25145d)<br>Equinox: J2000 |                                                                                                       | V=20.0                                  |
| Exposures       |                                                                                                          |                                                                                                                  |                                                                                  |                                                                                                       |                                         |
|                 | #                                                                                                        | Label                                                                                                            | Target                                                                           | Config,Mode,Aperture                                                                                  | Spectral Els.                           |
|                 | 1                                                                                                        | 1407-00_81                                                                                                       | (24) EMACSJ1407.0                                                                | ACS/WFC, ACCUM, WFC                                                                                   | F814W                                   |
|                 | 4                                                                                                        | -0015                                                                                                            |                                                                                  |                                                                                                       |                                         |
|                 |                                                                                                          |                                                                                                                  |                                                                                  |                                                                                                       | CR-SPLIT=NO                             |
|                 |                                                                                                          |                                                                                                                  |                                                                                  |                                                                                                       | Special Reqs.                           |
|                 |                                                                                                          |                                                                                                                  |                                                                                  |                                                                                                       | Groups                                  |
|                 |                                                                                                          |                                                                                                                  |                                                                                  |                                                                                                       | Exp. Time (Total)/[Actual Dur.]         |
|                 |                                                                                                          |                                                                                                                  |                                                                                  |                                                                                                       | Orbit                                   |
|                 |                                                                                                          |                                                                                                                  |                                                                                  |                                                                                                       | Pattern 1, Exps 1-1 i<br>n Visit 69 (1) |
|                 |                                                                                                          |                                                                                                                  |                                                                                  |                                                                                                       | 400 Secs (1200 Secs)                    |
|                 |                                                                                                          |                                                                                                                  |                                                                                  |                                                                                                       | [==>(Pattern 1)]                        |
|                 |                                                                                                          |                                                                                                                  |                                                                                  |                                                                                                       | [==>(Pattern 2)]                        |
|                 |                                                                                                          |                                                                                                                  |                                                                                  |                                                                                                       | [==>(Pattern 3)]                        |
|                 |                                                                                                          |                                                                                                                  |                                                                                  |                                                                                                       | [1]                                     |
| Orbit Structure |                                                                                                          |                                                                                                                  |                                                                                  |                                                                                                       |                                         |
|                 | <div> <div>Orbit 1</div> <div>Server Version: 20140605</div> </div>                                      |                                                                                                                  |                                                                                  |                                                                                                       |                                         |

# Proposal 13671 - Visit 70 - Beyond MACS: A Snapshot Survey of the Most Massive Clusters of Galaxies at $z > 0.5$

|                 |                                                                                                                 |                                                                                                                      |                                                                                    |                                                                                                       |               |
|-----------------|-----------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------|---------------|
| Visit           | <b>Proposal 13671, Visit 70, implementation</b> <span style="float: right;">Tue Aug 19 01:02:37 GMT 2014</span> |                                                                                                                      |                                                                                    |                                                                                                       |               |
|                 | <b>Diagnostic Status: No Diagnostics</b><br>Scientific Instruments: ACS/WFC<br>Special Requirements: (none)     |                                                                                                                      |                                                                                    |                                                                                                       |               |
| Patterns        | #                                                                                                               | Primary Pattern                                                                                                      |                                                                                    | Secondary Pattern                                                                                     | Exposures     |
|                 | (1)                                                                                                             | Pattern Type=ACS-WFC-DITHER-<br>LINE<br>Purpose=DITHER<br>Number Of Points=3<br>Point Spacing=3.011<br>Line Spacing= |                                                                                    | Coordinate Frame=POS-TARG<br>Pattern Orientation=85.28<br>Angle Between Sides=<br>Center Pattern=true | (1)           |
| Fixed Targets   | #                                                                                                               | Name                                                                                                                 | Target Coordinates                                                                 | Targ. Coord. Corrections                                                                              | Fluxes        |
|                 | (25)                                                                                                            | EMACSJ1419.1-0624                                                                                                    | RA: 14 19 3.2610 (214.7635875d)<br>Dec: -06 24 33.97 (-6.40944d)<br>Equinox: J2000 |                                                                                                       | V=20.0        |
| Exposures       |                                                                                                                 |                                                                                                                      |                                                                                    |                                                                                                       | Miscellaneous |
|                 | Reference Frame: ICRS                                                                                           |                                                                                                                      |                                                                                    |                                                                                                       |               |
| Exposures       | #                                                                                                               | Label                                                                                                                | Target                                                                             | Config,Mode,Aperture                                                                                  | Spectral Els. |
|                 | 1                                                                                                               | 1419-06_81                                                                                                           | (25) EMACSJ1419.1                                                                  | ACS/WFC, ACCUM, WFC                                                                                   | F814W         |
| Exposures       | 4                                                                                                               |                                                                                                                      | -0624                                                                              |                                                                                                       |               |
|                 | CR-SPLIT=NO                                                                                                     |                                                                                                                      |                                                                                    |                                                                                                       |               |
| Exposures       | Special Reqs.                                                                                                   |                                                                                                                      |                                                                                    |                                                                                                       |               |
|                 | Groups                                                                                                          |                                                                                                                      |                                                                                    |                                                                                                       |               |
| Exposures       | Exp. Time (Total)/[Actual Dur.]                                                                                 |                                                                                                                      |                                                                                    |                                                                                                       |               |
|                 | Orbit                                                                                                           |                                                                                                                      |                                                                                    |                                                                                                       |               |
| Exposures       | Pattern 1, Exps 1-1 i                                                                                           |                                                                                                                      |                                                                                    |                                                                                                       |               |
|                 | n Visit 70 (1)                                                                                                  |                                                                                                                      |                                                                                    |                                                                                                       |               |
| Exposures       | 400 Secs (1200 Secs)                                                                                            |                                                                                                                      |                                                                                    |                                                                                                       |               |
|                 | [=>(Pattern 1)]                                                                                                 |                                                                                                                      |                                                                                    |                                                                                                       |               |
| Exposures       | [=>(Pattern 2)]                                                                                                 |                                                                                                                      |                                                                                    |                                                                                                       |               |
|                 | [=>(Pattern 3)]                                                                                                 |                                                                                                                      |                                                                                    |                                                                                                       |               |
| Exposures       | [1]                                                                                                             |                                                                                                                      |                                                                                    |                                                                                                       |               |
|                 |                                                                                                                 |                                                                                                                      |                                                                                    |                                                                                                       |               |
| Orbit Structure | Orbit 1                                                                                                         |                                                                                                                      |                                                                                    |                                                                                                       |               |
|                 | Server Version: 20140605                                                                                        |                                                                                                                      |                                                                                    |                                                                                                       |               |
| Orbit Structure |                                                                                                                 |                                                                                                                      |                                                                                    |                                                                                                       |               |
|                 | 0 500 1000 1500 2000 2500 3000 3500 4000 4500 5000 5500 sec                                                     |                                                                                                                      |                                                                                    |                                                                                                       |               |

# Proposal 13671 - Visit 71 - Beyond MACS: A Snapshot Survey of the Most Massive Clusters of Galaxies at $z > 0.5$

|                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                           |                   |                                                                                   |  |                          |                   |              |  |                       |                              |                       |                                 |  |       |
|-----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|-----------------------------------------------------------------------------------|--|--------------------------|-------------------|--------------|--|-----------------------|------------------------------|-----------------------|---------------------------------|--|-------|
| Visit           | Proposal 13671, Visit 71, implementation                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                           |                   |                                                                                   |  |                          |                   |              |  |                       | Tue Aug 19 01:02:37 GMT 2014 |                       |                                 |  |       |
|                 | Diagnostic Status: No Diagnostics                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                           |                   |                                                                                   |  |                          |                   |              |  |                       |                              |                       |                                 |  |       |
|                 | Scientific Instruments: ACS/WFC                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                           |                   |                                                                                   |  |                          |                   |              |  |                       |                              |                       |                                 |  |       |
|                 | Special Requirements: (none)                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                           |                   |                                                                                   |  |                          |                   |              |  |                       |                              |                       |                                 |  |       |
| Patterns        | #                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Primary Pattern                                                                                                                                                                                                           |                   |                                                                                   |  |                          | Secondary Pattern |              |  |                       |                              | Exposures             |                                 |  |       |
|                 | (1)                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Pattern Type=ACS-WFC-DITHER-LINE<br>Purpose=DITHER<br>Number Of Points=3<br>Point Spacing=3.011<br>Line Spacing=<br>Coordinate Frame=POS-TARG<br>Pattern Orientation=85.28<br>Angle Between Sides=<br>Center Pattern=true |                   |                                                                                   |  |                          |                   |              |  |                       |                              | (1)                   |                                 |  |       |
| Fixed Targets   | #                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Name                                                                                                                                                                                                                      |                   | Target Coordinates                                                                |  | Targ. Coord. Corrections |                   | Fluxes       |  | Miscellaneous         |                              |                       |                                 |  |       |
|                 | (26)                                                                                                                                                                                                                                                                                                                                                                                                                                                        | EMACSJ1430.0+4127                                                                                                                                                                                                         |                   | RA: 14 30 4.9720 (217.5207167d)<br>Dec: +41 27 7.22 (41.45201d)<br>Equinox: J2000 |  |                          |                   | V=20.0       |  | Reference Frame: ICRS |                              |                       |                                 |  |       |
| Exposures       | #                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Label                                                                                                                                                                                                                     | Target            | Config,Mode,Aperture                                                              |  | Spectral Els.            |                   | Opt. Params. |  | Special Req.          |                              | Groups                | Exp. Time (Total)/[Actual Dur.] |  | Orbit |
|                 | 1                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 1430+41_81                                                                                                                                                                                                                | (26) EMACSJ1430.0 | ACS/WFC, ACCUM, WFC                                                               |  | F814W                    |                   | CR-SPLIT=NO  |  |                       |                              | Pattern 1, Exps 1-1 i | 400 Secs (1200 Secs)            |  |       |
|                 | 4                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                           | +4127             |                                                                                   |  |                          |                   |              |  |                       |                              | n Visit 71 (1)        | [==>(Pattern 1)]                |  |       |
|                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                           |                   |                                                                                   |  |                          |                   |              |  |                       |                              |                       | [==>(Pattern 2)]                |  | [1]   |
| Orbit Structure | <div>Orbit 1<div>Server Version: 20140605</div><div><div>Pointing Maneuver</div><div>Pointing Maneuver</div><div>Unused Orbital Visibility = 1239</div><div>Occultation</div><div>GS Acq</div><div>Exp. 1</div><div>Exp. 1</div><div>Exp. 1</div><div>0</div><div>500</div><div>1000</div><div>1500</div><div>2000</div><div>2500</div><div>3000</div><div>3500</div><div>4000</div><div>4500</div><div>5000</div><div>5500</div><div>sec</div></div></div> |                                                                                                                                                                                                                           |                   |                                                                                   |  |                          |                   |              |  |                       |                              |                       |                                 |  |       |

# Proposal 13671 - Visit 72 - Beyond MACS: A Snapshot Survey of the Most Massive Clusters of Galaxies at $z > 0.5$

|                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                  |                   |                                                                                   |  |                          |                                                                                                       |              |                       |                       |                                 |                  |       |
|-----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------|-------------------|-----------------------------------------------------------------------------------|--|--------------------------|-------------------------------------------------------------------------------------------------------|--------------|-----------------------|-----------------------|---------------------------------|------------------|-------|
| Visit           | Proposal 13671, Visit 72, implementation                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                  |                   |                                                                                   |  |                          |                                                                                                       |              |                       |                       | Tue Aug 19 01:02:37 GMT 2014    |                  |       |
|                 | Diagnostic Status: No Diagnostics                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                  |                   |                                                                                   |  |                          |                                                                                                       |              |                       |                       |                                 |                  |       |
|                 | Scientific Instruments: ACS/WFC                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                  |                   |                                                                                   |  |                          |                                                                                                       |              |                       |                       |                                 |                  |       |
|                 | Special Requirements: (none)                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                  |                   |                                                                                   |  |                          |                                                                                                       |              |                       |                       |                                 |                  |       |
| Patterns        | #                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Primary Pattern                                                                                                  |                   |                                                                                   |  |                          | Secondary Pattern                                                                                     |              |                       |                       |                                 | Exposures        |       |
|                 | (1)                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Pattern Type=ACS-WFC-DITHER-LINE<br>Purpose=DITHER<br>Number Of Points=3<br>Point Spacing=3.011<br>Line Spacing= |                   |                                                                                   |  |                          | Coordinate Frame=POS-TARG<br>Pattern Orientation=85.28<br>Angle Between Sides=<br>Center Pattern=true |              |                       |                       |                                 | (1)              |       |
| Fixed Targets   | #                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Name                                                                                                             |                   | Target Coordinates                                                                |  | Targ. Coord. Corrections |                                                                                                       | Fluxes       |                       | Miscellaneous         |                                 |                  |       |
|                 | (27)                                                                                                                                                                                                                                                                                                                                                                                                                                                        | EMACSJ1443.2+0102                                                                                                |                   | RA: 14 43 9.3080 (220.7887833d)<br>Dec: +01 02 12.20 (1.03672d)<br>Equinox: J2000 |  |                          |                                                                                                       | V=20.0       |                       | Reference Frame: ICRS |                                 |                  |       |
| Exposures       | #                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Label                                                                                                            | Target            | Config,Mode,Aperture                                                              |  | Spectral Els.            | Opt. Params.                                                                                          | Special Req. | Groups                |                       | Exp. Time (Total)/[Actual Dur.] |                  | Orbit |
|                 | 1                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 1443+01_81                                                                                                       | (27) EMACSJ1443.2 | ACS/WFC, ACCUM, WFC                                                               |  | F814W                    | CR-SPLIT=NO                                                                                           |              | Pattern 1, Exps 1-1 i |                       | 400 Secs (1200 Secs)            |                  |       |
|                 | 4                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                  | +0102             |                                                                                   |  |                          |                                                                                                       |              | n Visit 72 (1)        |                       | [==>(Pattern 1)]                |                  |       |
|                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                  |                   |                                                                                   |  |                          |                                                                                                       |              |                       |                       |                                 | [==>(Pattern 2)] |       |
| Orbit Structure | <div>Orbit 1<div>Server Version: 20140605</div><div><div>Pointing Maneuver</div><div>Pointing Maneuver</div><div>Unused Orbital Visibility = 1145</div><div>Occultation</div><div>GS Acq</div><div>Exp. 1</div><div>Exp. 1</div><div>Exp. 1</div><div>0</div><div>500</div><div>1000</div><div>1500</div><div>2000</div><div>2500</div><div>3000</div><div>3500</div><div>4000</div><div>4500</div><div>5000</div><div>5500</div><div>sec</div></div></div> |                                                                                                                  |                   |                                                                                   |  |                          |                                                                                                       |              |                       |                       |                                 |                  |       |

# Proposal 13671 - Visit 73 - Beyond MACS: A Snapshot Survey of the Most Massive Clusters of Galaxies at $z > 0.5$

|                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                           |                   |                                                                                     |  |                          |                   |               |                                     |                                                                                  |                              |           |  |
|-----------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|-------------------------------------------------------------------------------------|--|--------------------------|-------------------|---------------|-------------------------------------|----------------------------------------------------------------------------------|------------------------------|-----------|--|
| Visit           | Proposal 13671, Visit 73, implementation                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                           |                   |                                                                                     |  |                          |                   |               |                                     |                                                                                  | Tue Aug 19 01:02:37 GMT 2014 |           |  |
|                 | Diagnostic Status: No Diagnostics                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                           |                   |                                                                                     |  |                          |                   |               |                                     |                                                                                  |                              |           |  |
|                 | Scientific Instruments: ACS/WFC                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                           |                   |                                                                                     |  |                          |                   |               |                                     |                                                                                  |                              |           |  |
|                 | Special Requirements: (none)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                           |                   |                                                                                     |  |                          |                   |               |                                     |                                                                                  |                              |           |  |
| Patterns        | #                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Primary Pattern                                                                                                                                                                                                           |                   |                                                                                     |  |                          | Secondary Pattern |               |                                     |                                                                                  |                              | Exposures |  |
|                 | (1)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Pattern Type=ACS-WFC-DITHER-LINE<br>Purpose=DITHER<br>Number Of Points=3<br>Point Spacing=3.011<br>Line Spacing=<br>Coordinate Frame=POS-TARG<br>Pattern Orientation=85.28<br>Angle Between Sides=<br>Center Pattern=true |                   |                                                                                     |  |                          |                   |               |                                     |                                                                                  |                              | (1)       |  |
| Fixed Targets   | #                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Name                                                                                                                                                                                                                      |                   | Target Coordinates                                                                  |  | Targ. Coord. Corrections |                   | Fluxes        |                                     | Miscellaneous                                                                    |                              |           |  |
|                 | (28)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | EMACSJ1508.1+5755                                                                                                                                                                                                         |                   | RA: 15 08 17.0960 (227.0712333d)<br>Dec: +57 54 37.39 (57.91039d)<br>Equinox: J2000 |  |                          |                   | V=20.0        |                                     | Reference Frame: ICRS                                                            |                              |           |  |
| Exposures       | #                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Label                                                                                                                                                                                                                     | Target            | Config,Mode,Aperture                                                                |  | Spectral Els.            | Opt. Params.      | Special Reqs. | Groups                              | Exp. Time (Total)/[Actual Dur.]                                                  |                              | Orbit     |  |
|                 | 1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 1508+57_81                                                                                                                                                                                                                | (28) EMACSJ1508.1 | ACS/WFC, ACCUM, WFC                                                                 |  | F814W                    | CR-SPLIT=NO       |               | Pattern 1, Exps 1-1 in Visit 73 (1) | 400 Secs (1200 Secs)<br>[==>(Pattern 1)]<br>[==>(Pattern 2)]<br>[==>(Pattern 3)] |                              | [1]       |  |
| Orbit Structure | <div>Orbit 1</div> <div>Server Version: 20140605</div> <div><div>GS Acq</div><div>Exp. 1</div><div>Pointing Maneuver</div><div>Exp. 1</div><div>Pointing Maneuver</div><div>Exp. 1</div><div>Unused Orbital Visibility = 1393</div><div>Occultation</div></div> <div><p>The diagram shows a timeline from 0 to 5500 seconds. It includes a GS Acq event, three exposures of Exp. 1 (each 400 seconds), two pointing maneuvers (black bars), a period of unused orbital visibility (1393 seconds), and an occultation period (white bar). The background is a blue and white checkered pattern.</p></div> |                                                                                                                                                                                                                           |                   |                                                                                     |  |                          |                   |               |                                     |                                                                                  |                              |           |  |

# Proposal 13671 - Visit 74 - Beyond MACS: A Snapshot Survey of the Most Massive Clusters of Galaxies at $z > 0.5$

|                 |                                                                                                          |                                                                                                                  |                                                                                     |                                                                                                       |                                     |
|-----------------|----------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------|-------------------------------------|
| Visit           | Proposal 13671, Visit 74, implementation <span style="float: right;">Tue Aug 19 01:02:37 GMT 2014</span> |                                                                                                                  |                                                                                     |                                                                                                       |                                     |
|                 | Diagnostic Status: No Diagnostics<br>Scientific Instruments: ACS/WFC<br>Special Requirements: (none)     |                                                                                                                  |                                                                                     |                                                                                                       |                                     |
| Patterns        | #                                                                                                        | Primary Pattern                                                                                                  |                                                                                     | Secondary Pattern                                                                                     | Exposures                           |
|                 | (1)                                                                                                      | Pattern Type=ACS-WFC-DITHER-LINE<br>Purpose=DITHER<br>Number Of Points=3<br>Point Spacing=3.011<br>Line Spacing= |                                                                                     | Coordinate Frame=POS-TARG<br>Pattern Orientation=85.28<br>Angle Between Sides=<br>Center Pattern=true | (1)                                 |
| Fixed Targets   | #                                                                                                        | Name                                                                                                             | Target Coordinates                                                                  | Targ. Coord. Corrections                                                                              | Fluxes                              |
|                 | (29)                                                                                                     | EMACSJ1518.3+2927                                                                                                | RA: 15 18 20.5740 (229.5857250d)<br>Dec: +29 27 40.52 (29.46126d)<br>Equinox: J2000 |                                                                                                       | V=20.0                              |
| Exposures       |                                                                                                          |                                                                                                                  |                                                                                     |                                                                                                       | Miscellaneous                       |
|                 |                                                                                                          |                                                                                                                  |                                                                                     |                                                                                                       | Reference Frame: ICRS               |
|                 | #                                                                                                        | Label                                                                                                            | Target                                                                              | Config,Mode,Aperture                                                                                  | Spectral Els.                       |
|                 | 1                                                                                                        | 1518+29_81                                                                                                       | (29) EMACSJ1518.3 +2927                                                             | ACS/WFC, ACCUM, WFC                                                                                   | F814W                               |
|                 |                                                                                                          |                                                                                                                  |                                                                                     |                                                                                                       | Opt. Params.                        |
|                 |                                                                                                          |                                                                                                                  |                                                                                     |                                                                                                       | CR-SPLIT=NO                         |
|                 |                                                                                                          |                                                                                                                  |                                                                                     |                                                                                                       | Special Reqs.                       |
|                 |                                                                                                          |                                                                                                                  |                                                                                     |                                                                                                       |                                     |
|                 |                                                                                                          |                                                                                                                  |                                                                                     |                                                                                                       | Groups                              |
|                 |                                                                                                          |                                                                                                                  |                                                                                     |                                                                                                       | Pattern 1, Exps 1-1 in Visit 74 (1) |
|                 |                                                                                                          |                                                                                                                  |                                                                                     |                                                                                                       | Exp. Time (Total)/[Actual Dur.]     |
|                 |                                                                                                          |                                                                                                                  |                                                                                     |                                                                                                       | 400 Secs (1200 Secs)                |
|                 |                                                                                                          |                                                                                                                  |                                                                                     |                                                                                                       | [==>(Pattern 1)]                    |
|                 |                                                                                                          |                                                                                                                  |                                                                                     |                                                                                                       | [==>(Pattern 2)]                    |
|                 |                                                                                                          |                                                                                                                  |                                                                                     |                                                                                                       | [==>(Pattern 3)]                    |
|                 |                                                                                                          |                                                                                                                  |                                                                                     |                                                                                                       | [1]                                 |
| Orbit Structure | Orbit 1 <span style="float: right;">Server Version: 20140605</span>                                      |                                                                                                                  |                                                                                     |                                                                                                       |                                     |
|                 |                                                                                                          |                                                                                                                  |                                                                                     |                                                                                                       |                                     |

# Proposal 13671 - Visit 75 - Beyond MACS: A Snapshot Survey of the Most Massive Clusters of Galaxies at $z > 0.5$

|                 |                                                                                                                 |                                                                                                                                                                                                                           |                                                                                     |                          |                                     |
|-----------------|-----------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|--------------------------|-------------------------------------|
| Visit           | <b>Proposal 13671, Visit 75, implementation</b> <span style="float: right;">Tue Aug 19 01:02:37 GMT 2014</span> |                                                                                                                                                                                                                           |                                                                                     |                          |                                     |
|                 | <b>Diagnostic Status: No Diagnostics</b><br>Scientific Instruments: ACS/WFC<br>Special Requirements: (none)     |                                                                                                                                                                                                                           |                                                                                     |                          |                                     |
| Patterns        | #                                                                                                               | Primary Pattern                                                                                                                                                                                                           |                                                                                     | Secondary Pattern        | Exposures                           |
|                 | (1)                                                                                                             | Pattern Type=ACS-WFC-DITHER-LINE<br>Purpose=DITHER<br>Number Of Points=3<br>Point Spacing=3.011<br>Line Spacing=<br>Coordinate Frame=POS-TARG<br>Pattern Orientation=85.28<br>Angle Between Sides=<br>Center Pattern=true |                                                                                     |                          | (1)                                 |
| Fixed Targets   | #                                                                                                               | Name                                                                                                                                                                                                                      | Target Coordinates                                                                  | Targ. Coord. Corrections | Fluxes                              |
|                 | (30)                                                                                                            | EMACSJ1527.6+2044                                                                                                                                                                                                         | RA: 15 27 42.1040 (231.9254333d)<br>Dec: +20 44 38.64 (20.74407d)<br>Equinox: J2000 |                          | V=20.0                              |
| Exposures       |                                                                                                                 |                                                                                                                                                                                                                           |                                                                                     |                          |                                     |
|                 | #                                                                                                               | Label                                                                                                                                                                                                                     | Target                                                                              | Config,Mode,Aperture     | Spectral Els.                       |
|                 | 1                                                                                                               | 1527+20_81                                                                                                                                                                                                                | (30) EMACSJ1527.6 +2044                                                             | ACS/WFC, ACCUM, WFC      | F814W                               |
|                 |                                                                                                                 |                                                                                                                                                                                                                           |                                                                                     |                          | Opt. Params.                        |
|                 |                                                                                                                 |                                                                                                                                                                                                                           |                                                                                     |                          | CR-SPLIT=NO                         |
|                 |                                                                                                                 |                                                                                                                                                                                                                           |                                                                                     |                          | Special Reqs.                       |
|                 |                                                                                                                 |                                                                                                                                                                                                                           |                                                                                     |                          |                                     |
|                 |                                                                                                                 |                                                                                                                                                                                                                           |                                                                                     |                          | Groups                              |
|                 |                                                                                                                 |                                                                                                                                                                                                                           |                                                                                     |                          | Pattern 1, Exps 1-1 in Visit 75 (1) |
|                 |                                                                                                                 |                                                                                                                                                                                                                           |                                                                                     |                          | Exp. Time (Total)/[Actual Dur.]     |
|                 |                                                                                                                 |                                                                                                                                                                                                                           |                                                                                     |                          | 400 Secs (1200 Secs)                |
|                 |                                                                                                                 |                                                                                                                                                                                                                           |                                                                                     |                          | [==>(Pattern 1)]                    |
|                 |                                                                                                                 |                                                                                                                                                                                                                           |                                                                                     |                          | [==>(Pattern 2)]                    |
|                 |                                                                                                                 |                                                                                                                                                                                                                           |                                                                                     |                          | [==>(Pattern 3)]                    |
|                 |                                                                                                                 |                                                                                                                                                                                                                           |                                                                                     |                          | [1]                                 |
| Orbit Structure |                                                                                                                 |                                                                                                                                                                                                                           |                                                                                     |                          |                                     |
|                 | <div> <div>Orbit 1</div> <div>Server Version: 20140605</div> </div>                                             |                                                                                                                                                                                                                           |                                                                                     |                          |                                     |

# Proposal 13671 - Visit 76 - Beyond MACS: A Snapshot Survey of the Most Massive Clusters of Galaxies at $z > 0.5$

|                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                           |                   |                                                                                     |  |                          |                   |              |                       |                       |                                 |                  |       |
|-----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|-------------------------------------------------------------------------------------|--|--------------------------|-------------------|--------------|-----------------------|-----------------------|---------------------------------|------------------|-------|
| Visit           | Proposal 13671, Visit 76, implementation                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                           |                   |                                                                                     |  |                          |                   |              |                       |                       | Tue Aug 19 01:02:37 GMT 2014    |                  |       |
|                 | Diagnostic Status: No Diagnostics                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                           |                   |                                                                                     |  |                          |                   |              |                       |                       |                                 |                  |       |
|                 | Scientific Instruments: ACS/WFC                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                           |                   |                                                                                     |  |                          |                   |              |                       |                       |                                 |                  |       |
|                 | Special Requirements: (none)                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                           |                   |                                                                                     |  |                          |                   |              |                       |                       |                                 |                  |       |
| Patterns        | #                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Primary Pattern                                                                                                                                                                                                           |                   |                                                                                     |  |                          | Secondary Pattern |              |                       |                       |                                 | Exposures        |       |
|                 | (1)                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Pattern Type=ACS-WFC-DITHER-LINE<br>Purpose=DITHER<br>Number Of Points=3<br>Point Spacing=3.011<br>Line Spacing=<br>Coordinate Frame=POS-TARG<br>Pattern Orientation=85.28<br>Angle Between Sides=<br>Center Pattern=true |                   |                                                                                     |  |                          |                   |              |                       |                       |                                 | (1)              |       |
| Fixed Targets   | #                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Name                                                                                                                                                                                                                      |                   | Target Coordinates                                                                  |  | Targ. Coord. Corrections |                   | Fluxes       |                       | Miscellaneous         |                                 |                  |       |
|                 | (31)                                                                                                                                                                                                                                                                                                                                                                                                                                                        | EMACSJ1621.2-0231                                                                                                                                                                                                         |                   | RA: 16 21 18.8270 (245.3284458d)<br>Dec: -02 32 44.73 (-2.54576d)<br>Equinox: J2000 |  |                          |                   | V=20.0       |                       | Reference Frame: ICRS |                                 |                  |       |
| Exposures       | #                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Label                                                                                                                                                                                                                     | Target            | Config,Mode,Aperture                                                                |  | Spectral Els.            | Opt. Params.      | Special Req. | Groups                |                       | Exp. Time (Total)/[Actual Dur.] |                  | Orbit |
|                 | 1                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 1621-02_81                                                                                                                                                                                                                | (31) EMACSJ1621.2 | ACS/WFC, ACCUM, WFC                                                                 |  | F814W                    | CR-SPLIT=NO       |              | Pattern 1, Exps 1-1 i |                       | 400 Secs (1200 Secs)            |                  |       |
|                 | 4                                                                                                                                                                                                                                                                                                                                                                                                                                                           | -0231                                                                                                                                                                                                                     | -0231             |                                                                                     |  |                          |                   |              | n Visit 76 (1)        |                       | [==>(Pattern 1)]                |                  |       |
|                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                           |                   |                                                                                     |  |                          |                   |              |                       |                       |                                 | [==>(Pattern 2)] |       |
| Orbit Structure | <div>Orbit 1<div>Server Version: 20140605</div><div><div>Pointing Maneuver</div><div>Pointing Maneuver</div><div>Unused Orbital Visibility = 1145</div><div>Occultation</div><div>GS Acq</div><div>Exp. 1</div><div>Exp. 1</div><div>Exp. 1</div><div>0</div><div>500</div><div>1000</div><div>1500</div><div>2000</div><div>2500</div><div>3000</div><div>3500</div><div>4000</div><div>4500</div><div>5000</div><div>5500</div><div>sec</div></div></div> |                                                                                                                                                                                                                           |                   |                                                                                     |  |                          |                   |              |                       |                       |                                 |                  |       |

# Proposal 13671 - Visit 77 - Beyond MACS: A Snapshot Survey of the Most Massive Clusters of Galaxies at $z > 0.5$

|                 |                                                                                                                 |                                                                                                                                                                                                                               |                                                                                     |                          |                                         |
|-----------------|-----------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|--------------------------|-----------------------------------------|
| Visit           | <b>Proposal 13671, Visit 77, implementation</b> <span style="float: right;">Tue Aug 19 01:02:37 GMT 2014</span> |                                                                                                                                                                                                                               |                                                                                     |                          |                                         |
|                 | <b>Diagnostic Status: No Diagnostics</b><br>Scientific Instruments: ACS/WFC<br>Special Requirements: (none)     |                                                                                                                                                                                                                               |                                                                                     |                          |                                         |
| Patterns        | #                                                                                                               | Primary Pattern                                                                                                                                                                                                               |                                                                                     | Secondary Pattern        | Exposures                               |
|                 | (1)                                                                                                             | Pattern Type=ACS-WFC-DITHER-<br>LINE<br>Purpose=DITHER<br>Number Of Points=3<br>Point Spacing=3.011<br>Line Spacing=<br>Coordinate Frame=POS-TARG<br>Pattern Orientation=85.28<br>Angle Between Sides=<br>Center Pattern=true |                                                                                     |                          | (1)                                     |
| Fixed Targets   | #                                                                                                               | Name                                                                                                                                                                                                                          | Target Coordinates                                                                  | Targ. Coord. Corrections | Fluxes                                  |
|                 | (32)                                                                                                            | EMACSJ1621.4+7232                                                                                                                                                                                                             | RA: 16 21 22.7260 (245.3446917d)<br>Dec: +72 32 49.02 (72.54695d)<br>Equinox: J2000 |                          | V=20.0                                  |
| Exposures       |                                                                                                                 |                                                                                                                                                                                                                               |                                                                                     |                          | Miscellaneous                           |
|                 | Reference Frame: ICRS                                                                                           |                                                                                                                                                                                                                               |                                                                                     |                          |                                         |
| Exposures       | #                                                                                                               | Label                                                                                                                                                                                                                         | Target                                                                              | Config,Mode,Aperture     | Spectral Els.                           |
|                 | 1                                                                                                               | 1621+72_81                                                                                                                                                                                                                    | (32) EMACSJ1621.4                                                                   | ACS/WFC, ACCUM, WFC      | F814W                                   |
| Exposures       | 4                                                                                                               | 4                                                                                                                                                                                                                             | +7232                                                                               |                          |                                         |
|                 |                                                                                                                 |                                                                                                                                                                                                                               |                                                                                     |                          | CR-SPLIT=NO                             |
| Exposures       |                                                                                                                 |                                                                                                                                                                                                                               |                                                                                     |                          | Special Reqs.                           |
|                 |                                                                                                                 |                                                                                                                                                                                                                               |                                                                                     |                          | Groups                                  |
| Exposures       |                                                                                                                 |                                                                                                                                                                                                                               |                                                                                     |                          | Exp. Time (Total)/[Actual Dur.]         |
|                 |                                                                                                                 |                                                                                                                                                                                                                               |                                                                                     |                          | Orbit                                   |
| Exposures       |                                                                                                                 |                                                                                                                                                                                                                               |                                                                                     |                          | Pattern 1, Exps 1-1 i<br>n Visit 77 (1) |
|                 |                                                                                                                 |                                                                                                                                                                                                                               |                                                                                     |                          | 400 Secs (1200 Secs)                    |
| Exposures       |                                                                                                                 |                                                                                                                                                                                                                               |                                                                                     |                          | [==>(Pattern 1)]                        |
|                 |                                                                                                                 |                                                                                                                                                                                                                               |                                                                                     |                          | [==>(Pattern 2)]                        |
| Exposures       |                                                                                                                 |                                                                                                                                                                                                                               |                                                                                     |                          | [==>(Pattern 3)]                        |
|                 |                                                                                                                 |                                                                                                                                                                                                                               |                                                                                     |                          | [1]                                     |
| Orbit Structure | <b>Orbit 1</b> <span style="float: right;">Server Version: 20140605</span>                                      |                                                                                                                                                                                                                               |                                                                                     |                          |                                         |
|                 |                                                                                                                 |                                                                                                                                                                                                                               |                                                                                     |                          |                                         |

# Proposal 13671 - Visit 78 - Beyond MACS: A Snapshot Survey of the Most Massive Clusters of Galaxies at $z>0.5$

|                 |                                                                                                                                                                                                                                         |                                                                                                                                                                                                                           |                   |                                                                                     |  |                          |                   |              |  |                       |                              |                       |                                 |  |                          |  |
|-----------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|-------------------------------------------------------------------------------------|--|--------------------------|-------------------|--------------|--|-----------------------|------------------------------|-----------------------|---------------------------------|--|--------------------------|--|
| Visit           | Proposal 13671, Visit 78, implementation                                                                                                                                                                                                |                                                                                                                                                                                                                           |                   |                                                                                     |  |                          |                   |              |  |                       | Tue Aug 19 01:02:37 GMT 2014 |                       |                                 |  |                          |  |
|                 | Diagnostic Status: No Diagnostics                                                                                                                                                                                                       |                                                                                                                                                                                                                           |                   |                                                                                     |  |                          |                   |              |  |                       |                              |                       |                                 |  |                          |  |
|                 | Scientific Instruments: ACS/WFC                                                                                                                                                                                                         |                                                                                                                                                                                                                           |                   |                                                                                     |  |                          |                   |              |  |                       |                              |                       |                                 |  |                          |  |
|                 | Special Requirements: (none)                                                                                                                                                                                                            |                                                                                                                                                                                                                           |                   |                                                                                     |  |                          |                   |              |  |                       |                              |                       |                                 |  |                          |  |
| Patterns        | #                                                                                                                                                                                                                                       | Primary Pattern                                                                                                                                                                                                           |                   |                                                                                     |  |                          | Secondary Pattern |              |  |                       |                              | Exposures             |                                 |  |                          |  |
|                 | (1)                                                                                                                                                                                                                                     | Pattern Type=ACS-WFC-DITHER-LINE<br>Purpose=DITHER<br>Number Of Points=3<br>Point Spacing=3.011<br>Line Spacing=<br>Coordinate Frame=POS-TARG<br>Pattern Orientation=85.28<br>Angle Between Sides=<br>Center Pattern=true |                   |                                                                                     |  |                          |                   |              |  |                       |                              | (1)                   |                                 |  |                          |  |
| Fixed Targets   | #                                                                                                                                                                                                                                       | Name                                                                                                                                                                                                                      |                   | Target Coordinates                                                                  |  | Targ. Coord. Corrections |                   | Fluxes       |  | Miscellaneous         |                              |                       |                                 |  |                          |  |
|                 | (33)                                                                                                                                                                                                                                    | EMACSJ1709.5+4731                                                                                                                                                                                                         |                   | RA: 17 09 34.5410 (257.3939208d)<br>Dec: +47 32 35.60 (47.54322d)<br>Equinox: J2000 |  |                          |                   | V=20.0       |  | Reference Frame: ICRS |                              |                       |                                 |  |                          |  |
| Exposures       | #                                                                                                                                                                                                                                       | Label                                                                                                                                                                                                                     | Target            | Config,Mode,Aperture                                                                |  | Spectral Els.            |                   | Opt. Params. |  | Special Req.          |                              | Groups                | Exp. Time (Total)/[Actual Dur.] |  | Orbit                    |  |
|                 | 1                                                                                                                                                                                                                                       | 1709+47_81                                                                                                                                                                                                                | (33) EMACSJ1709.5 | ACS/WFC, ACCUM, WFC                                                                 |  | F814W                    |                   | CR-SPLIT=NO  |  |                       |                              | Pattern 1, Exps 1-1 i | 400 Secs (1200 Secs)            |  |                          |  |
|                 | 4                                                                                                                                                                                                                                       | +4731                                                                                                                                                                                                                     |                   |                                                                                     |  |                          |                   |              |  |                       |                              | n Visit 78 (1)        | [==>(Pattern 1)]                |  |                          |  |
|                 |                                                                                                                                                                                                                                         |                                                                                                                                                                                                                           |                   |                                                                                     |  |                          |                   |              |  |                       |                              |                       | [==>(Pattern 2)]                |  | [1]                      |  |
|                 |                                                                                                                                                                                                                                         |                                                                                                                                                                                                                           |                   |                                                                                     |  |                          |                   |              |  |                       |                              |                       | [==>(Pattern 3)]                |  |                          |  |
|                 |                                                                                                                                                                                                                                         |                                                                                                                                                                                                                           |                   |                                                                                     |  |                          |                   |              |  |                       |                              |                       |                                 |  |                          |  |
| Orbit Structure | Orbit 1                                                                                                                                                                                                                                 |                                                                                                                                                                                                                           |                   |                                                                                     |  |                          |                   |              |  |                       |                              |                       |                                 |  | Server Version: 20140605 |  |
|                 | <p>Pointing Maneuver</p> <p>Pointing Maneuver</p> <p>Unused Orbital Visibility = 1281</p> <p>GS Acq</p> <p>Exp. 1</p> <p>Exp. 1</p> <p>Exp. 1</p> <p>Occultation</p> <p>0 500 1000 1500 2000 2500 3000 3500 4000 4500 5000 5500 sec</p> |                                                                                                                                                                                                                           |                   |                                                                                     |  |                          |                   |              |  |                       |                              |                       |                                 |  |                          |  |

# Proposal 13671 - Visit 79 - Beyond MACS: A Snapshot Survey of the Most Massive Clusters of Galaxies at $z > 0.5$

|                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                                                                                                                                           |                   |                                                                                     |  |                          |                   |              |                       |                       |                                 |           |                          |  |
|-----------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|-------------------------------------------------------------------------------------|--|--------------------------|-------------------|--------------|-----------------------|-----------------------|---------------------------------|-----------|--------------------------|--|
| Visit           | Proposal 13671, Visit 79, implementation                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                           |                   |                                                                                     |  |                          |                   |              |                       |                       | Tue Aug 19 01:02:37 GMT 2014    |           |                          |  |
|                 | Diagnostic Status: No Diagnostics                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                           |                   |                                                                                     |  |                          |                   |              |                       |                       |                                 |           |                          |  |
|                 | Scientific Instruments: ACS/WFC                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                                                                                                                                           |                   |                                                                                     |  |                          |                   |              |                       |                       |                                 |           |                          |  |
|                 | Special Requirements: (none)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                                                                                                                           |                   |                                                                                     |  |                          |                   |              |                       |                       |                                 |           |                          |  |
| Patterns        | #                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Primary Pattern                                                                                                                                                                                                           |                   |                                                                                     |  |                          | Secondary Pattern |              |                       |                       |                                 | Exposures |                          |  |
|                 | (1)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Pattern Type=ACS-WFC-DITHER-LINE<br>Purpose=DITHER<br>Number Of Points=3<br>Point Spacing=3.011<br>Line Spacing=<br>Coordinate Frame=POS-TARG<br>Pattern Orientation=85.28<br>Angle Between Sides=<br>Center Pattern=true |                   |                                                                                     |  |                          |                   |              |                       |                       |                                 | (1)       |                          |  |
| Fixed Targets   | #                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Name                                                                                                                                                                                                                      |                   | Target Coordinates                                                                  |  | Targ. Coord. Corrections |                   | Fluxes       |                       | Miscellaneous         |                                 |           |                          |  |
|                 | (34)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | EMACSJ1732.4+1934                                                                                                                                                                                                         |                   | RA: 17 32 24.0830 (263.1003458d)<br>Dec: +19 33 16.56 (19.55460d)<br>Equinox: J2000 |  |                          |                   | V=20.0       |                       | Reference Frame: ICRS |                                 |           |                          |  |
| Exposures       | #                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Label                                                                                                                                                                                                                     | Target            | Config,Mode,Aperture                                                                |  | Spectral Els.            | Opt. Params.      | Special Req. | Groups                |                       | Exp. Time (Total)/[Actual Dur.] |           | Orbit                    |  |
|                 | 1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 1732+19_81                                                                                                                                                                                                                | (34) EMACSJ1732.4 | ACS/WFC, ACCUM, WFC                                                                 |  | F814W                    | CR-SPLIT=NO       |              | Pattern 1, Exps 1-1 i |                       | 400 Secs (1200 Secs)            |           |                          |  |
|                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 4                                                                                                                                                                                                                         | +1934             |                                                                                     |  |                          |                   |              | n Visit 79 (1)        |                       | [==>(Pattern 1)]                |           |                          |  |
|                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                                                                                                                                           |                   |                                                                                     |  |                          |                   |              |                       |                       | [==>(Pattern 2)]                |           | [1]                      |  |
|                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                                                                                                                                           |                   |                                                                                     |  |                          |                   |              |                       |                       | [==>(Pattern 3)]                |           |                          |  |
|                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                                                                                                                                           |                   |                                                                                     |  |                          |                   |              |                       |                       |                                 |           |                          |  |
| Orbit Structure | Orbit 1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                           |                   |                                                                                     |  |                          |                   |              |                       |                       |                                 |           | Server Version: 20140605 |  |
|                 | <p>The diagram illustrates the orbit structure over a 5500-second period. Key events include:</p> <ul style="list-style-type: none"><li><b>GS Acq</b>: Green box with a camera icon at approximately 300s.</li><li><b>Exp. 1</b>: Three green boxes with camera icons at approximately 1000s, 1500s, and 1800s.</li><li><b>Pointing Maneuver</b>: Two vertical arrows at approximately 1000s and 1500s.</li><li><b>Unused Orbital Visibility</b>: A label above a green bar segment from approximately 2100s to 3200s.</li><li><b>Occultation</b>: A vertical arrow at approximately 3200s.</li></ul> <p>The timeline is marked with a scale from 0 to 5500 seconds in increments of 500.</p> |                                                                                                                                                                                                                           |                   |                                                                                     |  |                          |                   |              |                       |                       |                                 |           |                          |  |

# Proposal 13671 - Visit 80 - Beyond MACS: A Snapshot Survey of the Most Massive Clusters of Galaxies at $z > 0.5$

|                 |                                                                                                                                                                                                                                         |                                                                                                                  |                   |                                                                                     |  |                          |                                                                                                       |              |        |                       |                                 |           |                          |  |
|-----------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------|-------------------|-------------------------------------------------------------------------------------|--|--------------------------|-------------------------------------------------------------------------------------------------------|--------------|--------|-----------------------|---------------------------------|-----------|--------------------------|--|
| Visit           | Proposal 13671, Visit 80, implementation                                                                                                                                                                                                |                                                                                                                  |                   |                                                                                     |  |                          |                                                                                                       |              |        |                       | Tue Aug 19 01:02:37 GMT 2014    |           |                          |  |
|                 | Diagnostic Status: No Diagnostics                                                                                                                                                                                                       |                                                                                                                  |                   |                                                                                     |  |                          |                                                                                                       |              |        |                       |                                 |           |                          |  |
|                 | Scientific Instruments: ACS/WFC                                                                                                                                                                                                         |                                                                                                                  |                   |                                                                                     |  |                          |                                                                                                       |              |        |                       |                                 |           |                          |  |
|                 | Special Requirements: (none)                                                                                                                                                                                                            |                                                                                                                  |                   |                                                                                     |  |                          |                                                                                                       |              |        |                       |                                 |           |                          |  |
| Patterns        | #                                                                                                                                                                                                                                       | Primary Pattern                                                                                                  |                   |                                                                                     |  |                          | Secondary Pattern                                                                                     |              |        |                       |                                 | Exposures |                          |  |
|                 | (1)                                                                                                                                                                                                                                     | Pattern Type=ACS-WFC-DITHER-LINE<br>Purpose=DITHER<br>Number Of Points=3<br>Point Spacing=3.011<br>Line Spacing= |                   |                                                                                     |  |                          | Coordinate Frame=POS-TARG<br>Pattern Orientation=85.28<br>Angle Between Sides=<br>Center Pattern=true |              |        |                       |                                 | (1)       |                          |  |
| Fixed Targets   | #                                                                                                                                                                                                                                       | Name                                                                                                             |                   | Target Coordinates                                                                  |  | Targ. Coord. Corrections |                                                                                                       | Fluxes       |        | Miscellaneous         |                                 |           |                          |  |
|                 | (35)                                                                                                                                                                                                                                    | EMACSJ1757.5+3045                                                                                                |                   | RA: 17 57 29.4130 (269.3725542d)<br>Dec: +30 45 53.85 (30.76496d)<br>Equinox: J2000 |  |                          |                                                                                                       | V=20.0       |        | Reference Frame: ICRS |                                 |           |                          |  |
| Exposures       | #                                                                                                                                                                                                                                       | Label                                                                                                            | Target            | Config,Mode,Aperture                                                                |  | Spectral Els.            | Opt. Params.                                                                                          | Special Req. | Groups |                       | Exp. Time (Total)/[Actual Dur.] |           | Orbit                    |  |
|                 | 1                                                                                                                                                                                                                                       | 1757+30_81                                                                                                       | (35) EMACSJ1757.5 | ACS/WFC, ACCUM, WFC                                                                 |  | F814W                    | CR-SPLIT=NO                                                                                           |              |        | Pattern 1, Exps 1-1 i | 400 Secs (1200 Secs)            |           |                          |  |
|                 |                                                                                                                                                                                                                                         | 4                                                                                                                | +3045             |                                                                                     |  |                          |                                                                                                       |              |        | n Visit 80 (1)        | [==>(Pattern 1)]                |           |                          |  |
|                 |                                                                                                                                                                                                                                         |                                                                                                                  |                   |                                                                                     |  |                          |                                                                                                       |              |        |                       | [==>(Pattern 2)]                |           | [1]                      |  |
|                 |                                                                                                                                                                                                                                         |                                                                                                                  |                   |                                                                                     |  |                          |                                                                                                       |              |        |                       | [==>(Pattern 3)]                |           |                          |  |
| Orbit Structure | Orbit 1                                                                                                                                                                                                                                 |                                                                                                                  |                   |                                                                                     |  |                          |                                                                                                       |              |        |                       |                                 |           | Server Version: 20140605 |  |
|                 | <p>GS Acq</p> <p>Exp. 1</p> <p>Pointing Maneuver</p> <p>Exp. 1</p> <p>Pointing Maneuver</p> <p>Exp. 1</p> <p>Unused Orbital Visibility = 1180</p> <p>Occultation</p> <p>0 500 1000 1500 2000 2500 3000 3500 4000 4500 5000 5500 sec</p> |                                                                                                                  |                   |                                                                                     |  |                          |                                                                                                       |              |        |                       |                                 |           |                          |  |

# Proposal 13671 - Visit 81 - Beyond MACS: A Snapshot Survey of the Most Massive Clusters of Galaxies at $z>0.5$

|                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                           |                   |                                                                                     |  |                          |                   |              |  |                       |                              |                                     |                                                          |  |       |
|-----------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|-------------------------------------------------------------------------------------|--|--------------------------|-------------------|--------------|--|-----------------------|------------------------------|-------------------------------------|----------------------------------------------------------|--|-------|
| Visit           | Proposal 13671, Visit 81, implementation                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                           |                   |                                                                                     |  |                          |                   |              |  |                       | Tue Aug 19 01:02:37 GMT 2014 |                                     |                                                          |  |       |
|                 | Diagnostic Status: No Diagnostics                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                           |                   |                                                                                     |  |                          |                   |              |  |                       |                              |                                     |                                                          |  |       |
|                 | Scientific Instruments: ACS/WFC                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                           |                   |                                                                                     |  |                          |                   |              |  |                       |                              |                                     |                                                          |  |       |
|                 | Special Requirements: (none)                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                           |                   |                                                                                     |  |                          |                   |              |  |                       |                              |                                     |                                                          |  |       |
| Patterns        | #                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Primary Pattern                                                                                                                                                                                                           |                   |                                                                                     |  |                          | Secondary Pattern |              |  |                       |                              | Exposures                           |                                                          |  |       |
|                 | (1)                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Pattern Type=ACS-WFC-DITHER-LINE<br>Purpose=DITHER<br>Number Of Points=3<br>Point Spacing=3.011<br>Line Spacing=<br>Coordinate Frame=POS-TARG<br>Pattern Orientation=85.28<br>Angle Between Sides=<br>Center Pattern=true |                   |                                                                                     |  |                          |                   |              |  |                       |                              | (1)                                 |                                                          |  |       |
| Fixed Targets   | #                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Name                                                                                                                                                                                                                      |                   | Target Coordinates                                                                  |  | Targ. Coord. Corrections |                   | Fluxes       |  | Miscellaneous         |                              |                                     |                                                          |  |       |
|                 | (36)                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | EMACSJ1823.1+7822                                                                                                                                                                                                         |                   | RA: 18 23 22.9990 (275.8458292d)<br>Dec: +78 23 12.91 (78.38692d)<br>Equinox: J2000 |  |                          |                   | V=20.0       |  | Reference Frame: ICRS |                              |                                     |                                                          |  |       |
| Exposures       | #                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Label                                                                                                                                                                                                                     | Target            | Config,Mode,Aperture                                                                |  | Spectral Els.            |                   | Opt. Params. |  | Special Reqs.         |                              | Groups                              | Exp. Time (Total)/[Actual Dur.]                          |  | Orbit |
|                 | 1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 1823+78_81                                                                                                                                                                                                                | (36) EMACSJ1823.1 | ACS/WFC, ACCUM, WFC                                                                 |  | F814W                    |                   | CR-SPLIT=NO  |  |                       |                              | Pattern 1, Exps 1-1 in Visit 81 (1) | 400 Secs (1200 Secs)                                     |  |       |
|                 | 4                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                           | +7822             |                                                                                     |  |                          |                   |              |  |                       |                              |                                     | [==>(Pattern 1)]<br>[==>(Pattern 2)]<br>[==>(Pattern 3)] |  | [1]   |
| Orbit Structure | <div>Orbit 1<div>Server Version: 20140605</div><div><div>GS Acq</div><div>Exp. 1</div><div>Exp. 1</div><div>Exp. 1</div><div>Unused Orbital Visibility = 1528</div><div>Occultation</div></div><div><div>Pointing Maneuver</div><div>Pointing Maneuver</div></div><div><div>0</div><div>500</div><div>1000</div><div>1500</div><div>2000</div><div>2500</div><div>3000</div><div>3500</div><div>4000</div><div>4500</div><div>5000</div><div>5500</div><div>sec</div></div></div> |                                                                                                                                                                                                                           |                   |                                                                                     |  |                          |                   |              |  |                       |                              |                                     |                                                          |  |       |

# Proposal 13671 - Visit 82 - Beyond MACS: A Snapshot Survey of the Most Massive Clusters of Galaxies at $z > 0.5$

|                 |                                                        |                                                                                                                  |                   |                                                                                    |  |                          |                                                                                                       |               |                       |                                                          |                              |           |  |
|-----------------|--------------------------------------------------------|------------------------------------------------------------------------------------------------------------------|-------------------|------------------------------------------------------------------------------------|--|--------------------------|-------------------------------------------------------------------------------------------------------|---------------|-----------------------|----------------------------------------------------------|------------------------------|-----------|--|
| Visit           | Proposal 13671, Visit 82, implementation               |                                                                                                                  |                   |                                                                                    |  |                          |                                                                                                       |               |                       |                                                          | Tue Aug 19 01:02:37 GMT 2014 |           |  |
|                 | Diagnostic Status: No Diagnostics                      |                                                                                                                  |                   |                                                                                    |  |                          |                                                                                                       |               |                       |                                                          |                              |           |  |
|                 | Scientific Instruments: ACS/WFC                        |                                                                                                                  |                   |                                                                                    |  |                          |                                                                                                       |               |                       |                                                          |                              |           |  |
|                 | Special Requirements: (none)                           |                                                                                                                  |                   |                                                                                    |  |                          |                                                                                                       |               |                       |                                                          |                              |           |  |
| Patterns        | #                                                      | Primary Pattern                                                                                                  |                   |                                                                                    |  |                          | Secondary Pattern                                                                                     |               |                       |                                                          |                              | Exposures |  |
|                 | (1)                                                    | Pattern Type=ACS-WFC-DITHER-LINE<br>Purpose=DITHER<br>Number Of Points=3<br>Point Spacing=3.011<br>Line Spacing= |                   |                                                                                    |  |                          | Coordinate Frame=POS-TARG<br>Pattern Orientation=85.28<br>Angle Between Sides=<br>Center Pattern=true |               |                       |                                                          |                              | (1)       |  |
| Fixed Targets   | #                                                      | Name                                                                                                             |                   | Target Coordinates                                                                 |  | Targ. Coord. Corrections |                                                                                                       | Fluxes        |                       | Miscellaneous                                            |                              |           |  |
|                 | (37)                                                   | EMACSJ1831.1+6214                                                                                                |                   | RA: 18 31 9.0250 (277.7876042d)<br>Dec: +62 14 57.13 (62.24920d)<br>Equinox: J2000 |  |                          |                                                                                                       | V=20.0        |                       | Reference Frame: ICRS                                    |                              |           |  |
| Exposures       | #                                                      | Label                                                                                                            | Target            | Config,Mode,Aperture                                                               |  | Spectral Els.            | Opt. Params.                                                                                          | Special Reqs. | Groups                | Exp. Time (Total)/[Actual Dur.]                          |                              | Orbit     |  |
|                 | 1                                                      | 1831+62_81                                                                                                       | (37) EMACSJ1831.1 | ACS/WFC, ACCUM, WFC                                                                |  | F814W                    | CR-SPLIT=NO                                                                                           |               | Pattern 1, Exps 1-1 i | 400 Secs (1200 Secs)                                     |                              |           |  |
|                 | 4                                                      | +6214                                                                                                            |                   |                                                                                    |  |                          |                                                                                                       |               | n Visit 82 (1)        | [==>(Pattern 1)]<br>[==>(Pattern 2)]<br>[==>(Pattern 3)] |                              | [1]       |  |
| Orbit Structure | <div>Orbit 1</div> <div>Server Version: 20140605</div> |                                                                                                                  |                   |                                                                                    |  |                          |                                                                                                       |               |                       |                                                          |                              |           |  |

# Proposal 13671 - Visit 83 - Beyond MACS: A Snapshot Survey of the Most Massive Clusters of Galaxies at $z > 0.5$

|                 |                                                                                                                                                                                                                                                                   |                                                                                                                  |                   |                                                                                     |  |                          |                                                                                                       |               |                                     |                                                          |                              |           |  |
|-----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------|-------------------|-------------------------------------------------------------------------------------|--|--------------------------|-------------------------------------------------------------------------------------------------------|---------------|-------------------------------------|----------------------------------------------------------|------------------------------|-----------|--|
| Visit           | Proposal 13671, Visit 83, implementation                                                                                                                                                                                                                          |                                                                                                                  |                   |                                                                                     |  |                          |                                                                                                       |               |                                     |                                                          | Tue Aug 19 01:02:37 GMT 2014 |           |  |
|                 | Diagnostic Status: No Diagnostics                                                                                                                                                                                                                                 |                                                                                                                  |                   |                                                                                     |  |                          |                                                                                                       |               |                                     |                                                          |                              |           |  |
|                 | Scientific Instruments: ACS/WFC                                                                                                                                                                                                                                   |                                                                                                                  |                   |                                                                                     |  |                          |                                                                                                       |               |                                     |                                                          |                              |           |  |
|                 | Special Requirements: (none)                                                                                                                                                                                                                                      |                                                                                                                  |                   |                                                                                     |  |                          |                                                                                                       |               |                                     |                                                          |                              |           |  |
| Patterns        | #                                                                                                                                                                                                                                                                 | Primary Pattern                                                                                                  |                   |                                                                                     |  |                          | Secondary Pattern                                                                                     |               |                                     |                                                          |                              | Exposures |  |
|                 | (1)                                                                                                                                                                                                                                                               | Pattern Type=ACS-WFC-DITHER-LINE<br>Purpose=DITHER<br>Number Of Points=3<br>Point Spacing=3.011<br>Line Spacing= |                   |                                                                                     |  |                          | Coordinate Frame=POS-TARG<br>Pattern Orientation=85.28<br>Angle Between Sides=<br>Center Pattern=true |               |                                     |                                                          |                              | (1)       |  |
| Fixed Targets   | #                                                                                                                                                                                                                                                                 | Name                                                                                                             |                   | Target Coordinates                                                                  |  | Targ. Coord. Corrections |                                                                                                       | Fluxes        |                                     | Miscellaneous                                            |                              |           |  |
|                 | (38)                                                                                                                                                                                                                                                              | EMACSJ1831.9+5746                                                                                                |                   | RA: 18 31 58.1320 (277.9922167d)<br>Dec: +57 46 45.16 (57.77921d)<br>Equinox: J2000 |  |                          |                                                                                                       | V=20.0        |                                     | Reference Frame: ICRS                                    |                              |           |  |
| Exposures       | #                                                                                                                                                                                                                                                                 | Label                                                                                                            | Target            | Config,Mode,Aperture                                                                |  | Spectral Els.            | Opt. Params.                                                                                          | Special Reqs. | Groups                              | Exp. Time (Total)/[Actual Dur.]                          |                              | Orbit     |  |
|                 | 1                                                                                                                                                                                                                                                                 | 1831+57_81                                                                                                       | (38) EMACSJ1831.9 | ACS/WFC, ACCUM, WFC                                                                 |  | F814W                    | CR-SPLIT=NO                                                                                           |               | Pattern 1, Exps 1-1 in Visit 83 (1) | 400 Secs (1200 Secs)                                     |                              |           |  |
|                 | 4                                                                                                                                                                                                                                                                 |                                                                                                                  | +5746             |                                                                                     |  |                          |                                                                                                       |               |                                     | [==>(Pattern 1)]<br>[==>(Pattern 2)]<br>[==>(Pattern 3)] |                              | [1]       |  |
| Orbit Structure | <div>Orbit 1</div> <div>Server Version: 20140605</div> <p>GS Acq [Exp. 1] [Exp. 1] [Exp. 1] Unused Orbital Visibility = 1393 Occultation</p> <p>Pointing Maneuver</p> <p>Pointing Maneuver</p> <p>0 500 1000 1500 2000 2500 3000 3500 4000 4500 5000 5500 sec</p> |                                                                                                                  |                   |                                                                                     |  |                          |                                                                                                       |               |                                     |                                                          |                              |           |  |

# Proposal 13671 - Visit 84 - Beyond MACS: A Snapshot Survey of the Most Massive Clusters of Galaxies at $z > 0.5$

|                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                           |  |                                                                                     |  |                      |  |                          |  |               |                              |                   |  |              |  |                       |  |                                 |  |  |  |           |  |  |  |  |  |  |  |  |  |
|-----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|-------------------------------------------------------------------------------------|--|----------------------|--|--------------------------|--|---------------|------------------------------|-------------------|--|--------------|--|-----------------------|--|---------------------------------|--|--|--|-----------|--|--|--|--|--|--|--|--|--|
| Visit           | Proposal 13671, Visit 84, implementation                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                           |  |                                                                                     |  |                      |  |                          |  |               | Tue Aug 19 01:02:38 GMT 2014 |                   |  |              |  |                       |  |                                 |  |  |  |           |  |  |  |  |  |  |  |  |  |
|                 | Diagnostic Status: No Diagnostics                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                           |  |                                                                                     |  |                      |  |                          |  |               |                              |                   |  |              |  |                       |  |                                 |  |  |  |           |  |  |  |  |  |  |  |  |  |
|                 | Scientific Instruments: ACS/WFC                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                           |  |                                                                                     |  |                      |  |                          |  |               |                              |                   |  |              |  |                       |  |                                 |  |  |  |           |  |  |  |  |  |  |  |  |  |
|                 | Special Requirements: (none)                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                           |  |                                                                                     |  |                      |  |                          |  |               |                              |                   |  |              |  |                       |  |                                 |  |  |  |           |  |  |  |  |  |  |  |  |  |
| Patterns        | #                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Primary Pattern                                                                                                                                                                                                           |  |                                                                                     |  |                      |  |                          |  |               |                              | Secondary Pattern |  |              |  |                       |  |                                 |  |  |  | Exposures |  |  |  |  |  |  |  |  |  |
|                 | (1)                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Pattern Type=ACS-WFC-DITHER-LINE<br>Purpose=DITHER<br>Number Of Points=3<br>Point Spacing=3.011<br>Line Spacing=<br>Coordinate Frame=POS-TARG<br>Pattern Orientation=85.28<br>Angle Between Sides=<br>Center Pattern=true |  |                                                                                     |  |                      |  |                          |  |               |                              |                   |  |              |  |                       |  |                                 |  |  |  | (1)       |  |  |  |  |  |  |  |  |  |
| Fixed Targets   | #                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Name                                                                                                                                                                                                                      |  | Target Coordinates                                                                  |  |                      |  | Targ. Coord. Corrections |  |               |                              | Fluxes            |  |              |  | Miscellaneous         |  |                                 |  |  |  |           |  |  |  |  |  |  |  |  |  |
|                 | (39)                                                                                                                                                                                                                                                                                                                                                                                                                                                        | EMACSJ2025.5-2313                                                                                                                                                                                                         |  | RA: 20 25 31.1630 (306.3798458d)<br>Dec: -23 13 9.40 (-23.21928d)<br>Equinox: J2000 |  |                      |  |                          |  |               |                              | V=20.0            |  |              |  | Reference Frame: ICRS |  |                                 |  |  |  |           |  |  |  |  |  |  |  |  |  |
| Exposures       | #                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Label                                                                                                                                                                                                                     |  | Target                                                                              |  | Config,Mode,Aperture |  |                          |  | Spectral Els. |                              | Opt. Params.      |  | Special Req. |  | Groups                |  | Exp. Time (Total)/[Actual Dur.] |  |  |  | Orbit     |  |  |  |  |  |  |  |  |  |
|                 | 1                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 2025-23_81                                                                                                                                                                                                                |  | (39) EMACSJ2025.5                                                                   |  | ACS/WFC, ACCUM, WFC  |  |                          |  | F814W         |                              | CR-SPLIT=NO       |  |              |  | Pattern 1, Exps 1-1 i |  | 400 Secs (1200 Secs)            |  |  |  |           |  |  |  |  |  |  |  |  |  |
|                 | 4                                                                                                                                                                                                                                                                                                                                                                                                                                                           | -2313                                                                                                                                                                                                                     |  |                                                                                     |  |                      |  |                          |  |               |                              |                   |  |              |  | n Visit 84 (1)        |  | [==>(Pattern 1)]                |  |  |  |           |  |  |  |  |  |  |  |  |  |
|                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                           |  |                                                                                     |  |                      |  |                          |  |               |                              |                   |  |              |  |                       |  | [==>(Pattern 2)]                |  |  |  | [1]       |  |  |  |  |  |  |  |  |  |
| Orbit Structure | <div>Orbit 1<div>Server Version: 20140605</div><div><div>Pointing Maneuver</div><div>Pointing Maneuver</div><div>Unused Orbital Visibility = 1155</div><div>Occultation</div><div>GS Acq</div><div>Exp. 1</div><div>Exp. 1</div><div>Exp. 1</div><div>0</div><div>500</div><div>1000</div><div>1500</div><div>2000</div><div>2500</div><div>3000</div><div>3500</div><div>4000</div><div>4500</div><div>5000</div><div>5500</div><div>sec</div></div></div> |                                                                                                                                                                                                                           |  |                                                                                     |  |                      |  |                          |  |               |                              |                   |  |              |  |                       |  |                                 |  |  |  |           |  |  |  |  |  |  |  |  |  |

# Proposal 13671 - Visit 85 - Beyond MACS: A Snapshot Survey of the Most Massive Clusters of Galaxies at $z > 0.5$

|                 |                                                                                                                                                                                                                  |                                                                                                                      |                                                                                     |                      |                          |                                                                                                       |               |                       |                                                          |           |
|-----------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|----------------------|--------------------------|-------------------------------------------------------------------------------------------------------|---------------|-----------------------|----------------------------------------------------------|-----------|
| Visit           | Proposal 13671, Visit 85, implementation <span style="float: right;">Tue Aug 19 01:02:38 GMT 2014</span><br>Diagnostic Status: No Diagnostics<br>Scientific Instruments: ACS/WFC<br>Special Requirements: (none) |                                                                                                                      |                                                                                     |                      |                          |                                                                                                       |               |                       |                                                          |           |
|                 |                                                                                                                                                                                                                  |                                                                                                                      |                                                                                     |                      |                          |                                                                                                       |               |                       |                                                          |           |
| Patterns        | #                                                                                                                                                                                                                | Primary Pattern                                                                                                      |                                                                                     |                      |                          | Secondary Pattern                                                                                     |               |                       |                                                          | Exposures |
|                 | (1)                                                                                                                                                                                                              | Pattern Type=ACS-WFC-DITHER-<br>LINE<br>Purpose=DITHER<br>Number Of Points=3<br>Point Spacing=3.011<br>Line Spacing= |                                                                                     |                      |                          | Coordinate Frame=POS-TARG<br>Pattern Orientation=85.28<br>Angle Between Sides=<br>Center Pattern=true |               |                       |                                                          | (1)       |
| Fixed Targets   | #                                                                                                                                                                                                                | Name                                                                                                                 | Target Coordinates                                                                  |                      | Targ. Coord. Corrections |                                                                                                       | Fluxes        |                       | Miscellaneous                                            |           |
|                 | (40)                                                                                                                                                                                                             | EMACSJ2037.1-2534                                                                                                    | RA: 20 37 4.3160 (309.2679833d)<br>Dec: -25 34 58.56 (-25.58293d)<br>Equinox: J2000 |                      |                          |                                                                                                       | V=20.0        |                       | Reference Frame: ICRS                                    |           |
| Exposures       | #                                                                                                                                                                                                                | Label                                                                                                                | Target                                                                              | Config,Mode,Aperture | Spectral Els.            | Opt. Params.                                                                                          | Special Reqs. | Groups                | Exp. Time (Total)/[Actual Dur.]                          | Orbit     |
|                 | 1                                                                                                                                                                                                                | 2037-25_81                                                                                                           | (40) EMACSJ2037.1                                                                   | ACS/WFC, ACCUM, WFC  | F814W                    | CR-SPLIT=NO                                                                                           |               | Pattern 1, Exps 1-1 i | 400 Secs (1200 Secs)                                     |           |
|                 | 4                                                                                                                                                                                                                |                                                                                                                      | -2534                                                                               |                      |                          |                                                                                                       |               | n Visit 85 (1)        | [==>(Pattern 1)]<br>[==>(Pattern 2)]<br>[==>(Pattern 3)] | [1]       |
| Orbit Structure | <b>Orbit 1</b> <span style="float: right;">Server Version: 20140605</span>                                                                                                                                       |                                                                                                                      |                                                                                     |                      |                          |                                                                                                       |               |                       |                                                          |           |
|                 |                                                                                                                                                                                                                  |                                                                                                                      |                                                                                     |                      |                          |                                                                                                       |               |                       |                                                          |           |

# Proposal 13671 - Visit 86 - Beyond MACS: A Snapshot Survey of the Most Massive Clusters of Galaxies at $z > 0.5$

|                 |                                                                                                                                                                                                                  |                                                                                                                      |                                                                                    |                      |                          |                                                                                                       |               |                       |                                                          |           |
|-----------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|----------------------|--------------------------|-------------------------------------------------------------------------------------------------------|---------------|-----------------------|----------------------------------------------------------|-----------|
| Visit           | Proposal 13671, Visit 86, implementation <span style="float: right;">Tue Aug 19 01:02:38 GMT 2014</span><br>Diagnostic Status: No Diagnostics<br>Scientific Instruments: ACS/WFC<br>Special Requirements: (none) |                                                                                                                      |                                                                                    |                      |                          |                                                                                                       |               |                       |                                                          |           |
|                 |                                                                                                                                                                                                                  |                                                                                                                      |                                                                                    |                      |                          |                                                                                                       |               |                       |                                                          |           |
| Patterns        | #                                                                                                                                                                                                                | Primary Pattern                                                                                                      |                                                                                    |                      |                          | Secondary Pattern                                                                                     |               |                       |                                                          | Exposures |
|                 | (1)                                                                                                                                                                                                              | Pattern Type=ACS-WFC-DITHER-<br>LINE<br>Purpose=DITHER<br>Number Of Points=3<br>Point Spacing=3.011<br>Line Spacing= |                                                                                    |                      |                          | Coordinate Frame=POS-TARG<br>Pattern Orientation=85.28<br>Angle Between Sides=<br>Center Pattern=true |               |                       |                                                          | (1)       |
| Fixed Targets   | #                                                                                                                                                                                                                | Name                                                                                                                 | Target Coordinates                                                                 |                      | Targ. Coord. Corrections |                                                                                                       | Fluxes        |                       | Miscellaneous                                            |           |
|                 | (41)                                                                                                                                                                                                             | EMACSJ2114.4+0427                                                                                                    | RA: 21 14 27.2800 (318.6136667d)<br>Dec: +04 27 44.68 (4.46241d)<br>Equinox: J2000 |                      |                          |                                                                                                       | V=20.0        |                       | Reference Frame: ICRS                                    |           |
| Exposures       | #                                                                                                                                                                                                                | Label                                                                                                                | Target                                                                             | Config,Mode,Aperture | Spectral Els.            | Opt. Params.                                                                                          | Special Reqs. | Groups                | Exp. Time (Total)/[Actual Dur.]                          | Orbit     |
|                 | 1                                                                                                                                                                                                                | 2114+04_81                                                                                                           | (41) EMACSJ2114.4                                                                  | ACS/WFC, ACCUM, WFC  | F814W                    | CR-SPLIT=NO                                                                                           |               | Pattern 1, Exps 1-1 i | 400 Secs (1200 Secs)                                     |           |
|                 | 4                                                                                                                                                                                                                | +0427                                                                                                                | +0427                                                                              |                      |                          |                                                                                                       |               | n Visit 86 (1)        | [==>(Pattern 1)]<br>[==>(Pattern 2)]<br>[==>(Pattern 3)] | [1]       |
| Orbit Structure | <b>Orbit 1</b> <span style="float: right;">Server Version: 20140605</span>                                                                                                                                       |                                                                                                                      |                                                                                    |                      |                          |                                                                                                       |               |                       |                                                          |           |
|                 |                                                                                                                                                                                                                  |                                                                                                                      |                                                                                    |                      |                          |                                                                                                       |               |                       |                                                          |           |

# Proposal 13671 - Visit 87 - Beyond MACS: A Snapshot Survey of the Most Massive Clusters of Galaxies at $z > 0.5$

|                 |                                                                                                          |                                                                                                                      |                                                                                      |                                                                                                       |               |
|-----------------|----------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------|---------------|
| Visit           | Proposal 13671, Visit 87, implementation <span style="float: right;">Tue Aug 19 01:02:38 GMT 2014</span> |                                                                                                                      |                                                                                      |                                                                                                       |               |
|                 | Diagnostic Status: No Diagnostics<br>Scientific Instruments: ACS/WFC<br>Special Requirements: (none)     |                                                                                                                      |                                                                                      |                                                                                                       |               |
| Patterns        | #                                                                                                        | Primary Pattern                                                                                                      |                                                                                      | Secondary Pattern                                                                                     | Exposures     |
|                 | (1)                                                                                                      | Pattern Type=ACS-WFC-DITHER-<br>LINE<br>Purpose=DITHER<br>Number Of Points=3<br>Point Spacing=3.011<br>Line Spacing= |                                                                                      | Coordinate Frame=POS-TARG<br>Pattern Orientation=85.28<br>Angle Between Sides=<br>Center Pattern=true | (1)           |
| Fixed Targets   | #                                                                                                        | Name                                                                                                                 | Target Coordinates                                                                   | Targ. Coord. Corrections                                                                              | Fluxes        |
|                 | (42)                                                                                                     | EMACSJ2137.2-2232                                                                                                    | RA: 21 37 14.7210 (324.3113375d)<br>Dec: -22 32 15.31 (-22.53759d)<br>Equinox: J2000 |                                                                                                       | V=20.0        |
| Exposures       |                                                                                                          |                                                                                                                      |                                                                                      |                                                                                                       | Miscellaneous |
|                 | Reference Frame: ICRS                                                                                    |                                                                                                                      |                                                                                      |                                                                                                       |               |
| Exposures       | #                                                                                                        | Label                                                                                                                | Target                                                                               | Config,Mode,Aperture                                                                                  | Spectral Els. |
|                 | 1                                                                                                        | 2137-22_81                                                                                                           | (42) EMACSJ2137.2                                                                    | ACS/WFC, ACCUM, WFC                                                                                   | F814W         |
| Exposures       | 4                                                                                                        | -2232                                                                                                                |                                                                                      |                                                                                                       |               |
|                 | CR-SPLIT=NO                                                                                              |                                                                                                                      |                                                                                      |                                                                                                       |               |
| Exposures       | Special Reqs.                                                                                            |                                                                                                                      |                                                                                      |                                                                                                       |               |
|                 | Groups                                                                                                   |                                                                                                                      |                                                                                      |                                                                                                       |               |
| Exposures       | Exp. Time (Total)/[Actual Dur.]                                                                          |                                                                                                                      |                                                                                      |                                                                                                       |               |
|                 | Orbit                                                                                                    |                                                                                                                      |                                                                                      |                                                                                                       |               |
| Exposures       | Pattern 1, Exps 1-1 i                                                                                    |                                                                                                                      |                                                                                      |                                                                                                       |               |
|                 | n Visit 87 (1)                                                                                           |                                                                                                                      |                                                                                      |                                                                                                       |               |
| Exposures       | [==>(Pattern 1)]                                                                                         |                                                                                                                      |                                                                                      |                                                                                                       |               |
|                 | [==>(Pattern 2)]                                                                                         |                                                                                                                      |                                                                                      |                                                                                                       |               |
| Exposures       | [==>(Pattern 3)]                                                                                         |                                                                                                                      |                                                                                      |                                                                                                       |               |
|                 | [1]                                                                                                      |                                                                                                                      |                                                                                      |                                                                                                       |               |
| Orbit Structure | Orbit 1                                                                                                  |                                                                                                                      |                                                                                      |                                                                                                       |               |
|                 | Server Version: 20140605                                                                                 |                                                                                                                      |                                                                                      |                                                                                                       |               |
| Orbit Structure | GS Acq [Exp. 1] [Exp. 1] [Exp. 1]                                                                        |                                                                                                                      |                                                                                      |                                                                                                       |               |
|                 | Pointing Maneuver                                                                                        |                                                                                                                      |                                                                                      |                                                                                                       |               |
| Orbit Structure | Unused Orbital Visibility = 1155                                                                         |                                                                                                                      |                                                                                      |                                                                                                       |               |
|                 | Occultation                                                                                              |                                                                                                                      |                                                                                      |                                                                                                       |               |
| Orbit Structure |                                                                                                          |                                                                                                                      |                                                                                      |                                                                                                       |               |
|                 | 0 500 1000 1500 2000 2500 3000 3500 4000 4500 5000 5500 sec                                              |                                                                                                                      |                                                                                      |                                                                                                       |               |

# Proposal 13671 - Visit 88 - Beyond MACS: A Snapshot Survey of the Most Massive Clusters of Galaxies at $z > 0.5$

|                 |                                          |                                                                                                                                                                                                                           |                   |                                                                                     |  |                          |                   |               |                       |                                                          |                              |           |                          |  |
|-----------------|------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|-------------------------------------------------------------------------------------|--|--------------------------|-------------------|---------------|-----------------------|----------------------------------------------------------|------------------------------|-----------|--------------------------|--|
| Visit           | Proposal 13671, Visit 88, implementation |                                                                                                                                                                                                                           |                   |                                                                                     |  |                          |                   |               |                       |                                                          | Tue Aug 19 01:02:38 GMT 2014 |           |                          |  |
|                 | Diagnostic Status: No Diagnostics        |                                                                                                                                                                                                                           |                   |                                                                                     |  |                          |                   |               |                       |                                                          |                              |           |                          |  |
|                 | Scientific Instruments: ACS/WFC          |                                                                                                                                                                                                                           |                   |                                                                                     |  |                          |                   |               |                       |                                                          |                              |           |                          |  |
|                 | Special Requirements: (none)             |                                                                                                                                                                                                                           |                   |                                                                                     |  |                          |                   |               |                       |                                                          |                              |           |                          |  |
| Patterns        | #                                        | Primary Pattern                                                                                                                                                                                                           |                   |                                                                                     |  |                          | Secondary Pattern |               |                       |                                                          |                              | Exposures |                          |  |
|                 | (1)                                      | Pattern Type=ACS-WFC-DITHER-LINE<br>Purpose=DITHER<br>Number Of Points=3<br>Point Spacing=3.011<br>Line Spacing=<br>Coordinate Frame=POS-TARG<br>Pattern Orientation=85.28<br>Angle Between Sides=<br>Center Pattern=true |                   |                                                                                     |  |                          |                   |               |                       |                                                          |                              | (1)       |                          |  |
| Fixed Targets   | #                                        | Name                                                                                                                                                                                                                      |                   | Target Coordinates                                                                  |  | Targ. Coord. Corrections |                   | Fluxes        |                       | Miscellaneous                                            |                              |           |                          |  |
|                 | (43)                                     | EMACSJ2207.5-0302                                                                                                                                                                                                         |                   | RA: 22 07 34.0510 (331.8918792d)<br>Dec: -03 02 18.07 (-3.03835d)<br>Equinox: J2000 |  |                          |                   | V=20.0        |                       | Reference Frame: ICRS                                    |                              |           |                          |  |
| Exposures       | #                                        | Label                                                                                                                                                                                                                     | Target            | Config,Mode,Aperture                                                                |  | Spectral Els.            | Opt. Params.      | Special Reqs. | Groups                | Exp. Time (Total)/[Actual Dur.]                          |                              | Orbit     |                          |  |
|                 | 1                                        | 2207-03_81                                                                                                                                                                                                                | (43) EMACSJ2207.5 | ACS/WFC, ACCUM, WFC                                                                 |  | F814W                    | CR-SPLIT=NO       |               | Pattern 1, Exps 1-1 i | 400 Secs (1200 Secs)                                     |                              |           |                          |  |
|                 | 4                                        | -0302                                                                                                                                                                                                                     |                   |                                                                                     |  |                          |                   |               | n Visit 88 (1)        | [==>(Pattern 1)]<br>[==>(Pattern 2)]<br>[==>(Pattern 3)] |                              | [1]       |                          |  |
| Orbit Structure | Orbit 1                                  |                                                                                                                                                                                                                           |                   |                                                                                     |  |                          |                   |               |                       |                                                          |                              |           | Server Version: 20140605 |  |
|                 |                                          |                                                                                                                                                                                                                           |                   |                                                                                     |  |                          |                   |               |                       |                                                          |                              |           |                          |  |

# Proposal 13671 - Visit 89 - Beyond MACS: A Snapshot Survey of the Most Massive Clusters of Galaxies at $z > 0.5$

|                 |                                                                                                          |                                                                                                                      |                                                                                     |                                                                                                       |                                         |
|-----------------|----------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------|-----------------------------------------|
| Visit           | Proposal 13671, Visit 89, implementation <span style="float: right;">Tue Aug 19 01:02:38 GMT 2014</span> |                                                                                                                      |                                                                                     |                                                                                                       |                                         |
|                 | Diagnostic Status: No Diagnostics<br>Scientific Instruments: ACS/WFC<br>Special Requirements: (none)     |                                                                                                                      |                                                                                     |                                                                                                       |                                         |
| Patterns        | #                                                                                                        | Primary Pattern                                                                                                      |                                                                                     | Secondary Pattern                                                                                     | Exposures                               |
|                 | (1)                                                                                                      | Pattern Type=ACS-WFC-DITHER-<br>LINE<br>Purpose=DITHER<br>Number Of Points=3<br>Point Spacing=3.011<br>Line Spacing= |                                                                                     | Coordinate Frame=POS-TARG<br>Pattern Orientation=85.28<br>Angle Between Sides=<br>Center Pattern=true | (1)                                     |
| Fixed Targets   | #                                                                                                        | Name                                                                                                                 | Target Coordinates                                                                  | Targ. Coord. Corrections                                                                              | Fluxes                                  |
|                 | (44)                                                                                                     | EMACSJ2316.6+1246                                                                                                    | RA: 23 16 42.9240 (349.1788500d)<br>Dec: +12 46 54.73 (12.78187d)<br>Equinox: J2000 |                                                                                                       | V=20.0                                  |
| Exposures       |                                                                                                          |                                                                                                                      |                                                                                     |                                                                                                       |                                         |
|                 | #                                                                                                        | Label                                                                                                                | Target                                                                              | Config,Mode,Aperture                                                                                  | Spectral Els.                           |
|                 | 1                                                                                                        | 2316+12_81                                                                                                           | (44) EMACSJ2316.6                                                                   | ACS/WFC, ACCUM, WFC                                                                                   | F814W                                   |
|                 | 4                                                                                                        |                                                                                                                      | +1246                                                                               |                                                                                                       |                                         |
|                 |                                                                                                          |                                                                                                                      |                                                                                     |                                                                                                       | CR-SPLIT=NO                             |
|                 |                                                                                                          |                                                                                                                      |                                                                                     |                                                                                                       | Special Reqs.                           |
|                 |                                                                                                          |                                                                                                                      |                                                                                     |                                                                                                       | Groups                                  |
|                 |                                                                                                          |                                                                                                                      |                                                                                     |                                                                                                       | Exp. Time (Total)/[Actual Dur.]         |
|                 |                                                                                                          |                                                                                                                      |                                                                                     |                                                                                                       | Orbit                                   |
|                 |                                                                                                          |                                                                                                                      |                                                                                     |                                                                                                       | Pattern 1, Exps 1-1 i<br>n Visit 89 (1) |
|                 |                                                                                                          |                                                                                                                      |                                                                                     |                                                                                                       | 400 Secs (1200 Secs)                    |
|                 |                                                                                                          |                                                                                                                      |                                                                                     |                                                                                                       | [==>(Pattern 1)]                        |
|                 |                                                                                                          |                                                                                                                      |                                                                                     |                                                                                                       | [==>(Pattern 2)]                        |
|                 |                                                                                                          |                                                                                                                      |                                                                                     |                                                                                                       | [==>(Pattern 3)]                        |
|                 |                                                                                                          |                                                                                                                      |                                                                                     |                                                                                                       | [1]                                     |
| Orbit Structure |                                                                                                          |                                                                                                                      |                                                                                     |                                                                                                       |                                         |
|                 | <div> <div>Orbit 1</div> <div>Server Version: 20140605</div> </div>                                      |                                                                                                                      |                                                                                     |                                                                                                       |                                         |

# Proposal 13671 - Visit 90 - Beyond MACS: A Snapshot Survey of the Most Massive Clusters of Galaxies at $z > 0.5$

|                 |                                                                                                                                                                                                                  |                                                                                                                      |                                                                                     |                      |                          |                                                                                                       |               |                       |                                                          |           |
|-----------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|----------------------|--------------------------|-------------------------------------------------------------------------------------------------------|---------------|-----------------------|----------------------------------------------------------|-----------|
| Visit           | Proposal 13671, Visit 90, implementation <span style="float: right;">Tue Aug 19 01:02:38 GMT 2014</span><br>Diagnostic Status: No Diagnostics<br>Scientific Instruments: ACS/WFC<br>Special Requirements: (none) |                                                                                                                      |                                                                                     |                      |                          |                                                                                                       |               |                       |                                                          |           |
|                 |                                                                                                                                                                                                                  |                                                                                                                      |                                                                                     |                      |                          |                                                                                                       |               |                       |                                                          |           |
| Patterns        | #                                                                                                                                                                                                                | Primary Pattern                                                                                                      |                                                                                     |                      |                          | Secondary Pattern                                                                                     |               |                       |                                                          | Exposures |
|                 | (1)                                                                                                                                                                                                              | Pattern Type=ACS-WFC-DITHER-<br>LINE<br>Purpose=DITHER<br>Number Of Points=3<br>Point Spacing=3.011<br>Line Spacing= |                                                                                     |                      |                          | Coordinate Frame=POS-TARG<br>Pattern Orientation=85.28<br>Angle Between Sides=<br>Center Pattern=true |               |                       |                                                          | (1)       |
| Fixed Targets   | #                                                                                                                                                                                                                | Name                                                                                                                 | Target Coordinates                                                                  |                      | Targ. Coord. Corrections |                                                                                                       | Fluxes        |                       | Miscellaneous                                            |           |
|                 | (45)                                                                                                                                                                                                             | EMACSJ2327.4-0204                                                                                                    | RA: 23 27 27.5950 (351.8649792d)<br>Dec: -02 04 37.24 (-2.07701d)<br>Equinox: J2000 |                      |                          |                                                                                                       | V=20.0        |                       | Reference Frame: ICRS                                    |           |
| Exposures       | #                                                                                                                                                                                                                | Label                                                                                                                | Target                                                                              | Config,Mode,Aperture | Spectral Els.            | Opt. Params.                                                                                          | Special Reqs. | Groups                | Exp. Time (Total)/[Actual Dur.]                          | Orbit     |
|                 | 1                                                                                                                                                                                                                | 2327-02_81                                                                                                           | (45) EMACSJ2327.4                                                                   | ACS/WFC, ACCUM, WFC  | F814W                    | CR-SPLIT=NO                                                                                           |               | Pattern 1, Exps 1-1 i | 400 Secs (1200 Secs)                                     |           |
|                 | 4                                                                                                                                                                                                                | -0204                                                                                                                | -0204                                                                               |                      |                          |                                                                                                       |               | n Visit 90 (1)        | [==>(Pattern 1)]<br>[==>(Pattern 2)]<br>[==>(Pattern 3)] | [1]       |
| Orbit Structure | <b>Orbit 1</b> <span style="float: right;">Server Version: 20140605</span>                                                                                                                                       |                                                                                                                      |                                                                                     |                      |                          |                                                                                                       |               |                       |                                                          |           |
|                 |                                                                                                                                                                                                                  |                                                                                                                      |                                                                                     |                      |                          |                                                                                                       |               |                       |                                                          |           |

# Proposal 13671 - Visit 91 - Beyond MACS: A Snapshot Survey of the Most Massive Clusters of Galaxies at $z > 0.5$

|                 |                                                                                                                 |                                                                                                                                                                                                                             |                                                                                 |                          |                                     |
|-----------------|-----------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------|--------------------------|-------------------------------------|
| Visit           | <b>Proposal 13671, Visit 91, implementation</b> <span style="float: right;">Tue Aug 19 01:02:38 GMT 2014</span> |                                                                                                                                                                                                                             |                                                                                 |                          |                                     |
|                 | <b>Diagnostic Status: No Diagnostics</b><br>Scientific Instruments: WFC3/IR<br>Special Requirements: (none)     |                                                                                                                                                                                                                             |                                                                                 |                          |                                     |
| Patterns        | #                                                                                                               | Primary Pattern                                                                                                                                                                                                             |                                                                                 | Secondary Pattern        | Exposures                           |
|                 | (2)                                                                                                             | Pattern Type=WFC3-IR-DITHER-LINE<br>Purpose=DITHER<br>Number Of Points=2<br>Point Spacing=0.636<br>Line Spacing=<br>Coordinate Frame=POS-TARG<br>Pattern Orientation=41.788<br>Angle Between Sides=<br>Center Pattern=false |                                                                                 |                          | (1), (2)                            |
| Fixed Targets   | #                                                                                                               | Name                                                                                                                                                                                                                        | Target Coordinates                                                              | Targ. Coord. Corrections | Fluxes                              |
|                 | (1)                                                                                                             | EMACSJ0014.9-0056                                                                                                                                                                                                           | RA: 00 14 54.1180 (3.7254917d)<br>Dec: -00 57 8.13 (-.95226d)<br>Equinox: J2000 |                          | V=20.0                              |
| Exposures       | #                                                                                                               | Label                                                                                                                                                                                                                       | Target                                                                          | Config,Mode,Aperture     | Spectral Els.                       |
|                 | 1                                                                                                               | 0014-00_110                                                                                                                                                                                                                 | (1) EMACSJ0014.9-0056                                                           | WFC3/IR, MULTIACCUM, IR  | F110W                               |
|                 |                                                                                                                 |                                                                                                                                                                                                                             |                                                                                 |                          | Opt. Params.                        |
|                 |                                                                                                                 |                                                                                                                                                                                                                             |                                                                                 |                          | SAMP-SEQ=SPARS 25;<br>NSAMP=15      |
|                 |                                                                                                                 |                                                                                                                                                                                                                             |                                                                                 |                          | Special Reqs.                       |
|                 |                                                                                                                 |                                                                                                                                                                                                                             |                                                                                 |                          |                                     |
|                 |                                                                                                                 |                                                                                                                                                                                                                             |                                                                                 |                          | Groups                              |
|                 |                                                                                                                 |                                                                                                                                                                                                                             |                                                                                 |                          | Pattern 2, Exps 1-1 in Visit 91 (2) |
|                 |                                                                                                                 |                                                                                                                                                                                                                             |                                                                                 |                          | Exp. Time (Total)/[Actual Dur.]     |
|                 |                                                                                                                 |                                                                                                                                                                                                                             |                                                                                 |                          | 352.939501 Secs (705.879 Secs)      |
|                 |                                                                                                                 |                                                                                                                                                                                                                             |                                                                                 |                          | [==>(Pattern 1)]                    |
|                 |                                                                                                                 |                                                                                                                                                                                                                             |                                                                                 |                          | [==>(Pattern 2)]                    |
|                 |                                                                                                                 |                                                                                                                                                                                                                             |                                                                                 |                          | Orbit                               |
|                 |                                                                                                                 |                                                                                                                                                                                                                             |                                                                                 |                          | [1]                                 |
|                 | 2                                                                                                               | 0014-00_140                                                                                                                                                                                                                 | (1) EMACSJ0014.9-0056                                                           | WFC3/IR, MULTIACCUM, IR  | F140W                               |
|                 |                                                                                                                 |                                                                                                                                                                                                                             |                                                                                 |                          | Opt. Params.                        |
|                 |                                                                                                                 |                                                                                                                                                                                                                             |                                                                                 |                          | SAMP-SEQ=SPARS 25;<br>NSAMP=15      |
|                 |                                                                                                                 |                                                                                                                                                                                                                             |                                                                                 |                          | Special Reqs.                       |
|                 |                                                                                                                 |                                                                                                                                                                                                                             |                                                                                 |                          |                                     |
|                 |                                                                                                                 |                                                                                                                                                                                                                             |                                                                                 |                          | Groups                              |
|                 |                                                                                                                 |                                                                                                                                                                                                                             |                                                                                 |                          | Pattern 2, Exps 2-2 in Visit 91 (2) |
|                 |                                                                                                                 |                                                                                                                                                                                                                             |                                                                                 |                          | Exp. Time (Total)/[Actual Dur.]     |
|                 |                                                                                                                 |                                                                                                                                                                                                                             |                                                                                 |                          | 352.939501 Secs (705.879 Secs)      |
|                 |                                                                                                                 |                                                                                                                                                                                                                             |                                                                                 |                          | [==>(Pattern 1)]                    |
|                 |                                                                                                                 |                                                                                                                                                                                                                             |                                                                                 |                          | [==>(Pattern 2)]                    |
|                 |                                                                                                                 |                                                                                                                                                                                                                             |                                                                                 |                          | Orbit                               |
|                 |                                                                                                                 |                                                                                                                                                                                                                             |                                                                                 |                          | [1]                                 |
| Orbit Structure | <b>Orbit 1</b> <span style="float: right;">Server Version: 20140605</span>                                      |                                                                                                                                                                                                                             |                                                                                 |                          |                                     |
|                 |                                                                                                                 |                                                                                                                                                                                                                             |                                                                                 |                          |                                     |

# Proposal 13671 - Visit 1S - Beyond MACS: A Snapshot Survey of the Most Massive Clusters of Galaxies at $z>0.5$

|                 |                                                                  |                                                                                                                                                                                                                             |                        |                                                                                    |  |  |               |                          |                                |  |                              |                   |                                     |  |                                      |                       |  |  |       |  |  |           |  |
|-----------------|------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------|------------------------------------------------------------------------------------|--|--|---------------|--------------------------|--------------------------------|--|------------------------------|-------------------|-------------------------------------|--|--------------------------------------|-----------------------|--|--|-------|--|--|-----------|--|
| Visit           | Proposal 13671, Visit 1S, implementation                         |                                                                                                                                                                                                                             |                        |                                                                                    |  |  |               |                          |                                |  | Tue Aug 19 01:02:38 GMT 2014 |                   |                                     |  |                                      |                       |  |  |       |  |  |           |  |
|                 | Diagnostic Status: No Diagnostics                                |                                                                                                                                                                                                                             |                        |                                                                                    |  |  |               |                          |                                |  |                              |                   |                                     |  |                                      |                       |  |  |       |  |  |           |  |
|                 | Scientific Instruments: WFC3/IR                                  |                                                                                                                                                                                                                             |                        |                                                                                    |  |  |               |                          |                                |  |                              |                   |                                     |  |                                      |                       |  |  |       |  |  |           |  |
|                 | Special Requirements: (none)                                     |                                                                                                                                                                                                                             |                        |                                                                                    |  |  |               |                          |                                |  |                              |                   |                                     |  |                                      |                       |  |  |       |  |  |           |  |
| Patterns        | #                                                                | Primary Pattern                                                                                                                                                                                                             |                        |                                                                                    |  |  |               |                          |                                |  |                              | Secondary Pattern |                                     |  |                                      |                       |  |  |       |  |  | Exposures |  |
|                 | (2)                                                              | Pattern Type=WFC3-IR-DITHER-LINE<br>Purpose=DITHER<br>Number Of Points=2<br>Point Spacing=0.636<br>Line Spacing=<br>Coordinate Frame=POS-TARG<br>Pattern Orientation=41.788<br>Angle Between Sides=<br>Center Pattern=false |                        |                                                                                    |  |  |               |                          |                                |  |                              |                   |                                     |  |                                      |                       |  |  |       |  |  | (1), (2)  |  |
| Fixed Targets   | #                                                                | Name                                                                                                                                                                                                                        |                        | Target Coordinates                                                                 |  |  |               | Targ. Coord. Corrections |                                |  |                              | Fluxes            |                                     |  |                                      | Miscellaneous         |  |  |       |  |  |           |  |
|                 | (46)                                                             | EMACSJ0045.2-0151                                                                                                                                                                                                           |                        | RA: 00 45 12.5030 (11.3020958d)<br>Dec: -01 52 31.25 (-1.87535d)<br>Equinox: J2000 |  |  |               |                          |                                |  |                              | V=20.0            |                                     |  |                                      | Reference Frame: ICRS |  |  |       |  |  |           |  |
| Exposures       | #                                                                | Label                                                                                                                                                                                                                       | Target                 | Config,Mode,Aperture                                                               |  |  | Spectral Els. |                          | Opt. Params.                   |  | Special Reqs.                |                   | Groups                              |  | Exp. Time (Total)/[Actual Dur.]      |                       |  |  | Orbit |  |  |           |  |
|                 | 1                                                                | 0045-01_110                                                                                                                                                                                                                 | (46) EMACSJ0045.2-0151 | WFC3/IR, MULTIACCUM, IR                                                            |  |  | F110W         |                          | SAMP-SEQ=SPARS 25;<br>NSAMP=15 |  |                              |                   | Pattern 2, Exps 1-1 in Visit 1S (2) |  | 352.939501 Secs (705.879 Secs)       |                       |  |  |       |  |  |           |  |
|                 |                                                                  |                                                                                                                                                                                                                             |                        |                                                                                    |  |  |               |                          |                                |  |                              |                   |                                     |  | [==>(Pattern 1)]<br>[==>(Pattern 2)] |                       |  |  | [1]   |  |  |           |  |
|                 | 2                                                                | 0045-01_140                                                                                                                                                                                                                 | (46) EMACSJ0045.2-0151 | WFC3/IR, MULTIACCUM, IR                                                            |  |  | F140W         |                          | SAMP-SEQ=SPARS 25;<br>NSAMP=15 |  |                              |                   | Pattern 2, Exps 2-2 in Visit 1S (2) |  | 352.939501 Secs (705.879 Secs)       |                       |  |  | [1]   |  |  |           |  |
| Orbit Structure | <div><div>Orbit 1</div><div>Server Version: 20140605</div></div> |                                                                                                                                                                                                                             |                        |                                                                                    |  |  |               |                          |                                |  |                              |                   |                                     |  |                                      |                       |  |  |       |  |  |           |  |

# Proposal 13671 - Visit 1T - Beyond MACS: A Snapshot Survey of the Most Massive Clusters of Galaxies at $z>0.5$

|                 |                                                                                                                 |                                                                                                                                                                                                                             |                                                                                    |                          |                                     |
|-----------------|-----------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|--------------------------|-------------------------------------|
| Visit           | <b>Proposal 13671, Visit 1T, implementation</b> <span style="float: right;">Tue Aug 19 01:02:38 GMT 2014</span> |                                                                                                                                                                                                                             |                                                                                    |                          |                                     |
|                 | <b>Diagnostic Status: No Diagnostics</b><br>Scientific Instruments: WFC3/IR<br>Special Requirements: (none)     |                                                                                                                                                                                                                             |                                                                                    |                          |                                     |
| Patterns        | #                                                                                                               | Primary Pattern                                                                                                                                                                                                             |                                                                                    | Secondary Pattern        | Exposures                           |
|                 | (2)                                                                                                             | Pattern Type=WFC3-IR-DITHER-LINE<br>Purpose=DITHER<br>Number Of Points=2<br>Point Spacing=0.636<br>Line Spacing=<br>Coordinate Frame=POS-TARG<br>Pattern Orientation=41.788<br>Angle Between Sides=<br>Center Pattern=false |                                                                                    |                          | (1), (2)                            |
| Fixed Targets   | #                                                                                                               | Name                                                                                                                                                                                                                        | Target Coordinates                                                                 | Targ. Coord. Corrections | Fluxes                              |
|                 | (47)                                                                                                            | EMACSJ0101.1+1831                                                                                                                                                                                                           | RA: 01 01 13.7110 (15.3071292d)<br>Dec: +18 31 36.38 (18.52677d)<br>Equinox: J2000 |                          | V=20.0                              |
| Exposures       | #                                                                                                               | Label                                                                                                                                                                                                                       | Target                                                                             | Config,Mode,Aperture     | Spectral Els.                       |
|                 | 1                                                                                                               | 0101+18_11_0                                                                                                                                                                                                                | (47) EMACSJ0101.1+1831                                                             | WFC3/IR, MULTIACCUM, IR  | F110W                               |
|                 |                                                                                                                 |                                                                                                                                                                                                                             |                                                                                    |                          | Opt. Params.                        |
|                 |                                                                                                                 |                                                                                                                                                                                                                             |                                                                                    |                          | SAMP-SEQ=SPARS 25;<br>NSAMP=15      |
|                 |                                                                                                                 |                                                                                                                                                                                                                             |                                                                                    |                          | Special Reqs.                       |
|                 |                                                                                                                 |                                                                                                                                                                                                                             |                                                                                    |                          | Pattern 2, Exps 1-1 in Visit 1T (2) |
|                 |                                                                                                                 |                                                                                                                                                                                                                             |                                                                                    |                          | Groups                              |
|                 |                                                                                                                 |                                                                                                                                                                                                                             |                                                                                    |                          | Pattern 2, Exps 2-2 in Visit 1T (2) |
|                 |                                                                                                                 |                                                                                                                                                                                                                             |                                                                                    |                          | Exp. Time (Total)/[Actual Dur.]     |
|                 |                                                                                                                 |                                                                                                                                                                                                                             |                                                                                    |                          | 352.939501 Secs (705.879 Secs)      |
|                 |                                                                                                                 |                                                                                                                                                                                                                             |                                                                                    |                          | [==>(Pattern 1)]                    |
|                 |                                                                                                                 |                                                                                                                                                                                                                             |                                                                                    |                          | [==>(Pattern 2)]                    |
|                 |                                                                                                                 |                                                                                                                                                                                                                             |                                                                                    |                          | Orbit                               |
|                 |                                                                                                                 |                                                                                                                                                                                                                             |                                                                                    |                          | [1]                                 |
|                 | 2                                                                                                               | 0101+18_14_0                                                                                                                                                                                                                | (47) EMACSJ0101.1+1831                                                             | WFC3/IR, MULTIACCUM, IR  | F140W                               |
|                 |                                                                                                                 |                                                                                                                                                                                                                             |                                                                                    |                          | Opt. Params.                        |
|                 |                                                                                                                 |                                                                                                                                                                                                                             |                                                                                    |                          | SAMP-SEQ=SPARS 25;<br>NSAMP=15      |
|                 |                                                                                                                 |                                                                                                                                                                                                                             |                                                                                    |                          | Special Reqs.                       |
|                 |                                                                                                                 |                                                                                                                                                                                                                             |                                                                                    |                          | Pattern 2, Exps 2-2 in Visit 1T (2) |
|                 |                                                                                                                 |                                                                                                                                                                                                                             |                                                                                    |                          | Groups                              |
|                 |                                                                                                                 |                                                                                                                                                                                                                             |                                                                                    |                          | Pattern 2, Exps 2-2 in Visit 1T (2) |
|                 |                                                                                                                 |                                                                                                                                                                                                                             |                                                                                    |                          | Exp. Time (Total)/[Actual Dur.]     |
|                 |                                                                                                                 |                                                                                                                                                                                                                             |                                                                                    |                          | 352.939501 Secs (705.879 Secs)      |
|                 |                                                                                                                 |                                                                                                                                                                                                                             |                                                                                    |                          | [==>(Pattern 1)]                    |
|                 |                                                                                                                 |                                                                                                                                                                                                                             |                                                                                    |                          | [==>(Pattern 2)]                    |
|                 |                                                                                                                 |                                                                                                                                                                                                                             |                                                                                    |                          | Orbit                               |
|                 |                                                                                                                 |                                                                                                                                                                                                                             |                                                                                    |                          | [1]                                 |
| Orbit Structure | <b>Orbit 1</b> <span style="float: right;">Server Version: 20140605</span>                                      |                                                                                                                                                                                                                             |                                                                                    |                          |                                     |
|                 |                                                                                                                 |                                                                                                                                                                                                                             |                                                                                    |                          |                                     |

# Proposal 13671 - Visit 1U - Beyond MACS: A Snapshot Survey of the Most Massive Clusters of Galaxies at $z>0.5$

|                 |                                                        |                                                                                                                  |                        |                                                                                    |  |                          |                                                                                                         |        |               |                                     |                                      |           |       |
|-----------------|--------------------------------------------------------|------------------------------------------------------------------------------------------------------------------|------------------------|------------------------------------------------------------------------------------|--|--------------------------|---------------------------------------------------------------------------------------------------------|--------|---------------|-------------------------------------|--------------------------------------|-----------|-------|
| Visit           | Proposal 13671, Visit 1U, implementation               |                                                                                                                  |                        |                                                                                    |  |                          |                                                                                                         |        |               |                                     | Tue Aug 19 01:02:38 GMT 2014         |           |       |
|                 | Diagnostic Status: No Diagnostics                      |                                                                                                                  |                        |                                                                                    |  |                          |                                                                                                         |        |               |                                     |                                      |           |       |
|                 | Scientific Instruments: WFC3/IR                        |                                                                                                                  |                        |                                                                                    |  |                          |                                                                                                         |        |               |                                     |                                      |           |       |
|                 | Special Requirements: (none)                           |                                                                                                                  |                        |                                                                                    |  |                          |                                                                                                         |        |               |                                     |                                      |           |       |
| Patterns        | #                                                      | Primary Pattern                                                                                                  |                        |                                                                                    |  |                          | Secondary Pattern                                                                                       |        |               |                                     |                                      | Exposures |       |
|                 | (2)                                                    | Pattern Type=WFC3-IR-DITHER-LINE<br>Purpose=DITHER<br>Number Of Points=2<br>Point Spacing=0.636<br>Line Spacing= |                        |                                                                                    |  |                          | Coordinate Frame=POS-TARG<br>Pattern Orientation=41.788<br>Angle Between Sides=<br>Center Pattern=false |        |               |                                     |                                      | (1), (2)  |       |
| Fixed Targets   | #                                                      | Name                                                                                                             |                        | Target Coordinates                                                                 |  | Targ. Coord. Corrections |                                                                                                         | Fluxes |               | Miscellaneous                       |                                      |           |       |
|                 | (48)                                                   | EMACSJ1631.1+1528                                                                                                |                        | RA: 16 31 5.8280 (247.7742833d)<br>Dec: +15 29 34.00 (15.49278d)<br>Equinox: J2000 |  |                          |                                                                                                         | V=20.0 |               | Reference Frame: ICRS               |                                      |           |       |
| Exposures       | #                                                      | Label                                                                                                            | Target                 | Config,Mode,Aperture                                                               |  | Spectral Els.            | Opt. Params.                                                                                            |        | Special Reqs. | Groups                              | Exp. Time (Total)/[Actual Dur.]      |           | Orbit |
|                 | 1                                                      | 1631+15_11_0                                                                                                     | (48) EMACSJ1631.1+1528 | WFC3/IR, MULTIACCUM, IR                                                            |  | F110W                    | SAMP-SEQ=SPARS 25;<br>NSAMP=15                                                                          |        |               | Pattern 2, Exps 1-1 in Visit 1U (2) | 352.939501 Secs (705.879 Secs)       |           |       |
|                 |                                                        |                                                                                                                  |                        |                                                                                    |  |                          |                                                                                                         |        |               |                                     | [==>(Pattern 1)]<br>[==>(Pattern 2)] |           | [1]   |
|                 | 2                                                      | 1631+15_14_0                                                                                                     | (48) EMACSJ1631.1+1528 | WFC3/IR, MULTIACCUM, IR                                                            |  | F140W                    | SAMP-SEQ=SPARS 25;<br>NSAMP=15                                                                          |        |               | Pattern 2, Exps 2-2 in Visit 1U (2) | 352.939501 Secs (705.879 Secs)       |           |       |
|                 |                                                        |                                                                                                                  |                        |                                                                                    |  |                          |                                                                                                         |        |               |                                     | [==>(Pattern 1)]<br>[==>(Pattern 2)] |           | [1]   |
| Orbit Structure | <div>Orbit 1</div> <div>Server Version: 20140605</div> |                                                                                                                  |                        |                                                                                    |  |                          |                                                                                                         |        |               |                                     |                                      |           |       |

# Proposal 13671 - Visit 1V - Beyond MACS: A Snapshot Survey of the Most Massive Clusters of Galaxies at $z>0.5$

|                 |                                                                                                             |                                                                                                                  |                             |                                                                                    |  |  |  |                          |  |                                   |                              |                                                                                                         |  |                                         |  |                                      |  |  |  |       |  |           |  |
|-----------------|-------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------|-----------------------------|------------------------------------------------------------------------------------|--|--|--|--------------------------|--|-----------------------------------|------------------------------|---------------------------------------------------------------------------------------------------------|--|-----------------------------------------|--|--------------------------------------|--|--|--|-------|--|-----------|--|
| Visit           | Proposal 13671, Visit 1V, implementation                                                                    |                                                                                                                  |                             |                                                                                    |  |  |  |                          |  |                                   | Tue Aug 19 01:02:38 GMT 2014 |                                                                                                         |  |                                         |  |                                      |  |  |  |       |  |           |  |
|                 | Diagnostic Status: No Diagnostics                                                                           |                                                                                                                  |                             |                                                                                    |  |  |  |                          |  |                                   |                              |                                                                                                         |  |                                         |  |                                      |  |  |  |       |  |           |  |
|                 | Scientific Instruments: WFC3/IR                                                                             |                                                                                                                  |                             |                                                                                    |  |  |  |                          |  |                                   |                              |                                                                                                         |  |                                         |  |                                      |  |  |  |       |  |           |  |
|                 | Special Requirements: (none)                                                                                |                                                                                                                  |                             |                                                                                    |  |  |  |                          |  |                                   |                              |                                                                                                         |  |                                         |  |                                      |  |  |  |       |  |           |  |
| Patterns        | #                                                                                                           | Primary Pattern                                                                                                  |                             |                                                                                    |  |  |  |                          |  |                                   |                              | Secondary Pattern                                                                                       |  |                                         |  |                                      |  |  |  |       |  | Exposures |  |
|                 | (2)                                                                                                         | Pattern Type=WFC3-IR-DITHER-LINE<br>Purpose=DITHER<br>Number Of Points=2<br>Point Spacing=0.636<br>Line Spacing= |                             |                                                                                    |  |  |  |                          |  |                                   |                              | Coordinate Frame=POS-TARG<br>Pattern Orientation=41.788<br>Angle Between Sides=<br>Center Pattern=false |  |                                         |  |                                      |  |  |  |       |  | (1), (2)  |  |
| Fixed Targets   | #                                                                                                           | Name                                                                                                             |                             | Target Coordinates                                                                 |  |  |  | Targ. Coord. Corrections |  |                                   |                              | Fluxes                                                                                                  |  |                                         |  | Miscellaneous                        |  |  |  |       |  |           |  |
|                 | (49)                                                                                                        | EMACSJ2229.9-0808A                                                                                               |                             | RA: 22 30 6.1360 (337.5255667d)<br>Dec: -08 09 23.31 (-8.15648d)<br>Equinox: J2000 |  |  |  |                          |  |                                   |                              | V=20.0                                                                                                  |  |                                         |  | Reference Frame: ICRS                |  |  |  |       |  |           |  |
| Exposures       | #                                                                                                           | Label                                                                                                            | Target                      | Config,Mode,Aperture                                                               |  |  |  | Spectral Els.            |  | Opt. Params.                      |                              | Special Reqs.                                                                                           |  | Groups                                  |  | Exp. Time (Total)/[Actual Dur.]      |  |  |  | Orbit |  |           |  |
|                 | 1                                                                                                           | 2229-08a_1<br>10                                                                                                 | (49) EMACSJ2229.9<br>-0808A | WFC3/IR, MULTIACCUM, IR                                                            |  |  |  | F110W                    |  | SAMP-SEQ=SPARS<br>25;<br>NSAMP=15 |                              |                                                                                                         |  | Pattern 2, Exps 1-1 i<br>n Visit 1V (2) |  | 352.939501 Secs (705.879 Secs)       |  |  |  |       |  |           |  |
|                 |                                                                                                             |                                                                                                                  |                             |                                                                                    |  |  |  |                          |  |                                   |                              |                                                                                                         |  |                                         |  | [==>(Pattern 1)]<br>[==>(Pattern 2)] |  |  |  | [1]   |  |           |  |
|                 | 2                                                                                                           | 2229-08a_1<br>40                                                                                                 | (49) EMACSJ2229.9<br>-0808A | WFC3/IR, MULTIACCUM, IR                                                            |  |  |  | F140W                    |  | SAMP-SEQ=SPARS<br>25;<br>NSAMP=15 |                              |                                                                                                         |  | Pattern 2, Exps 2-2 i<br>n Visit 1V (2) |  | 352.939501 Secs (705.879 Secs)       |  |  |  | [1]   |  |           |  |
| Orbit Structure | <div><div>Orbit 1</div><div>Server Version: 20140605</div><div>Unused Orbital Visibility = 1249</div></div> |                                                                                                                  |                             |                                                                                    |  |  |  |                          |  |                                   |                              |                                                                                                         |  |                                         |  |                                      |  |  |  |       |  |           |  |

# Proposal 13671 - Visit 92 - Beyond MACS: A Snapshot Survey of the Most Massive Clusters of Galaxies at $z > 0.5$

|                 |                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                             |                                                                                  |                          |               |
|-----------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------|--------------------------|---------------|
| Visit           | <b>Proposal 13671, Visit 92, implementation</b> <span style="float: right;">Tue Aug 19 01:02:38 GMT 2014</span>                                                                                                                                                          |                                                                                                                                                                                                                             |                                                                                  |                          |               |
|                 | <b>Diagnostic Status: No Diagnostics</b><br>Scientific Instruments: WFC3/IR<br>Special Requirements: (none)                                                                                                                                                              |                                                                                                                                                                                                                             |                                                                                  |                          |               |
| Patterns        | #                                                                                                                                                                                                                                                                        | Primary Pattern                                                                                                                                                                                                             |                                                                                  | Secondary Pattern        | Exposures     |
|                 | (2)                                                                                                                                                                                                                                                                      | Pattern Type=WFC3-IR-DITHER-LINE<br>Purpose=DITHER<br>Number Of Points=2<br>Point Spacing=0.636<br>Line Spacing=<br>Coordinate Frame=POS-TARG<br>Pattern Orientation=41.788<br>Angle Between Sides=<br>Center Pattern=false |                                                                                  |                          | (1), (2)      |
| Fixed Targets   | #                                                                                                                                                                                                                                                                        | Name                                                                                                                                                                                                                        | Target Coordinates                                                               | Targ. Coord. Corrections | Fluxes        |
|                 | (2)                                                                                                                                                                                                                                                                      | EMACSJ0026.2+0120                                                                                                                                                                                                           | RA: 00 26 16.1660 (6.5673583d)<br>Dec: +01 20 34.84 (1.34301d)<br>Equinox: J2000 |                          | V=20.0        |
| Exposures       |                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                             |                                                                                  |                          | Miscellaneous |
|                 | Reference Frame: ICRS                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                             |                                                                                  |                          |               |
|                 | #                                                                                                                                                                                                                                                                        | Label                                                                                                                                                                                                                       | Target                                                                           | Config,Mode,Aperture     | Spectral Els. |
|                 | 1                                                                                                                                                                                                                                                                        | 0026+01_11_0                                                                                                                                                                                                                | (2) EMACSJ0026.2+0120                                                            | WFC3/IR, MULTIACCUM, IR  | F110W         |
|                 |                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                             |                                                                                  |                          |               |
|                 | SAMP-SEQ=SPARS 25;<br>NSAMP=15                                                                                                                                                                                                                                           |                                                                                                                                                                                                                             |                                                                                  |                          |               |
|                 |                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                             |                                                                                  |                          |               |
|                 | Pattern 2, Exps 1-1 in Visit 92 (2)<br>[==>(Pattern 1)]<br>[==>(Pattern 2)]                                                                                                                                                                                              |                                                                                                                                                                                                                             |                                                                                  |                          |               |
|                 | 352.939501 Secs (705.879 Secs)                                                                                                                                                                                                                                           |                                                                                                                                                                                                                             |                                                                                  |                          |               |
|                 | [1]                                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                             |                                                                                  |                          |               |
|                 | #                                                                                                                                                                                                                                                                        | Label                                                                                                                                                                                                                       | Target                                                                           | Config,Mode,Aperture     | Spectral Els. |
|                 | 2                                                                                                                                                                                                                                                                        | 0026+01_14_0                                                                                                                                                                                                                | (2) EMACSJ0026.2+0120                                                            | WFC3/IR, MULTIACCUM, IR  | F140W         |
|                 |                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                             |                                                                                  |                          |               |
|                 | SAMP-SEQ=SPARS 25;<br>NSAMP=15                                                                                                                                                                                                                                           |                                                                                                                                                                                                                             |                                                                                  |                          |               |
|                 |                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                             |                                                                                  |                          |               |
|                 | Pattern 2, Exps 2-2 in Visit 92 (2)<br>[==>(Pattern 1)]<br>[==>(Pattern 2)]                                                                                                                                                                                              |                                                                                                                                                                                                                             |                                                                                  |                          |               |
|                 | 352.939501 Secs (705.879 Secs)                                                                                                                                                                                                                                           |                                                                                                                                                                                                                             |                                                                                  |                          |               |
|                 | [1]                                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                             |                                                                                  |                          |               |
| Orbit Structure | <b>Orbit 1</b> <span style="float: right;">Server Version: 20140605</span>                                                                                                                                                                                               |                                                                                                                                                                                                                             |                                                                                  |                          |               |
|                 | <p>Timeline labels: GS Acq, Exp. 1, Pointing Maneuver, Exp. 2, Pointing Maneuver, Exp. 2, Pointing Maneuver, Reconfig, Unused Orbital Visibility = 1249, Occultation.</p> <p>Timeline scale: 0, 500, 1000, 1500, 2000, 2500, 3000, 3500, 4000, 4500, 5000, 5500 sec.</p> |                                                                                                                                                                                                                             |                                                                                  |                          |               |

# Proposal 13671 - Visit 93 - Beyond MACS: A Snapshot Survey of the Most Massive Clusters of Galaxies at $z > 0.5$

|                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                             |                                                                                  |                          |                                         |
|-----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------|--------------------------|-----------------------------------------|
| Visit           | <b>Proposal 13671, Visit 93, implementation</b> <span style="float: right;">Tue Aug 19 01:02:38 GMT 2014</span>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                             |                                                                                  |                          |                                         |
|                 | <b>Diagnostic Status: No Diagnostics</b><br>Scientific Instruments: WFC3/IR<br>Special Requirements: (none)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                             |                                                                                  |                          |                                         |
| Patterns        | #                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Primary Pattern                                                                                                                                                                                                             |                                                                                  | Secondary Pattern        | Exposures                               |
|                 | (2)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Pattern Type=WFC3-IR-DITHER-LINE<br>Purpose=DITHER<br>Number Of Points=2<br>Point Spacing=0.636<br>Line Spacing=<br>Coordinate Frame=POS-TARG<br>Pattern Orientation=41.788<br>Angle Between Sides=<br>Center Pattern=false |                                                                                  |                          | (1), (2)                                |
| Fixed Targets   | #                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Name                                                                                                                                                                                                                        | Target Coordinates                                                               | Targ. Coord. Corrections | Fluxes                                  |
|                 | (3)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | EMACSJ0030.5+2618                                                                                                                                                                                                           | RA: 00 30 34.0230 (7.6417625d)<br>Dec: +26 18 8.93 (26.30248d)<br>Equinox: J2000 |                          | V=20.0                                  |
| Exposures       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                             |                                                                                  |                          | Miscellaneous                           |
|                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                             |                                                                                  |                          | Reference Frame: ICRS                   |
|                 | #                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Label                                                                                                                                                                                                                       | Target                                                                           | Config,Mode,Aperture     | Spectral Els.                           |
|                 | 1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 0030+26_11<br>0                                                                                                                                                                                                             | (3) EMACSJ0030.5+<br>2618                                                        | WFC3/IR, MULTIACCUM, IR  | F110W                                   |
|                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                             |                                                                                  |                          | Opt. Params.                            |
|                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                             |                                                                                  |                          | SAMP-SEQ=SPARS<br>25;<br>NSAMP=15       |
|                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                             |                                                                                  |                          | Special Reqs.                           |
|                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                             |                                                                                  |                          |                                         |
|                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                             |                                                                                  |                          | Groups                                  |
|                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                             |                                                                                  |                          | Pattern 2, Exps 1-1 i<br>n Visit 93 (2) |
|                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                             |                                                                                  |                          | Exp. Time (Total)/[Actual Dur.]         |
|                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                             |                                                                                  |                          | 352.939501 Secs (705.879 Secs)          |
|                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                             |                                                                                  |                          | [==>(Pattern 1)]                        |
|                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                             |                                                                                  |                          | [==>(Pattern 2)]                        |
|                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                             |                                                                                  |                          | Orbit                                   |
|                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                             |                                                                                  |                          | [1]                                     |
|                 | 2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 0030+26_14<br>0                                                                                                                                                                                                             | (3) EMACSJ0030.5+<br>2618                                                        | WFC3/IR, MULTIACCUM, IR  | F140W                                   |
|                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                             |                                                                                  |                          | SAMP-SEQ=SPARS<br>25;<br>NSAMP=15       |
|                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                             |                                                                                  |                          | Special Reqs.                           |
|                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                             |                                                                                  |                          |                                         |
|                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                             |                                                                                  |                          | Groups                                  |
|                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                             |                                                                                  |                          | Pattern 2, Exps 2-2 i<br>n Visit 93 (2) |
|                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                             |                                                                                  |                          | Exp. Time (Total)/[Actual Dur.]         |
|                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                             |                                                                                  |                          | 352.939501 Secs (705.879 Secs)          |
|                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                             |                                                                                  |                          | [==>(Pattern 1)]                        |
|                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                             |                                                                                  |                          | [==>(Pattern 2)]                        |
|                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                             |                                                                                  |                          | Orbit                                   |
|                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                             |                                                                                  |                          | [1]                                     |
| Orbit Structure | <b>Orbit 1</b> <span style="float: right;">Server Version: 20140605</span>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                                                                                                                             |                                                                                  |                          |                                         |
|                 | <p>The diagram illustrates the sequence of events for Orbit 1. It starts with a Ground Station Acquisition (GS Acq) and the first exposure (Exp. 1). This is followed by a pointing maneuver, the second exposure (Exp. 2), another pointing maneuver, a second exposure (Exp. 2), a third pointing maneuver, and a reconfiguration (Reconfig). A significant portion of the orbit (from 400 to 1568 seconds) is marked as 'Unused Orbital Visibility = 1268' seconds. The orbit concludes with an occultation period from 1568 to 5500 seconds. The timeline is visualized with a horizontal axis in seconds, with key events marked by arrows and colored bars representing different mission phases.</p> |                                                                                                                                                                                                                             |                                                                                  |                          |                                         |

# Proposal 13671 - Visit 94 - Beyond MACS: A Snapshot Survey of the Most Massive Clusters of Galaxies at $z > 0.5$

|                 |                                                                                                                 |                                                                                                                                                                                                                             |                                                                                  |                          |               |
|-----------------|-----------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------|--------------------------|---------------|
| Visit           | <b>Proposal 13671, Visit 94, implementation</b> <span style="float: right;">Tue Aug 19 01:02:38 GMT 2014</span> |                                                                                                                                                                                                                             |                                                                                  |                          |               |
|                 | <b>Diagnostic Status: No Diagnostics</b><br>Scientific Instruments: WFC3/IR<br>Special Requirements: (none)     |                                                                                                                                                                                                                             |                                                                                  |                          |               |
| Patterns        | #                                                                                                               | Primary Pattern                                                                                                                                                                                                             |                                                                                  | Secondary Pattern        | Exposures     |
|                 | (2)                                                                                                             | Pattern Type=WFC3-IR-DITHER-LINE<br>Purpose=DITHER<br>Number Of Points=2<br>Point Spacing=0.636<br>Line Spacing=<br>Coordinate Frame=POS-TARG<br>Pattern Orientation=41.788<br>Angle Between Sides=<br>Center Pattern=false |                                                                                  |                          | (1), (2)      |
| Fixed Targets   | #                                                                                                               | Name                                                                                                                                                                                                                        | Target Coordinates                                                               | Targ. Coord. Corrections | Fluxes        |
|                 | (4)                                                                                                             | EMACSJ0135.2+0847                                                                                                                                                                                                           | RA: 01 35 13.7600 (23.8073333d)<br>Dec: +08 47 1.14 (8.78365d)<br>Equinox: J2000 |                          | V=20.0        |
| Exposures       |                                                                                                                 |                                                                                                                                                                                                                             |                                                                                  |                          | Miscellaneous |
|                 | Reference Frame: ICRS                                                                                           |                                                                                                                                                                                                                             |                                                                                  |                          |               |
|                 | #                                                                                                               | Label                                                                                                                                                                                                                       | Target                                                                           | Config,Mode,Aperture     | Spectral Els. |
|                 | 1                                                                                                               | 0135+08_11_0                                                                                                                                                                                                                | (4) EMACSJ0135.2+0847                                                            | WFC3/IR, MULTIACCUM, IR  | F110W         |
|                 |                                                                                                                 |                                                                                                                                                                                                                             |                                                                                  |                          |               |
|                 | SAMP-SEQ=SPARS 25;<br>NSAMP=15                                                                                  |                                                                                                                                                                                                                             |                                                                                  |                          |               |
|                 |                                                                                                                 |                                                                                                                                                                                                                             |                                                                                  |                          |               |
|                 | Pattern 2, Exps 1-1 in Visit 94 (2)<br>[==>(Pattern 1)]<br>[==>(Pattern 2)]                                     |                                                                                                                                                                                                                             |                                                                                  |                          |               |
|                 |                                                                                                                 |                                                                                                                                                                                                                             |                                                                                  |                          |               |
|                 | 352.939501 Secs (705.879 Secs)<br>[1]                                                                           |                                                                                                                                                                                                                             |                                                                                  |                          |               |
|                 | #                                                                                                               | Label                                                                                                                                                                                                                       | Target                                                                           | Config,Mode,Aperture     | Spectral Els. |
|                 | 2                                                                                                               | 0135+08_14_0                                                                                                                                                                                                                | (4) EMACSJ0135.2+0847                                                            | WFC3/IR, MULTIACCUM, IR  | F140W         |
|                 |                                                                                                                 |                                                                                                                                                                                                                             |                                                                                  |                          |               |
|                 | SAMP-SEQ=SPARS 25;<br>NSAMP=15                                                                                  |                                                                                                                                                                                                                             |                                                                                  |                          |               |
|                 |                                                                                                                 |                                                                                                                                                                                                                             |                                                                                  |                          |               |
|                 | Pattern 2, Exps 2-2 in Visit 94 (2)<br>[==>(Pattern 1)]<br>[==>(Pattern 2)]                                     |                                                                                                                                                                                                                             |                                                                                  |                          |               |
|                 |                                                                                                                 |                                                                                                                                                                                                                             |                                                                                  |                          |               |
|                 | 352.939501 Secs (705.879 Secs)<br>[1]                                                                           |                                                                                                                                                                                                                             |                                                                                  |                          |               |
| Orbit Structure |                                                                                                                 |                                                                                                                                                                                                                             |                                                                                  |                          |               |
|                 | <div> <div>Orbit 1</div> <div>Server Version: 20140605</div> </div>                                             |                                                                                                                                                                                                                             |                                                                                  |                          |               |

# Proposal 13671 - Visit 95 - Beyond MACS: A Snapshot Survey of the Most Massive Clusters of Galaxies at $z > 0.5$

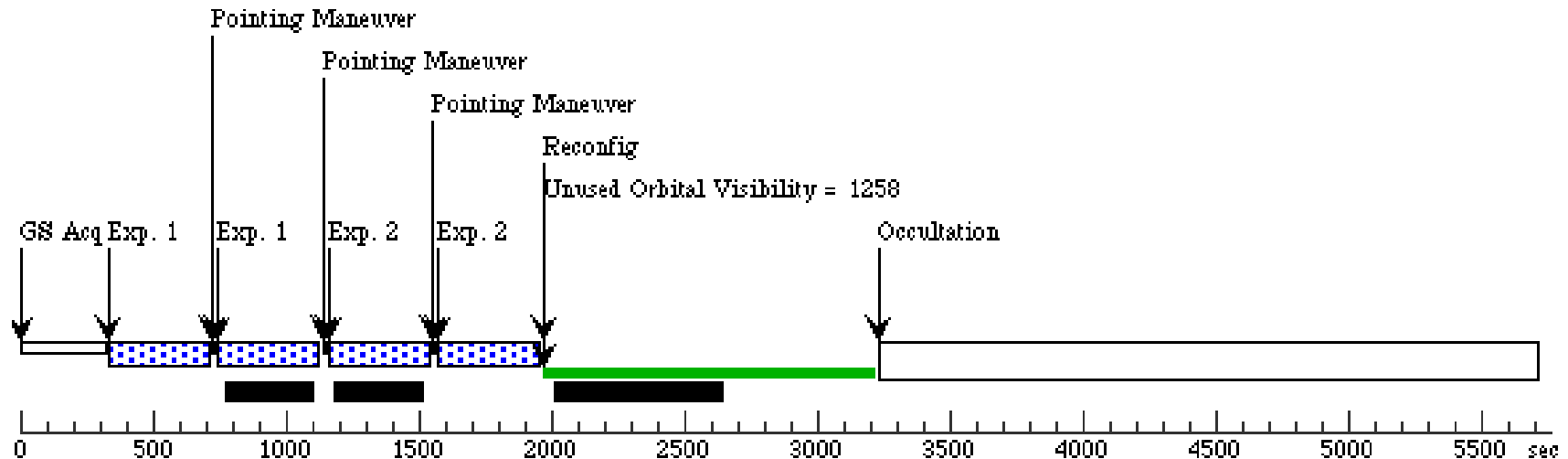
|                 |                                                                                                                 |                                                                                                                  |                       |                                                                                     |  |  |               |                          |                                |  |                              |                                                                                                         |                                     |  |                                      |                       |  |  |       |  |  |           |  |
|-----------------|-----------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------|-----------------------|-------------------------------------------------------------------------------------|--|--|---------------|--------------------------|--------------------------------|--|------------------------------|---------------------------------------------------------------------------------------------------------|-------------------------------------|--|--------------------------------------|-----------------------|--|--|-------|--|--|-----------|--|
| Visit           | Proposal 13671, Visit 95, implementation                                                                        |                                                                                                                  |                       |                                                                                     |  |  |               |                          |                                |  | Tue Aug 19 01:02:38 GMT 2014 |                                                                                                         |                                     |  |                                      |                       |  |  |       |  |  |           |  |
|                 | Diagnostic Status: No Diagnostics                                                                               |                                                                                                                  |                       |                                                                                     |  |  |               |                          |                                |  |                              |                                                                                                         |                                     |  |                                      |                       |  |  |       |  |  |           |  |
|                 | Scientific Instruments: WFC3/IR                                                                                 |                                                                                                                  |                       |                                                                                     |  |  |               |                          |                                |  |                              |                                                                                                         |                                     |  |                                      |                       |  |  |       |  |  |           |  |
|                 | Special Requirements: (none)                                                                                    |                                                                                                                  |                       |                                                                                     |  |  |               |                          |                                |  |                              |                                                                                                         |                                     |  |                                      |                       |  |  |       |  |  |           |  |
| Patterns        | #                                                                                                               | Primary Pattern                                                                                                  |                       |                                                                                     |  |  |               |                          |                                |  |                              | Secondary Pattern                                                                                       |                                     |  |                                      |                       |  |  |       |  |  | Exposures |  |
|                 | (2)                                                                                                             | Pattern Type=WFC3-IR-DITHER-LINE<br>Purpose=DITHER<br>Number Of Points=2<br>Point Spacing=0.636<br>Line Spacing= |                       |                                                                                     |  |  |               |                          |                                |  |                              | Coordinate Frame=POS-TARG<br>Pattern Orientation=41.788<br>Angle Between Sides=<br>Center Pattern=false |                                     |  |                                      |                       |  |  |       |  |  | (1), (2)  |  |
| Fixed Targets   | #                                                                                                               | Name                                                                                                             |                       | Target Coordinates                                                                  |  |  |               | Targ. Coord. Corrections |                                |  |                              | Fluxes                                                                                                  |                                     |  |                                      | Miscellaneous         |  |  |       |  |  |           |  |
|                 | (5)                                                                                                             | EMACSJ0256.7-1623                                                                                                |                       | RA: 02 56 46.4130 (44.1933875d)<br>Dec: -16 23 22.05 (-16.38946d)<br>Equinox: J2000 |  |  |               |                          |                                |  |                              | V=20.0                                                                                                  |                                     |  |                                      | Reference Frame: ICRS |  |  |       |  |  |           |  |
| Exposures       | #                                                                                                               | Label                                                                                                            | Target                | Config,Mode,Aperture                                                                |  |  | Spectral Els. |                          | Opt. Params.                   |  | Special Reqs.                |                                                                                                         | Groups                              |  | Exp. Time (Total)/[Actual Dur.]      |                       |  |  | Orbit |  |  |           |  |
|                 | 1                                                                                                               | 0256-16_11_0                                                                                                     | (5) EMACSJ0256.7-1623 | WFC3/IR, MULTIACCUM, IR                                                             |  |  | F110W         |                          | SAMP-SEQ=SPARS 25;<br>NSAMP=15 |  |                              |                                                                                                         | Pattern 2, Exps 1-1 in Visit 95 (2) |  | 352.939501 Secs (705.879 Secs)       |                       |  |  |       |  |  |           |  |
|                 |                                                                                                                 |                                                                                                                  |                       |                                                                                     |  |  |               |                          |                                |  |                              |                                                                                                         |                                     |  | [==>(Pattern 1)]<br>[==>(Pattern 2)] |                       |  |  | [1]   |  |  |           |  |
|                 | 2                                                                                                               | 0256-16_14_0                                                                                                     | (5) EMACSJ0256.7-1623 | WFC3/IR, MULTIACCUM, IR                                                             |  |  | F140W         |                          | SAMP-SEQ=SPARS 25;<br>NSAMP=15 |  |                              |                                                                                                         | Pattern 2, Exps 2-2 in Visit 95 (2) |  | 352.939501 Secs (705.879 Secs)       |                       |  |  | [1]   |  |  |           |  |
| Orbit Structure | <div>Orbit 1<div>Server Version: 20140605</div><div>05001000150020002500300035004000450050005500sec</div></div> |                                                                                                                  |                       |                                                                                     |  |  |               |                          |                                |  |                              |                                                                                                         |                                     |  |                                      |                       |  |  |       |  |  |           |  |

# Proposal 13671 - Visit 96 - Beyond MACS: A Snapshot Survey of the Most Massive Clusters of Galaxies at $z > 0.5$

|               |                                                                                                          |                                                                                                                  |                                                                                    |                                                                                                         |                                         |
|---------------|----------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------|-----------------------------------------|
| Visit         | Proposal 13671, Visit 96, implementation <span style="float: right;">Tue Aug 19 01:02:38 GMT 2014</span> |                                                                                                                  |                                                                                    |                                                                                                         |                                         |
|               | Diagnostic Status: No Diagnostics<br>Scientific Instruments: WFC3/IR<br>Special Requirements: (none)     |                                                                                                                  |                                                                                    |                                                                                                         |                                         |
| Patterns      | #                                                                                                        | Primary Pattern                                                                                                  |                                                                                    | Secondary Pattern                                                                                       | Exposures                               |
|               | (2)                                                                                                      | Pattern Type=WFC3-IR-DITHER-LINE<br>Purpose=DITHER<br>Number Of Points=2<br>Point Spacing=0.636<br>Line Spacing= |                                                                                    | Coordinate Frame=POS-TARG<br>Pattern Orientation=41.788<br>Angle Between Sides=<br>Center Pattern=false | (1), (2)                                |
| Fixed Targets | #                                                                                                        | Name                                                                                                             | Target Coordinates                                                                 | Targ. Coord. Corrections                                                                                | Fluxes                                  |
|               | (6)                                                                                                      | EMACSJ0256.9-1631                                                                                                | RA: 02 56 57.3070 (44.2387792d)<br>Dec: -16 31 5.69 (-16.51825d)<br>Equinox: J2000 |                                                                                                         | V=20.0                                  |
| Exposures     |                                                                                                          |                                                                                                                  |                                                                                    |                                                                                                         | Miscellaneous                           |
|               | Reference Frame: ICRS                                                                                    |                                                                                                                  |                                                                                    |                                                                                                         |                                         |
|               | #                                                                                                        | Label                                                                                                            | Target                                                                             | Config,Mode,Aperture                                                                                    | Spectral Els.                           |
|               | 1                                                                                                        | 0256-16b_1<br>10                                                                                                 | (6) EMACSJ0256.9-1631                                                              | WFC3/IR, MULTIACCUM, IR                                                                                 | F110W                                   |
|               |                                                                                                          |                                                                                                                  |                                                                                    |                                                                                                         | Opt. Params.                            |
|               |                                                                                                          |                                                                                                                  |                                                                                    |                                                                                                         | SAMP-SEQ=SPARS<br>25;<br>NSAMP=15       |
|               |                                                                                                          |                                                                                                                  |                                                                                    |                                                                                                         | Special Reqs.                           |
|               |                                                                                                          |                                                                                                                  |                                                                                    |                                                                                                         | Pattern 2, Exps 1-1 i<br>n Visit 96 (2) |
|               |                                                                                                          |                                                                                                                  |                                                                                    |                                                                                                         | Exp. Time (Total)/[Actual Dur.]         |
|               |                                                                                                          |                                                                                                                  |                                                                                    |                                                                                                         | 352.939501 Secs (705.879 Secs)          |
|               |                                                                                                          |                                                                                                                  |                                                                                    |                                                                                                         | [==>(Pattern 1)]                        |
|               |                                                                                                          |                                                                                                                  |                                                                                    |                                                                                                         | [==>(Pattern 2)]                        |
|               |                                                                                                          |                                                                                                                  |                                                                                    |                                                                                                         | Orbit                                   |
|               |                                                                                                          |                                                                                                                  |                                                                                    |                                                                                                         | [1]                                     |
|               | 2                                                                                                        | 0256-16b_1<br>40                                                                                                 | (6) EMACSJ0256.9-1631                                                              | WFC3/IR, MULTIACCUM, IR                                                                                 | F140W                                   |
|               |                                                                                                          |                                                                                                                  |                                                                                    |                                                                                                         | SAMP-SEQ=SPARS<br>25;<br>NSAMP=15       |
|               |                                                                                                          |                                                                                                                  |                                                                                    |                                                                                                         | Special Reqs.                           |
|               |                                                                                                          |                                                                                                                  |                                                                                    |                                                                                                         | Pattern 2, Exps 2-2 i<br>n Visit 96 (2) |
|               |                                                                                                          |                                                                                                                  |                                                                                    |                                                                                                         | Exp. Time (Total)/[Actual Dur.]         |
|               |                                                                                                          |                                                                                                                  |                                                                                    |                                                                                                         | 352.939501 Secs (705.879 Secs)          |
|               |                                                                                                          |                                                                                                                  |                                                                                    |                                                                                                         | [==>(Pattern 1)]                        |
|               |                                                                                                          |                                                                                                                  |                                                                                    |                                                                                                         | [==>(Pattern 2)]                        |
|               |                                                                                                          |                                                                                                                  |                                                                                    |                                                                                                         | Orbit                                   |
|               |                                                                                                          |                                                                                                                  |                                                                                    |                                                                                                         | [1]                                     |

## Orbit 1

Server Version: 20140605



# Proposal 13671 - Visit 97 - Beyond MACS: A Snapshot Survey of the Most Massive Clusters of Galaxies at $z > 0.5$

|                 |                                                                                                                                                                                                                                                                                                                 |                                                                                                                  |                       |                                                                                     |  |  |  |                          |  |                                |                              |                                                                                                         |  |                                     |  |                                 |  |  |  |       |                          |           |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|-----------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------|-----------------------|-------------------------------------------------------------------------------------|--|--|--|--------------------------|--|--------------------------------|------------------------------|---------------------------------------------------------------------------------------------------------|--|-------------------------------------|--|---------------------------------|--|--|--|-------|--------------------------|-----------|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|
| Visit           | Proposal 13671, Visit 97, implementation                                                                                                                                                                                                                                                                        |                                                                                                                  |                       |                                                                                     |  |  |  |                          |  |                                | Tue Aug 19 01:02:38 GMT 2014 |                                                                                                         |  |                                     |  |                                 |  |  |  |       |                          |           |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|                 | Diagnostic Status: No Diagnostics                                                                                                                                                                                                                                                                               |                                                                                                                  |                       |                                                                                     |  |  |  |                          |  |                                |                              |                                                                                                         |  |                                     |  |                                 |  |  |  |       |                          |           |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|                 | Scientific Instruments: WFC3/IR                                                                                                                                                                                                                                                                                 |                                                                                                                  |                       |                                                                                     |  |  |  |                          |  |                                |                              |                                                                                                         |  |                                     |  |                                 |  |  |  |       |                          |           |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|                 | Special Requirements: (none)                                                                                                                                                                                                                                                                                    |                                                                                                                  |                       |                                                                                     |  |  |  |                          |  |                                |                              |                                                                                                         |  |                                     |  |                                 |  |  |  |       |                          |           |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Patterns        | #                                                                                                                                                                                                                                                                                                               | Primary Pattern                                                                                                  |                       |                                                                                     |  |  |  |                          |  |                                |                              | Secondary Pattern                                                                                       |  |                                     |  |                                 |  |  |  |       |                          | Exposures |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|                 | (2)                                                                                                                                                                                                                                                                                                             | Pattern Type=WFC3-IR-DITHER-LINE<br>Purpose=DITHER<br>Number Of Points=2<br>Point Spacing=0.636<br>Line Spacing= |                       |                                                                                     |  |  |  |                          |  |                                |                              | Coordinate Frame=POS-TARG<br>Pattern Orientation=41.788<br>Angle Between Sides=<br>Center Pattern=false |  |                                     |  |                                 |  |  |  |       |                          | (1), (2)  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Fixed Targets   | #                                                                                                                                                                                                                                                                                                               | Name                                                                                                             |                       | Target Coordinates                                                                  |  |  |  | Targ. Coord. Corrections |  |                                |                              | Fluxes                                                                                                  |  |                                     |  | Miscellaneous                   |  |  |  |       |                          |           |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|                 | (7)                                                                                                                                                                                                                                                                                                             | EMACSJ0834.2+4524                                                                                                |                       | RA: 08 34 15.2850 (128.5636875d)<br>Dec: +45 24 18.22 (45.40506d)<br>Equinox: J2000 |  |  |  |                          |  |                                |                              | V=20.0                                                                                                  |  |                                     |  | Reference Frame: ICRS           |  |  |  |       |                          |           |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Exposures       | #                                                                                                                                                                                                                                                                                                               | Label                                                                                                            | Target                | Config,Mode,Aperture                                                                |  |  |  | Spectral Els.            |  | Opt. Params.                   |                              | Special Reqs.                                                                                           |  | Groups                              |  | Exp. Time (Total)/[Actual Dur.] |  |  |  | Orbit |                          |           |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|                 | 1                                                                                                                                                                                                                                                                                                               | 0834+45_11_0                                                                                                     | (7) EMACSJ0834.2+4524 | WFC3/IR, MULTIACCUM, IR                                                             |  |  |  | F110W                    |  | SAMP-SEQ=SPARS 25;<br>NSAMP=15 |                              |                                                                                                         |  | Pattern 2, Exps 1-1 in Visit 97 (2) |  | 352.939501 Secs (705.879 Secs)  |  |  |  |       |                          |           |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|                 |                                                                                                                                                                                                                                                                                                                 |                                                                                                                  |                       |                                                                                     |  |  |  |                          |  |                                |                              |                                                                                                         |  |                                     |  | [==>(Pattern 1)]                |  |  |  | [1]   |                          |           |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|                 |                                                                                                                                                                                                                                                                                                                 |                                                                                                                  |                       |                                                                                     |  |  |  |                          |  |                                |                              |                                                                                                         |  |                                     |  | [==>(Pattern 2)]                |  |  |  |       |                          |           |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|                 | 2                                                                                                                                                                                                                                                                                                               | 0834+45_14_0                                                                                                     | (7) EMACSJ0834.2+4524 | WFC3/IR, MULTIACCUM, IR                                                             |  |  |  | F140W                    |  | SAMP-SEQ=SPARS 25;<br>NSAMP=15 |                              |                                                                                                         |  | Pattern 2, Exps 2-2 in Visit 97 (2) |  | 352.939501 Secs (705.879 Secs)  |  |  |  |       |                          |           |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|                 |                                                                                                                                                                                                                                                                                                                 |                                                                                                                  |                       |                                                                                     |  |  |  |                          |  |                                |                              |                                                                                                         |  |                                     |  | [==>(Pattern 1)]                |  |  |  | [1]   |                          |           |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|                 |                                                                                                                                                                                                                                                                                                                 |                                                                                                                  |                       |                                                                                     |  |  |  |                          |  |                                |                              |                                                                                                         |  |                                     |  | [==>(Pattern 2)]                |  |  |  |       |                          |           |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Orbit Structure | Orbit 1                                                                                                                                                                                                                                                                                                         |                                                                                                                  |                       |                                                                                     |  |  |  |                          |  |                                |                              |                                                                                                         |  |                                     |  |                                 |  |  |  |       | Server Version: 20140605 |           |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|                 | <p>Diagram illustrating the Orbit Structure for Orbit 1. The timeline shows various events including GS Acq, Exposures (Exp. 1, Exp. 2), Pointing Maneuvers, Reconfig, and a period of Unused Orbital Visibility (1385 seconds) followed by Occultation. The x-axis represents time in seconds (0 to 5500).</p> |                                                                                                                  |                       |                                                                                     |  |  |  |                          |  |                                |                              |                                                                                                         |  |                                     |  |                                 |  |  |  |       |                          |           |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

# Proposal 13671 - Visit 98 - Beyond MACS: A Snapshot Survey of the Most Massive Clusters of Galaxies at $z > 0.5$

|                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                             |                                                                                    |                          |               |
|-----------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|--------------------------|---------------|
| Visit           | <b>Proposal 13671, Visit 98, implementation</b> <span style="float: right;">Tue Aug 19 01:02:38 GMT 2014</span>                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                             |                                                                                    |                          |               |
|                 | <b>Diagnostic Status: No Diagnostics</b><br>Scientific Instruments: WFC3/IR<br>Special Requirements: (none)                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                                                                                                                             |                                                                                    |                          |               |
| Patterns        | #                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Primary Pattern                                                                                                                                                                                                             |                                                                                    | Secondary Pattern        | Exposures     |
|                 | (2)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Pattern Type=WFC3-IR-DITHER-LINE<br>Purpose=DITHER<br>Number Of Points=2<br>Point Spacing=0.636<br>Line Spacing=<br>Coordinate Frame=POS-TARG<br>Pattern Orientation=41.788<br>Angle Between Sides=<br>Center Pattern=false |                                                                                    |                          | (1), (2)      |
| Fixed Targets   | #                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Name                                                                                                                                                                                                                        | Target Coordinates                                                                 | Targ. Coord. Corrections | Fluxes        |
|                 | (8)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | EMACSJ0840.2+4421                                                                                                                                                                                                           | RA: 08 40 9.3720 (130.0390500d)<br>Dec: +44 21 53.65 (44.36490d)<br>Equinox: J2000 |                          | V=20.0        |
| Exposures       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                             |                                                                                    |                          | Miscellaneous |
|                 | Reference Frame: ICRS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                             |                                                                                    |                          |               |
|                 | #                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Label                                                                                                                                                                                                                       | Target                                                                             | Config,Mode,Aperture     | Spectral Els. |
|                 | 1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 0840+44_11_0                                                                                                                                                                                                                | (8) EMACSJ0840.2+4421                                                              | WFC3/IR, MULTIACCUM, IR  | F110W         |
|                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                             |                                                                                    |                          |               |
|                 | SAMP-SEQ=SPARS 25;<br>NSAMP=15                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                                                                                                                                             |                                                                                    |                          |               |
|                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                             |                                                                                    |                          |               |
|                 | Pattern 2, Exps 1-1 in Visit 98 (2)<br>[==>(Pattern 1)]<br>[==>(Pattern 2)]                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                                                                                                                             |                                                                                    |                          |               |
|                 | 352.939501 Secs (705.879 Secs)                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                                                                                                                                             |                                                                                    |                          |               |
|                 | [1]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                             |                                                                                    |                          |               |
|                 | #                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Label                                                                                                                                                                                                                       | Target                                                                             | Config,Mode,Aperture     | Spectral Els. |
|                 | 2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 0840+44_14_0                                                                                                                                                                                                                | (8) EMACSJ0840.2+4421                                                              | WFC3/IR, MULTIACCUM, IR  | F140W         |
|                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                             |                                                                                    |                          |               |
|                 | SAMP-SEQ=SPARS 25;<br>NSAMP=15                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                                                                                                                                             |                                                                                    |                          |               |
|                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                             |                                                                                    |                          |               |
|                 | Pattern 2, Exps 2-2 in Visit 98 (2)<br>[==>(Pattern 1)]<br>[==>(Pattern 2)]                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                                                                                                                             |                                                                                    |                          |               |
|                 | 352.939501 Secs (705.879 Secs)                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                                                                                                                                             |                                                                                    |                          |               |
|                 | [1]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                             |                                                                                    |                          |               |
| Orbit Structure | <b>Orbit 1</b> <span style="float: right;">Server Version: 20140605</span>                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                             |                                                                                    |                          |               |
|                 | <p>The diagram illustrates the sequence of events during Orbit 1. It starts with a Ground Station Acquisition (GS Acq) followed by the first exposure (Exp. 1). After a pointing maneuver, the second exposure (Exp. 2) is taken, followed by another pointing maneuver. This is followed by a reconfiguration period. A significant portion of the orbit (from 400 to 2643 seconds) is marked as 'Unused Orbital Visibility'. The orbit concludes with an occultation period from 2643 to 5500 seconds.</p> |                                                                                                                                                                                                                             |                                                                                    |                          |               |

# Proposal 13671 - Visit 99 - Beyond MACS: A Snapshot Survey of the Most Massive Clusters of Galaxies at $z > 0.5$

|                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                  |                                                                                     |                                                                                                         |               |
|-----------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------|---------------|
| Visit           | Proposal 13671, Visit 99, implementation <span style="float: right;">Tue Aug 19 01:02:38 GMT 2014</span>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                  |                                                                                     |                                                                                                         |               |
|                 | Diagnostic Status: No Diagnostics<br>Scientific Instruments: WFC3/IR<br>Special Requirements: (none)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                  |                                                                                     |                                                                                                         |               |
| Patterns        | #                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Primary Pattern                                                                                                  |                                                                                     | Secondary Pattern                                                                                       | Exposures     |
|                 | (2)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Pattern Type=WFC3-IR-DITHER-LINE<br>Purpose=DITHER<br>Number Of Points=2<br>Point Spacing=0.636<br>Line Spacing= |                                                                                     | Coordinate Frame=POS-TARG<br>Pattern Orientation=41.788<br>Angle Between Sides=<br>Center Pattern=false | (1), (2)      |
| Fixed Targets   | #                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Name                                                                                                             | Target Coordinates                                                                  | Targ. Coord. Corrections                                                                                | Fluxes        |
|                 | (9)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | EMACSJ0921.6-0621                                                                                                | RA: 09 21 36.6010 (140.4025042d)<br>Dec: -06 21 21.76 (-6.35604d)<br>Equinox: J2000 |                                                                                                         | V=20.0        |
| Exposures       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                  |                                                                                     |                                                                                                         | Miscellaneous |
|                 | Reference Frame: ICRS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                                  |                                                                                     |                                                                                                         |               |
|                 | #                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Label                                                                                                            | Target                                                                              | Config,Mode,Aperture                                                                                    | Spectral Els. |
|                 | 1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 0921-06_110                                                                                                      | (9) EMACSJ0921.6-0621                                                               | WFC3/IR, MULTIACCUM, IR                                                                                 | F110W         |
|                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                  |                                                                                     |                                                                                                         |               |
|                 | SAMP-SEQ=SPARS 25;<br>NSAMP=15                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                  |                                                                                     |                                                                                                         |               |
|                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                  |                                                                                     |                                                                                                         |               |
|                 | Pattern 2, Exps 1-1 in Visit 99 (2)<br>[==>(Pattern 1)]<br>[==>(Pattern 2)]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                  |                                                                                     |                                                                                                         |               |
|                 | 352.939501 Secs (705.879 Secs)<br>[1]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                                  |                                                                                     |                                                                                                         |               |
|                 | #                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Label                                                                                                            | Target                                                                              | Config,Mode,Aperture                                                                                    | Spectral Els. |
|                 | 2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 0921-06_140                                                                                                      | (9) EMACSJ0921.6-0621                                                               | WFC3/IR, MULTIACCUM, IR                                                                                 | F140W         |
|                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                  |                                                                                     |                                                                                                         |               |
|                 | SAMP-SEQ=SPARS 25;<br>NSAMP=15                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                  |                                                                                     |                                                                                                         |               |
|                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                  |                                                                                     |                                                                                                         |               |
|                 | Pattern 2, Exps 2-2 in Visit 99 (2)<br>[==>(Pattern 1)]<br>[==>(Pattern 2)]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                  |                                                                                     |                                                                                                         |               |
|                 | 352.939501 Secs (705.879 Secs)<br>[1]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                                  |                                                                                     |                                                                                                         |               |
| Orbit Structure | <b>Orbit 1</b> <span style="float: right;">Server Version: 20140605</span>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                  |                                                                                     |                                                                                                         |               |
|                 | <p>The diagram illustrates the timeline of Orbit 1, showing various events and their durations. The timeline is marked in seconds from 0 to 5500. Key events include:</p> <ul style="list-style-type: none"> <li>GS Acq (Green Arrow)</li> <li>Exp. 1 (Blue Arrow)</li> <li>Pointing Maneuver (Black Arrow)</li> <li>Exp. 2 (Blue Arrow)</li> <li>Pointing Maneuver (Black Arrow)</li> <li>Reconfig (Black Arrow)</li> <li>Unused Orbital Visibility = 1249 (Black Arrow)</li> <li>Occultation (Black Arrow)</li> </ul> <p>The timeline is divided into segments: a blue checkered segment (0-1000s), a black segment (1000-1500s), a blue checkered segment (1500-2000s), a black segment (2000-2500s), a blue checkered segment (2500-3000s), a black segment (3000-3500s), and a white segment (3500-5500s).</p> |                                                                                                                  |                                                                                     |                                                                                                         |               |

# Proposal 13671 - Visit 0A - Beyond MACS: A Snapshot Survey of the Most Massive Clusters of Galaxies at $z>0.5$

|                 |                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                             |                                                                                   |                          |               |
|-----------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|--------------------------|---------------|
| Visit           | <b>Proposal 13671, Visit 0A, implementation</b> <span style="float: right;">Tue Aug 19 01:02:38 GMT 2014</span>                                                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                             |                                                                                   |                          |               |
|                 | <b>Diagnostic Status: No Diagnostics</b><br>Scientific Instruments: WFC3/IR<br>Special Requirements: (none)                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                             |                                                                                   |                          |               |
| Patterns        | #                                                                                                                                                                                                                                                                                                                                                                                                    | Primary Pattern                                                                                                                                                                                                             |                                                                                   | Secondary Pattern        | Exposures     |
|                 | (2)                                                                                                                                                                                                                                                                                                                                                                                                  | Pattern Type=WFC3-IR-DITHER-LINE<br>Purpose=DITHER<br>Number Of Points=2<br>Point Spacing=0.636<br>Line Spacing=<br>Coordinate Frame=POS-TARG<br>Pattern Orientation=41.788<br>Angle Between Sides=<br>Center Pattern=false |                                                                                   |                          | (1), (2)      |
| Fixed Targets   | #                                                                                                                                                                                                                                                                                                                                                                                                    | Name                                                                                                                                                                                                                        | Target Coordinates                                                                | Targ. Coord. Corrections | Fluxes        |
|                 | (10)                                                                                                                                                                                                                                                                                                                                                                                                 | EMACSJ0935.1+0614                                                                                                                                                                                                           | RA: 09 35 3.2220 (143.7634250d)<br>Dec: +06 14 39.05 (6.24418d)<br>Equinox: J2000 |                          | V=20.0        |
| Exposures       |                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                             |                                                                                   |                          | Miscellaneous |
|                 | Reference Frame: ICRS                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                             |                                                                                   |                          |               |
|                 | #                                                                                                                                                                                                                                                                                                                                                                                                    | Label                                                                                                                                                                                                                       | Target                                                                            | Config,Mode,Aperture     | Spectral Els. |
|                 | 1                                                                                                                                                                                                                                                                                                                                                                                                    | 0935+06_11_0                                                                                                                                                                                                                | (10) EMACSJ0935.1+0614                                                            | WFC3/IR, MULTIACCUM, IR  | F110W         |
|                 |                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                             |                                                                                   |                          |               |
|                 | Opt. Params. Special Reqs. Groups Exp. Time (Total)/[Actual Dur.] Orbit<br>SAMP-SEQ=SPARS 25; NSAMP=15 Pattern 2, Exps 1-1 in Visit 0A (2) 352.939501 Secs (705.879 Secs)<br>[==>(Pattern 1)] [1]<br>[==>(Pattern 2)]                                                                                                                                                                                |                                                                                                                                                                                                                             |                                                                                   |                          |               |
|                 | 2                                                                                                                                                                                                                                                                                                                                                                                                    | 0935+06_14_0                                                                                                                                                                                                                | (10) EMACSJ0935.1+0614                                                            | WFC3/IR, MULTIACCUM, IR  | F140W         |
|                 | Opt. Params. Special Reqs. Groups Exp. Time (Total)/[Actual Dur.] Orbit<br>SAMP-SEQ=SPARS 25; NSAMP=15 Pattern 2, Exps 2-2 in Visit 0A (2) 352.939501 Secs (705.879 Secs)<br>[==>(Pattern 1)] [1]<br>[==>(Pattern 2)]                                                                                                                                                                                |                                                                                                                                                                                                                             |                                                                                   |                          |               |
| Orbit Structure | <b>Orbit 1</b> <span style="float: right;">Server Version: 20140605</span>                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                             |                                                                                   |                          |               |
|                 | <p>Diagram illustrating the Orbit Structure timeline (0 to 5500 seconds):</p> <ul style="list-style-type: none"> <li>GS Acq (0-50s)</li> <li>Exp. 1 (50-100s)</li> <li>Pointing Maneuver (100-150s)</li> <li>Exp. 2 (150-200s)</li> <li>Pointing Maneuver (200-250s)</li> <li>Reconfig (250-300s)</li> <li>Unused Orbital Visibility = 1249 (300-2000s)</li> <li>Occultation (2000-5500s)</li> </ul> |                                                                                                                                                                                                                             |                                                                                   |                          |               |

# Proposal 13671 - Visit 0B - Beyond MACS: A Snapshot Survey of the Most Massive Clusters of Galaxies at $z>0.5$

|                 |                                                                                                                                                                                                                       |                                                                                                                                                                                                                             |                                                                                      |                          |               |
|-----------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|--------------------------|---------------|
| Visit           | <b>Proposal 13671, Visit 0B, implementation</b> <span style="float: right;">Tue Aug 19 01:02:38 GMT 2014</span>                                                                                                       |                                                                                                                                                                                                                             |                                                                                      |                          |               |
|                 | <b>Diagnostic Status: No Diagnostics</b><br>Scientific Instruments: WFC3/IR<br>Special Requirements: (none)                                                                                                           |                                                                                                                                                                                                                             |                                                                                      |                          |               |
| Patterns        | #                                                                                                                                                                                                                     | Primary Pattern                                                                                                                                                                                                             |                                                                                      | Secondary Pattern        | Exposures     |
|                 | (2)                                                                                                                                                                                                                   | Pattern Type=WFC3-IR-DITHER-LINE<br>Purpose=DITHER<br>Number Of Points=2<br>Point Spacing=0.636<br>Line Spacing=<br>Coordinate Frame=POS-TARG<br>Pattern Orientation=41.788<br>Angle Between Sides=<br>Center Pattern=false |                                                                                      |                          | (1), (2)      |
| Fixed Targets   | #                                                                                                                                                                                                                     | Name                                                                                                                                                                                                                        | Target Coordinates                                                                   | Targ. Coord. Corrections | Fluxes        |
|                 | (11)                                                                                                                                                                                                                  | EMACSJ0943.3-1842                                                                                                                                                                                                           | RA: 09 43 18.0090 (145.8250375d)<br>Dec: -18 42 33.88 (-18.70941d)<br>Equinox: J2000 |                          | V=20.0        |
| Exposures       |                                                                                                                                                                                                                       |                                                                                                                                                                                                                             |                                                                                      |                          | Miscellaneous |
|                 | Reference Frame: ICRS                                                                                                                                                                                                 |                                                                                                                                                                                                                             |                                                                                      |                          |               |
|                 | #                                                                                                                                                                                                                     | Label                                                                                                                                                                                                                       | Target                                                                               | Config,Mode,Aperture     | Spectral Els. |
|                 | 1                                                                                                                                                                                                                     | 0943-18_110                                                                                                                                                                                                                 | (11) EMACSJ0943.3-1842                                                               | WFC3/IR, MULTIACCUM, IR  | F110W         |
|                 |                                                                                                                                                                                                                       |                                                                                                                                                                                                                             |                                                                                      |                          |               |
|                 | Opt. Params. Special Reqs. Groups Exp. Time (Total)/[Actual Dur.] Orbit<br>SAMP-SEQ=SPARS 25; NSAMP=15 Pattern 2, Exps 1-1 in Visit 0B (2) 352.939501 Secs (705.879 Secs)<br>[==>(Pattern 1)] [1]<br>[==>(Pattern 2)] |                                                                                                                                                                                                                             |                                                                                      |                          |               |
|                 | 2                                                                                                                                                                                                                     | 0943-18_140                                                                                                                                                                                                                 | (11) EMACSJ0943.3-1842                                                               | WFC3/IR, MULTIACCUM, IR  | F140W         |
|                 | Opt. Params. Special Reqs. Groups Exp. Time (Total)/[Actual Dur.] Orbit<br>SAMP-SEQ=SPARS 25; NSAMP=15 Pattern 2, Exps 2-2 in Visit 0B (2) 352.939501 Secs (705.879 Secs)<br>[==>(Pattern 1)] [1]<br>[==>(Pattern 2)] |                                                                                                                                                                                                                             |                                                                                      |                          |               |
| Orbit Structure | <b>Orbit 1</b> <span style="float: right;">Server Version: 20140605</span>                                                                                                                                            |                                                                                                                                                                                                                             |                                                                                      |                          |               |
|                 |                                                                                                                                                                                                                       |                                                                                                                                                                                                                             |                                                                                      |                          |               |

Proposal 13671 - Visit 0C - Beyond MACS: A Snapshot Survey of the Most Massive Clusters of Galaxies at  $z>0.5$

Tue Aug 19 01:02:38 GMT 2014

|                 |                                                                                                                 |                                                                                                                                                                                                                             |                                                                                    |                         |  |                          |                                |               |                                     |                                      |                              |           |  |
|-----------------|-----------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|-------------------------|--|--------------------------|--------------------------------|---------------|-------------------------------------|--------------------------------------|------------------------------|-----------|--|
| Visit           | Proposal 13671, Visit 0C, implementation                                                                        |                                                                                                                                                                                                                             |                                                                                    |                         |  |                          |                                |               |                                     |                                      | Tue Aug 19 01:02:38 GMT 2014 |           |  |
|                 | Diagnostic Status: No Diagnostics                                                                               |                                                                                                                                                                                                                             |                                                                                    |                         |  |                          |                                |               |                                     |                                      |                              |           |  |
|                 | Scientific Instruments: WFC3/IR                                                                                 |                                                                                                                                                                                                                             |                                                                                    |                         |  |                          |                                |               |                                     |                                      |                              |           |  |
|                 | Special Requirements: (none)                                                                                    |                                                                                                                                                                                                                             |                                                                                    |                         |  |                          |                                |               |                                     |                                      |                              |           |  |
| Patterns        | #                                                                                                               | Primary Pattern                                                                                                                                                                                                             |                                                                                    |                         |  |                          | Secondary Pattern              |               |                                     |                                      |                              | Exposures |  |
|                 | (2)                                                                                                             | Pattern Type=WFC3-IR-DITHER-LINE<br>Purpose=DITHER<br>Number Of Points=2<br>Point Spacing=0.636<br>Line Spacing=<br>Coordinate Frame=POS-TARG<br>Pattern Orientation=41.788<br>Angle Between Sides=<br>Center Pattern=false |                                                                                    |                         |  |                          |                                |               |                                     |                                      |                              | (1), (2)  |  |
| Fixed Targets   | #                                                                                                               | Name                                                                                                                                                                                                                        | Target Coordinates                                                                 |                         |  | Targ. Coord. Corrections |                                |               | Fluxes                              |                                      | Miscellaneous                |           |  |
|                 | (12)                                                                                                            | EMACSJ1027.2+0345                                                                                                                                                                                                           | RA: 10 27 14.0280 (156.8084500d)<br>Dec: +03 44 47.70 (3.74658d)<br>Equinox: J2000 |                         |  |                          |                                |               | V=20.0                              |                                      | Reference Frame: ICRS        |           |  |
| Exposures       | #                                                                                                               | Label                                                                                                                                                                                                                       | Target                                                                             | Config,Mode,Aperture    |  | Spectral Els.            | Opt. Params.                   | Special Reqs. | Groups                              | Exp. Time (Total)/[Actual Dur.]      |                              | Orbit     |  |
|                 | 1                                                                                                               | 1027+03_110                                                                                                                                                                                                                 | (12) EMACSJ1027.2 +0345                                                            | WFC3/IR, MULTIACCUM, IR |  | F110W                    | SAMP-SEQ=SPARS 25;<br>NSAMP=15 |               | Pattern 2, Exps 1-1 in Visit 0C (2) | 352.939501 Secs (705.879 Secs)       |                              |           |  |
|                 |                                                                                                                 |                                                                                                                                                                                                                             |                                                                                    |                         |  |                          |                                |               |                                     | [==>(Pattern 1)]<br>[==>(Pattern 2)] |                              | [1]       |  |
|                 | 2                                                                                                               | 1027+03_140                                                                                                                                                                                                                 | (12) EMACSJ1027.2 +0345                                                            | WFC3/IR, MULTIACCUM, IR |  | F140W                    | SAMP-SEQ=SPARS 25;<br>NSAMP=15 |               | Pattern 2, Exps 2-2 in Visit 0C (2) | 352.939501 Secs (705.879 Secs)       |                              |           |  |
|                 |                                                                                                                 |                                                                                                                                                                                                                             |                                                                                    |                         |  |                          |                                |               |                                     | [==>(Pattern 1)]<br>[==>(Pattern 2)] |                              | [1]       |  |
| Orbit Structure | <div>Orbit 1<div>Server Version: 20140605</div><div>05001000150020002500300035004000450050005500sec</div></div> |                                                                                                                                                                                                                             |                                                                                    |                         |  |                          |                                |               |                                     |                                      |                              |           |  |

# Proposal 13671 - Visit 0D - Beyond MACS: A Snapshot Survey of the Most Massive Clusters of Galaxies at $z>0.5$

|                 |                                                                                                                             |                                                                                                                                                                                                                             |                        |                                                                                     |  |  |               |                          |                                |  |                              |                   |                                     |  |                                      |                       |  |  |       |  |  |           |  |
|-----------------|-----------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------|-------------------------------------------------------------------------------------|--|--|---------------|--------------------------|--------------------------------|--|------------------------------|-------------------|-------------------------------------|--|--------------------------------------|-----------------------|--|--|-------|--|--|-----------|--|
| Visit           | Proposal 13671, Visit 0D, implementation                                                                                    |                                                                                                                                                                                                                             |                        |                                                                                     |  |  |               |                          |                                |  | Tue Aug 19 01:02:38 GMT 2014 |                   |                                     |  |                                      |                       |  |  |       |  |  |           |  |
|                 | Diagnostic Status: No Diagnostics                                                                                           |                                                                                                                                                                                                                             |                        |                                                                                     |  |  |               |                          |                                |  |                              |                   |                                     |  |                                      |                       |  |  |       |  |  |           |  |
|                 | Scientific Instruments: WFC3/IR                                                                                             |                                                                                                                                                                                                                             |                        |                                                                                     |  |  |               |                          |                                |  |                              |                   |                                     |  |                                      |                       |  |  |       |  |  |           |  |
|                 | Special Requirements: (none)                                                                                                |                                                                                                                                                                                                                             |                        |                                                                                     |  |  |               |                          |                                |  |                              |                   |                                     |  |                                      |                       |  |  |       |  |  |           |  |
| Patterns        | #                                                                                                                           | Primary Pattern                                                                                                                                                                                                             |                        |                                                                                     |  |  |               |                          |                                |  |                              | Secondary Pattern |                                     |  |                                      |                       |  |  |       |  |  | Exposures |  |
|                 | (2)                                                                                                                         | Pattern Type=WFC3-IR-DITHER-LINE<br>Purpose=DITHER<br>Number Of Points=2<br>Point Spacing=0.636<br>Line Spacing=<br>Coordinate Frame=POS-TARG<br>Pattern Orientation=41.788<br>Angle Between Sides=<br>Center Pattern=false |                        |                                                                                     |  |  |               |                          |                                |  |                              |                   |                                     |  |                                      |                       |  |  |       |  |  | (1), (2)  |  |
| Fixed Targets   | #                                                                                                                           | Name                                                                                                                                                                                                                        |                        | Target Coordinates                                                                  |  |  |               | Targ. Coord. Corrections |                                |  |                              | Fluxes            |                                     |  |                                      | Miscellaneous         |  |  |       |  |  |           |  |
|                 | (13)                                                                                                                        | EMACSJ1030.5+5132                                                                                                                                                                                                           |                        | RA: 10 30 35.1150 (157.6463125d)<br>Dec: +51 32 32.01 (51.54222d)<br>Equinox: J2000 |  |  |               |                          |                                |  |                              | V=20.0            |                                     |  |                                      | Reference Frame: ICRS |  |  |       |  |  |           |  |
| Exposures       | #                                                                                                                           | Label                                                                                                                                                                                                                       | Target                 | Config,Mode,Aperture                                                                |  |  | Spectral Els. |                          | Opt. Params.                   |  | Special Reqs.                |                   | Groups                              |  | Exp. Time (Total)/[Actual Dur.]      |                       |  |  | Orbit |  |  |           |  |
|                 | 1                                                                                                                           | 1030+51_11_0                                                                                                                                                                                                                | (13) EMACSJ1030.5+5132 | WFC3/IR, MULTIACCUM, IR                                                             |  |  | F110W         |                          | SAMP-SEQ=SPARS 25;<br>NSAMP=15 |  |                              |                   | Pattern 2, Exps 1-1 in Visit 0D (2) |  | 352.939501 Secs (705.879 Secs)       |                       |  |  |       |  |  |           |  |
|                 |                                                                                                                             |                                                                                                                                                                                                                             |                        |                                                                                     |  |  |               |                          |                                |  |                              |                   |                                     |  | [==>(Pattern 1)]<br>[==>(Pattern 2)] |                       |  |  | [1]   |  |  |           |  |
|                 | 2                                                                                                                           | 1030+51_14_0                                                                                                                                                                                                                | (13) EMACSJ1030.5+5132 | WFC3/IR, MULTIACCUM, IR                                                             |  |  | F140W         |                          | SAMP-SEQ=SPARS 25;<br>NSAMP=15 |  |                              |                   | Pattern 2, Exps 2-2 in Visit 0D (2) |  | 352.939501 Secs (705.879 Secs)       |                       |  |  | [1]   |  |  |           |  |
| Orbit Structure | <div><div>Orbit 1</div><div>Server Version: 20140605</div><div>05001000150020002500300035004000450050005500 sec</div></div> |                                                                                                                                                                                                                             |                        |                                                                                     |  |  |               |                          |                                |  |                              |                   |                                     |  |                                      |                       |  |  |       |  |  |           |  |

# Proposal 13671 - Visit 0E - Beyond MACS: A Snapshot Survey of the Most Massive Clusters of Galaxies at $z>0.5$

|                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                             |                                                                                     |                          |                                         |
|-----------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|--------------------------|-----------------------------------------|
| Visit           | <b>Proposal 13671, Visit 0E, implementation</b> <span style="float: right;">Tue Aug 19 01:02:38 GMT 2014</span>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                             |                                                                                     |                          |                                         |
|                 | <b>Diagnostic Status: No Diagnostics</b><br>Scientific Instruments: WFC3/IR<br>Special Requirements: (none)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                             |                                                                                     |                          |                                         |
| Patterns        | #                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Primary Pattern                                                                                                                                                                                                             |                                                                                     | Secondary Pattern        | Exposures                               |
|                 | (2)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Pattern Type=WFC3-IR-DITHER-LINE<br>Purpose=DITHER<br>Number Of Points=2<br>Point Spacing=0.636<br>Line Spacing=<br>Coordinate Frame=POS-TARG<br>Pattern Orientation=41.788<br>Angle Between Sides=<br>Center Pattern=false |                                                                                     |                          | (1), (2)                                |
| Fixed Targets   | #                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Name                                                                                                                                                                                                                        | Target Coordinates                                                                  | Targ. Coord. Corrections | Fluxes                                  |
|                 | (14)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | EMACSJ1050.6+3548                                                                                                                                                                                                           | RA: 10 50 38.5700 (162.6607083d)<br>Dec: +35 49 12.80 (35.82022d)<br>Equinox: J2000 |                          | V=20.0                                  |
| Exposures       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                             |                                                                                     |                          | Miscellaneous                           |
|                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                             |                                                                                     |                          | Reference Frame: ICRS                   |
|                 | #                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Label                                                                                                                                                                                                                       | Target                                                                              | Config,Mode,Aperture     | Spectral Els.                           |
|                 | 1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 1050+35_11<br>0                                                                                                                                                                                                             | (14) EMACSJ1050.6<br>+3548                                                          | WFC3/IR, MULTIACCUM, IR  | F110W                                   |
|                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                             |                                                                                     |                          | Opt. Params.                            |
|                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                             |                                                                                     |                          | SAMP-SEQ=SPARS<br>25;<br>NSAMP=15       |
|                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                             |                                                                                     |                          | Special Reqs.                           |
|                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                             |                                                                                     |                          | Pattern 2, Exps 1-1 i<br>n Visit 0E (2) |
|                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                             |                                                                                     |                          | Groups                                  |
|                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                             |                                                                                     |                          | Pattern 2, Exps 1-1 i<br>n Visit 0E (2) |
|                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                             |                                                                                     |                          | Exp. Time (Total)/[Actual Dur.]         |
|                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                             |                                                                                     |                          | 352.939501 Secs (705.879 Secs)          |
|                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                             |                                                                                     |                          | [==>(Pattern 1)]                        |
|                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                             |                                                                                     |                          | [==>(Pattern 2)]                        |
|                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                             |                                                                                     |                          | Orbit                                   |
|                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                             |                                                                                     |                          | [1]                                     |
|                 | 2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 1050+35_14<br>0                                                                                                                                                                                                             | (14) EMACSJ1050.6<br>+3548                                                          | WFC3/IR, MULTIACCUM, IR  | F140W                                   |
|                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                             |                                                                                     |                          | SAMP-SEQ=SPARS<br>25;<br>NSAMP=15       |
|                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                             |                                                                                     |                          | Special Reqs.                           |
|                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                             |                                                                                     |                          | Pattern 2, Exps 2-2 i<br>n Visit 0E (2) |
|                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                             |                                                                                     |                          | Groups                                  |
|                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                             |                                                                                     |                          | Pattern 2, Exps 2-2 i<br>n Visit 0E (2) |
|                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                             |                                                                                     |                          | Exp. Time (Total)/[Actual Dur.]         |
|                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                             |                                                                                     |                          | 352.939501 Secs (705.879 Secs)          |
|                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                             |                                                                                     |                          | [==>(Pattern 1)]                        |
|                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                             |                                                                                     |                          | [==>(Pattern 2)]                        |
|                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                             |                                                                                     |                          | Orbit                                   |
|                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                             |                                                                                     |                          | [1]                                     |
| Orbit Structure | <b>Orbit 1</b> <span style="float: right;">Server Version: 20140605</span>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                                                                                                                             |                                                                                     |                          |                                         |
|                 | <p>The diagram illustrates the sequence of events for Orbit 1. It starts with a Ground Station Acquisition (GS Acq) at 0 seconds, followed by Exposure 1 (Exp. 1) from 50 to 100 seconds. A Pointing Maneuver occurs from 100 to 150 seconds, followed by Exposure 2 (Exp. 2) from 150 to 200 seconds. Another Pointing Maneuver occurs from 200 to 250 seconds, followed by a second Exposure 2 from 250 to 300 seconds. A third Pointing Maneuver occurs from 300 to 350 seconds, followed by a Reconfiguration (Reconfig) period from 350 to 400 seconds. The timeline then shows a long period of Unused Orbital Visibility from 400 to 2705 seconds, followed by an Occultation period from 2705 to 5500 seconds. The total duration of the orbit is 5500 seconds.</p> |                                                                                                                                                                                                                             |                                                                                     |                          |                                         |

# Proposal 13671 - Visit 0F - Beyond MACS: A Snapshot Survey of the Most Massive Clusters of Galaxies at $z>0.5$

|                 |                                                                                                                                                                                                                       |                                                                                                                                                                                                                             |                                                                                     |                          |               |
|-----------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|--------------------------|---------------|
| Visit           | <b>Proposal 13671, Visit 0F, implementation</b> <span style="float: right;">Tue Aug 19 01:02:38 GMT 2014</span>                                                                                                       |                                                                                                                                                                                                                             |                                                                                     |                          |               |
|                 | <b>Diagnostic Status: No Diagnostics</b><br>Scientific Instruments: WFC3/IR<br>Special Requirements: (none)                                                                                                           |                                                                                                                                                                                                                             |                                                                                     |                          |               |
| Patterns        | #                                                                                                                                                                                                                     | Primary Pattern                                                                                                                                                                                                             |                                                                                     | Secondary Pattern        | Exposures     |
|                 | (2)                                                                                                                                                                                                                   | Pattern Type=WFC3-IR-DITHER-LINE<br>Purpose=DITHER<br>Number Of Points=2<br>Point Spacing=0.636<br>Line Spacing=<br>Coordinate Frame=POS-TARG<br>Pattern Orientation=41.788<br>Angle Between Sides=<br>Center Pattern=false |                                                                                     |                          | (1), (2)      |
| Fixed Targets   | #                                                                                                                                                                                                                     | Name                                                                                                                                                                                                                        | Target Coordinates                                                                  | Targ. Coord. Corrections | Fluxes        |
|                 | (15)                                                                                                                                                                                                                  | EMACSJ1131.1+3553                                                                                                                                                                                                           | RA: 11 31 13.6690 (172.8069542d)<br>Dec: +35 54 11.11 (35.90309d)<br>Equinox: J2000 |                          | V=20.0        |
| Exposures       |                                                                                                                                                                                                                       |                                                                                                                                                                                                                             |                                                                                     |                          | Miscellaneous |
|                 | Reference Frame: ICRS                                                                                                                                                                                                 |                                                                                                                                                                                                                             |                                                                                     |                          |               |
|                 | #                                                                                                                                                                                                                     | Label                                                                                                                                                                                                                       | Target                                                                              | Config,Mode,Aperture     | Spectral Els. |
|                 | 1                                                                                                                                                                                                                     | 1131+35_11_0                                                                                                                                                                                                                | (15) EMACSJ1131.1+3553                                                              | WFC3/IR, MULTIACCUM, IR  | F110W         |
|                 |                                                                                                                                                                                                                       |                                                                                                                                                                                                                             |                                                                                     |                          |               |
|                 | Opt. Params. Special Reqs. Groups Exp. Time (Total)/[Actual Dur.] Orbit<br>SAMP-SEQ=SPARS 25; NSAMP=15 Pattern 2, Exps 1-1 in Visit 0F (2) 352.939501 Secs (705.879 Secs)<br>[==>(Pattern 1)] [1]<br>[==>(Pattern 2)] |                                                                                                                                                                                                                             |                                                                                     |                          |               |
|                 | 2                                                                                                                                                                                                                     | 1131+35_14_0                                                                                                                                                                                                                | (15) EMACSJ1131.1+3553                                                              | WFC3/IR, MULTIACCUM, IR  | F140W         |
|                 | Opt. Params. Special Reqs. Groups Exp. Time (Total)/[Actual Dur.] Orbit<br>SAMP-SEQ=SPARS 25; NSAMP=15 Pattern 2, Exps 2-2 in Visit 0F (2) 352.939501 Secs (705.879 Secs)<br>[==>(Pattern 1)] [1]<br>[==>(Pattern 2)] |                                                                                                                                                                                                                             |                                                                                     |                          |               |
| Orbit Structure | <b>Orbit 1</b> <span style="float: right;">Server Version: 20140605</span>                                                                                                                                            |                                                                                                                                                                                                                             |                                                                                     |                          |               |
|                 | <p>Timeline labels: GS Acq, Exp. 1, Pointing Maneuver, Exp. 2, Pointing Maneuver, Exp. 2, Pointing Maneuver, Reconfig, Unused Orbital Visibility = 1305, Occultation.</p> <p>Timeline scale: 0 to 5500 sec.</p>       |                                                                                                                                                                                                                             |                                                                                     |                          |               |

# Proposal 13671 - Visit 0G - Beyond MACS: A Snapshot Survey of the Most Massive Clusters of Galaxies at $z > 0.5$

|                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                  |                        |                                                                                   |  |  |  |                          |  |                                |                              |                                                                                                         |  |                                     |  |                                 |  |  |  |       |  |           |  |
|-----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------|------------------------|-----------------------------------------------------------------------------------|--|--|--|--------------------------|--|--------------------------------|------------------------------|---------------------------------------------------------------------------------------------------------|--|-------------------------------------|--|---------------------------------|--|--|--|-------|--|-----------|--|
| Visit           | Proposal 13671, Visit 0G, implementation                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                  |                        |                                                                                   |  |  |  |                          |  |                                | Tue Aug 19 01:02:38 GMT 2014 |                                                                                                         |  |                                     |  |                                 |  |  |  |       |  |           |  |
|                 | Diagnostic Status: No Diagnostics                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                  |                        |                                                                                   |  |  |  |                          |  |                                |                              |                                                                                                         |  |                                     |  |                                 |  |  |  |       |  |           |  |
|                 | Scientific Instruments: WFC3/IR                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                  |                        |                                                                                   |  |  |  |                          |  |                                |                              |                                                                                                         |  |                                     |  |                                 |  |  |  |       |  |           |  |
|                 | Special Requirements: (none)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                  |                        |                                                                                   |  |  |  |                          |  |                                |                              |                                                                                                         |  |                                     |  |                                 |  |  |  |       |  |           |  |
| Patterns        | #                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Primary Pattern                                                                                                  |                        |                                                                                   |  |  |  |                          |  |                                |                              | Secondary Pattern                                                                                       |  |                                     |  |                                 |  |  |  |       |  | Exposures |  |
|                 | (2)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Pattern Type=WFC3-IR-DITHER-LINE<br>Purpose=DITHER<br>Number Of Points=2<br>Point Spacing=0.636<br>Line Spacing= |                        |                                                                                   |  |  |  |                          |  |                                |                              | Coordinate Frame=POS-TARG<br>Pattern Orientation=41.788<br>Angle Between Sides=<br>Center Pattern=false |  |                                     |  |                                 |  |  |  |       |  | (1), (2)  |  |
| Fixed Targets   | #                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Name                                                                                                             |                        | Target Coordinates                                                                |  |  |  | Targ. Coord. Corrections |  |                                |                              | Fluxes                                                                                                  |  |                                     |  | Miscellaneous                   |  |  |  |       |  |           |  |
|                 | (16)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | EMACSJ1136.8+0005                                                                                                |                        | RA: 11 36 52.9230 (174.2205125d)<br>Dec: +00 05 50.59 (.09739d)<br>Equinox: J2000 |  |  |  |                          |  |                                |                              | V=20.0                                                                                                  |  |                                     |  | Reference Frame: ICRS           |  |  |  |       |  |           |  |
| Exposures       | #                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Label                                                                                                            | Target                 | Config,Mode,Aperture                                                              |  |  |  | Spectral Els.            |  | Opt. Params.                   |                              | Special Reqs.                                                                                           |  | Groups                              |  | Exp. Time (Total)/[Actual Dur.] |  |  |  | Orbit |  |           |  |
|                 | 1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 1136+00_11_0                                                                                                     | (16) EMACSJ1136.8+0005 | WFC3/IR, MULTIACCUM, IR                                                           |  |  |  | F110W                    |  | SAMP-SEQ=SPARS 25;<br>NSAMP=15 |                              |                                                                                                         |  | Pattern 2, Exps 1-1 in Visit 0G (2) |  | 352.939501 Secs (705.879 Secs)  |  |  |  |       |  |           |  |
|                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                  |                        |                                                                                   |  |  |  |                          |  |                                |                              |                                                                                                         |  |                                     |  | [==>(Pattern 1)]                |  |  |  | [1]   |  |           |  |
|                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                  |                        |                                                                                   |  |  |  |                          |  |                                |                              |                                                                                                         |  |                                     |  | [==>(Pattern 2)]                |  |  |  |       |  |           |  |
|                 | 2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 1136+00_14_0                                                                                                     | (16) EMACSJ1136.8+0005 | WFC3/IR, MULTIACCUM, IR                                                           |  |  |  | F140W                    |  | SAMP-SEQ=SPARS 25;<br>NSAMP=15 |                              |                                                                                                         |  | Pattern 2, Exps 2-2 in Visit 0G (2) |  | 352.939501 Secs (705.879 Secs)  |  |  |  |       |  |           |  |
|                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                  |                        |                                                                                   |  |  |  |                          |  |                                |                              |                                                                                                         |  |                                     |  | [==>(Pattern 1)]                |  |  |  | [1]   |  |           |  |
|                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                  |                        |                                                                                   |  |  |  |                          |  |                                |                              |                                                                                                         |  |                                     |  | [==>(Pattern 2)]                |  |  |  |       |  |           |  |
| Orbit Structure | <div>Orbit 1<div>Server Version: 20140605</div><p>Diagram illustrating the Orbit Structure for Orbit 1, showing the sequence of events and timing relative to the total duration (0 to 5500 seconds).</p><p>Key events and timing markers:</p><ul style="list-style-type: none"><li>GS Acq (0 to ~50s)</li><li>Exp. 1 (~50s to ~100s)</li><li>Pointing Maneuver (~100s to ~150s)</li><li>Exp. 2 (~150s to ~200s)</li><li>Pointing Maneuver (~200s to ~250s)</li><li>Exp. 2 (~250s to ~300s)</li><li>Pointing Maneuver (~300s to ~350s)</li><li>Reconfig (~350s to ~400s)</li><li>Unused Orbital Visibility = 1249 (~400s to ~2649s)</li><li>Occultation (~2649s to 5500s)</li></ul></div> |                                                                                                                  |                        |                                                                                   |  |  |  |                          |  |                                |                              |                                                                                                         |  |                                     |  |                                 |  |  |  |       |  |           |  |

# Proposal 13671 - Visit 0H - Beyond MACS: A Snapshot Survey of the Most Massive Clusters of Galaxies at $z>0.5$

|                 |                                                                                                                                                                                  |                                                                                                                                                                                                                             |                                                                                     |                          |                   |                                |               |                                     |                                      |       |
|-----------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|--------------------------|-------------------|--------------------------------|---------------|-------------------------------------|--------------------------------------|-------|
| Visit           | Proposal 13671, Visit 0H, implementation                                                                                                                                         |                                                                                                                                                                                                                             |                                                                                     |                          |                   | Tue Aug 19 01:02:38 GMT 2014   |               |                                     |                                      |       |
|                 | Diagnostic Status: No Diagnostics                                                                                                                                                |                                                                                                                                                                                                                             |                                                                                     |                          |                   |                                |               |                                     |                                      |       |
|                 | Scientific Instruments: WFC3/IR                                                                                                                                                  |                                                                                                                                                                                                                             |                                                                                     |                          |                   |                                |               |                                     |                                      |       |
|                 | Special Requirements: (none)                                                                                                                                                     |                                                                                                                                                                                                                             |                                                                                     |                          |                   |                                |               |                                     |                                      |       |
| Patterns        | #                                                                                                                                                                                | Primary Pattern                                                                                                                                                                                                             |                                                                                     |                          | Secondary Pattern |                                | Exposures     |                                     |                                      |       |
|                 | (2)                                                                                                                                                                              | Pattern Type=WFC3-IR-DITHER-LINE<br>Purpose=DITHER<br>Number Of Points=2<br>Point Spacing=0.636<br>Line Spacing=<br>Coordinate Frame=POS-TARG<br>Pattern Orientation=41.788<br>Angle Between Sides=<br>Center Pattern=false |                                                                                     |                          |                   |                                | (1), (2)      |                                     |                                      |       |
| Fixed Targets   | #                                                                                                                                                                                | Name                                                                                                                                                                                                                        | Target Coordinates                                                                  | Targ. Coord. Corrections | Fluxes            | Miscellaneous                  |               |                                     |                                      |       |
|                 | (17)                                                                                                                                                                             | EMACSJ1144.2-2836                                                                                                                                                                                                           | RA: 11 44 9.4960 (176.0395667d)<br>Dec: -28 34 59.81 (-28.58328d)<br>Equinox: J2000 |                          | V=20.0            | Reference Frame: ICRS          |               |                                     |                                      |       |
| Exposures       | #                                                                                                                                                                                | Label                                                                                                                                                                                                                       | Target                                                                              | Config,Mode,Aperture     | Spectral Els.     | Opt. Params.                   | Special Reqs. | Groups                              | Exp. Time (Total)/[Actual Dur.]      | Orbit |
|                 | 1                                                                                                                                                                                | 1144-28_110                                                                                                                                                                                                                 | (17) EMACSJ1144.2-2836                                                              | WFC3/IR, MULTIACCUM, IR  | F110W             | SAMP-SEQ=SPARS 25;<br>NSAMP=15 |               | Pattern 2, Exps 1-1 in Visit 0H (2) | 352.939501 Secs (705.879 Secs)       |       |
|                 |                                                                                                                                                                                  |                                                                                                                                                                                                                             |                                                                                     |                          |                   |                                |               |                                     | [==>(Pattern 1)]<br>[==>(Pattern 2)] | [1]   |
|                 | 2                                                                                                                                                                                | 1144-28_140                                                                                                                                                                                                                 | (17) EMACSJ1144.2-2836                                                              | WFC3/IR, MULTIACCUM, IR  | F140W             | SAMP-SEQ=SPARS 25;<br>NSAMP=15 |               | Pattern 2, Exps 2-2 in Visit 0H (2) | 352.939501 Secs (705.879 Secs)       |       |
|                 |                                                                                                                                                                                  |                                                                                                                                                                                                                             |                                                                                     |                          |                   |                                |               |                                     | [==>(Pattern 1)]<br>[==>(Pattern 2)] | [1]   |
| Orbit Structure | <div>Orbit 1<div>Server Version: 20140605</div><p>Timeline labels: GS Acq, Exp. 1, Pointing Maneuver, Exp. 2, Reconfig, Occultation. Unused Orbital Visibility = 1268.</p></div> |                                                                                                                                                                                                                             |                                                                                     |                          |                   |                                |               |                                     |                                      |       |

# Proposal 13671 - Visit 0I - Beyond MACS: A Snapshot Survey of the Most Massive Clusters of Galaxies at $z>0.5$

|                 |                                                                                                                  |                                                                                                                  |                        |                                                                                    |  |  |  |                          |  |                               |                              |                                                                                                         |  |                                     |  |                                 |  |  |  |       |  |           |  |
|-----------------|------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------|------------------------|------------------------------------------------------------------------------------|--|--|--|--------------------------|--|-------------------------------|------------------------------|---------------------------------------------------------------------------------------------------------|--|-------------------------------------|--|---------------------------------|--|--|--|-------|--|-----------|--|
| Visit           | Proposal 13671, Visit 0I, implementation                                                                         |                                                                                                                  |                        |                                                                                    |  |  |  |                          |  |                               | Tue Aug 19 01:02:38 GMT 2014 |                                                                                                         |  |                                     |  |                                 |  |  |  |       |  |           |  |
|                 | Diagnostic Status: No Diagnostics                                                                                |                                                                                                                  |                        |                                                                                    |  |  |  |                          |  |                               |                              |                                                                                                         |  |                                     |  |                                 |  |  |  |       |  |           |  |
|                 | Scientific Instruments: WFC3/IR                                                                                  |                                                                                                                  |                        |                                                                                    |  |  |  |                          |  |                               |                              |                                                                                                         |  |                                     |  |                                 |  |  |  |       |  |           |  |
|                 | Special Requirements: (none)                                                                                     |                                                                                                                  |                        |                                                                                    |  |  |  |                          |  |                               |                              |                                                                                                         |  |                                     |  |                                 |  |  |  |       |  |           |  |
| Patterns        | #                                                                                                                | Primary Pattern                                                                                                  |                        |                                                                                    |  |  |  |                          |  |                               |                              | Secondary Pattern                                                                                       |  |                                     |  |                                 |  |  |  |       |  | Exposures |  |
|                 | (2)                                                                                                              | Pattern Type=WFC3-IR-DITHER-LINE<br>Purpose=DITHER<br>Number Of Points=2<br>Point Spacing=0.636<br>Line Spacing= |                        |                                                                                    |  |  |  |                          |  |                               |                              | Coordinate Frame=POS-TARG<br>Pattern Orientation=41.788<br>Angle Between Sides=<br>Center Pattern=false |  |                                     |  |                                 |  |  |  |       |  | (1), (2)  |  |
| Fixed Targets   | #                                                                                                                | Name                                                                                                             |                        | Target Coordinates                                                                 |  |  |  | Targ. Coord. Corrections |  |                               |                              | Fluxes                                                                                                  |  |                                     |  | Miscellaneous                   |  |  |  |       |  |           |  |
|                 | (18)                                                                                                             | EMACSJ1148.0+5116                                                                                                |                        | RA: 11 48 1.6020 (177.0066750d)<br>Dec: +51 16 27.87 (51.27441d)<br>Equinox: J2000 |  |  |  |                          |  |                               |                              | V=20.0                                                                                                  |  |                                     |  | Reference Frame: ICRS           |  |  |  |       |  |           |  |
| Exposures       | #                                                                                                                | Label                                                                                                            | Target                 | Config,Mode,Aperture                                                               |  |  |  | Spectral Els.            |  | Opt. Params.                  |                              | Special Reqs.                                                                                           |  | Groups                              |  | Exp. Time (Total)/[Actual Dur.] |  |  |  | Orbit |  |           |  |
|                 | 1                                                                                                                | 1148+51_110                                                                                                      | (18) EMACSJ1148.0+5116 | WFC3/IR, MULTIACCUM, IR                                                            |  |  |  | F110W                    |  | SAMP-SEQ=SPARS25;<br>NSAMP=15 |                              |                                                                                                         |  | Pattern 2, Exps 1-1 in Visit 0I (2) |  | 352.939501 Secs (705.879 Secs)  |  |  |  |       |  |           |  |
|                 |                                                                                                                  |                                                                                                                  |                        |                                                                                    |  |  |  |                          |  |                               |                              |                                                                                                         |  |                                     |  | [==>(Pattern 1)]                |  |  |  | [1]   |  |           |  |
|                 |                                                                                                                  |                                                                                                                  |                        |                                                                                    |  |  |  |                          |  |                               |                              |                                                                                                         |  |                                     |  | [==>(Pattern 2)]                |  |  |  |       |  |           |  |
|                 | 2                                                                                                                | 1148+51_140                                                                                                      | (18) EMACSJ1148.0+5116 | WFC3/IR, MULTIACCUM, IR                                                            |  |  |  | F140W                    |  | SAMP-SEQ=SPARS25;<br>NSAMP=15 |                              |                                                                                                         |  | Pattern 2, Exps 2-2 in Visit 0I (2) |  | 352.939501 Secs (705.879 Secs)  |  |  |  |       |  |           |  |
|                 |                                                                                                                  |                                                                                                                  |                        |                                                                                    |  |  |  |                          |  |                               |                              |                                                                                                         |  |                                     |  | [==>(Pattern 1)]                |  |  |  | [1]   |  |           |  |
|                 |                                                                                                                  |                                                                                                                  |                        |                                                                                    |  |  |  |                          |  |                               |                              |                                                                                                         |  |                                     |  | [==>(Pattern 2)]                |  |  |  |       |  |           |  |
| Orbit Structure | <div>Orbit 1<div>Server Version: 20140605</div><div>05001000150020002500300035004000450050005500 sec</div></div> |                                                                                                                  |                        |                                                                                    |  |  |  |                          |  |                               |                              |                                                                                                         |  |                                     |  |                                 |  |  |  |       |  |           |  |

# Proposal 13671 - Visit 0J - Beyond MACS: A Snapshot Survey of the Most Massive Clusters of Galaxies at $z > 0.5$

|                 |                                                                                                          |                                                                                                                  |                                                                                     |                                                                                                         |               |
|-----------------|----------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------|---------------|
| Visit           | Proposal 13671, Visit 0J, implementation <span style="float: right;">Tue Aug 19 01:02:38 GMT 2014</span> |                                                                                                                  |                                                                                     |                                                                                                         |               |
|                 | Diagnostic Status: No Diagnostics<br>Scientific Instruments: WFC3/IR<br>Special Requirements: (none)     |                                                                                                                  |                                                                                     |                                                                                                         |               |
| Patterns        | #                                                                                                        | Primary Pattern                                                                                                  |                                                                                     | Secondary Pattern                                                                                       | Exposures     |
|                 | (2)                                                                                                      | Pattern Type=WFC3-IR-DITHER-LINE<br>Purpose=DITHER<br>Number Of Points=2<br>Point Spacing=0.636<br>Line Spacing= |                                                                                     | Coordinate Frame=POS-TARG<br>Pattern Orientation=41.788<br>Angle Between Sides=<br>Center Pattern=false | (1), (2)      |
| Fixed Targets   | #                                                                                                        | Name                                                                                                             | Target Coordinates                                                                  | Targ. Coord. Corrections                                                                                | Fluxes        |
|                 | (19)                                                                                                     | EMACSJ1209.4+2640                                                                                                | RA: 12 09 23.6760 (182.3486500d)<br>Dec: +26 40 46.67 (26.67963d)<br>Equinox: J2000 |                                                                                                         | V=20.0        |
| Exposures       |                                                                                                          |                                                                                                                  |                                                                                     |                                                                                                         | Miscellaneous |
|                 | Reference Frame: ICRS                                                                                    |                                                                                                                  |                                                                                     |                                                                                                         |               |
|                 | #                                                                                                        | Label                                                                                                            | Target                                                                              | Config,Mode,Aperture                                                                                    | Spectral Els. |
|                 | 1                                                                                                        | 1209+26_11_0                                                                                                     | (19) EMACSJ1209.4 +2640                                                             | WFC3/IR, MULTIACCUM, IR                                                                                 | F110W         |
|                 |                                                                                                          |                                                                                                                  |                                                                                     |                                                                                                         |               |
|                 | SAMP-SEQ=SPARS 25;<br>NSAMP=15                                                                           |                                                                                                                  |                                                                                     |                                                                                                         |               |
|                 |                                                                                                          |                                                                                                                  |                                                                                     |                                                                                                         |               |
|                 | Pattern 2, Exps 1-1 in Visit 0J (2)<br>[==>(Pattern 1)]<br>[==>(Pattern 2)]                              |                                                                                                                  |                                                                                     |                                                                                                         |               |
|                 |                                                                                                          |                                                                                                                  |                                                                                     |                                                                                                         |               |
|                 | 352.939501 Secs (705.879 Secs)<br>[1]                                                                    |                                                                                                                  |                                                                                     |                                                                                                         |               |
|                 | #                                                                                                        | Label                                                                                                            | Target                                                                              | Config,Mode,Aperture                                                                                    | Spectral Els. |
|                 | 2                                                                                                        | 1209+26_14_0                                                                                                     | (19) EMACSJ1209.4 +2640                                                             | WFC3/IR, MULTIACCUM, IR                                                                                 | F140W         |
|                 |                                                                                                          |                                                                                                                  |                                                                                     |                                                                                                         |               |
|                 | SAMP-SEQ=SPARS 25;<br>NSAMP=15                                                                           |                                                                                                                  |                                                                                     |                                                                                                         |               |
|                 |                                                                                                          |                                                                                                                  |                                                                                     |                                                                                                         |               |
|                 | Pattern 2, Exps 2-2 in Visit 0J (2)<br>[==>(Pattern 1)]<br>[==>(Pattern 2)]                              |                                                                                                                  |                                                                                     |                                                                                                         |               |
|                 |                                                                                                          |                                                                                                                  |                                                                                     |                                                                                                         |               |
|                 | 352.939501 Secs (705.879 Secs)<br>[1]                                                                    |                                                                                                                  |                                                                                     |                                                                                                         |               |
| Orbit Structure | <b>Orbit 1</b> <span style="float: right;">Server Version: 20140605</span>                               |                                                                                                                  |                                                                                     |                                                                                                         |               |
|                 |                                                                                                          |                                                                                                                  |                                                                                     |                                                                                                         |               |

# Proposal 13671 - Visit 0K - Beyond MACS: A Snapshot Survey of the Most Massive Clusters of Galaxies at $z>0.5$

|                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                             |                                                                                      |                          |               |
|-----------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|--------------------------|---------------|
| Visit           | <b>Proposal 13671, Visit 0K, implementation</b> <span style="float: right;">Tue Aug 19 01:02:38 GMT 2014</span>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                             |                                                                                      |                          |               |
|                 | <b>Diagnostic Status: No Diagnostics</b><br>Scientific Instruments: WFC3/IR<br>Special Requirements: (none)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                             |                                                                                      |                          |               |
| Patterns        | #                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Primary Pattern                                                                                                                                                                                                             |                                                                                      | Secondary Pattern        | Exposures     |
|                 | (2)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Pattern Type=WFC3-IR-DITHER-LINE<br>Purpose=DITHER<br>Number Of Points=2<br>Point Spacing=0.636<br>Line Spacing=<br>Coordinate Frame=POS-TARG<br>Pattern Orientation=41.788<br>Angle Between Sides=<br>Center Pattern=false |                                                                                      |                          | (1), (2)      |
| Fixed Targets   | #                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Name                                                                                                                                                                                                                        | Target Coordinates                                                                   | Targ. Coord. Corrections | Fluxes        |
|                 | (20)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | EMACSJ1212.5-1216                                                                                                                                                                                                           | RA: 12 12 30.2400 (183.1260000d)<br>Dec: -12 16 19.94 (-12.27221d)<br>Equinox: J2000 |                          | V=20.0        |
| Exposures       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                             |                                                                                      |                          | Miscellaneous |
|                 | Reference Frame: ICRS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                             |                                                                                      |                          |               |
|                 | #                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Label                                                                                                                                                                                                                       | Target                                                                               | Config,Mode,Aperture     | Spectral Els. |
|                 | 1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 1212-12_11<br>0                                                                                                                                                                                                             | (20) EMACSJ1212.5<br>-1216                                                           | WFC3/IR, MULTIACCUM, IR  | F110W         |
|                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                             |                                                                                      |                          |               |
|                 | SAMP-SEQ=SPARS 25;<br>NSAMP=15                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                             |                                                                                      |                          |               |
|                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                             |                                                                                      |                          |               |
|                 | Pattern 2, Exps 1-1 i<br>n Visit 0K (2)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                             |                                                                                      |                          |               |
|                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                             |                                                                                      |                          |               |
|                 | 352.939501 Secs (705.879 Secs)<br>[==>(Pattern 1)]<br>[==>(Pattern 2)]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                                                                                                                             |                                                                                      |                          |               |
|                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                             |                                                                                      |                          |               |
|                 | [1]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                             |                                                                                      |                          |               |
|                 | #                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Label                                                                                                                                                                                                                       | Target                                                                               | Config,Mode,Aperture     | Spectral Els. |
|                 | 2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 1212-12_14<br>0                                                                                                                                                                                                             | (20) EMACSJ1212.5<br>-1216                                                           | WFC3/IR, MULTIACCUM, IR  | F140W         |
|                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                             |                                                                                      |                          |               |
|                 | SAMP-SEQ=SPARS 25;<br>NSAMP=15                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                             |                                                                                      |                          |               |
|                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                             |                                                                                      |                          |               |
|                 | Pattern 2, Exps 2-2 i<br>n Visit 0K (2)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                             |                                                                                      |                          |               |
|                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                             |                                                                                      |                          |               |
|                 | 352.939501 Secs (705.879 Secs)<br>[==>(Pattern 1)]<br>[==>(Pattern 2)]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                                                                                                                             |                                                                                      |                          |               |
|                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                             |                                                                                      |                          |               |
|                 | [1]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                             |                                                                                      |                          |               |
| Orbit Structure | <b>Orbit 1</b> <span style="float: right;">Server Version: 20140605</span>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                             |                                                                                      |                          |               |
|                 | <p>The diagram illustrates the sequence of events for Orbit 1. It starts with a Ground Station Acquisition (GS Acq) at 0 seconds, followed by the first exposure (Exp. 1) from 50 to 100 seconds. A pointing maneuver occurs from 100 to 150 seconds, followed by the second exposure (Exp. 2) from 150 to 200 seconds. Another pointing maneuver occurs from 200 to 250 seconds, followed by a second exposure (Exp. 2) from 250 to 300 seconds. A third pointing maneuver occurs from 300 to 350 seconds, followed by a reconfiguration (Reconfig) from 350 to 400 seconds. The timeline then shows a period of unused orbital visibility from 400 to 1653 seconds, followed by an occultation period from 1653 to 5500 seconds. The total duration of the orbit is 5500 seconds.</p> |                                                                                                                                                                                                                             |                                                                                      |                          |               |

# Proposal 13671 - Visit 0L - Beyond MACS: A Snapshot Survey of the Most Massive Clusters of Galaxies at $z > 0.5$

|                 |                                                       |                                                                                                                                                                                                                             |                                                                                    |                          |                   |                               |               |                                     |                                      |       |
|-----------------|-------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|--------------------------|-------------------|-------------------------------|---------------|-------------------------------------|--------------------------------------|-------|
| Visit           | Proposal 13671, Visit 0L, implementation              |                                                                                                                                                                                                                             |                                                                                    |                          |                   | Tue Aug 19 01:02:38 GMT 2014  |               |                                     |                                      |       |
|                 | Diagnostic Status: No Diagnostics                     |                                                                                                                                                                                                                             |                                                                                    |                          |                   |                               |               |                                     |                                      |       |
|                 | Scientific Instruments: WFC3/IR                       |                                                                                                                                                                                                                             |                                                                                    |                          |                   |                               |               |                                     |                                      |       |
|                 | Special Requirements: (none)                          |                                                                                                                                                                                                                             |                                                                                    |                          |                   |                               |               |                                     |                                      |       |
| Patterns        | #                                                     | Primary Pattern                                                                                                                                                                                                             |                                                                                    |                          | Secondary Pattern |                               | Exposures     |                                     |                                      |       |
|                 | (2)                                                   | Pattern Type=WFC3-IR-DITHER-LINE<br>Purpose=DITHER<br>Number Of Points=2<br>Point Spacing=0.636<br>Line Spacing=<br>Coordinate Frame=POS-TARG<br>Pattern Orientation=41.788<br>Angle Between Sides=<br>Center Pattern=false |                                                                                    |                          |                   |                               | (1), (2)      |                                     |                                      |       |
| Fixed Targets   | #                                                     | Name                                                                                                                                                                                                                        | Target Coordinates                                                                 | Targ. Coord. Corrections | Fluxes            | Miscellaneous                 |               |                                     |                                      |       |
|                 | (21)                                                  | EMACSJ1222.3+2418                                                                                                                                                                                                           | RA: 12 22 18.9540 (185.5789750d)<br>Dec: +24 19 1.65 (24.31712d)<br>Equinox: J2000 |                          | V=20.0            | Reference Frame: ICRS         |               |                                     |                                      |       |
| Exposures       | #                                                     | Label                                                                                                                                                                                                                       | Target                                                                             | Config,Mode,Aperture     | Spectral Els.     | Opt. Params.                  | Special Reqs. | Groups                              | Exp. Time (Total)/[Actual Dur.]      | Orbit |
|                 | 1                                                     | 1222+24_110                                                                                                                                                                                                                 | (21) EMACSJ1222.3+2418                                                             | WFC3/IR, MULTIACCUM, IR  | F110W             | SAMP-SEQ=SPARS25;<br>NSAMP=15 |               | Pattern 2, Exps 1-1 in Visit 0L (2) | 352.939501 Secs (705.879 Secs)       |       |
|                 |                                                       |                                                                                                                                                                                                                             |                                                                                    |                          |                   |                               |               |                                     | [==>(Pattern 1)]<br>[==>(Pattern 2)] | [1]   |
|                 | 2                                                     | 1222+24_140                                                                                                                                                                                                                 | (21) EMACSJ1222.3+2418                                                             | WFC3/IR, MULTIACCUM, IR  | F140W             | SAMP-SEQ=SPARS25;<br>NSAMP=15 |               | Pattern 2, Exps 2-2 in Visit 0L (2) | 352.939501 Secs (705.879 Secs)       | [1]   |
| Orbit Structure | <div>Orbit 1<div>Server Version: 20140605</div></div> |                                                                                                                                                                                                                             |                                                                                    |                          |                   |                               |               |                                     |                                      |       |

# Proposal 13671 - Visit 0M - Beyond MACS: A Snapshot Survey of the Most Massive Clusters of Galaxies at $z > 0.5$

|                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                             |                        |                                                                                    |  |  |               |                          |                                |  |                              |                   |                                     |  |                                      |                       |  |  |       |  |  |           |  |
|-----------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------|------------------------------------------------------------------------------------|--|--|---------------|--------------------------|--------------------------------|--|------------------------------|-------------------|-------------------------------------|--|--------------------------------------|-----------------------|--|--|-------|--|--|-----------|--|
| Visit           | Proposal 13671, Visit 0M, implementation                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                             |                        |                                                                                    |  |  |               |                          |                                |  | Tue Aug 19 01:02:38 GMT 2014 |                   |                                     |  |                                      |                       |  |  |       |  |  |           |  |
|                 | Diagnostic Status: No Diagnostics                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                                                                                                                                             |                        |                                                                                    |  |  |               |                          |                                |  |                              |                   |                                     |  |                                      |                       |  |  |       |  |  |           |  |
|                 | Scientific Instruments: WFC3/IR                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                             |                        |                                                                                    |  |  |               |                          |                                |  |                              |                   |                                     |  |                                      |                       |  |  |       |  |  |           |  |
|                 | Special Requirements: (none)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                             |                        |                                                                                    |  |  |               |                          |                                |  |                              |                   |                                     |  |                                      |                       |  |  |       |  |  |           |  |
| Patterns        | #                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Primary Pattern                                                                                                                                                                                                             |                        |                                                                                    |  |  |               |                          |                                |  |                              | Secondary Pattern |                                     |  |                                      |                       |  |  |       |  |  | Exposures |  |
|                 | (2)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Pattern Type=WFC3-IR-DITHER-LINE<br>Purpose=DITHER<br>Number Of Points=2<br>Point Spacing=0.636<br>Line Spacing=<br>Coordinate Frame=POS-TARG<br>Pattern Orientation=41.788<br>Angle Between Sides=<br>Center Pattern=false |                        |                                                                                    |  |  |               |                          |                                |  |                              |                   |                                     |  |                                      |                       |  |  |       |  |  | (1), (2)  |  |
| Fixed Targets   | #                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Name                                                                                                                                                                                                                        |                        | Target Coordinates                                                                 |  |  |               | Targ. Coord. Corrections |                                |  |                              | Fluxes            |                                     |  |                                      | Miscellaneous         |  |  |       |  |  |           |  |
|                 | (22)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | EMACSJ1341.9-2442                                                                                                                                                                                                           |                        | RA: 13 42 0.2440 (205.5010167d)<br>Dec: -24 42 0.75 (-24.70021d)<br>Equinox: J2000 |  |  |               |                          |                                |  |                              | V=20.0            |                                     |  |                                      | Reference Frame: ICRS |  |  |       |  |  |           |  |
| Exposures       | #                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Label                                                                                                                                                                                                                       | Target                 | Config,Mode,Aperture                                                               |  |  | Spectral Els. |                          | Opt. Params.                   |  | Special Reqs.                |                   | Groups                              |  | Exp. Time (Total)/[Actual Dur.]      |                       |  |  | Orbit |  |  |           |  |
|                 | 1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 1341-24_110                                                                                                                                                                                                                 | (22) EMACSJ1341.9-2442 | WFC3/IR, MULTIACCUM, IR                                                            |  |  | F110W         |                          | SAMP-SEQ=SPARS 25;<br>NSAMP=15 |  |                              |                   | Pattern 2, Exps 1-1 in Visit 0M (2) |  | 352.939501 Secs (705.879 Secs)       |                       |  |  |       |  |  |           |  |
|                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                             |                        |                                                                                    |  |  |               |                          |                                |  |                              |                   |                                     |  | [==>(Pattern 1)]<br>[==>(Pattern 2)] |                       |  |  | [1]   |  |  |           |  |
|                 | 2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 1341-24_140                                                                                                                                                                                                                 | (22) EMACSJ1341.9-2442 | WFC3/IR, MULTIACCUM, IR                                                            |  |  | F140W         |                          | SAMP-SEQ=SPARS 25;<br>NSAMP=15 |  |                              |                   | Pattern 2, Exps 2-2 in Visit 0M (2) |  | 352.939501 Secs (705.879 Secs)       |                       |  |  | [1]   |  |  |           |  |
| Orbit Structure | <div>Orbit 1<div>Server Version: 20140605</div><p>The diagram illustrates the timeline of Orbit 1. Key events include:</p><ul style="list-style-type: none"><li><b>GS Acq</b>: Ground Station Acquisition at approximately 250 seconds.</li><li><b>Exp. 1</b>: Exposure 1 at approximately 750 seconds.</li><li><b>Pointing Maneuver</b>: Two maneuvers at approximately 1000 and 1250 seconds.</li><li><b>Exp. 2</b>: Exposure 2 at approximately 1500 and 1750 seconds.</li><li><b>Reconfig</b>: Reconfiguration at approximately 2000 seconds.</li><li><b>Unused Orbital Visibility = 1259</b>: A period of 1259 seconds of unused visibility starting at 2000 seconds.</li><li><b>Occultation</b>: Occultation event at approximately 3250 seconds.</li></ul><p>The timeline is marked in seconds from 0 to 5500.</p></div> |                                                                                                                                                                                                                             |                        |                                                                                    |  |  |               |                          |                                |  |                              |                   |                                     |  |                                      |                       |  |  |       |  |  |           |  |

# Proposal 13671 - Visit 0N - Beyond MACS: A Snapshot Survey of the Most Massive Clusters of Galaxies at $z>0.5$

|                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                             |                                                                                      |                         |                          |                                |                   |                                     |                                      |           |                              |
|-----------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|-------------------------|--------------------------|--------------------------------|-------------------|-------------------------------------|--------------------------------------|-----------|------------------------------|
| Visit           | Proposal 13671, Visit 0N, implementation                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                             |                                                                                      |                         |                          |                                |                   |                                     |                                      |           | Tue Aug 19 01:02:38 GMT 2014 |
|                 | Diagnostic Status: No Diagnostics                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                                                                                                                             |                                                                                      |                         |                          |                                |                   |                                     |                                      |           |                              |
|                 | Scientific Instruments: WFC3/IR                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                             |                                                                                      |                         |                          |                                |                   |                                     |                                      |           |                              |
|                 | Special Requirements: (none)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                             |                                                                                      |                         |                          |                                |                   |                                     |                                      |           |                              |
| Patterns        | #                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Primary Pattern                                                                                                                                                                                                             |                                                                                      |                         |                          |                                | Secondary Pattern |                                     |                                      | Exposures |                              |
|                 | (2)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Pattern Type=WFC3-IR-DITHER-LINE<br>Purpose=DITHER<br>Number Of Points=2<br>Point Spacing=0.636<br>Line Spacing=<br>Coordinate Frame=POS-TARG<br>Pattern Orientation=41.788<br>Angle Between Sides=<br>Center Pattern=false |                                                                                      |                         |                          |                                |                   |                                     |                                      | (1), (2)  |                              |
| Fixed Targets   | #                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Name                                                                                                                                                                                                                        | Target Coordinates                                                                   |                         | Targ. Coord. Corrections |                                | Fluxes            |                                     | Miscellaneous                        |           |                              |
|                 | (23)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | EMACSJ1350.7-1055                                                                                                                                                                                                           | RA: 13 50 46.4350 (207.6934792d)<br>Dec: -10 55 32.24 (-10.92562d)<br>Equinox: J2000 |                         |                          |                                | V=20.0            |                                     | Reference Frame: ICRS                |           |                              |
| Exposures       | #                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Label                                                                                                                                                                                                                       | Target                                                                               | Config,Mode,Aperture    | Spectral Els.            | Opt. Params.                   | Special Reqs.     | Groups                              | Exp. Time (Total)/[Actual Dur.]      |           | Orbit                        |
|                 | 1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 1350-10_110                                                                                                                                                                                                                 | (23) EMACSJ1350.7-1055                                                               | WFC3/IR, MULTIACCUM, IR | F110W                    | SAMP-SEQ=SPARS 25;<br>NSAMP=15 |                   | Pattern 2, Exps 1-1 in Visit 0N (2) | 352.939501 Secs (705.879 Secs)       |           |                              |
|                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                             |                                                                                      |                         |                          |                                |                   |                                     | [==>(Pattern 1)]<br>[==>(Pattern 2)] |           | [1]                          |
|                 | 2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 1350-10_140                                                                                                                                                                                                                 | (23) EMACSJ1350.7-1055                                                               | WFC3/IR, MULTIACCUM, IR | F140W                    | SAMP-SEQ=SPARS 25;<br>NSAMP=15 |                   | Pattern 2, Exps 2-2 in Visit 0N (2) | 352.939501 Secs (705.879 Secs)       |           |                              |
|                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                             |                                                                                      |                         |                          |                                |                   |                                     | [==>(Pattern 1)]<br>[==>(Pattern 2)] |           | [1]                          |
| Orbit Structure | <div>Orbit 1</div> <div>Server Version: 20140605</div> <p>The diagram illustrates the timeline of Orbit 1, showing the sequence of events and their durations. The timeline is marked in seconds from 0 to 5500. Key events include:</p> <ul style="list-style-type: none"><li>GS Acq: Ground Station Acquisition at approximately 100 seconds.</li><li>Exp. 1: Exposure 1 at approximately 400 seconds.</li><li>Pointing Maneuver: First pointing maneuver at approximately 700 seconds.</li><li>Exp. 2: Exposure 2 at approximately 1100 seconds.</li><li>Pointing Maneuver: Second pointing maneuver at approximately 1400 seconds.</li><li>Reconfig: Reconfiguration at approximately 1900 seconds.</li><li>Unused Orbital Visibility = 1253: Period of unused orbital visibility from approximately 2000 to 3253 seconds.</li><li>Occultation: Occultation event at approximately 3253 seconds.</li></ul> <p>The timeline is divided into segments: a blue checkered segment from 400 to 1900 seconds, a green segment from 2000 to 3253 seconds, and a white segment from 3253 to 5500 seconds. Black bars below the timeline indicate the duration of exposures and pointing maneuvers.</p> |                                                                                                                                                                                                                             |                                                                                      |                         |                          |                                |                   |                                     |                                      |           |                              |

# Proposal 13671 - Visit 00 - Beyond MACS: A Snapshot Survey of the Most Massive Clusters of Galaxies at $z>0.5$

|                 |                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                             |                                                                                  |                          |               |
|-----------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------|--------------------------|---------------|
| Visit           | <b>Proposal 13671, Visit 00, implementation</b> <span style="float: right;">Tue Aug 19 01:02:39 GMT 2014</span>                                                                                                                                                                                |                                                                                                                                                                                                                             |                                                                                  |                          |               |
|                 | <b>Diagnostic Status: No Diagnostics</b><br>Scientific Instruments: WFC3/IR<br>Special Requirements: (none)                                                                                                                                                                                    |                                                                                                                                                                                                                             |                                                                                  |                          |               |
| Patterns        | #                                                                                                                                                                                                                                                                                              | Primary Pattern                                                                                                                                                                                                             |                                                                                  | Secondary Pattern        | Exposures     |
|                 | (2)                                                                                                                                                                                                                                                                                            | Pattern Type=WFC3-IR-DITHER-LINE<br>Purpose=DITHER<br>Number Of Points=2<br>Point Spacing=0.636<br>Line Spacing=<br>Coordinate Frame=POS-TARG<br>Pattern Orientation=41.788<br>Angle Between Sides=<br>Center Pattern=false |                                                                                  |                          | (1), (2)      |
| Fixed Targets   | #                                                                                                                                                                                                                                                                                              | Name                                                                                                                                                                                                                        | Target Coordinates                                                               | Targ. Coord. Corrections | Fluxes        |
|                 | (24)                                                                                                                                                                                                                                                                                           | EMACSJ1407.0-0015                                                                                                                                                                                                           | RA: 14 07 7.0410 (211.7793375d)<br>Dec: -00 15 5.21 (-.25145d)<br>Equinox: J2000 |                          | V=20.0        |
| Exposures       |                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                             |                                                                                  |                          | Miscellaneous |
|                 | Reference Frame: ICRS                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                             |                                                                                  |                          |               |
|                 | #                                                                                                                                                                                                                                                                                              | Label                                                                                                                                                                                                                       | Target                                                                           | Config,Mode,Aperture     | Spectral Els. |
|                 | 1                                                                                                                                                                                                                                                                                              | 1407-00_110                                                                                                                                                                                                                 | (24) EMACSJ1407.0-0015                                                           | WFC3/IR, MULTIACCUM, IR  | F110W         |
|                 |                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                             |                                                                                  |                          |               |
|                 | Opt. Params. SAMP-SEQ=SPARS 25;<br>Special Reqs. GS ACQ SCENARIO SINGLE<br>Groups Pattern 2, Exps 1-1 in Visit 00 (2)<br>Exp. Time (Total)/[Actual Dur.] 352.939501 Secs (705.879 Secs)<br>[==>(Pattern 1)]<br>[==>(Pattern 2)]                                                                |                                                                                                                                                                                                                             |                                                                                  |                          |               |
|                 |                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                             |                                                                                  |                          |               |
|                 | [1]                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                             |                                                                                  |                          |               |
|                 | #                                                                                                                                                                                                                                                                                              | Label                                                                                                                                                                                                                       | Target                                                                           | Config,Mode,Aperture     | Spectral Els. |
|                 | 2                                                                                                                                                                                                                                                                                              | 1407-00_140                                                                                                                                                                                                                 | (24) EMACSJ1407.0-0015                                                           | WFC3/IR, MULTIACCUM, IR  | F140W         |
|                 |                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                             |                                                                                  |                          |               |
|                 | Opt. Params. SAMP-SEQ=SPARS 25;<br>Special Reqs. GS ACQ SCENARIO SINGLE<br>Groups Pattern 2, Exps 2-2 in Visit 00 (2)<br>Exp. Time (Total)/[Actual Dur.] 352.939501 Secs (705.879 Secs)<br>[==>(Pattern 1)]<br>[==>(Pattern 2)]                                                                |                                                                                                                                                                                                                             |                                                                                  |                          |               |
|                 |                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                             |                                                                                  |                          |               |
|                 | [1]                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                             |                                                                                  |                          |               |
| Orbit Structure | <b>Orbit 1</b> <span style="float: right;"><b>Server Version: 20140605</b></span>                                                                                                                                                                                                              |                                                                                                                                                                                                                             |                                                                                  |                          |               |
|                 | <p>Pointing Maneuver</p> <p>Pointing Maneuver</p> <p>Pointing Maneuver</p> <p>Reconfig</p> <p>Unused Orbital Visibility = 1341</p> <p>Occultation</p> <p>GS Acq</p> <p>Exp. 1</p> <p>Exp. 1</p> <p>Exp. 2</p> <p>Exp. 2</p> <p>0 500 1000 1500 2000 2500 3000 3500 4000 4500 5000 5500 sec</p> |                                                                                                                                                                                                                             |                                                                                  |                          |               |

# Proposal 13671 - Visit 0P - Beyond MACS: A Snapshot Survey of the Most Massive Clusters of Galaxies at $z>0.5$

|                 |                                                                                                                             |                                                                                                                                                                                                                             |                        |                                                                                    |  |  |  |                          |  |                                |                              |                   |  |                                     |  |                                 |  |  |  |       |  |           |  |
|-----------------|-----------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------|------------------------------------------------------------------------------------|--|--|--|--------------------------|--|--------------------------------|------------------------------|-------------------|--|-------------------------------------|--|---------------------------------|--|--|--|-------|--|-----------|--|
| Visit           | Proposal 13671, Visit 0P, implementation                                                                                    |                                                                                                                                                                                                                             |                        |                                                                                    |  |  |  |                          |  |                                | Tue Aug 19 01:02:39 GMT 2014 |                   |  |                                     |  |                                 |  |  |  |       |  |           |  |
|                 | Diagnostic Status: No Diagnostics                                                                                           |                                                                                                                                                                                                                             |                        |                                                                                    |  |  |  |                          |  |                                |                              |                   |  |                                     |  |                                 |  |  |  |       |  |           |  |
|                 | Scientific Instruments: WFC3/IR                                                                                             |                                                                                                                                                                                                                             |                        |                                                                                    |  |  |  |                          |  |                                |                              |                   |  |                                     |  |                                 |  |  |  |       |  |           |  |
|                 | Special Requirements: (none)                                                                                                |                                                                                                                                                                                                                             |                        |                                                                                    |  |  |  |                          |  |                                |                              |                   |  |                                     |  |                                 |  |  |  |       |  |           |  |
| Patterns        | #                                                                                                                           | Primary Pattern                                                                                                                                                                                                             |                        |                                                                                    |  |  |  |                          |  |                                |                              | Secondary Pattern |  |                                     |  |                                 |  |  |  |       |  | Exposures |  |
|                 | (2)                                                                                                                         | Pattern Type=WFC3-IR-DITHER-LINE<br>Purpose=DITHER<br>Number Of Points=2<br>Point Spacing=0.636<br>Line Spacing=<br>Coordinate Frame=POS-TARG<br>Pattern Orientation=41.788<br>Angle Between Sides=<br>Center Pattern=false |                        |                                                                                    |  |  |  |                          |  |                                |                              |                   |  |                                     |  |                                 |  |  |  |       |  | (1), (2)  |  |
| Fixed Targets   | #                                                                                                                           | Name                                                                                                                                                                                                                        |                        | Target Coordinates                                                                 |  |  |  | Targ. Coord. Corrections |  |                                |                              | Fluxes            |  |                                     |  | Miscellaneous                   |  |  |  |       |  |           |  |
|                 | (25)                                                                                                                        | EMACSJ1419.1-0624                                                                                                                                                                                                           |                        | RA: 14 19 3.2610 (214.7635875d)<br>Dec: -06 24 33.97 (-6.40944d)<br>Equinox: J2000 |  |  |  |                          |  |                                |                              | V=20.0            |  |                                     |  | Reference Frame: ICRS           |  |  |  |       |  |           |  |
| Exposures       | #                                                                                                                           | Label                                                                                                                                                                                                                       | Target                 | Config,Mode,Aperture                                                               |  |  |  | Spectral Els.            |  | Opt. Params.                   |                              | Special Reqs.     |  | Groups                              |  | Exp. Time (Total)/[Actual Dur.] |  |  |  | Orbit |  |           |  |
|                 | 1                                                                                                                           | 1419-06_110                                                                                                                                                                                                                 | (25) EMACSJ1419.1-0624 | WFC3/IR, MULTIACCUM, IR                                                            |  |  |  | F110W                    |  | SAMP-SEQ=SPARS 25;<br>NSAMP=15 |                              |                   |  | Pattern 2, Exps 1-1 in Visit 0P (2) |  | 352.939501 Secs (705.879 Secs)  |  |  |  |       |  |           |  |
|                 |                                                                                                                             |                                                                                                                                                                                                                             |                        |                                                                                    |  |  |  |                          |  |                                |                              |                   |  |                                     |  | [==>(Pattern 1)]                |  |  |  | [1]   |  |           |  |
|                 |                                                                                                                             |                                                                                                                                                                                                                             |                        |                                                                                    |  |  |  |                          |  |                                |                              |                   |  |                                     |  | [==>(Pattern 2)]                |  |  |  |       |  |           |  |
|                 | 2                                                                                                                           | 1419-06_140                                                                                                                                                                                                                 | (25) EMACSJ1419.1-0624 | WFC3/IR, MULTIACCUM, IR                                                            |  |  |  | F140W                    |  | SAMP-SEQ=SPARS 25;<br>NSAMP=15 |                              |                   |  | Pattern 2, Exps 2-2 in Visit 0P (2) |  | 352.939501 Secs (705.879 Secs)  |  |  |  |       |  |           |  |
|                 |                                                                                                                             |                                                                                                                                                                                                                             |                        |                                                                                    |  |  |  |                          |  |                                |                              |                   |  |                                     |  | [==>(Pattern 1)]                |  |  |  | [1]   |  |           |  |
| Orbit Structure | <div><div>Orbit 1</div><div>Server Version: 20140605</div><div>05001000150020002500300035004000450050005500 sec</div></div> |                                                                                                                                                                                                                             |                        |                                                                                    |  |  |  |                          |  |                                |                              |                   |  |                                     |  |                                 |  |  |  |       |  |           |  |

# Proposal 13671 - Visit 0Q - Beyond MACS: A Snapshot Survey of the Most Massive Clusters of Galaxies at $z>0.5$

|                 |                                                                                                                                                                                                                       |                                                                                                                                                                                                                             |                                                                                   |                          |               |
|-----------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|--------------------------|---------------|
| Visit           | <b>Proposal 13671, Visit 0Q, implementation</b> <span style="float: right;">Tue Aug 19 01:02:39 GMT 2014</span>                                                                                                       |                                                                                                                                                                                                                             |                                                                                   |                          |               |
|                 | <b>Diagnostic Status: No Diagnostics</b><br>Scientific Instruments: WFC3/IR<br>Special Requirements: (none)                                                                                                           |                                                                                                                                                                                                                             |                                                                                   |                          |               |
| Patterns        | #                                                                                                                                                                                                                     | Primary Pattern                                                                                                                                                                                                             |                                                                                   | Secondary Pattern        | Exposures     |
|                 | (2)                                                                                                                                                                                                                   | Pattern Type=WFC3-IR-DITHER-LINE<br>Purpose=DITHER<br>Number Of Points=2<br>Point Spacing=0.636<br>Line Spacing=<br>Coordinate Frame=POS-TARG<br>Pattern Orientation=41.788<br>Angle Between Sides=<br>Center Pattern=false |                                                                                   |                          | (1), (2)      |
| Fixed Targets   | #                                                                                                                                                                                                                     | Name                                                                                                                                                                                                                        | Target Coordinates                                                                | Targ. Coord. Corrections | Fluxes        |
|                 | (26)                                                                                                                                                                                                                  | EMACSJ1430.0+4127                                                                                                                                                                                                           | RA: 14 30 4.9720 (217.5207167d)<br>Dec: +41 27 7.22 (41.45201d)<br>Equinox: J2000 |                          | V=20.0        |
| Exposures       |                                                                                                                                                                                                                       |                                                                                                                                                                                                                             |                                                                                   |                          | Miscellaneous |
|                 | Reference Frame: ICRS                                                                                                                                                                                                 |                                                                                                                                                                                                                             |                                                                                   |                          |               |
|                 | #                                                                                                                                                                                                                     | Label                                                                                                                                                                                                                       | Target                                                                            | Config,Mode,Aperture     | Spectral Els. |
|                 | 1                                                                                                                                                                                                                     | 1430+41_11_0                                                                                                                                                                                                                | (26) EMACSJ1430.0+4127                                                            | WFC3/IR, MULTIACCUM, IR  | F110W         |
|                 |                                                                                                                                                                                                                       |                                                                                                                                                                                                                             |                                                                                   |                          |               |
|                 | Opt. Params. Special Reqs. Groups Exp. Time (Total)/[Actual Dur.] Orbit<br>SAMP-SEQ=SPARS 25; NSAMP=15 Pattern 2, Exps 1-1 in Visit 0Q (2) 352.939501 Secs (705.879 Secs)<br>[==>(Pattern 1)] [1]<br>[==>(Pattern 2)] |                                                                                                                                                                                                                             |                                                                                   |                          |               |
|                 | 2                                                                                                                                                                                                                     | 1430+41_14_0                                                                                                                                                                                                                | (26) EMACSJ1430.0+4127                                                            | WFC3/IR, MULTIACCUM, IR  | F140W         |
|                 | Opt. Params. Special Reqs. Groups Exp. Time (Total)/[Actual Dur.] Orbit<br>SAMP-SEQ=SPARS 25; NSAMP=15 Pattern 2, Exps 2-2 in Visit 0Q (2) 352.939501 Secs (705.879 Secs)<br>[==>(Pattern 1)] [1]<br>[==>(Pattern 2)] |                                                                                                                                                                                                                             |                                                                                   |                          |               |
| Orbit Structure | <b>Orbit 1</b> <span style="float: right;">Server Version: 20140605</span>                                                                                                                                            |                                                                                                                                                                                                                             |                                                                                   |                          |               |
|                 |                                                                                                                                                                                                                       |                                                                                                                                                                                                                             |                                                                                   |                          |               |

# Proposal 13671 - Visit 0R - Beyond MACS: A Snapshot Survey of the Most Massive Clusters of Galaxies at $z>0.5$

|                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                                                                                                                             |                                                                                   |                          |               |
|-----------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|--------------------------|---------------|
| Visit           | <b>Proposal 13671, Visit 0R, implementation</b> <span style="float: right;">Tue Aug 19 01:02:39 GMT 2014</span>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                                                                                                                             |                                                                                   |                          |               |
|                 | <b>Diagnostic Status: No Diagnostics</b><br>Scientific Instruments: WFC3/IR<br>Special Requirements: (none)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                             |                                                                                   |                          |               |
| Patterns        | #                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Primary Pattern                                                                                                                                                                                                             |                                                                                   | Secondary Pattern        | Exposures     |
|                 | (2)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Pattern Type=WFC3-IR-DITHER-LINE<br>Purpose=DITHER<br>Number Of Points=2<br>Point Spacing=0.636<br>Line Spacing=<br>Coordinate Frame=POS-TARG<br>Pattern Orientation=41.788<br>Angle Between Sides=<br>Center Pattern=false |                                                                                   |                          | (1), (2)      |
| Fixed Targets   | #                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Name                                                                                                                                                                                                                        | Target Coordinates                                                                | Targ. Coord. Corrections | Fluxes        |
|                 | (27)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | EMACSJ1443.2+0102                                                                                                                                                                                                           | RA: 14 43 9.3080 (220.7887833d)<br>Dec: +01 02 12.20 (1.03672d)<br>Equinox: J2000 |                          | V=20.0        |
| Exposures       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                                                                                                                             |                                                                                   |                          | Miscellaneous |
|                 | Reference Frame: ICRS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                             |                                                                                   |                          |               |
|                 | #                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Label                                                                                                                                                                                                                       | Target                                                                            | Config,Mode,Aperture     | Spectral Els. |
|                 | 1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 1443+01_11_0                                                                                                                                                                                                                | (27) EMACSJ1443.2+0102                                                            | WFC3/IR, MULTIACCUM, IR  | F110W         |
|                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                                                                                                                             |                                                                                   |                          |               |
|                 | Opt. Params. Special Reqs. Groups Exp. Time (Total)/[Actual Dur.] Orbit<br>SAMP-SEQ=SPARS 25; NSAMP=15 Pattern 2, Exps 1-1 in Visit 0R (2) 352.939501 Secs (705.879 Secs)<br>[==>(Pattern 1)] [1]<br>[==>(Pattern 2)]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                             |                                                                                   |                          |               |
|                 | 2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 1443+01_14_0                                                                                                                                                                                                                | (27) EMACSJ1443.2+0102                                                            | WFC3/IR, MULTIACCUM, IR  | F140W         |
|                 | Opt. Params. Special Reqs. Groups Exp. Time (Total)/[Actual Dur.] Orbit<br>SAMP-SEQ=SPARS 25; NSAMP=15 Pattern 2, Exps 2-2 in Visit 0R (2) 352.939501 Secs (705.879 Secs)<br>[==>(Pattern 1)] [1]<br>[==>(Pattern 2)]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                             |                                                                                   |                          |               |
| Orbit Structure | <b>Orbit 1</b> <span style="float: right;">Server Version: 20140605</span>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                             |                                                                                   |                          |               |
|                 | <p>The diagram illustrates the timeline of Orbit 1, showing the sequence of events and their durations. The timeline is marked in seconds from 0 to 5500. Key events include:</p> <ul style="list-style-type: none"> <li>GS Acq: Ground Station Acquisition at approximately 100 seconds.</li> <li>Exp. 1: Exposure 1 at approximately 400 seconds.</li> <li>Pointing Maneuver: First pointing maneuver at approximately 700 seconds.</li> <li>Exp. 2: Exposure 2 at approximately 1100 seconds.</li> <li>Pointing Maneuver: Second pointing maneuver at approximately 1400 seconds.</li> <li>Reconfig: Reconfiguration at approximately 1900 seconds.</li> <li>Unused Orbital Visibility = 1249: Period of unused orbital visibility from approximately 2000 to 3200 seconds.</li> <li>Occultation: Occultation event at approximately 3300 seconds.</li> </ul> |                                                                                                                                                                                                                             |                                                                                   |                          |               |

# Proposal 13671 - Visit 0S - Beyond MACS: A Snapshot Survey of the Most Massive Clusters of Galaxies at $z>0.5$

|                 |                                                                                                                                                                                                                       |                                                                                                                                                                                                                             |                                                                                     |                          |               |
|-----------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|--------------------------|---------------|
| Visit           | <b>Proposal 13671, Visit 0S, implementation</b> <span style="float: right;">Tue Aug 19 01:02:39 GMT 2014</span>                                                                                                       |                                                                                                                                                                                                                             |                                                                                     |                          |               |
|                 | <b>Diagnostic Status: No Diagnostics</b><br>Scientific Instruments: WFC3/IR<br>Special Requirements: (none)                                                                                                           |                                                                                                                                                                                                                             |                                                                                     |                          |               |
| Patterns        | #                                                                                                                                                                                                                     | Primary Pattern                                                                                                                                                                                                             |                                                                                     | Secondary Pattern        | Exposures     |
|                 | (2)                                                                                                                                                                                                                   | Pattern Type=WFC3-IR-DITHER-LINE<br>Purpose=DITHER<br>Number Of Points=2<br>Point Spacing=0.636<br>Line Spacing=<br>Coordinate Frame=POS-TARG<br>Pattern Orientation=41.788<br>Angle Between Sides=<br>Center Pattern=false |                                                                                     |                          | (1), (2)      |
| Fixed Targets   | #                                                                                                                                                                                                                     | Name                                                                                                                                                                                                                        | Target Coordinates                                                                  | Targ. Coord. Corrections | Fluxes        |
|                 | (28)                                                                                                                                                                                                                  | EMACSJ1508.1+5755                                                                                                                                                                                                           | RA: 15 08 17.0960 (227.0712333d)<br>Dec: +57 54 37.39 (57.91039d)<br>Equinox: J2000 |                          | V=20.0        |
| Exposures       |                                                                                                                                                                                                                       |                                                                                                                                                                                                                             |                                                                                     |                          | Miscellaneous |
|                 | Reference Frame: ICRS                                                                                                                                                                                                 |                                                                                                                                                                                                                             |                                                                                     |                          |               |
|                 | #                                                                                                                                                                                                                     | Label                                                                                                                                                                                                                       | Target                                                                              | Config,Mode,Aperture     | Spectral Els. |
|                 | 1                                                                                                                                                                                                                     | 1508+57_11_0                                                                                                                                                                                                                | (28) EMACSJ1508.1+5755                                                              | WFC3/IR, MULTIACCUM, IR  | F110W         |
|                 |                                                                                                                                                                                                                       |                                                                                                                                                                                                                             |                                                                                     |                          |               |
|                 | Opt. Params. Special Reqs. Groups Exp. Time (Total)/[Actual Dur.] Orbit<br>SAMP-SEQ=SPARS 25; NSAMP=15 Pattern 2, Exps 1-1 in Visit 0S (2) 352.939501 Secs (705.879 Secs) [1]<br>[==>(Pattern 1)]<br>[==>(Pattern 2)] |                                                                                                                                                                                                                             |                                                                                     |                          |               |
|                 | 2                                                                                                                                                                                                                     | 1508+57_14_0                                                                                                                                                                                                                | (28) EMACSJ1508.1+5755                                                              | WFC3/IR, MULTIACCUM, IR  | F140W         |
|                 | Opt. Params. Special Reqs. Groups Exp. Time (Total)/[Actual Dur.] Orbit<br>SAMP-SEQ=SPARS 25; NSAMP=15 Pattern 2, Exps 2-2 in Visit 0S (2) 352.939501 Secs (705.879 Secs) [1]<br>[==>(Pattern 1)]<br>[==>(Pattern 2)] |                                                                                                                                                                                                                             |                                                                                     |                          |               |
| Orbit Structure | <b>Orbit 1</b> <span style="float: right;">Server Version: 20140605</span>                                                                                                                                            |                                                                                                                                                                                                                             |                                                                                     |                          |               |
|                 | <p>Timeline labels: GS Acq, Exp. 1, Pointing Maneuver, Exp. 2, Pointing Maneuver, Exp. 2, Pointing Maneuver, Reconfig, Unused Orbital Visibility = 1497, Occultation.</p> <p>Timeline scale: 0 to 5500 sec.</p>       |                                                                                                                                                                                                                             |                                                                                     |                          |               |

# Proposal 13671 - Visit 0T - Beyond MACS: A Snapshot Survey of the Most Massive Clusters of Galaxies at $z>0.5$

|                 |                                                                                                                 |                                                                                                                                                                                                                             |                                                                                     |                          |                                      |
|-----------------|-----------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|--------------------------|--------------------------------------|
| Visit           | <b>Proposal 13671, Visit 0T, implementation</b> <span style="float: right;">Tue Aug 19 01:02:39 GMT 2014</span> |                                                                                                                                                                                                                             |                                                                                     |                          |                                      |
|                 | <b>Diagnostic Status: No Diagnostics</b><br>Scientific Instruments: WFC3/IR<br>Special Requirements: (none)     |                                                                                                                                                                                                                             |                                                                                     |                          |                                      |
| Patterns        | #                                                                                                               | Primary Pattern                                                                                                                                                                                                             |                                                                                     | Secondary Pattern        | Exposures                            |
|                 | (2)                                                                                                             | Pattern Type=WFC3-IR-DITHER-LINE<br>Purpose=DITHER<br>Number Of Points=2<br>Point Spacing=0.636<br>Line Spacing=<br>Coordinate Frame=POS-TARG<br>Pattern Orientation=41.788<br>Angle Between Sides=<br>Center Pattern=false |                                                                                     |                          | (1), (2)                             |
| Fixed Targets   | #                                                                                                               | Name                                                                                                                                                                                                                        | Target Coordinates                                                                  | Targ. Coord. Corrections | Fluxes                               |
|                 | (29)                                                                                                            | EMACSJ1518.3+2927                                                                                                                                                                                                           | RA: 15 18 20.5740 (229.5857250d)<br>Dec: +29 27 40.52 (29.46126d)<br>Equinox: J2000 |                          | V=20.0                               |
| Exposures       | #                                                                                                               | Label                                                                                                                                                                                                                       | Target                                                                              | Config,Mode,Aperture     | Spectral Els.                        |
|                 | 1                                                                                                               | 1518+29_11_0                                                                                                                                                                                                                | (29) EMACSJ1518.3 +2927                                                             | WFC3/IR, MULTIACCUM, IR  | F110W                                |
|                 |                                                                                                                 |                                                                                                                                                                                                                             |                                                                                     |                          | Opt. Params.                         |
|                 |                                                                                                                 |                                                                                                                                                                                                                             |                                                                                     |                          | SAMP-SEQ=SPARS 25;<br>NSAMP=15       |
|                 |                                                                                                                 |                                                                                                                                                                                                                             |                                                                                     |                          | Special Reqs.                        |
|                 |                                                                                                                 |                                                                                                                                                                                                                             |                                                                                     |                          | Pattern 2, Exps 1-1 i n Visit 0T (2) |
|                 |                                                                                                                 |                                                                                                                                                                                                                             |                                                                                     |                          | Groups                               |
|                 |                                                                                                                 |                                                                                                                                                                                                                             |                                                                                     |                          | Pattern 2, Exps 1-1 i n Visit 0T (2) |
|                 |                                                                                                                 |                                                                                                                                                                                                                             |                                                                                     |                          | Exp. Time (Total)/[Actual Dur.]      |
|                 |                                                                                                                 |                                                                                                                                                                                                                             |                                                                                     |                          | 352.939501 Secs (705.879 Secs)       |
|                 |                                                                                                                 |                                                                                                                                                                                                                             |                                                                                     |                          | [==>(Pattern 1)]                     |
|                 |                                                                                                                 |                                                                                                                                                                                                                             |                                                                                     |                          | [==>(Pattern 2)]                     |
|                 |                                                                                                                 |                                                                                                                                                                                                                             |                                                                                     |                          | Orbit                                |
|                 |                                                                                                                 |                                                                                                                                                                                                                             |                                                                                     |                          | [1]                                  |
|                 | 2                                                                                                               | 1518+29_14_0                                                                                                                                                                                                                | (29) EMACSJ1518.3 +2927                                                             | WFC3/IR, MULTIACCUM, IR  | F140W                                |
|                 |                                                                                                                 |                                                                                                                                                                                                                             |                                                                                     |                          | Opt. Params.                         |
|                 |                                                                                                                 |                                                                                                                                                                                                                             |                                                                                     |                          | SAMP-SEQ=SPARS 25;<br>NSAMP=15       |
|                 |                                                                                                                 |                                                                                                                                                                                                                             |                                                                                     |                          | Special Reqs.                        |
|                 |                                                                                                                 |                                                                                                                                                                                                                             |                                                                                     |                          | Pattern 2, Exps 2-2 i n Visit 0T (2) |
|                 |                                                                                                                 |                                                                                                                                                                                                                             |                                                                                     |                          | Groups                               |
|                 |                                                                                                                 |                                                                                                                                                                                                                             |                                                                                     |                          | Pattern 2, Exps 2-2 i n Visit 0T (2) |
|                 |                                                                                                                 |                                                                                                                                                                                                                             |                                                                                     |                          | Exp. Time (Total)/[Actual Dur.]      |
|                 |                                                                                                                 |                                                                                                                                                                                                                             |                                                                                     |                          | 352.939501 Secs (705.879 Secs)       |
|                 |                                                                                                                 |                                                                                                                                                                                                                             |                                                                                     |                          | [==>(Pattern 1)]                     |
|                 |                                                                                                                 |                                                                                                                                                                                                                             |                                                                                     |                          | [==>(Pattern 2)]                     |
|                 |                                                                                                                 |                                                                                                                                                                                                                             |                                                                                     |                          | Orbit                                |
|                 |                                                                                                                 |                                                                                                                                                                                                                             |                                                                                     |                          | [1]                                  |
| Orbit Structure | <b>Orbit 1</b> <span style="float: right;">Server Version: 20140605</span>                                      |                                                                                                                                                                                                                             |                                                                                     |                          |                                      |
|                 |                                                                                                                 |                                                                                                                                                                                                                             |                                                                                     |                          |                                      |

# Proposal 13671 - Visit 0U - Beyond MACS: A Snapshot Survey of the Most Massive Clusters of Galaxies at $z>0.5$

|                 |                                                        |                                                                                                                  |                        |                                                                                     |  |                          |                                                                                                         |               |                                     |                                      |                              |           |  |
|-----------------|--------------------------------------------------------|------------------------------------------------------------------------------------------------------------------|------------------------|-------------------------------------------------------------------------------------|--|--------------------------|---------------------------------------------------------------------------------------------------------|---------------|-------------------------------------|--------------------------------------|------------------------------|-----------|--|
| Visit           | Proposal 13671, Visit 0U, implementation               |                                                                                                                  |                        |                                                                                     |  |                          |                                                                                                         |               |                                     |                                      | Tue Aug 19 01:02:39 GMT 2014 |           |  |
|                 | Diagnostic Status: No Diagnostics                      |                                                                                                                  |                        |                                                                                     |  |                          |                                                                                                         |               |                                     |                                      |                              |           |  |
|                 | Scientific Instruments: WFC3/IR                        |                                                                                                                  |                        |                                                                                     |  |                          |                                                                                                         |               |                                     |                                      |                              |           |  |
|                 | Special Requirements: (none)                           |                                                                                                                  |                        |                                                                                     |  |                          |                                                                                                         |               |                                     |                                      |                              |           |  |
| Patterns        | #                                                      | Primary Pattern                                                                                                  |                        |                                                                                     |  |                          | Secondary Pattern                                                                                       |               |                                     |                                      |                              | Exposures |  |
|                 | (2)                                                    | Pattern Type=WFC3-IR-DITHER-LINE<br>Purpose=DITHER<br>Number Of Points=2<br>Point Spacing=0.636<br>Line Spacing= |                        |                                                                                     |  |                          | Coordinate Frame=POS-TARG<br>Pattern Orientation=41.788<br>Angle Between Sides=<br>Center Pattern=false |               |                                     |                                      |                              | (1), (2)  |  |
| Fixed Targets   | #                                                      | Name                                                                                                             |                        | Target Coordinates                                                                  |  | Targ. Coord. Corrections |                                                                                                         | Fluxes        |                                     | Miscellaneous                        |                              |           |  |
|                 | (30)                                                   | EMACSJ1527.6+2044                                                                                                |                        | RA: 15 27 42.1040 (231.9254333d)<br>Dec: +20 44 38.64 (20.74407d)<br>Equinox: J2000 |  |                          |                                                                                                         | V=20.0        |                                     | Reference Frame: ICRS                |                              |           |  |
| Exposures       | #                                                      | Label                                                                                                            | Target                 | Config,Mode,Aperture                                                                |  | Spectral Els.            | Opt. Params.                                                                                            | Special Reqs. | Groups                              | Exp. Time (Total)/[Actual Dur.]      |                              | Orbit     |  |
|                 | 1                                                      | 1527+20_11_0                                                                                                     | (30) EMACSJ1527.6+2044 | WFC3/IR, MULTIACCUM, IR                                                             |  | F110W                    | SAMP-SEQ=SPARS 25;<br>NSAMP=15                                                                          |               | Pattern 2, Exps 1-1 in Visit 0U (2) | 352.939501 Secs (705.879 Secs)       |                              |           |  |
|                 |                                                        |                                                                                                                  |                        |                                                                                     |  |                          |                                                                                                         |               |                                     | [==>(Pattern 1)]<br>[==>(Pattern 2)] |                              | [1]       |  |
|                 | 2                                                      | 1527+20_14_0                                                                                                     | (30) EMACSJ1527.6+2044 | WFC3/IR, MULTIACCUM, IR                                                             |  | F140W                    | SAMP-SEQ=SPARS 25;<br>NSAMP=15                                                                          |               | Pattern 2, Exps 2-2 in Visit 0U (2) | 352.939501 Secs (705.879 Secs)       |                              |           |  |
|                 |                                                        |                                                                                                                  |                        |                                                                                     |  |                          |                                                                                                         |               |                                     | [==>(Pattern 1)]<br>[==>(Pattern 2)] |                              | [1]       |  |
| Orbit Structure | <div>Orbit 1</div> <div>Server Version: 20140605</div> |                                                                                                                  |                        |                                                                                     |  |                          |                                                                                                         |               |                                     |                                      |                              |           |  |

# Proposal 13671 - Visit 0V - Beyond MACS: A Snapshot Survey of the Most Massive Clusters of Galaxies at $z>0.5$

|                 |                                                                                                                 |                                                                                                                                                                                                                             |                                                                                     |                          |               |
|-----------------|-----------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|--------------------------|---------------|
| Visit           | <b>Proposal 13671, Visit 0V, implementation</b> <span style="float: right;">Tue Aug 19 01:02:39 GMT 2014</span> |                                                                                                                                                                                                                             |                                                                                     |                          |               |
|                 | <b>Diagnostic Status: No Diagnostics</b><br>Scientific Instruments: WFC3/IR<br>Special Requirements: (none)     |                                                                                                                                                                                                                             |                                                                                     |                          |               |
| Patterns        | #                                                                                                               | Primary Pattern                                                                                                                                                                                                             |                                                                                     | Secondary Pattern        | Exposures     |
|                 | (2)                                                                                                             | Pattern Type=WFC3-IR-DITHER-LINE<br>Coordinate Frame=POS-TARG<br>Pattern Orientation=41.788<br>Purpose=DITHER<br>Angle Between Sides=<br>Number Of Points=2<br>Center Pattern=false<br>Point Spacing=0.636<br>Line Spacing= |                                                                                     |                          | (1), (2)      |
| Fixed Targets   | #                                                                                                               | Name                                                                                                                                                                                                                        | Target Coordinates                                                                  | Targ. Coord. Corrections | Fluxes        |
|                 | (31)                                                                                                            | EMACSJ1621.2-0231                                                                                                                                                                                                           | RA: 16 21 18.8270 (245.3284458d)<br>Dec: -02 32 44.73 (-2.54576d)<br>Equinox: J2000 |                          | V=20.0        |
| Exposures       |                                                                                                                 |                                                                                                                                                                                                                             |                                                                                     |                          | Miscellaneous |
|                 | Reference Frame: ICRS                                                                                           |                                                                                                                                                                                                                             |                                                                                     |                          |               |
|                 | #                                                                                                               | Label                                                                                                                                                                                                                       | Target                                                                              | Config,Mode,Aperture     | Spectral Els. |
|                 | 1                                                                                                               | 1621-02_11<br>0                                                                                                                                                                                                             | (31) EMACSJ1621.2<br>-0231                                                          | WFC3/IR, MULTIACCUM, IR  | F110W         |
|                 |                                                                                                                 |                                                                                                                                                                                                                             |                                                                                     |                          |               |
|                 | Opt. Params.      Special Reqs.      Groups      Exp. Time (Total)/[Actual Dur.]      Orbit                     |                                                                                                                                                                                                                             |                                                                                     |                          |               |
|                 | SAMP-SEQ=SPARS 25;<br>NSAMP=15                                                                                  |                                                                                                                                                                                                                             |                                                                                     |                          |               |
|                 | GS ACQ SCENARI O SINGLE      Pattern 2, Exps 1-1 i<br>n Visit 0V (2)      352.939501 Secs (705.879 Secs)        |                                                                                                                                                                                                                             |                                                                                     |                          |               |
|                 | [==>(Pattern 1)]<br>[==>(Pattern 2)]                                                                            |                                                                                                                                                                                                                             |                                                                                     |                          |               |
|                 | [1]                                                                                                             |                                                                                                                                                                                                                             |                                                                                     |                          |               |
|                 | 2                                                                                                               | 1621-02_14<br>0                                                                                                                                                                                                             | (31) EMACSJ1621.2<br>-0231                                                          | WFC3/IR, MULTIACCUM, IR  | F140W         |
|                 | SAMP-SEQ=SPARS 25;<br>NSAMP=15                                                                                  |                                                                                                                                                                                                                             |                                                                                     |                          |               |
|                 | Pattern 2, Exps 2-2 i<br>n Visit 0V (2)      352.939501 Secs (705.879 Secs)                                     |                                                                                                                                                                                                                             |                                                                                     |                          |               |
|                 | [==>(Pattern 1)]<br>[==>(Pattern 2)]                                                                            |                                                                                                                                                                                                                             |                                                                                     |                          |               |
|                 | [1]                                                                                                             |                                                                                                                                                                                                                             |                                                                                     |                          |               |
|                 |                                                                                                                 |                                                                                                                                                                                                                             |                                                                                     |                          |               |
| Orbit Structure | <b>Orbit 1</b> <span style="float: right;">Server Version: 20140605</span>                                      |                                                                                                                                                                                                                             |                                                                                     |                          |               |
|                 |                                                                                                                 |                                                                                                                                                                                                                             |                                                                                     |                          |               |

# Proposal 13671 - Visit 0W - Beyond MACS: A Snapshot Survey of the Most Massive Clusters of Galaxies at $z>0.5$

|                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                             |                                                                                     |                          |               |
|-----------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|--------------------------|---------------|
| Visit           | <b>Proposal 13671, Visit 0W, implementation</b> <span style="float: right;">Tue Aug 19 01:02:39 GMT 2014</span>                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                             |                                                                                     |                          |               |
|                 | <b>Diagnostic Status: No Diagnostics</b><br>Scientific Instruments: WFC3/IR<br>Special Requirements: (none)                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                                                                                                                                             |                                                                                     |                          |               |
| Patterns        | #                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Primary Pattern                                                                                                                                                                                                             |                                                                                     | Secondary Pattern        | Exposures     |
|                 | (2)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Pattern Type=WFC3-IR-DITHER-LINE<br>Purpose=DITHER<br>Number Of Points=2<br>Point Spacing=0.636<br>Line Spacing=<br>Coordinate Frame=POS-TARG<br>Pattern Orientation=41.788<br>Angle Between Sides=<br>Center Pattern=false |                                                                                     |                          | (1), (2)      |
| Fixed Targets   | #                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Name                                                                                                                                                                                                                        | Target Coordinates                                                                  | Targ. Coord. Corrections | Fluxes        |
|                 | (32)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | EMACSJ1621.4+7232                                                                                                                                                                                                           | RA: 16 21 22.7260 (245.3446917d)<br>Dec: +72 32 49.02 (72.54695d)<br>Equinox: J2000 |                          | V=20.0        |
| Exposures       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                             |                                                                                     |                          | Miscellaneous |
|                 | Reference Frame: ICRS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                             |                                                                                     |                          |               |
|                 | #                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Label                                                                                                                                                                                                                       | Target                                                                              | Config,Mode,Aperture     | Spectral Els. |
|                 | 1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 1621+72_11_0                                                                                                                                                                                                                | (32) EMACSJ1621.4 +7232                                                             | WFC3/IR, MULTIACCUM, IR  | F110W         |
|                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                             |                                                                                     |                          |               |
|                 | Opt. Params. Special Reqs. Groups Exp. Time (Total)/[Actual Dur.] Orbit<br>SAMP-SEQ=SPARS 25; NSAMP=15 Pattern 2, Exps 1-1 in Visit 0W (2) 352.939501 Secs (705.879 Secs) [1]<br>[==>(Pattern 1)]<br>[==>(Pattern 2)]                                                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                             |                                                                                     |                          |               |
|                 | 2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 1621+72_14_0                                                                                                                                                                                                                | (32) EMACSJ1621.4 +7232                                                             | WFC3/IR, MULTIACCUM, IR  | F140W         |
|                 | Opt. Params. Special Reqs. Groups Exp. Time (Total)/[Actual Dur.] Orbit<br>SAMP-SEQ=SPARS 25; NSAMP=15 Pattern 2, Exps 2-2 in Visit 0W (2) 352.939501 Secs (705.879 Secs) [1]<br>[==>(Pattern 1)]<br>[==>(Pattern 2)]                                                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                             |                                                                                     |                          |               |
| Orbit Structure | <b>Orbit 1</b> <span style="float: right;">Server Version: 20140605</span>                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                             |                                                                                     |                          |               |
|                 | <p>Diagram illustrating the Orbit Structure timeline (0 to 5500 seconds):</p> <ul style="list-style-type: none"> <li>GS Acq (0-50s)</li> <li>Exp. 1 (50-100s)</li> <li>Pointing Maneuver (100-150s)</li> <li>Exp. 2 (150-200s)</li> <li>Pointing Maneuver (200-250s)</li> <li>Exp. 2 (250-300s)</li> <li>Pointing Maneuver (300-350s)</li> <li>Reconfig (350-400s)</li> <li>Unused Orbital Visibility = 1641 (400-2641s)</li> <li>Occultation (2641-3641s)</li> <li>Final segment (3641-5500s)</li> </ul> |                                                                                                                                                                                                                             |                                                                                     |                          |               |

# Proposal 13671 - Visit 0X - Beyond MACS: A Snapshot Survey of the Most Massive Clusters of Galaxies at $z>0.5$

|                 |                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                             |                                                                                     |                          |               |
|-----------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|--------------------------|---------------|
| Visit           | <b>Proposal 13671, Visit 0X, implementation</b> <span style="float: right;">Tue Aug 19 01:02:39 GMT 2014</span>                                                                                                                                                          |                                                                                                                                                                                                                             |                                                                                     |                          |               |
|                 | <b>Diagnostic Status: No Diagnostics</b><br>Scientific Instruments: WFC3/IR<br>Special Requirements: (none)                                                                                                                                                              |                                                                                                                                                                                                                             |                                                                                     |                          |               |
| Patterns        | #                                                                                                                                                                                                                                                                        | Primary Pattern                                                                                                                                                                                                             |                                                                                     | Secondary Pattern        | Exposures     |
|                 | (2)                                                                                                                                                                                                                                                                      | Pattern Type=WFC3-IR-DITHER-LINE<br>Purpose=DITHER<br>Number Of Points=2<br>Point Spacing=0.636<br>Line Spacing=<br>Coordinate Frame=POS-TARG<br>Pattern Orientation=41.788<br>Angle Between Sides=<br>Center Pattern=false |                                                                                     |                          | (1), (2)      |
| Fixed Targets   | #                                                                                                                                                                                                                                                                        | Name                                                                                                                                                                                                                        | Target Coordinates                                                                  | Targ. Coord. Corrections | Fluxes        |
|                 | (33)                                                                                                                                                                                                                                                                     | EMACSJ1709.5+4731                                                                                                                                                                                                           | RA: 17 09 34.5410 (257.3939208d)<br>Dec: +47 32 35.60 (47.54322d)<br>Equinox: J2000 |                          | V=20.0        |
| Exposures       |                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                             |                                                                                     |                          | Miscellaneous |
|                 | Reference Frame: ICRS                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                             |                                                                                     |                          |               |
|                 | #                                                                                                                                                                                                                                                                        | Label                                                                                                                                                                                                                       | Target                                                                              | Config,Mode,Aperture     | Spectral Els. |
|                 | 1                                                                                                                                                                                                                                                                        | 1709+47_11_0                                                                                                                                                                                                                | (33) EMACSJ1709.5+4731                                                              | WFC3/IR, MULTIACCUM, IR  | F110W         |
|                 |                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                             |                                                                                     |                          |               |
|                 | Opt. Params. SAMP-SEQ=SPARS 25;<br>Special Reqs. NSAMP=15<br>Groups Pattern 2, Exps 1-1 in Visit 0X (2)<br>Exp. Time (Total)/[Actual Dur.] 352.939501 Secs (705.879 Secs)<br>[==>(Pattern 1)]<br>[==>(Pattern 2)]<br>Orbit [1]                                           |                                                                                                                                                                                                                             |                                                                                     |                          |               |
|                 | 2                                                                                                                                                                                                                                                                        | 1709+47_14_0                                                                                                                                                                                                                | (33) EMACSJ1709.5+4731                                                              | WFC3/IR, MULTIACCUM, IR  | F140W         |
|                 | Opt. Params. SAMP-SEQ=SPARS 25;<br>Special Reqs. NSAMP=15<br>Groups Pattern 2, Exps 2-2 in Visit 0X (2)<br>Exp. Time (Total)/[Actual Dur.] 352.939501 Secs (705.879 Secs)<br>[==>(Pattern 1)]<br>[==>(Pattern 2)]<br>Orbit [1]                                           |                                                                                                                                                                                                                             |                                                                                     |                          |               |
| Orbit Structure | <b>Orbit 1</b> <span style="float: right;">Server Version: 20140605</span>                                                                                                                                                                                               |                                                                                                                                                                                                                             |                                                                                     |                          |               |
|                 | <p>Timeline labels: GS Acq, Exp. 1, Pointing Maneuver, Exp. 2, Pointing Maneuver, Exp. 2, Pointing Maneuver, Reconfig, Unused Orbital Visibility = 1385, Occultation.</p> <p>Timeline scale: 0, 500, 1000, 1500, 2000, 2500, 3000, 3500, 4000, 4500, 5000, 5500 sec.</p> |                                                                                                                                                                                                                             |                                                                                     |                          |               |

# Proposal 13671 - Visit 0Y - Beyond MACS: A Snapshot Survey of the Most Massive Clusters of Galaxies at $z>0.5$

|                 |                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                             |                        |                                                                                     |  |  |  |                          |  |                                |                              |                   |  |                                     |  |                                 |  |  |  |       |  |           |  |
|-----------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------|-------------------------------------------------------------------------------------|--|--|--|--------------------------|--|--------------------------------|------------------------------|-------------------|--|-------------------------------------|--|---------------------------------|--|--|--|-------|--|-----------|--|
| Visit           | Proposal 13671, Visit 0Y, implementation                                                                                                                                                                                                                               |                                                                                                                                                                                                                             |                        |                                                                                     |  |  |  |                          |  |                                | Tue Aug 19 01:02:39 GMT 2014 |                   |  |                                     |  |                                 |  |  |  |       |  |           |  |
|                 | Diagnostic Status: No Diagnostics                                                                                                                                                                                                                                      |                                                                                                                                                                                                                             |                        |                                                                                     |  |  |  |                          |  |                                |                              |                   |  |                                     |  |                                 |  |  |  |       |  |           |  |
|                 | Scientific Instruments: WFC3/IR                                                                                                                                                                                                                                        |                                                                                                                                                                                                                             |                        |                                                                                     |  |  |  |                          |  |                                |                              |                   |  |                                     |  |                                 |  |  |  |       |  |           |  |
|                 | Special Requirements: (none)                                                                                                                                                                                                                                           |                                                                                                                                                                                                                             |                        |                                                                                     |  |  |  |                          |  |                                |                              |                   |  |                                     |  |                                 |  |  |  |       |  |           |  |
| Patterns        | #                                                                                                                                                                                                                                                                      | Primary Pattern                                                                                                                                                                                                             |                        |                                                                                     |  |  |  |                          |  |                                |                              | Secondary Pattern |  |                                     |  |                                 |  |  |  |       |  | Exposures |  |
|                 | (2)                                                                                                                                                                                                                                                                    | Pattern Type=WFC3-IR-DITHER-LINE<br>Purpose=DITHER<br>Number Of Points=2<br>Point Spacing=0.636<br>Line Spacing=<br>Coordinate Frame=POS-TARG<br>Pattern Orientation=41.788<br>Angle Between Sides=<br>Center Pattern=false |                        |                                                                                     |  |  |  |                          |  |                                |                              |                   |  |                                     |  |                                 |  |  |  |       |  | (1), (2)  |  |
| Fixed Targets   | #                                                                                                                                                                                                                                                                      | Name                                                                                                                                                                                                                        |                        | Target Coordinates                                                                  |  |  |  | Targ. Coord. Corrections |  |                                |                              | Fluxes            |  |                                     |  | Miscellaneous                   |  |  |  |       |  |           |  |
|                 | (34)                                                                                                                                                                                                                                                                   | EMACSJ1732.4+1934                                                                                                                                                                                                           |                        | RA: 17 32 24.0830 (263.1003458d)<br>Dec: +19 33 16.56 (19.55460d)<br>Equinox: J2000 |  |  |  |                          |  |                                |                              | V=20.0            |  |                                     |  | Reference Frame: ICRS           |  |  |  |       |  |           |  |
| Exposures       | #                                                                                                                                                                                                                                                                      | Label                                                                                                                                                                                                                       | Target                 | Config,Mode,Aperture                                                                |  |  |  | Spectral Els.            |  | Opt. Params.                   |                              | Special Reqs.     |  | Groups                              |  | Exp. Time (Total)/[Actual Dur.] |  |  |  | Orbit |  |           |  |
|                 | 1                                                                                                                                                                                                                                                                      | 1732+19_11_0                                                                                                                                                                                                                | (34) EMACSJ1732.4+1934 | WFC3/IR, MULTIACCUM, IR                                                             |  |  |  | F110W                    |  | SAMP-SEQ=SPARS 25;<br>NSAMP=15 |                              |                   |  | Pattern 2, Exps 1-1 in Visit 0Y (2) |  | 352.939501 Secs (705.879 Secs)  |  |  |  |       |  |           |  |
|                 |                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                             |                        |                                                                                     |  |  |  |                          |  |                                |                              |                   |  |                                     |  | [==>(Pattern 1)]                |  |  |  | [1]   |  |           |  |
|                 |                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                             |                        |                                                                                     |  |  |  |                          |  |                                |                              |                   |  |                                     |  | [==>(Pattern 2)]                |  |  |  |       |  |           |  |
|                 | 2                                                                                                                                                                                                                                                                      | 1732+19_14_0                                                                                                                                                                                                                | (34) EMACSJ1732.4+1934 | WFC3/IR, MULTIACCUM, IR                                                             |  |  |  | F140W                    |  | SAMP-SEQ=SPARS 25;<br>NSAMP=15 |                              |                   |  | Pattern 2, Exps 2-2 in Visit 0Y (2) |  | 352.939501 Secs (705.879 Secs)  |  |  |  |       |  |           |  |
|                 |                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                             |                        |                                                                                     |  |  |  |                          |  |                                |                              |                   |  |                                     |  | [==>(Pattern 1)]                |  |  |  | [1]   |  |           |  |
|                 |                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                             |                        |                                                                                     |  |  |  |                          |  |                                |                              |                   |  |                                     |  | [==>(Pattern 2)]                |  |  |  |       |  |           |  |
| Orbit Structure | <div><div>Orbit 1</div><div>Server Version: 20140605</div><div>GS Acq Exp. 1</div><div>Exp. 1</div><div>Pointing Maneuver</div><div>Exp. 2</div><div>Pointing Maneuver</div><div>Reconfig</div><div>Unused Orbital Visibility = 1258</div><div>Occultation</div></div> |                                                                                                                                                                                                                             |                        |                                                                                     |  |  |  |                          |  |                                |                              |                   |  |                                     |  |                                 |  |  |  |       |  |           |  |
|                 |                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                             |                        |                                                                                     |  |  |  |                          |  |                                |                              |                   |  |                                     |  |                                 |  |  |  |       |  |           |  |

# Proposal 13671 - Visit 0Z - Beyond MACS: A Snapshot Survey of the Most Massive Clusters of Galaxies at $z>0.5$

|                 |                                                                                                                                                                                                                       |                                                                                                                                                                                                                             |                                                                                     |                          |               |
|-----------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|--------------------------|---------------|
| Visit           | <b>Proposal 13671, Visit 0Z, implementation</b> <span style="float: right;">Tue Aug 19 01:02:39 GMT 2014</span>                                                                                                       |                                                                                                                                                                                                                             |                                                                                     |                          |               |
|                 | <b>Diagnostic Status: No Diagnostics</b><br>Scientific Instruments: WFC3/IR<br>Special Requirements: (none)                                                                                                           |                                                                                                                                                                                                                             |                                                                                     |                          |               |
| Patterns        | #                                                                                                                                                                                                                     | Primary Pattern                                                                                                                                                                                                             |                                                                                     | Secondary Pattern        | Exposures     |
|                 | (2)                                                                                                                                                                                                                   | Pattern Type=WFC3-IR-DITHER-LINE<br>Purpose=DITHER<br>Number Of Points=2<br>Point Spacing=0.636<br>Line Spacing=<br>Coordinate Frame=POS-TARG<br>Pattern Orientation=41.788<br>Angle Between Sides=<br>Center Pattern=false |                                                                                     |                          | (1), (2)      |
| Fixed Targets   | #                                                                                                                                                                                                                     | Name                                                                                                                                                                                                                        | Target Coordinates                                                                  | Targ. Coord. Corrections | Fluxes        |
|                 | (35)                                                                                                                                                                                                                  | EMACSJ1757.5+3045                                                                                                                                                                                                           | RA: 17 57 29.4130 (269.3725542d)<br>Dec: +30 45 53.85 (30.76496d)<br>Equinox: J2000 |                          | V=20.0        |
| Exposures       |                                                                                                                                                                                                                       |                                                                                                                                                                                                                             |                                                                                     |                          | Miscellaneous |
|                 | Reference Frame: ICRS                                                                                                                                                                                                 |                                                                                                                                                                                                                             |                                                                                     |                          |               |
|                 | #                                                                                                                                                                                                                     | Label                                                                                                                                                                                                                       | Target                                                                              | Config,Mode,Aperture     | Spectral Els. |
|                 | 1                                                                                                                                                                                                                     | 1757+30_11_0                                                                                                                                                                                                                | (35) EMACSJ1757.5+3045                                                              | WFC3/IR, MULTIACCUM, IR  | F110W         |
|                 |                                                                                                                                                                                                                       |                                                                                                                                                                                                                             |                                                                                     |                          |               |
|                 | Opt. Params. Special Reqs. Groups Exp. Time (Total)/[Actual Dur.] Orbit<br>SAMP-SEQ=SPARS 25; NSAMP=15 Pattern 2, Exps 1-1 in Visit 0Z (2) 352.939501 Secs (705.879 Secs)<br>[==>(Pattern 1)] [1]<br>[==>(Pattern 2)] |                                                                                                                                                                                                                             |                                                                                     |                          |               |
|                 | 2                                                                                                                                                                                                                     | 1757+30_14_0                                                                                                                                                                                                                | (35) EMACSJ1757.5+3045                                                              | WFC3/IR, MULTIACCUM, IR  | F140W         |
|                 | Opt. Params. Special Reqs. Groups Exp. Time (Total)/[Actual Dur.] Orbit<br>SAMP-SEQ=SPARS 25; NSAMP=15 Pattern 2, Exps 2-2 in Visit 0Z (2) 352.939501 Secs (705.879 Secs)<br>[==>(Pattern 1)] [1]<br>[==>(Pattern 2)] |                                                                                                                                                                                                                             |                                                                                     |                          |               |
| Orbit Structure | <b>Orbit 1</b> <span style="float: right;">Server Version: 20140605</span>                                                                                                                                            |                                                                                                                                                                                                                             |                                                                                     |                          |               |
|                 | <p>Timeline labels: GS Acq, Exp. 1, Pointing Maneuver, Exp. 2, Pointing Maneuver, Exp. 2, Pointing Maneuver, Reconfig, Unused Orbital Visibility = 1284, Occultation.</p> <p>Timeline scale: 0 to 5500 sec.</p>       |                                                                                                                                                                                                                             |                                                                                     |                          |               |

# Proposal 13671 - Visit 1A - Beyond MACS: A Snapshot Survey of the Most Massive Clusters of Galaxies at $z>0.5$

|                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                             |                        |                                                                                     |  |  |  |                          |  |                                |                              |                   |  |                                     |  |                                 |  |  |  |       |  |           |  |
|-----------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------|-------------------------------------------------------------------------------------|--|--|--|--------------------------|--|--------------------------------|------------------------------|-------------------|--|-------------------------------------|--|---------------------------------|--|--|--|-------|--|-----------|--|
| Visit           | Proposal 13671, Visit 1A, implementation                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                                                                                                                             |                        |                                                                                     |  |  |  |                          |  |                                | Tue Aug 19 01:02:39 GMT 2014 |                   |  |                                     |  |                                 |  |  |  |       |  |           |  |
|                 | Diagnostic Status: No Diagnostics                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                             |                        |                                                                                     |  |  |  |                          |  |                                |                              |                   |  |                                     |  |                                 |  |  |  |       |  |           |  |
|                 | Scientific Instruments: WFC3/IR                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                             |                        |                                                                                     |  |  |  |                          |  |                                |                              |                   |  |                                     |  |                                 |  |  |  |       |  |           |  |
|                 | Special Requirements: (none)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                             |                        |                                                                                     |  |  |  |                          |  |                                |                              |                   |  |                                     |  |                                 |  |  |  |       |  |           |  |
| Patterns        | #                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Primary Pattern                                                                                                                                                                                                             |                        |                                                                                     |  |  |  |                          |  |                                |                              | Secondary Pattern |  |                                     |  |                                 |  |  |  |       |  | Exposures |  |
|                 | (2)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Pattern Type=WFC3-IR-DITHER-LINE<br>Purpose=DITHER<br>Number Of Points=2<br>Point Spacing=0.636<br>Line Spacing=<br>Coordinate Frame=POS-TARG<br>Pattern Orientation=41.788<br>Angle Between Sides=<br>Center Pattern=false |                        |                                                                                     |  |  |  |                          |  |                                |                              |                   |  |                                     |  |                                 |  |  |  |       |  | (1), (2)  |  |
| Fixed Targets   | #                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Name                                                                                                                                                                                                                        |                        | Target Coordinates                                                                  |  |  |  | Targ. Coord. Corrections |  |                                |                              | Fluxes            |  |                                     |  | Miscellaneous                   |  |  |  |       |  |           |  |
|                 | (36)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | EMACSJ1823.1+7822                                                                                                                                                                                                           |                        | RA: 18 23 22.9990 (275.8458292d)<br>Dec: +78 23 12.91 (78.38692d)<br>Equinox: J2000 |  |  |  |                          |  |                                |                              | V=20.0            |  |                                     |  | Reference Frame: ICRS           |  |  |  |       |  |           |  |
| Exposures       | #                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Label                                                                                                                                                                                                                       | Target                 | Config,Mode,Aperture                                                                |  |  |  | Spectral Els.            |  | Opt. Params.                   |                              | Special Reqs.     |  | Groups                              |  | Exp. Time (Total)/[Actual Dur.] |  |  |  | Orbit |  |           |  |
|                 | 1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 1823+78_11_0                                                                                                                                                                                                                | (36) EMACSJ1823.1+7822 | WFC3/IR, MULTIACCUM, IR                                                             |  |  |  | F110W                    |  | SAMP-SEQ=SPARS 25;<br>NSAMP=15 |                              |                   |  | Pattern 2, Exps 1-1 in Visit 1A (2) |  | 352.939501 Secs (705.879 Secs)  |  |  |  |       |  |           |  |
|                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                             |                        |                                                                                     |  |  |  |                          |  |                                |                              |                   |  |                                     |  | [==>(Pattern 1)]                |  |  |  | [1]   |  |           |  |
|                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                             |                        |                                                                                     |  |  |  |                          |  |                                |                              |                   |  |                                     |  | [==>(Pattern 2)]                |  |  |  |       |  |           |  |
|                 | 2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 1823+78_14_0                                                                                                                                                                                                                | (36) EMACSJ1823.1+7822 | WFC3/IR, MULTIACCUM, IR                                                             |  |  |  | F140W                    |  | SAMP-SEQ=SPARS 25;<br>NSAMP=15 |                              |                   |  | Pattern 2, Exps 2-2 in Visit 1A (2) |  | 352.939501 Secs (705.879 Secs)  |  |  |  |       |  |           |  |
|                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                             |                        |                                                                                     |  |  |  |                          |  |                                |                              |                   |  |                                     |  | [==>(Pattern 1)]                |  |  |  | [1]   |  |           |  |
|                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                             |                        |                                                                                     |  |  |  |                          |  |                                |                              |                   |  |                                     |  | [==>(Pattern 2)]                |  |  |  |       |  |           |  |
| Orbit Structure | <div><div>Orbit 1</div><div>Server Version: 20140605</div><p>The diagram illustrates the orbit structure over a 5500-second period. Key events include:</p><ul style="list-style-type: none"><li><b>GS Acq</b>: Ground Station Acquisition at the start.</li><li><b>Exp. 1</b>: Two exposure segments, each with a preceding <b>Pointing Maneuver</b>.</li><li><b>Exp. 2</b>: Two exposure segments, each with a preceding <b>Pointing Maneuver</b>.</li><li><b>Reconfig</b>: A reconfiguration segment following the second exposure of Exp. 2.</li><li><b>Unused Orbital Visibility</b>: A period of 1632 seconds following the reconfiguration.</li><li><b>Occultation</b>: A period where the target is obscured by the Earth's limb.</li></ul></div> |                                                                                                                                                                                                                             |                        |                                                                                     |  |  |  |                          |  |                                |                              |                   |  |                                     |  |                                 |  |  |  |       |  |           |  |
|                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                             |                        |                                                                                     |  |  |  |                          |  |                                |                              |                   |  |                                     |  |                                 |  |  |  |       |  |           |  |

# Proposal 13671 - Visit 1B - Beyond MACS: A Snapshot Survey of the Most Massive Clusters of Galaxies at $z>0.5$

|                 |                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                             |                                                                                    |                          |               |
|-----------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|--------------------------|---------------|
| Visit           | <b>Proposal 13671, Visit 1B, implementation</b> <span style="float: right;">Tue Aug 19 01:02:39 GMT 2014</span>                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                             |                                                                                    |                          |               |
|                 | <b>Diagnostic Status: No Diagnostics</b><br>Scientific Instruments: WFC3/IR<br>Special Requirements: (none)                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                             |                                                                                    |                          |               |
| Patterns        | #                                                                                                                                                                                                                                                                                                                                                                                                               | Primary Pattern                                                                                                                                                                                                             |                                                                                    | Secondary Pattern        | Exposures     |
|                 | (2)                                                                                                                                                                                                                                                                                                                                                                                                             | Pattern Type=WFC3-IR-DITHER-LINE<br>Purpose=DITHER<br>Number Of Points=2<br>Point Spacing=0.636<br>Line Spacing=<br>Coordinate Frame=POS-TARG<br>Pattern Orientation=41.788<br>Angle Between Sides=<br>Center Pattern=false |                                                                                    |                          | (1), (2)      |
| Fixed Targets   | #                                                                                                                                                                                                                                                                                                                                                                                                               | Name                                                                                                                                                                                                                        | Target Coordinates                                                                 | Targ. Coord. Corrections | Fluxes        |
|                 | (37)                                                                                                                                                                                                                                                                                                                                                                                                            | EMACSJ1831.1+6214                                                                                                                                                                                                           | RA: 18 31 9.0250 (277.7876042d)<br>Dec: +62 14 57.13 (62.24920d)<br>Equinox: J2000 |                          | V=20.0        |
| Exposures       |                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                             |                                                                                    |                          | Miscellaneous |
|                 | Reference Frame: ICRS                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                             |                                                                                    |                          |               |
|                 | #                                                                                                                                                                                                                                                                                                                                                                                                               | Label                                                                                                                                                                                                                       | Target                                                                             | Config,Mode,Aperture     | Spectral Els. |
|                 | 1                                                                                                                                                                                                                                                                                                                                                                                                               | 1831+62_11_0                                                                                                                                                                                                                | (37) EMACSJ1831.1+6214                                                             | WFC3/IR, MULTIACCUM, IR  | F110W         |
|                 |                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                             |                                                                                    |                          |               |
|                 | Opt. Params. Special Reqs. Groups Exp. Time (Total)/[Actual Dur.] Orbit<br>SAMP-SEQ=SPARS 25; NSAMP=15 Pattern 2, Exps 1-1 in Visit 1B (2) 352.939501 Secs (705.879 Secs) [1]<br>[==>(Pattern 1)]<br>[==>(Pattern 2)]                                                                                                                                                                                           |                                                                                                                                                                                                                             |                                                                                    |                          |               |
|                 | 2                                                                                                                                                                                                                                                                                                                                                                                                               | 1831+62_14_0                                                                                                                                                                                                                | (37) EMACSJ1831.1+6214                                                             | WFC3/IR, MULTIACCUM, IR  | F140W         |
|                 | Opt. Params. Special Reqs. Groups Exp. Time (Total)/[Actual Dur.] Orbit<br>SAMP-SEQ=SPARS 25; NSAMP=15 Pattern 2, Exps 2-2 in Visit 1B (2) 352.939501 Secs (705.879 Secs) [1]<br>[==>(Pattern 1)]<br>[==>(Pattern 2)]                                                                                                                                                                                           |                                                                                                                                                                                                                             |                                                                                    |                          |               |
| Orbit Structure | <b>Orbit 1</b> <span style="float: right;">Server Version: 20140605</span>                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                             |                                                                                    |                          |               |
|                 | <p>The diagram illustrates the sequence of events for Orbit 1. It starts with a Ground Station Acquisition (GS Acq) and the first exposure (Exp. 1). This is followed by a Pointing Maneuver, the second exposure (Exp. 2), another Pointing Maneuver, a Reconfiguration (Reconfig) period, and a long segment of Unused Orbital Visibility (1521 seconds). The orbit concludes with an Occultation period.</p> |                                                                                                                                                                                                                             |                                                                                    |                          |               |

# Proposal 13671 - Visit 1C - Beyond MACS: A Snapshot Survey of the Most Massive Clusters of Galaxies at $z>0.5$

|                 |                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                             |                                                                                     |                          |               |
|-----------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|--------------------------|---------------|
| Visit           | <b>Proposal 13671, Visit 1C, implementation</b> <span style="float: right;">Tue Aug 19 01:02:39 GMT 2014</span>                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                             |                                                                                     |                          |               |
|                 | <b>Diagnostic Status: No Diagnostics</b><br>Scientific Instruments: WFC3/IR<br>Special Requirements: (none)                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                             |                                                                                     |                          |               |
| Patterns        | #                                                                                                                                                                                                                                                                                                                                                                     | Primary Pattern                                                                                                                                                                                                             |                                                                                     | Secondary Pattern        | Exposures     |
|                 | (2)                                                                                                                                                                                                                                                                                                                                                                   | Pattern Type=WFC3-IR-DITHER-LINE<br>Purpose=DITHER<br>Number Of Points=2<br>Point Spacing=0.636<br>Line Spacing=<br>Coordinate Frame=POS-TARG<br>Pattern Orientation=41.788<br>Angle Between Sides=<br>Center Pattern=false |                                                                                     |                          | (1), (2)      |
| Fixed Targets   | #                                                                                                                                                                                                                                                                                                                                                                     | Name                                                                                                                                                                                                                        | Target Coordinates                                                                  | Targ. Coord. Corrections | Fluxes        |
|                 | (38)                                                                                                                                                                                                                                                                                                                                                                  | EMACSJ1831.9+5746                                                                                                                                                                                                           | RA: 18 31 58.1320 (277.9922167d)<br>Dec: +57 46 45.16 (57.77921d)<br>Equinox: J2000 |                          | V=20.0        |
| Exposures       |                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                             |                                                                                     |                          | Miscellaneous |
|                 | Reference Frame: ICRS                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                             |                                                                                     |                          |               |
|                 | #                                                                                                                                                                                                                                                                                                                                                                     | Label                                                                                                                                                                                                                       | Target                                                                              | Config,Mode,Aperture     | Spectral Els. |
|                 | 1                                                                                                                                                                                                                                                                                                                                                                     | 1831+57_11_0                                                                                                                                                                                                                | (38) EMACSJ1831.9+5746                                                              | WFC3/IR, MULTIACCUM, IR  | F110W         |
|                 |                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                             |                                                                                     |                          |               |
|                 | Opt. Params. SAMP-SEQ=SPARS 25;<br>Special Reqs. NSAMP=15<br>Groups Pattern 2, Exps 1-1 in Visit 1C (2)<br>Exp. Time (Total)/[Actual Dur.] 352.939501 Secs (705.879 Secs)<br>[==>(Pattern 1)]<br>[==>(Pattern 2)]<br>Orbit [1]                                                                                                                                        |                                                                                                                                                                                                                             |                                                                                     |                          |               |
|                 | 2                                                                                                                                                                                                                                                                                                                                                                     | 1831+57_14_0                                                                                                                                                                                                                | (38) EMACSJ1831.9+5746                                                              | WFC3/IR, MULTIACCUM, IR  | F140W         |
|                 | Opt. Params. SAMP-SEQ=SPARS 25;<br>Special Reqs. NSAMP=15<br>Groups Pattern 2, Exps 2-2 in Visit 1C (2)<br>Exp. Time (Total)/[Actual Dur.] 352.939501 Secs (705.879 Secs)<br>[==>(Pattern 1)]<br>[==>(Pattern 2)]<br>Orbit [1]                                                                                                                                        |                                                                                                                                                                                                                             |                                                                                     |                          |               |
| Orbit Structure | <b>Orbit 1</b> <span style="float: right;">Server Version: 20140605</span>                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                             |                                                                                     |                          |               |
|                 | <p>Timeline events and durations:</p> <ul style="list-style-type: none"> <li>GS Acq: 0 - 50 s</li> <li>Exp. 1: 50 - 100 s</li> <li>Pointing Maneuver: 100 - 150 s</li> <li>Exp. 2: 150 - 200 s</li> <li>Pointing Maneuver: 200 - 250 s</li> <li>Reconfig: 250 - 300 s</li> <li>Unused Orbital Visibility: 300 - 1997 s</li> <li>Occultation: 1997 - 3500 s</li> </ul> |                                                                                                                                                                                                                             |                                                                                     |                          |               |

# Proposal 13671 - Visit 1D - Beyond MACS: A Snapshot Survey of the Most Massive Clusters of Galaxies at $z>0.5$

|                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                  |                        |                                                                                     |  |  |  |                          |  |                                |                              |                                                                                                         |  |                                     |  |                                 |  |  |  |       |  |           |  |
|-----------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------|------------------------|-------------------------------------------------------------------------------------|--|--|--|--------------------------|--|--------------------------------|------------------------------|---------------------------------------------------------------------------------------------------------|--|-------------------------------------|--|---------------------------------|--|--|--|-------|--|-----------|--|
| Visit           | Proposal 13671, Visit 1D, implementation                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                  |                        |                                                                                     |  |  |  |                          |  |                                | Tue Aug 19 01:02:39 GMT 2014 |                                                                                                         |  |                                     |  |                                 |  |  |  |       |  |           |  |
|                 | Diagnostic Status: No Diagnostics                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                  |                        |                                                                                     |  |  |  |                          |  |                                |                              |                                                                                                         |  |                                     |  |                                 |  |  |  |       |  |           |  |
|                 | Scientific Instruments: WFC3/IR                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                  |                        |                                                                                     |  |  |  |                          |  |                                |                              |                                                                                                         |  |                                     |  |                                 |  |  |  |       |  |           |  |
|                 | Special Requirements: (none)                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                                  |                        |                                                                                     |  |  |  |                          |  |                                |                              |                                                                                                         |  |                                     |  |                                 |  |  |  |       |  |           |  |
| Patterns        | #                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Primary Pattern                                                                                                  |                        |                                                                                     |  |  |  |                          |  |                                |                              | Secondary Pattern                                                                                       |  |                                     |  |                                 |  |  |  |       |  | Exposures |  |
|                 | (2)                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Pattern Type=WFC3-IR-DITHER-LINE<br>Purpose=DITHER<br>Number Of Points=2<br>Point Spacing=0.636<br>Line Spacing= |                        |                                                                                     |  |  |  |                          |  |                                |                              | Coordinate Frame=POS-TARG<br>Pattern Orientation=41.788<br>Angle Between Sides=<br>Center Pattern=false |  |                                     |  |                                 |  |  |  |       |  | (1), (2)  |  |
| Fixed Targets   | #                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Name                                                                                                             |                        | Target Coordinates                                                                  |  |  |  | Targ. Coord. Corrections |  |                                |                              | Fluxes                                                                                                  |  |                                     |  | Miscellaneous                   |  |  |  |       |  |           |  |
|                 | (39)                                                                                                                                                                                                                                                                                                                                                                                                                                                       | EMACSJ2025.5-2313                                                                                                |                        | RA: 20 25 31.1630 (306.3798458d)<br>Dec: -23 13 9.40 (-23.21928d)<br>Equinox: J2000 |  |  |  |                          |  |                                |                              | V=20.0                                                                                                  |  |                                     |  | Reference Frame: ICRS           |  |  |  |       |  |           |  |
| Exposures       | #                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Label                                                                                                            | Target                 | Config,Mode,Aperture                                                                |  |  |  | Spectral Els.            |  | Opt. Params.                   |                              | Special Reqs.                                                                                           |  | Groups                              |  | Exp. Time (Total)/[Actual Dur.] |  |  |  | Orbit |  |           |  |
|                 | 1                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 2025-23_11_0                                                                                                     | (39) EMACSJ2025.5-2313 | WFC3/IR, MULTIACCUM, IR                                                             |  |  |  | F110W                    |  | SAMP-SEQ=SPARS 25;<br>NSAMP=15 |                              |                                                                                                         |  | Pattern 2, Exps 1-1 in Visit 1D (2) |  | 352.939501 Secs (705.879 Secs)  |  |  |  |       |  |           |  |
|                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                  |                        |                                                                                     |  |  |  |                          |  |                                |                              |                                                                                                         |  |                                     |  | [==>(Pattern 1)]                |  |  |  | [1]   |  |           |  |
|                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                  |                        |                                                                                     |  |  |  |                          |  |                                |                              |                                                                                                         |  |                                     |  | [==>(Pattern 2)]                |  |  |  |       |  |           |  |
|                 | 2                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 2025-23_14_0                                                                                                     | (39) EMACSJ2025.5-2313 | WFC3/IR, MULTIACCUM, IR                                                             |  |  |  | F140W                    |  | SAMP-SEQ=SPARS 25;<br>NSAMP=15 |                              |                                                                                                         |  | Pattern 2, Exps 2-2 in Visit 1D (2) |  | 352.939501 Secs (705.879 Secs)  |  |  |  |       |  |           |  |
|                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                  |                        |                                                                                     |  |  |  |                          |  |                                |                              |                                                                                                         |  |                                     |  | [==>(Pattern 1)]                |  |  |  | [1]   |  |           |  |
|                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                  |                        |                                                                                     |  |  |  |                          |  |                                |                              |                                                                                                         |  |                                     |  | [==>(Pattern 2)]                |  |  |  |       |  |           |  |
| Orbit Structure | <div><div>Orbit 1</div><div>Server Version: 20140605</div><div>GS Acq Exp. 1</div><div>Exp. 1</div><div>Pointing Maneuver</div><div>Exp. 2</div><div>Pointing Maneuver</div><div>Reconfig</div><div>Unused Orbital Visibility = 1259</div><div>Occultation</div><div>0</div><div>500</div><div>1000</div><div>1500</div><div>2000</div><div>2500</div><div>3000</div><div>3500</div><div>4000</div><div>4500</div><div>5000</div><div>5500 sec</div></div> |                                                                                                                  |                        |                                                                                     |  |  |  |                          |  |                                |                              |                                                                                                         |  |                                     |  |                                 |  |  |  |       |  |           |  |

# Proposal 13671 - Visit 1E - Beyond MACS: A Snapshot Survey of the Most Massive Clusters of Galaxies at $z>0.5$

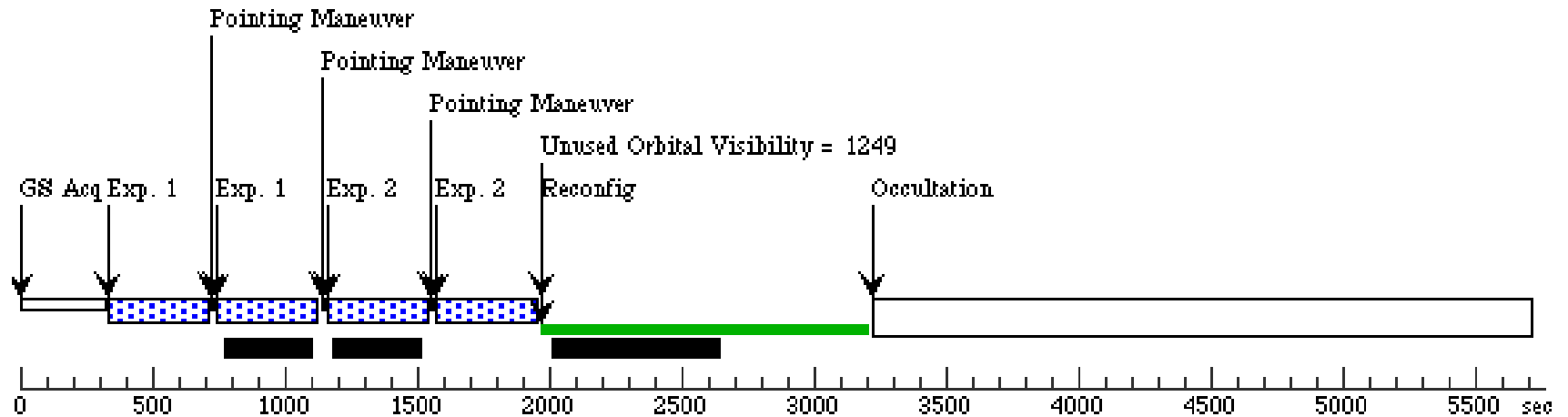
|                 |                                                                                                                                                                                                                        |                                                                                                                                                                                                                             |                        |                                                                                     |  |  |               |                          |                                |  |                              |                   |                                     |  |                                      |                       |  |  |       |  |  |           |  |
|-----------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------|-------------------------------------------------------------------------------------|--|--|---------------|--------------------------|--------------------------------|--|------------------------------|-------------------|-------------------------------------|--|--------------------------------------|-----------------------|--|--|-------|--|--|-----------|--|
| Visit           | Proposal 13671, Visit 1E, implementation                                                                                                                                                                               |                                                                                                                                                                                                                             |                        |                                                                                     |  |  |               |                          |                                |  | Tue Aug 19 01:02:39 GMT 2014 |                   |                                     |  |                                      |                       |  |  |       |  |  |           |  |
|                 | Diagnostic Status: No Diagnostics                                                                                                                                                                                      |                                                                                                                                                                                                                             |                        |                                                                                     |  |  |               |                          |                                |  |                              |                   |                                     |  |                                      |                       |  |  |       |  |  |           |  |
|                 | Scientific Instruments: WFC3/IR                                                                                                                                                                                        |                                                                                                                                                                                                                             |                        |                                                                                     |  |  |               |                          |                                |  |                              |                   |                                     |  |                                      |                       |  |  |       |  |  |           |  |
|                 | Special Requirements: (none)                                                                                                                                                                                           |                                                                                                                                                                                                                             |                        |                                                                                     |  |  |               |                          |                                |  |                              |                   |                                     |  |                                      |                       |  |  |       |  |  |           |  |
| Patterns        | #                                                                                                                                                                                                                      | Primary Pattern                                                                                                                                                                                                             |                        |                                                                                     |  |  |               |                          |                                |  |                              | Secondary Pattern |                                     |  |                                      |                       |  |  |       |  |  | Exposures |  |
|                 | (2)                                                                                                                                                                                                                    | Pattern Type=WFC3-IR-DITHER-LINE<br>Purpose=DITHER<br>Number Of Points=2<br>Point Spacing=0.636<br>Line Spacing=<br>Coordinate Frame=POS-TARG<br>Pattern Orientation=41.788<br>Angle Between Sides=<br>Center Pattern=false |                        |                                                                                     |  |  |               |                          |                                |  |                              |                   |                                     |  |                                      |                       |  |  |       |  |  | (1), (2)  |  |
| Fixed Targets   | #                                                                                                                                                                                                                      | Name                                                                                                                                                                                                                        |                        | Target Coordinates                                                                  |  |  |               | Targ. Coord. Corrections |                                |  |                              | Fluxes            |                                     |  |                                      | Miscellaneous         |  |  |       |  |  |           |  |
|                 | (40)                                                                                                                                                                                                                   | EMACSJ2037.1-2534                                                                                                                                                                                                           |                        | RA: 20 37 4.3160 (309.2679833d)<br>Dec: -25 34 58.56 (-25.58293d)<br>Equinox: J2000 |  |  |               |                          |                                |  |                              | V=20.0            |                                     |  |                                      | Reference Frame: ICRS |  |  |       |  |  |           |  |
| Exposures       | #                                                                                                                                                                                                                      | Label                                                                                                                                                                                                                       | Target                 | Config,Mode,Aperture                                                                |  |  | Spectral Els. |                          | Opt. Params.                   |  | Special Reqs.                |                   | Groups                              |  | Exp. Time (Total)/[Actual Dur.]      |                       |  |  | Orbit |  |  |           |  |
|                 | 1                                                                                                                                                                                                                      | 2037-25_110                                                                                                                                                                                                                 | (40) EMACSJ2037.1-2534 | WFC3/IR, MULTIACCUM, IR                                                             |  |  | F110W         |                          | SAMP-SEQ=SPARS 25;<br>NSAMP=15 |  |                              |                   | Pattern 2, Exps 1-1 in Visit 1E (2) |  | 352.939501 Secs (705.879 Secs)       |                       |  |  |       |  |  |           |  |
|                 |                                                                                                                                                                                                                        |                                                                                                                                                                                                                             |                        |                                                                                     |  |  |               |                          |                                |  |                              |                   |                                     |  | [==>(Pattern 1)]<br>[==>(Pattern 2)] |                       |  |  | [1]   |  |  |           |  |
|                 | 2                                                                                                                                                                                                                      | 2037-25_140                                                                                                                                                                                                                 | (40) EMACSJ2037.1-2534 | WFC3/IR, MULTIACCUM, IR                                                             |  |  | F140W         |                          | SAMP-SEQ=SPARS 25;<br>NSAMP=15 |  |                              |                   | Pattern 2, Exps 2-2 in Visit 1E (2) |  | 352.939501 Secs (705.879 Secs)       |                       |  |  | [1]   |  |  |           |  |
| Orbit Structure | <div>Orbit 1<div>Server Version: 20140605</div><p>GS Acq Exp. 1 Exp. 1 Exp. 2 Exp. 2 Reconfig Unused Orbital Visibility = 1268 Occultation</p><p>0 500 1000 1500 2000 2500 3000 3500 4000 4500 5000 5500 sec</p></div> |                                                                                                                                                                                                                             |                        |                                                                                     |  |  |               |                          |                                |  |                              |                   |                                     |  |                                      |                       |  |  |       |  |  |           |  |

# Proposal 13671 - Visit 1F - Beyond MACS: A Snapshot Survey of the Most Massive Clusters of Galaxies at $z>0.5$

|               |                                                                                                                 |                                                                                                                                                                                                                             |                                                                                    |                          |                                         |
|---------------|-----------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|--------------------------|-----------------------------------------|
| Visit         | <b>Proposal 13671, Visit 1F, implementation</b> <span style="float: right;">Tue Aug 19 01:02:39 GMT 2014</span> |                                                                                                                                                                                                                             |                                                                                    |                          |                                         |
|               | <b>Diagnostic Status: No Diagnostics</b><br>Scientific Instruments: WFC3/IR<br>Special Requirements: (none)     |                                                                                                                                                                                                                             |                                                                                    |                          |                                         |
| Patterns      | #                                                                                                               | Primary Pattern                                                                                                                                                                                                             |                                                                                    | Secondary Pattern        | Exposures                               |
|               | (2)                                                                                                             | Pattern Type=WFC3-IR-DITHER-LINE<br>Purpose=DITHER<br>Number Of Points=2<br>Point Spacing=0.636<br>Line Spacing=<br>Coordinate Frame=POS-TARG<br>Pattern Orientation=41.788<br>Angle Between Sides=<br>Center Pattern=false |                                                                                    |                          | (1), (2)                                |
| Fixed Targets | #                                                                                                               | Name                                                                                                                                                                                                                        | Target Coordinates                                                                 | Targ. Coord. Corrections | Fluxes                                  |
|               | (41)                                                                                                            | EMACSJ2114.4+0427                                                                                                                                                                                                           | RA: 21 14 27.2800 (318.6136667d)<br>Dec: +04 27 44.68 (4.46241d)<br>Equinox: J2000 |                          | V=20.0                                  |
| Exposures     |                                                                                                                 |                                                                                                                                                                                                                             |                                                                                    |                          | Miscellaneous                           |
|               | Reference Frame: ICRS                                                                                           |                                                                                                                                                                                                                             |                                                                                    |                          |                                         |
|               | #                                                                                                               | Label                                                                                                                                                                                                                       | Target                                                                             | Config,Mode,Aperture     | Spectral Els.                           |
|               | 1                                                                                                               | 2114+04_11<br>0                                                                                                                                                                                                             | (41) EMACSJ2114.4<br>+0427                                                         | WFC3/IR, MULTIACCUM, IR  | F110W                                   |
|               |                                                                                                                 |                                                                                                                                                                                                                             |                                                                                    |                          | Opt. Params.                            |
|               |                                                                                                                 |                                                                                                                                                                                                                             |                                                                                    |                          | SAMP-SEQ=SPARS<br>25;<br>NSAMP=15       |
|               |                                                                                                                 |                                                                                                                                                                                                                             |                                                                                    |                          | Special Reqs.                           |
|               |                                                                                                                 |                                                                                                                                                                                                                             |                                                                                    |                          | Pattern 2, Exps 1-1 i<br>n Visit 1F (2) |
|               |                                                                                                                 |                                                                                                                                                                                                                             |                                                                                    |                          | Groups                                  |
|               |                                                                                                                 |                                                                                                                                                                                                                             |                                                                                    |                          | Pattern 2, Exps 2-2 i<br>n Visit 1F (2) |
|               |                                                                                                                 |                                                                                                                                                                                                                             |                                                                                    |                          | Exp. Time (Total)/[Actual Dur.]         |
|               |                                                                                                                 |                                                                                                                                                                                                                             |                                                                                    |                          | 352.939501 Secs (705.879 Secs)          |
|               |                                                                                                                 |                                                                                                                                                                                                                             |                                                                                    |                          | [==>(Pattern 1)]                        |
|               |                                                                                                                 |                                                                                                                                                                                                                             |                                                                                    |                          | [==>(Pattern 2)]                        |
|               |                                                                                                                 |                                                                                                                                                                                                                             |                                                                                    |                          | Orbit                                   |
|               |                                                                                                                 |                                                                                                                                                                                                                             |                                                                                    |                          | [1]                                     |
|               | 2                                                                                                               | 2114+04_14<br>0                                                                                                                                                                                                             | (41) EMACSJ2114.4<br>+0427                                                         | WFC3/IR, MULTIACCUM, IR  | F140W                                   |
|               |                                                                                                                 |                                                                                                                                                                                                                             |                                                                                    |                          | SAMP-SEQ=SPARS<br>25;<br>NSAMP=15       |
|               |                                                                                                                 |                                                                                                                                                                                                                             |                                                                                    |                          | Special Reqs.                           |
|               |                                                                                                                 |                                                                                                                                                                                                                             |                                                                                    |                          | Pattern 2, Exps 2-2 i<br>n Visit 1F (2) |
|               |                                                                                                                 |                                                                                                                                                                                                                             |                                                                                    |                          | Groups                                  |
|               |                                                                                                                 |                                                                                                                                                                                                                             |                                                                                    |                          | Pattern 2, Exps 2-2 i<br>n Visit 1F (2) |
|               |                                                                                                                 |                                                                                                                                                                                                                             |                                                                                    |                          | Exp. Time (Total)/[Actual Dur.]         |
|               |                                                                                                                 |                                                                                                                                                                                                                             |                                                                                    |                          | 352.939501 Secs (705.879 Secs)          |
|               |                                                                                                                 |                                                                                                                                                                                                                             |                                                                                    |                          | [==>(Pattern 1)]                        |
|               |                                                                                                                 |                                                                                                                                                                                                                             |                                                                                    |                          | [==>(Pattern 2)]                        |
|               |                                                                                                                 |                                                                                                                                                                                                                             |                                                                                    |                          | Orbit                                   |
|               |                                                                                                                 |                                                                                                                                                                                                                             |                                                                                    |                          | [1]                                     |

## Orbit 1

Server Version: 20140605



# Proposal 13671 - Visit 1G - Beyond MACS: A Snapshot Survey of the Most Massive Clusters of Galaxies at $z>0.5$

|                 |                                                                                                                                                                               |                                                                                                                                                                                                                             |                                                                                      |                          |               |
|-----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|--------------------------|---------------|
| Visit           | <b>Proposal 13671, Visit 1G, implementation</b> <span style="float: right;">Tue Aug 19 01:02:39 GMT 2014</span>                                                               |                                                                                                                                                                                                                             |                                                                                      |                          |               |
|                 | <b>Diagnostic Status: No Diagnostics</b><br>Scientific Instruments: WFC3/IR<br>Special Requirements: (none)                                                                   |                                                                                                                                                                                                                             |                                                                                      |                          |               |
| Patterns        | #                                                                                                                                                                             | Primary Pattern                                                                                                                                                                                                             |                                                                                      | Secondary Pattern        | Exposures     |
|                 | (2)                                                                                                                                                                           | Pattern Type=WFC3-IR-DITHER-LINE<br>Purpose=DITHER<br>Number Of Points=2<br>Point Spacing=0.636<br>Line Spacing=<br>Coordinate Frame=POS-TARG<br>Pattern Orientation=41.788<br>Angle Between Sides=<br>Center Pattern=false |                                                                                      |                          | (1), (2)      |
| Fixed Targets   | #                                                                                                                                                                             | Name                                                                                                                                                                                                                        | Target Coordinates                                                                   | Targ. Coord. Corrections | Fluxes        |
|                 | (42)                                                                                                                                                                          | EMACSJ2137.2-2232                                                                                                                                                                                                           | RA: 21 37 14.7210 (324.3113375d)<br>Dec: -22 32 15.31 (-22.53759d)<br>Equinox: J2000 |                          | V=20.0        |
| Exposures       |                                                                                                                                                                               |                                                                                                                                                                                                                             |                                                                                      |                          | Miscellaneous |
|                 | Reference Frame: ICRS                                                                                                                                                         |                                                                                                                                                                                                                             |                                                                                      |                          |               |
|                 | #                                                                                                                                                                             | Label                                                                                                                                                                                                                       | Target                                                                               | Config,Mode,Aperture     | Spectral Els. |
|                 | 1                                                                                                                                                                             | 2137-22_11_0                                                                                                                                                                                                                | (42) EMACSJ2137.2-2232                                                               | WFC3/IR, MULTIACCUM, IR  | F110W         |
|                 |                                                                                                                                                                               |                                                                                                                                                                                                                             |                                                                                      |                          |               |
|                 | Opt. Params. Special Reqs. Groups Exp. Time (Total)/[Actual Dur.] Orbit<br>SAMP-SEQ=SPARS 25; NSAMP=15 Pattern 2, Exps 1-1 in Visit 1G (2) 352.939501 Secs (705.879 Secs) [1] |                                                                                                                                                                                                                             |                                                                                      |                          |               |
|                 | 2                                                                                                                                                                             | 2137-22_14_0                                                                                                                                                                                                                | (42) EMACSJ2137.2-2232                                                               | WFC3/IR, MULTIACCUM, IR  | F140W         |
|                 | Opt. Params. Special Reqs. Groups Exp. Time (Total)/[Actual Dur.] Orbit<br>SAMP-SEQ=SPARS 25; NSAMP=15 Pattern 2, Exps 2-2 in Visit 1G (2) 352.939501 Secs (705.879 Secs) [1] |                                                                                                                                                                                                                             |                                                                                      |                          |               |
| Orbit Structure |                                                                                                                                                                               |                                                                                                                                                                                                                             |                                                                                      |                          |               |
|                 | <div> <div>Orbit 1</div> <div>Server Version: 20140605</div> </div>                                                                                                           |                                                                                                                                                                                                                             |                                                                                      |                          |               |

# Proposal 13671 - Visit 1H - Beyond MACS: A Snapshot Survey of the Most Massive Clusters of Galaxies at $z>0.5$

|                 |                                                                                                                                                                                                                                 |                                                                                                                                                                                                                             |                                                                                     |                          |               |
|-----------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|--------------------------|---------------|
| Visit           | <b>Proposal 13671, Visit 1H, implementation</b> <span style="float: right;">Tue Aug 19 01:02:39 GMT 2014</span>                                                                                                                 |                                                                                                                                                                                                                             |                                                                                     |                          |               |
|                 | <b>Diagnostic Status: No Diagnostics</b><br>Scientific Instruments: WFC3/IR<br>Special Requirements: (none)                                                                                                                     |                                                                                                                                                                                                                             |                                                                                     |                          |               |
| Patterns        | #                                                                                                                                                                                                                               | Primary Pattern                                                                                                                                                                                                             |                                                                                     | Secondary Pattern        | Exposures     |
|                 | (2)                                                                                                                                                                                                                             | Pattern Type=WFC3-IR-DITHER-LINE<br>Purpose=DITHER<br>Number Of Points=2<br>Point Spacing=0.636<br>Line Spacing=<br>Coordinate Frame=POS-TARG<br>Pattern Orientation=41.788<br>Angle Between Sides=<br>Center Pattern=false |                                                                                     |                          | (1), (2)      |
| Fixed Targets   | #                                                                                                                                                                                                                               | Name                                                                                                                                                                                                                        | Target Coordinates                                                                  | Targ. Coord. Corrections | Fluxes        |
|                 | (43)                                                                                                                                                                                                                            | EMACSJ2207.5-0302                                                                                                                                                                                                           | RA: 22 07 34.0510 (331.8918792d)<br>Dec: -03 02 18.07 (-3.03835d)<br>Equinox: J2000 |                          | V=20.0        |
| Exposures       |                                                                                                                                                                                                                                 |                                                                                                                                                                                                                             |                                                                                     |                          | Miscellaneous |
|                 | Reference Frame: ICRS                                                                                                                                                                                                           |                                                                                                                                                                                                                             |                                                                                     |                          |               |
|                 | #                                                                                                                                                                                                                               | Label                                                                                                                                                                                                                       | Target                                                                              | Config,Mode,Aperture     | Spectral Els. |
|                 | 1                                                                                                                                                                                                                               | 2207-03_110                                                                                                                                                                                                                 | (43) EMACSJ2207.5-0302                                                              | WFC3/IR, MULTIACCUM, IR  | F110W         |
|                 |                                                                                                                                                                                                                                 |                                                                                                                                                                                                                             |                                                                                     |                          |               |
|                 | Opt. Params. SAMP-SEQ=SPARS 25;<br>Special Reqs. GS ACQ SCENARIO SINGLE<br>Groups Pattern 2, Exps 1-1 in Visit 1H (2)<br>Exp. Time (Total)/[Actual Dur.] 352.939501 Secs (705.879 Secs)<br>[==>(Pattern 1)]<br>[==>(Pattern 2)] |                                                                                                                                                                                                                             |                                                                                     |                          |               |
|                 | 2                                                                                                                                                                                                                               | 2207-03_140                                                                                                                                                                                                                 | (43) EMACSJ2207.5-0302                                                              | WFC3/IR, MULTIACCUM, IR  | F140W         |
|                 | Opt. Params. SAMP-SEQ=SPARS 25;<br>Special Reqs. GS ACQ SCENARIO SINGLE<br>Groups Pattern 2, Exps 2-2 in Visit 1H (2)<br>Exp. Time (Total)/[Actual Dur.] 352.939501 Secs (705.879 Secs)<br>[==>(Pattern 1)]<br>[==>(Pattern 2)] |                                                                                                                                                                                                                             |                                                                                     |                          |               |
| Orbit Structure |                                                                                                                                                                                                                                 |                                                                                                                                                                                                                             |                                                                                     |                          |               |
|                 | <div> <div>Orbit 1</div> <div>Server Version: 20140605</div> </div>                                                                                                                                                             |                                                                                                                                                                                                                             |                                                                                     |                          |               |

# Proposal 13671 - Visit 1I - Beyond MACS: A Snapshot Survey of the Most Massive Clusters of Galaxies at $z>0.5$

|                 |                                                                                                                                                                                                                                                                                                                                                |                                                                                                                  |                         |                                                                                     |  |                          |                                                                                                         |        |               |                                     |                                      |           |       |
|-----------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------|-------------------------|-------------------------------------------------------------------------------------|--|--------------------------|---------------------------------------------------------------------------------------------------------|--------|---------------|-------------------------------------|--------------------------------------|-----------|-------|
| Visit           | Proposal 13671, Visit 1I, implementation                                                                                                                                                                                                                                                                                                       |                                                                                                                  |                         |                                                                                     |  |                          |                                                                                                         |        |               |                                     | Tue Aug 19 01:02:39 GMT 2014         |           |       |
|                 | Diagnostic Status: No Diagnostics                                                                                                                                                                                                                                                                                                              |                                                                                                                  |                         |                                                                                     |  |                          |                                                                                                         |        |               |                                     |                                      |           |       |
|                 | Scientific Instruments: WFC3/IR                                                                                                                                                                                                                                                                                                                |                                                                                                                  |                         |                                                                                     |  |                          |                                                                                                         |        |               |                                     |                                      |           |       |
|                 | Special Requirements: (none)                                                                                                                                                                                                                                                                                                                   |                                                                                                                  |                         |                                                                                     |  |                          |                                                                                                         |        |               |                                     |                                      |           |       |
| Patterns        | #                                                                                                                                                                                                                                                                                                                                              | Primary Pattern                                                                                                  |                         |                                                                                     |  |                          | Secondary Pattern                                                                                       |        |               |                                     |                                      | Exposures |       |
|                 | (2)                                                                                                                                                                                                                                                                                                                                            | Pattern Type=WFC3-IR-DITHER-LINE<br>Purpose=DITHER<br>Number Of Points=2<br>Point Spacing=0.636<br>Line Spacing= |                         |                                                                                     |  |                          | Coordinate Frame=POS-TARG<br>Pattern Orientation=41.788<br>Angle Between Sides=<br>Center Pattern=false |        |               |                                     |                                      | (1), (2)  |       |
| Fixed Targets   | #                                                                                                                                                                                                                                                                                                                                              | Name                                                                                                             |                         | Target Coordinates                                                                  |  | Targ. Coord. Corrections |                                                                                                         | Fluxes |               | Miscellaneous                       |                                      |           |       |
|                 | (44)                                                                                                                                                                                                                                                                                                                                           | EMACSJ2316.6+1246                                                                                                |                         | RA: 23 16 42.9240 (349.1788500d)<br>Dec: +12 46 54.73 (12.78187d)<br>Equinox: J2000 |  |                          |                                                                                                         | V=20.0 |               | Reference Frame: ICRS               |                                      |           |       |
| Exposures       | #                                                                                                                                                                                                                                                                                                                                              | Label                                                                                                            | Target                  | Config,Mode,Aperture                                                                |  | Spectral Els.            | Opt. Params.                                                                                            |        | Special Reqs. | Groups                              | Exp. Time (Total)/[Actual Dur.]      |           | Orbit |
|                 | 1                                                                                                                                                                                                                                                                                                                                              | 2316+12_11_0                                                                                                     | (44) EMACSJ2316.6 +1246 | WFC3/IR, MULTIACCUM, IR                                                             |  | F110W                    | SAMP-SEQ=SPARS 25;<br>NSAMP=15                                                                          |        |               | Pattern 2, Exps 1-1 in Visit 1I (2) | 352.939501 Secs (705.879 Secs)       |           |       |
|                 |                                                                                                                                                                                                                                                                                                                                                |                                                                                                                  |                         |                                                                                     |  |                          |                                                                                                         |        |               |                                     | [==>(Pattern 1)]<br>[==>(Pattern 2)] |           | [1]   |
|                 | 2                                                                                                                                                                                                                                                                                                                                              | 2316+12_14_0                                                                                                     | (44) EMACSJ2316.6 +1246 | WFC3/IR, MULTIACCUM, IR                                                             |  | F140W                    | SAMP-SEQ=SPARS 25;<br>NSAMP=15                                                                          |        |               | Pattern 2, Exps 2-2 in Visit 1I (2) | 352.939501 Secs (705.879 Secs)       |           |       |
|                 |                                                                                                                                                                                                                                                                                                                                                |                                                                                                                  |                         |                                                                                     |  |                          |                                                                                                         |        |               |                                     | [==>(Pattern 1)]<br>[==>(Pattern 2)] |           | [1]   |
| Orbit Structure | <div>Orbit 1</div> <div>Server Version: 20140605</div> <p>Pointing Maneuver</p> <p>Pointing Maneuver</p> <p>Pointing Maneuver</p> <p>Reconfig</p> <p>Unused Orbital Visibility = 1253</p> <p>GS Acq Exp. 1</p> <p>Exp. 1</p> <p>Exp. 2</p> <p>Exp. 2</p> <p>Occultation</p> <p>0 500 1000 1500 2000 2500 3000 3500 4000 4500 5000 5500 sec</p> |                                                                                                                  |                         |                                                                                     |  |                          |                                                                                                         |        |               |                                     |                                      |           |       |

# Proposal 13671 - Visit 1J - Beyond MACS: A Snapshot Survey of the Most Massive Clusters of Galaxies at $z > 0.5$

|                 |                                                       |                                                                                                                                                                                                                             |                                                                                     |                         |                          |                                |                       |                                     |                                      |       |
|-----------------|-------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------|--------------------------|--------------------------------|-----------------------|-------------------------------------|--------------------------------------|-------|
| Visit           | Proposal 13671, Visit 1J, implementation              |                                                                                                                                                                                                                             |                                                                                     |                         |                          | Tue Aug 19 01:02:39 GMT 2014   |                       |                                     |                                      |       |
|                 | Diagnostic Status: No Diagnostics                     |                                                                                                                                                                                                                             |                                                                                     |                         |                          |                                |                       |                                     |                                      |       |
|                 | Scientific Instruments: WFC3/IR                       |                                                                                                                                                                                                                             |                                                                                     |                         |                          |                                |                       |                                     |                                      |       |
|                 | Special Requirements: (none)                          |                                                                                                                                                                                                                             |                                                                                     |                         |                          |                                |                       |                                     |                                      |       |
| Patterns        | #                                                     | Primary Pattern                                                                                                                                                                                                             |                                                                                     |                         | Secondary Pattern        |                                | Exposures             |                                     |                                      |       |
|                 | (2)                                                   | Pattern Type=WFC3-IR-DITHER-LINE<br>Purpose=DITHER<br>Number Of Points=2<br>Point Spacing=0.636<br>Line Spacing=<br>Coordinate Frame=POS-TARG<br>Pattern Orientation=41.788<br>Angle Between Sides=<br>Center Pattern=false |                                                                                     |                         |                          |                                | (1), (2)              |                                     |                                      |       |
| Fixed Targets   | #                                                     | Name                                                                                                                                                                                                                        | Target Coordinates                                                                  |                         | Targ. Coord. Corrections | Fluxes                         | Miscellaneous         |                                     |                                      |       |
|                 | (45)                                                  | EMACSJ2327.4-0204                                                                                                                                                                                                           | RA: 23 27 27.5950 (351.8649792d)<br>Dec: -02 04 37.24 (-2.07701d)<br>Equinox: J2000 |                         |                          | V=20.0                         | Reference Frame: ICRS |                                     |                                      |       |
| Exposures       | #                                                     | Label                                                                                                                                                                                                                       | Target                                                                              | Config,Mode,Aperture    | Spectral Els.            | Opt. Params.                   | Special Reqs.         | Groups                              | Exp. Time (Total)/[Actual Dur.]      | Orbit |
|                 | 1                                                     | 2327-02_11_0                                                                                                                                                                                                                | (45) EMACSJ2327.4-0204                                                              | WFC3/IR, MULTIACCUM, IR | F110W                    | SAMP-SEQ=SPARS 25;<br>NSAMP=15 |                       | Pattern 2, Exps 1-1 in Visit 1J (2) | 352.939501 Secs (705.879 Secs)       |       |
|                 |                                                       |                                                                                                                                                                                                                             |                                                                                     |                         |                          |                                |                       |                                     | [==>(Pattern 1)]<br>[==>(Pattern 2)] | [1]   |
|                 | 2                                                     | 2327-02_14_0                                                                                                                                                                                                                | (45) EMACSJ2327.4-0204                                                              | WFC3/IR, MULTIACCUM, IR | F140W                    | SAMP-SEQ=SPARS 25;<br>NSAMP=15 |                       | Pattern 2, Exps 2-2 in Visit 1J (2) | 352.939501 Secs (705.879 Secs)       |       |
|                 |                                                       |                                                                                                                                                                                                                             |                                                                                     |                         |                          |                                |                       |                                     | [==>(Pattern 1)]<br>[==>(Pattern 2)] | [1]   |
| Orbit Structure | <div>Orbit 1<div>Server Version: 20140605</div></div> |                                                                                                                                                                                                                             |                                                                                     |                         |                          |                                |                       |                                     |                                      |       |