



15169 - Resolving Multiple Stellar Populations in G1

Cycle: 25, Proposal Category: GO

(Availability Mode: SUPPORTED)

INVESTIGATORS

| <i>Name</i> | <i>Institution</i> | <i>E-Mail</i> |
|--|---|----------------------------|
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| Dr. Dante Minniti (CoI) | Universidad Andres Bello | dante@astrofisica.cl |
| Dr. Michael J. West (CoI) | Lowell Observatory | mwest@lowell.edu |

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> |
|--------------|------------------------------|-------------------------------------|--------------------|-------------------------------|-------------------------------|
| 10 | (1) G1-MAYALL-II ANY | ACS/WFC WFC3/UVIS | 3 | 19-Nov-2018 17:00:16.0 | yes |
| 20 | (1) G1-MAYALL-II ANY | ACS/WFC WFC3/UVIS | 3 | 19-Nov-2018 17:00:19.0 | yes |
| 50 | (1) G1-MAYALL-II ANY | ACS/WFC WFC3/UVIS | 3 | 19-Nov-2018 17:00:23.0 | yes |
| 30 | (1) G1-MAYALL-II ANY | ACS/WFC WFC3/UVIS | 3 | 19-Nov-2018 17:00:25.0 | yes |
| 40 | (1) G1-MAYALL-II ANY | ACS/WFC WFC3/UVIS | 3 | 19-Nov-2018 17:00:28.0 | yes |

15 Total Orbits Used

ABSTRACT

The most luminous and massive compact stellar system in the Local Group is G1, a satellite of M31. It has been speculated that G1 is the remnant nucleus of a tidally stripped dwarf elliptical galaxy. As such, G1 is key to understanding both the evolution of dwarf galaxies and the hierarchical assembly of bright spirals. Recently, new U-B-V-I broad band imaging techniques have revealed multiple stellar populations in Milky Way globular clusters. We propose to obtain new deep WFC3/UVIS F336W and F814W images, to be combined with archival WFC3 data, to probe the star formation and enrichment history of G1. This study will yield new and definitive insights into the origin and evolution of G1, the relationship of globular clusters to dwarf galaxies, and the formation of luminous spirals like M31 and the Milky Way.

OBSERVING DESCRIPTION

We will observe G1 with F336W for 10 orbits. Estimating 2400s open shutter time per orbit, this will result in a 24ks exposure. To take advantage of drizzling resolution gains, we will obtain three dithered exposures each orbit, and dither between orbits.

The WFC3 ETC estimates that for a GIII spectral type at $U=27.0$, we will achieve $S/N=15$ (optimally extracted), including Galactic reddening and average sky brightness. At the distance of G1, $m-M=24.4$, this reaches the base of the red HB in G1, and well below, still with S/N of 8-10.

To reach a similar depth as the other WFC3 broad band data for G1, we will use two orbits for F814W. These will be divided into six exposures, dithered for optimum resolution recovery and CR rejection. With this exposure time, F814W data will reach S/N of 20 for a GIII spectral type 1.5 magnitudes below the level of the HB ($I=25.5$), and comparable S/N even for blue HB stars with colors of ~ 0 . This is a good match to the depth of the existing WFC3 data in F438W and F606W, and will allow a robust implementation of the CUBI technique.

During the 12 orbits of WFC3 observations, parallel ACS exposures of a nearby field will be obtained to characterize the stellar population in the surrounding halo of M31. We will divide the time evenly between the F606W and F814W filters. For these exposure times, the ACS ETC calculates S/N of 5 for a K0III star with $V = 29.75$.

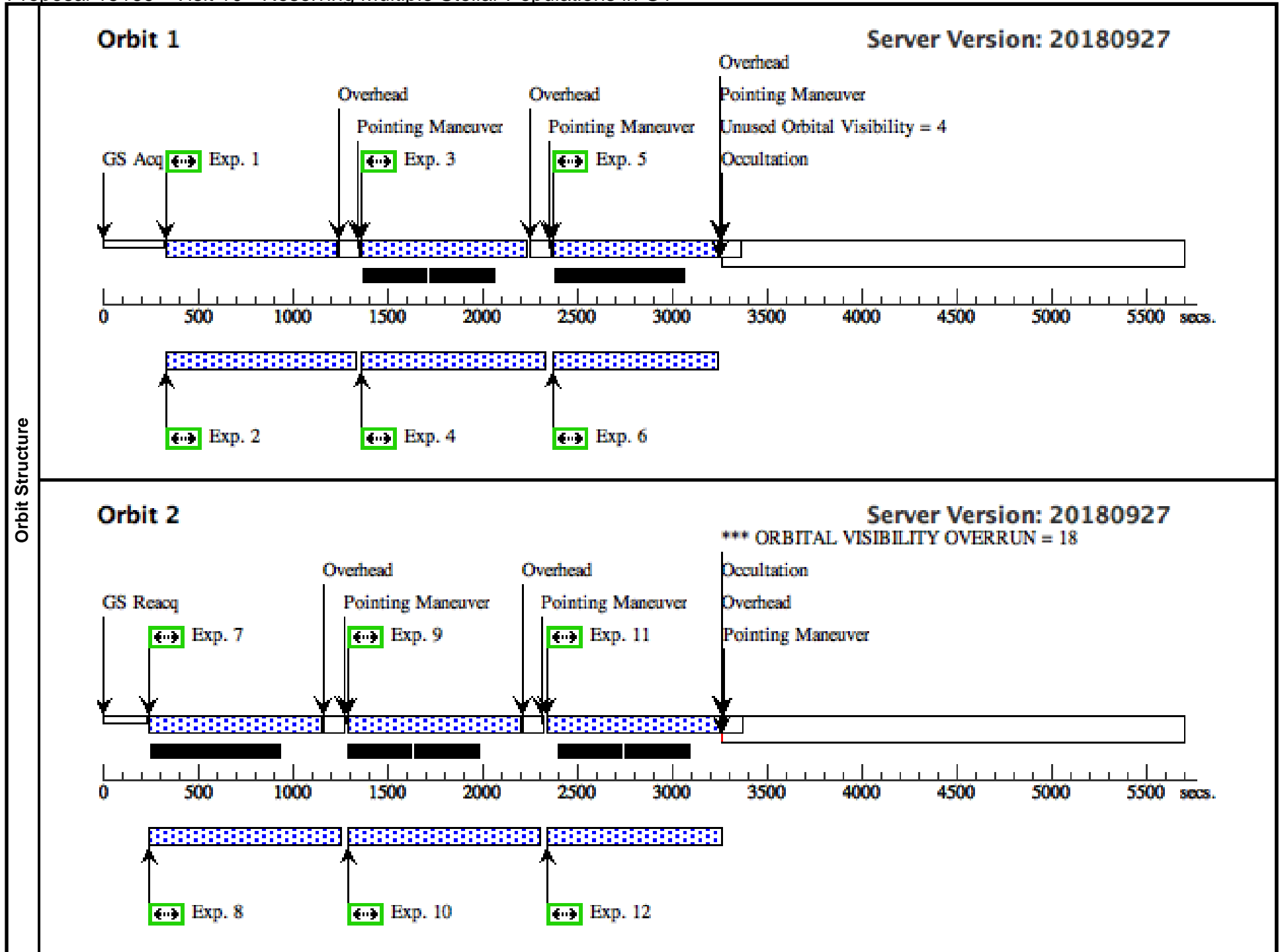
Proposal 15169 - Visit 10 - Resolving Multiple Stellar Populations in G1

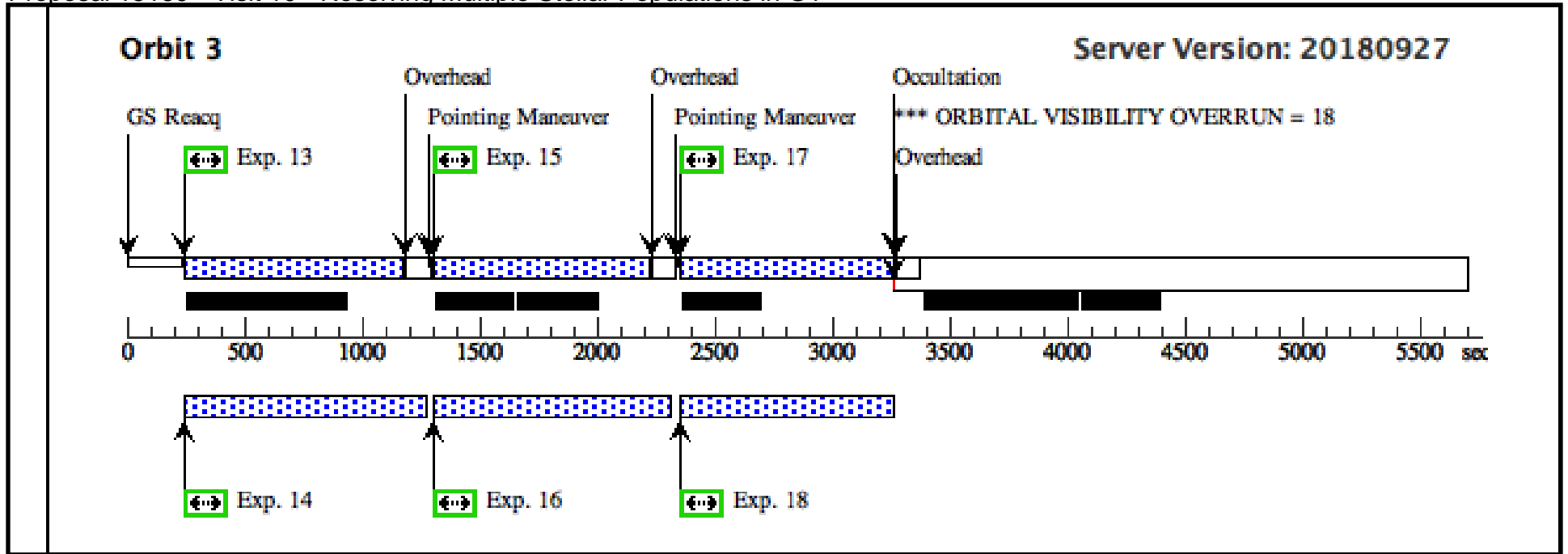
Mon Nov 19 22:00:30 GMT 2018

| Visit | Proposal 15169, Visit 10, completed Diagnostic Status: Warning Scientific Instruments: WFC3/UVIS, ACS/WFC Special Requirements: ORIENT 98D TO 98 D | | | | | | | | | | | | | | | | |
|----------------------|---|---|--------------------------|--------------------|--------------------------|--------|---------------|-----|--------------|---|--|---------|-------------------------|--|--|--|--|
| Diagnostics | (Visit 10) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN (Visit 10) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN | | | | | | | | | | | | | | | | |
| Fixed Targets | <table border="1"> <thead> <tr> <th>#</th> <th>Name</th> <th>Target Coordinates</th> <th>Targ. Coord. Corrections</th> <th>Fluxes</th> <th>Miscellaneous</th> </tr> </thead> <tbody> <tr> <td>(1)</td> <td>G1-MAYALL-II</td> <td>RA: 00 32 46.4600 (8.1935833d) Dec: +39 34 40.00 (39.57778d) Equinox: J2000</td> <td></td> <td>V=13.81</td> <td>Reference Frame: SIMBAD</td> </tr> </tbody> </table> <p><i>Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.</i> Category=EXT-CLUSTER Description=[GLOBULAR CLUSTER] Extended=YES</p> | # | Name | Target Coordinates | Targ. Coord. Corrections | Fluxes | Miscellaneous | (1) | G1-MAYALL-II | RA: 00 32 46.4600 (8.1935833d) Dec: +39 34 40.00 (39.57778d) Equinox: J2000 | | V=13.81 | Reference Frame: SIMBAD | | | | |
| # | Name | Target Coordinates | Targ. Coord. Corrections | Fluxes | Miscellaneous | | | | | | | | | | | | |
| (1) | G1-MAYALL-II | RA: 00 32 46.4600 (8.1935833d) Dec: +39 34 40.00 (39.57778d) Equinox: J2000 | | V=13.81 | Reference Frame: SIMBAD | | | | | | | | | | | | |

Proposal 15169 - Visit 10 - Resolving Multiple Stellar Populations in G1

| # | Label | Target | Config,Mode,Aperture | Spectral Els. | Opt. Params. | Special Reqs. | Groups | Exp. Time (Total)/[Actual Dur.] | | Orbit |
|-----------|-------|------------------|-----------------------------|---------------|--------------|------------------------|--|---------------------------------|-------|-------|
| | | | | | | | | | | |
| Exposures | 1 | (1) G1-MAYALL-II | WFC3/UVIS, ACCUM, UVIS2-FIX | F336W | FLASH=10 | POS TARG 0.0,0.0 | Prime + Parallel Group 1-2 in Visit 10 | 870 Secs (870 Secs) | [==>] | [1] |
| | 2 | ANY | ACS/WFC, ACCUM, WFC | F606W | | | Prime + Parallel Group 1-2 in Visit 10 | 795 Secs (795 Secs) | [==>] | [1] |
| | 3 | (1) G1-MAYALL-II | WFC3/UVIS, ACCUM, UVIS2-FIX | F336W | FLASH=10 | POS TARG 0.0991,0.0463 | Prime + Parallel Group 3-4 in Visit 10 | 870 Secs (870 Secs) | [==>] | [1] |
| | 4 | ANY | ACS/WFC, ACCUM, WFC | F606W | | | Prime + Parallel Group 3-4 in Visit 10 | 845 Secs (845 Secs) | [==>] | [1] |
| | 5 | (1) G1-MAYALL-II | WFC3/UVIS, ACCUM, UVIS2-FIX | F336W | FLASH=10 | POS TARG 0.1319,0.1407 | Prime + Parallel Group 5-6 in Visit 10 | 870 Secs (870 Secs) | [==>] | [1] |
| | 6 | ANY | ACS/WFC, ACCUM, WFC | F606W | | | Prime + Parallel Group 5-6 in Visit 10 | 745 Secs (745 Secs) | [==>] | [1] |
| | 7 | (1) G1-MAYALL-II | WFC3/UVIS, ACCUM, UVIS2-FIX | F336W | FLASH=10 | POS TARG 0.2310,0.1870 | Prime + Parallel Group 7-8 in Visit 10 | 915 Secs (915 Secs) | [==>] | [2] |
| | 8 | ANY | ACS/WFC, ACCUM, WFC | F606W | | | Prime + Parallel Group 7-8 in Visit 10 | 890 Secs (890 Secs) | [==>] | [2] |
| | 9 | (1) G1-MAYALL-II | WFC3/UVIS, ACCUM, UVIS2-FIX | F336W | FLASH=10 | POS TARG 0.2639,0.2814 | Prime + Parallel Group 9-10 in Visit 10 | 915 Secs (915 Secs) | [==>] | [2] |
| | 10 | ANY | ACS/WFC, ACCUM, WFC | F606W | | | Prime + Parallel Group 9-10 in Visit 10 | 890 Secs (890 Secs) | [==>] | [2] |
| | 11 | (1) G1-MAYALL-II | WFC3/UVIS, ACCUM, UVIS2-FIX | F336W | FLASH=10 | POS TARG 0.3629,0.3277 | Prime + Parallel Group 11-12 in Visit 10 | 915 Secs (915 Secs) | [==>] | [2] |
| | 12 | ANY | ACS/WFC, ACCUM, WFC | F814W | | | Prime + Parallel Group 11-12 in Visit 10 | 745 Secs (745 Secs) | [==>] | [2] |
| | 13 | (1) G1-MAYALL-II | WFC3/UVIS, ACCUM, UVIS2-FIX | F438W | FLASH=5 | POS TARG 0.0099,0.1687 | Prime + Parallel Group 13-14 in Visit 10 | 910 Secs (910 Secs) | [==>] | [3] |
| | 14 | ANY | ACS/WFC, ACCUM, WFC | F814W | | | Prime + Parallel Group 13-14 in Visit 10 | 905 Secs (905 Secs) | [==>] | [3] |
| | 15 | (1) G1-MAYALL-II | WFC3/UVIS, ACCUM, UVIS2-FIX | F814W | | POS TARG 0.1090,0.2150 | Prime + Parallel Group 15-16 in Visit 10 | 900 Secs (900 Secs) | [==>] | [3] |
| | 16 | ANY | ACS/WFC, ACCUM, WFC | F814W | | | Prime + Parallel Group 15-16 in Visit 10 | 890 Secs (890 Secs) | [==>] | [3] |
| | 17 | (1) G1-MAYALL-II | WFC3/UVIS, ACCUM, UVIS2-FIX | F814W | | POS TARG 0.1418,0.3094 | Prime + Parallel Group 17-18 in Visit 10 | 910 Secs (910 Secs) | [==>] | [3] |
| | 18 | ANY | ACS/WFC, ACCUM, WFC | F814W | | | Prime + Parallel Group 17-18 in Visit 10 | 785 Secs (785 Secs) | [==>] | [3] |





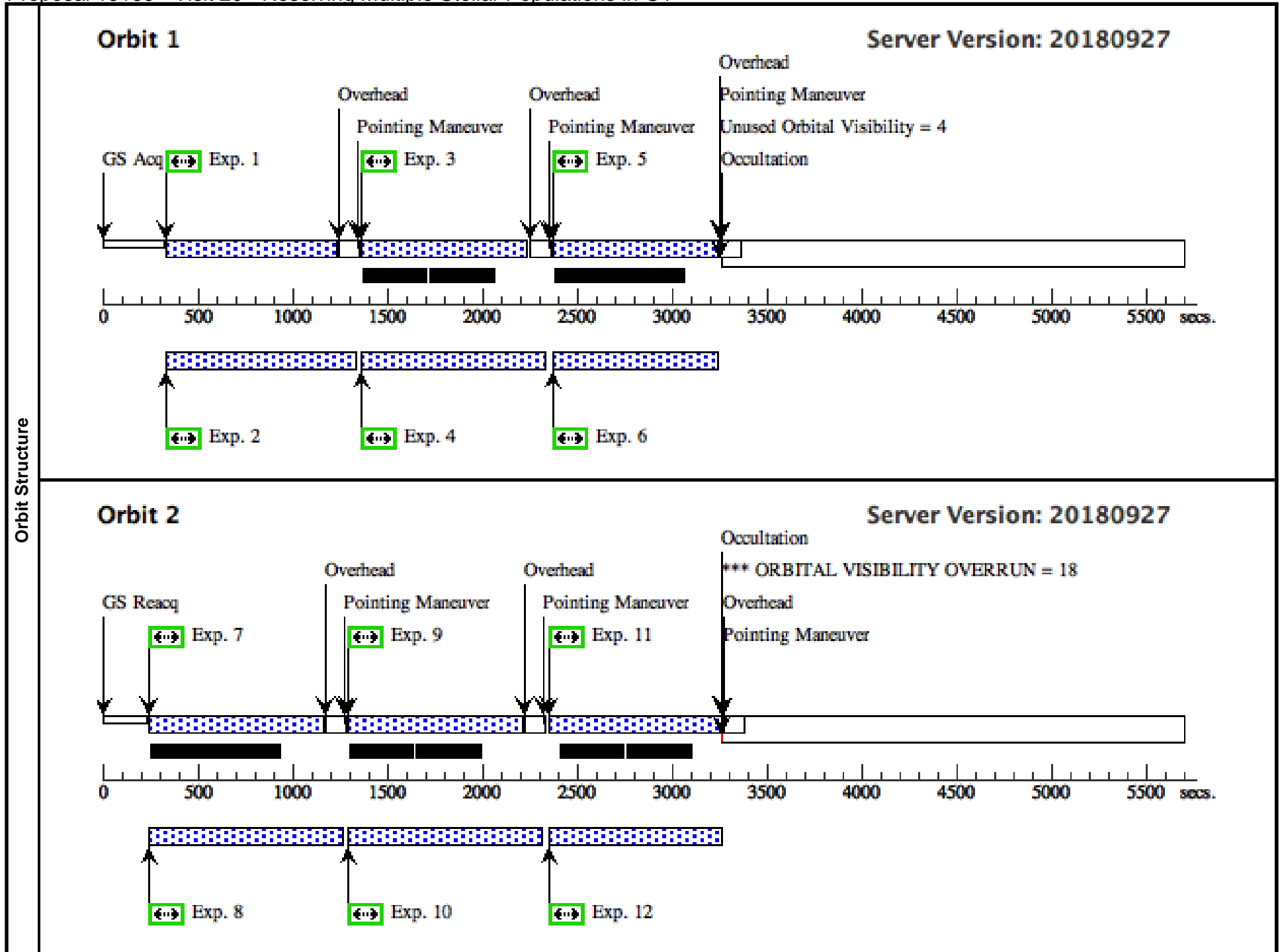
Proposal 15169 - Visit 20 - Resolving Multiple Stellar Populations in G1

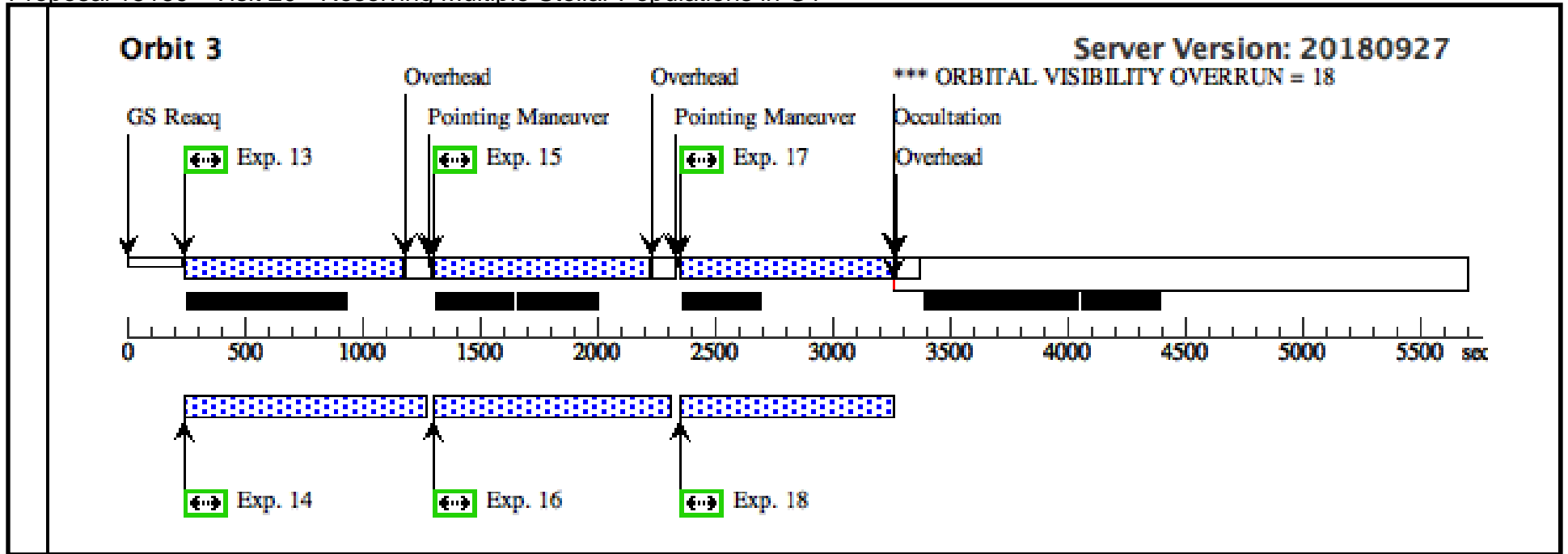
Mon Nov 19 22:00:30 GMT 2018

| Visit | Proposal 15169, Visit 20, failed Diagnostic Status: Warning Scientific Instruments: WFC3/UVIS, ACS/WFC Special Requirements: ORIENT 98D TO 98 D | | | | | | | | | | | | | | | | |
|----------------------|---|---|--------------------------|--------------------|--------------------------|--------|---------------|-----|--------------|---|--|---------|-------------------------|--|--|--|--|
| Diagnostics | (Visit 20) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN (Visit 20) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN | | | | | | | | | | | | | | | | |
| Fixed Targets | <table border="1"> <thead> <tr> <th>#</th> <th>Name</th> <th>Target Coordinates</th> <th>Targ. Coord. Corrections</th> <th>Fluxes</th> <th>Miscellaneous</th> </tr> </thead> <tbody> <tr> <td>(1)</td> <td>G1-MAYALL-II</td> <td>RA: 00 32 46.4600 (8.1935833d) Dec: +39 34 40.00 (39.57778d) Equinox: J2000</td> <td></td> <td>V=13.81</td> <td>Reference Frame: SIMBAD</td> </tr> </tbody> </table> <p><i>Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.</i> Category=EXT-CLUSTER Description=[GLOBULAR CLUSTER] Extended=YES</p> | # | Name | Target Coordinates | Targ. Coord. Corrections | Fluxes | Miscellaneous | (1) | G1-MAYALL-II | RA: 00 32 46.4600 (8.1935833d) Dec: +39 34 40.00 (39.57778d) Equinox: J2000 | | V=13.81 | Reference Frame: SIMBAD | | | | |
| # | Name | Target Coordinates | Targ. Coord. Corrections | Fluxes | Miscellaneous | | | | | | | | | | | | |
| (1) | G1-MAYALL-II | RA: 00 32 46.4600 (8.1935833d) Dec: +39 34 40.00 (39.57778d) Equinox: J2000 | | V=13.81 | Reference Frame: SIMBAD | | | | | | | | | | | | |

Proposal 15169 - Visit 20 - Resolving Multiple Stellar Populations in G1

| # | Label | Target | Config,Mode,Aperture | Spectral Els. | Opt. Params. | Special Reqs. | Groups | Exp. Time (Total)/[Actual Dur.] | | Orbit |
|-----------|-------|------------------|-----------------------------|---------------|--------------|------------------------|--|---------------------------------|------|-------|
| | | | | | | | | | | |
| Exposures | 1 | (1) G1-MAYALL-II | WFC3/UVIS, ACCUM, UVIS2-FIX | F336W | FLASH=10 | POS TARG 0.2409,0.3557 | Prime + Parallel Group 1-2 in Visit 20 | 870 Secs (870 Secs) | [=>] | [1] |
| | 2 | ANY | ACS/WFC, ACCUM, WFC | F814W | | | Prime + Parallel Group 1-2 in Visit 20 | 795 Secs (795 Secs) | [=>] | [1] |
| | 3 | (1) G1-MAYALL-II | WFC3/UVIS, ACCUM, UVIS2-FIX | F336W | FLASH=10 | POS TARG 0.2738,0.4501 | Prime + Parallel Group 3-4 in Visit 20 | 870 Secs (870 Secs) | [=>] | [1] |
| | 4 | ANY | ACS/WFC, ACCUM, WFC | F814W | | | Prime + Parallel Group 3-4 in Visit 20 | 845 Secs (845 Secs) | [=>] | [1] |
| | 5 | (1) G1-MAYALL-II | WFC3/UVIS, ACCUM, UVIS2-FIX | F336W | FLASH=10 | POS TARG 0.3728,0.4964 | Prime + Parallel Group 5-6 in Visit 20 | 870 Secs (870 Secs) | [=>] | [1] |
| | 6 | ANY | ACS/WFC, ACCUM, WFC | F814W | | | Prime + Parallel Group 5-6 in Visit 20 | 745 Secs (745 Secs) | [=>] | [1] |
| | 7 | (1) G1-MAYALL-II | WFC3/UVIS, ACCUM, UVIS2-FIX | F336W | FLASH=10 | POS TARG 0.0198,0.3374 | Prime + Parallel Group 7-8 in Visit 20 | 920 Secs (920 Secs) | [=>] | [2] |
| | 8 | ANY | ACS/WFC, ACCUM, WFC | F814W | | | Prime + Parallel Group 7-8 in Visit 20 | 895 Secs (895 Secs) | [=>] | [2] |
| | 9 | (1) G1-MAYALL-II | WFC3/UVIS, ACCUM, UVIS2-FIX | F336W | FLASH=10 | POS TARG 0.1189,0.3837 | Prime + Parallel Group 9-10 in Visit 20 | 920 Secs (920 Secs) | [=>] | [2] |
| | 10 | ANY | ACS/WFC, ACCUM, WFC | F814W | | | Prime + Parallel Group 9-10 in Visit 20 | 895 Secs (895 Secs) | [=>] | [2] |
| | 11 | (1) G1-MAYALL-II | WFC3/UVIS, ACCUM, UVIS2-FIX | F336W | FLASH=10 | POS TARG 0.1517,0.4781 | Prime + Parallel Group 11-12 in Visit 20 | 915 Secs (915 Secs) | [=>] | [2] |
| | 12 | ANY | ACS/WFC, ACCUM, WFC | F606W | | | Prime + Parallel Group 11-12 in Visit 20 | 735 Secs (735 Secs) | [=>] | [2] |
| | 13 | (1) G1-MAYALL-II | WFC3/UVIS, ACCUM, UVIS2-FIX | F438W | FLASH=5 | POS TARG 0.2508,0.5244 | Prime + Parallel Group 13-14 in Visit 20 | 910 Secs (910 Secs) | [=>] | [3] |
| | 14 | ANY | ACS/WFC, ACCUM, WFC | F606W | | | Prime + Parallel Group 13-14 in Visit 20 | 905 Secs (905 Secs) | [=>] | [3] |
| | 15 | (1) G1-MAYALL-II | WFC3/UVIS, ACCUM, UVIS2-FIX | F814W | | POS TARG 0.2837,0.6188 | Prime + Parallel Group 15-16 in Visit 20 | 900 Secs (900 Secs) | [=>] | [3] |
| | 16 | ANY | ACS/WFC, ACCUM, WFC | F606W | | | Prime + Parallel Group 15-16 in Visit 20 | 890 Secs (890 Secs) | [=>] | [3] |
| | 17 | (1) G1-MAYALL-II | WFC3/UVIS, ACCUM, UVIS2-FIX | F814W | | POS TARG 0.3827,0.6651 | Prime + Parallel Group 17-18 in Visit 20 | 910 Secs (910 Secs) | [=>] | [3] |
| | 18 | ANY | ACS/WFC, ACCUM, WFC | F606W | | | Prime + Parallel Group 17-18 in Visit 20 | 785 Secs (785 Secs) | [=>] | [3] |





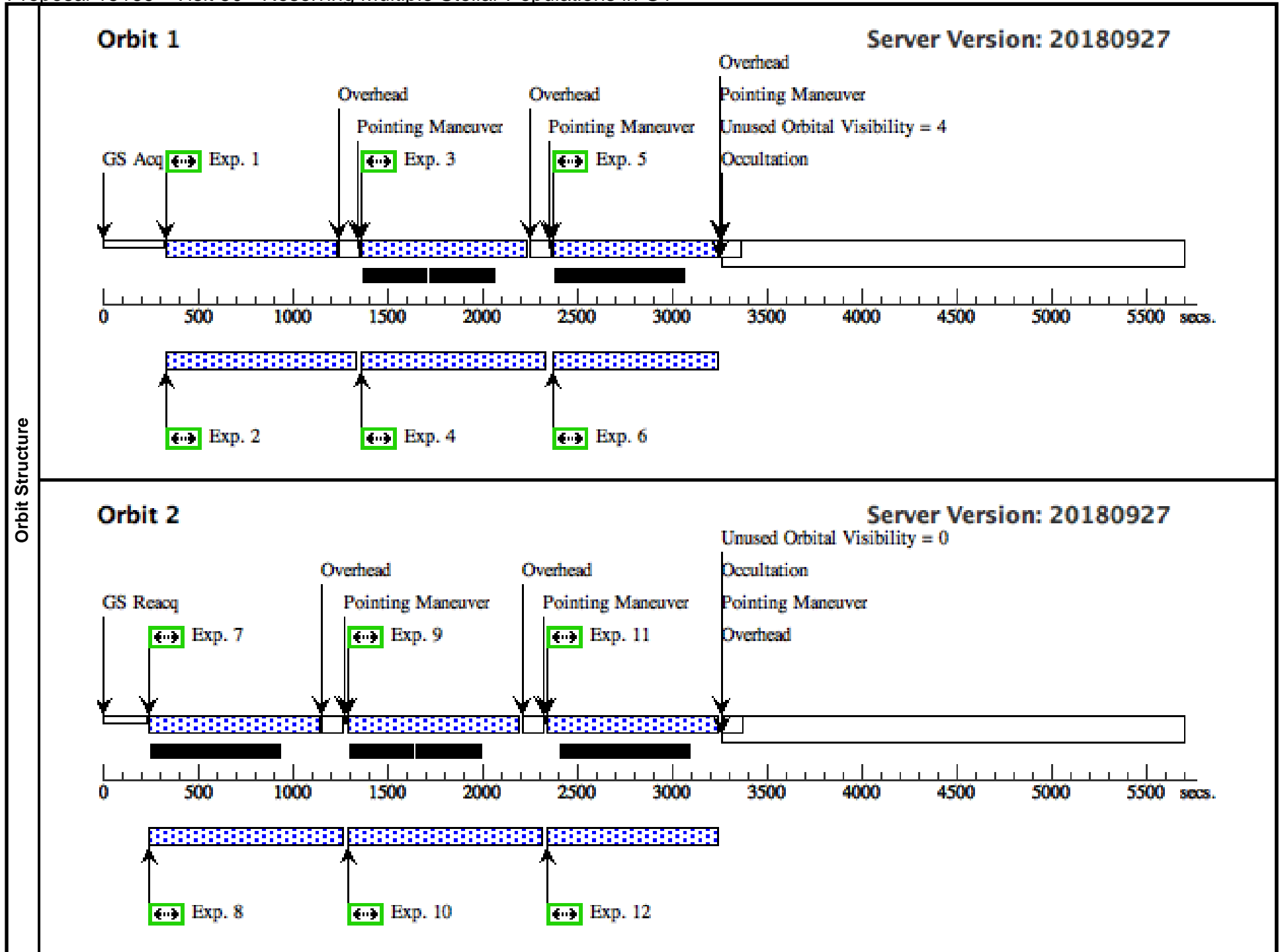
Proposal 15169 - Visit 50 - Resolving Multiple Stellar Populations in G1

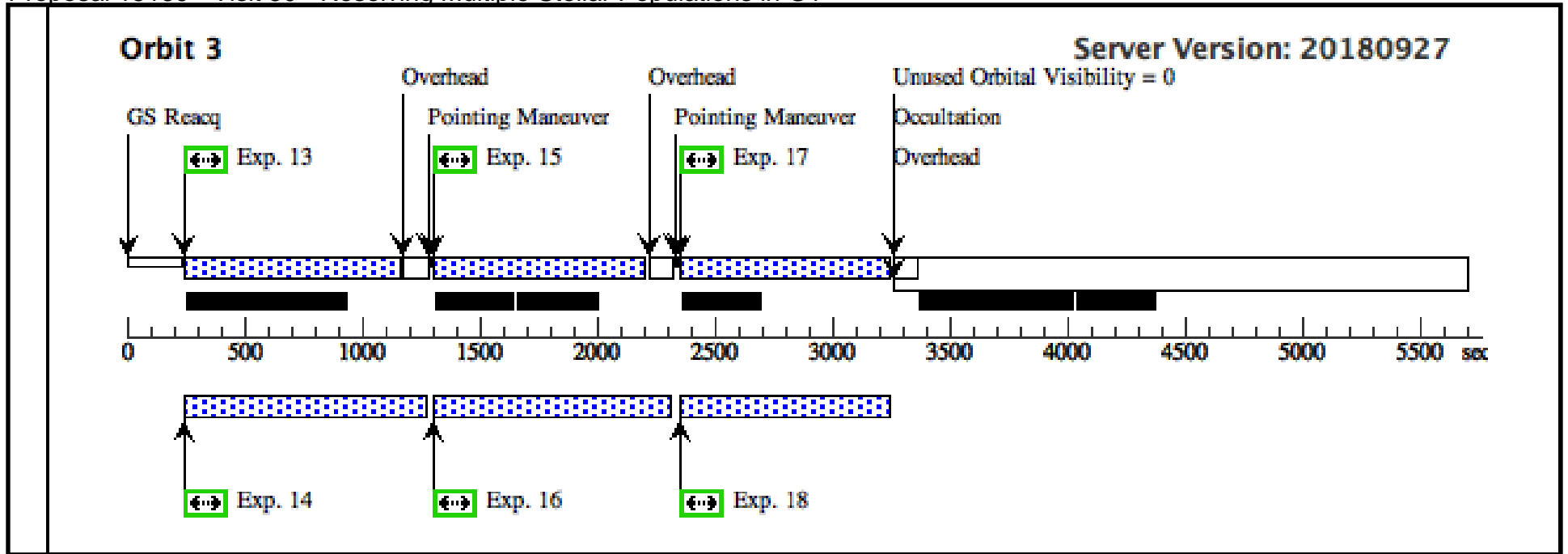
Mon Nov 19 22:00:31 GMT 2018

| | | | | | | |
|---|---|--------------|---|---------------------------|---------------------------------|-------------------------|
| Visit | Proposal 15169, Visit 50 Diagnostic Status: No Diagnostics Scientific Instruments: WFC3/UVIS, ACS/WFC Special Requirements: ORIENT 98D TO 98 D Comments: Repeat of Visit 20 | | | | | |
| | Fixed Targets | # | Name | Target Coordinates | Targ. Coord. Corrections | Fluxes |
| (1) | | G1-MAYALL-II | RA: 00 32 46.4600 (8.1935833d) Dec: +39 34 40.00 (39.57778d) Equinox: J2000 | | V=13.81 | Reference Frame: SIMBAD |
| Comments: This object was generated by the targetselector and retrieved from the SIMBAD database. Category=EXT-CLUSTER Description=[GLOBULAR CLUSTER] Extended=YES | | | | | | |

Proposal 15169 - Visit 50 - Resolving Multiple Stellar Populations in G1

| Exposures | # | Label | Target | Config,Mode,Aperture | Spectral Els. | Opt. Params. | Special Reqs. | Groups | Exp. Time (Total)/[Actual Dur.] | Orbit |
|-----------|---|------------------|-----------------------------|-----------------------------|---------------|------------------------|--|---|---------------------------------|-------|
| | 1 | | (1) G1-MAYALL-II | WFC3/UVIS, ACCUM, UVIS2-FIX | F336W | FLASH=10 | POS TARG 0.2409,0.3557 | Prime + Parallel Group 1-2 in Visit 50 | 870 Secs (870 Secs) | [1] |
| | | | | | | | | | [==>] | |
| | 2 | | ANY | ACS/WFC, ACCUM, WFC | F814W | | | Prime + Parallel Group 1-2 in Visit 50 | 795 Secs (795 Secs) | [1] |
| | | | | | | | | | [==>795.0 Secs] | |
| | 3 | | (1) G1-MAYALL-II | WFC3/UVIS, ACCUM, UVIS2-FIX | F336W | FLASH=10 | POS TARG 0.2738,0.4501 | Prime + Parallel Group 3-4 in Visit 50 | 870 Secs (870 Secs) | [1] |
| | | | | | | | | | [==>] | |
| | 4 | | ANY | ACS/WFC, ACCUM, WFC | F814W | | | Prime + Parallel Group 3-4 in Visit 50 | 845 Secs (845 Secs) | [1] |
| | | | | | | | | | [==>845.0 Secs] | |
| | 5 | | (1) G1-MAYALL-II | WFC3/UVIS, ACCUM, UVIS2-FIX | F336W | FLASH=10 | POS TARG 0.3728,0.4964 | Prime + Parallel Group 5-6 in Visit 50 | 870 Secs (870 Secs) | [1] |
| | | | | | | | | | [==>] | |
| | 6 | | ANY | ACS/WFC, ACCUM, WFC | F814W | | | Prime + Parallel Group 5-6 in Visit 50 | 745 Secs (745 Secs) | [1] |
| | | | | | | | | | [==>] | |
| | 7 | | (1) G1-MAYALL-II | WFC3/UVIS, ACCUM, UVIS2-FIX | F336W | FLASH=10 | POS TARG 0.0198,0.3374 | Prime + Parallel Group 7-8 in Visit 50 | 920 Secs (905 Secs) | [2] |
| | | | | | | | | | [==>905.0 Secs] | |
| | 8 | | ANY | ACS/WFC, ACCUM, WFC | F814W | | | Prime + Parallel Group 7-8 in Visit 50 | 895 Secs (895 Secs) | [2] |
| | | | | | | | | | [==>] | |
| | 9 | | (1) G1-MAYALL-II | WFC3/UVIS, ACCUM, UVIS2-FIX | F336W | FLASH=10 | POS TARG 0.1189,0.3837 | Prime + Parallel Group 9-10 in Visit 50 | 920 Secs (905 Secs) | [2] |
| | | | | | | | | [==>905.0 Secs] | | |
| 10 | | ANY | ACS/WFC, ACCUM, WFC | F814W | | | Prime + Parallel Group 9-10 in Visit 50 | 895 Secs (895 Secs) | [2] | |
| | | | | | | | | [==>] | | |
| 11 | | (1) G1-MAYALL-II | WFC3/UVIS, ACCUM, UVIS2-FIX | F336W | FLASH=10 | POS TARG 0.1517,0.4781 | Prime + Parallel Group 11-12 in Visit 50 | 915 Secs (900 Secs) | [2] | |
| | | | | | | | | [==>900.0 Secs] | | |
| 12 | | ANY | ACS/WFC, ACCUM, WFC | F606W | | | Prime + Parallel Group 11-12 in Visit 50 | 735 Secs (717 Secs) | [2] | |
| | | | | | | | | [==>717.0 Secs] | | |
| 13 | | (1) G1-MAYALL-II | WFC3/UVIS, ACCUM, UVIS2-FIX | F438W | FLASH=5 | POS TARG 0.2508,0.5244 | Prime + Parallel Group 13-14 in Visit 50 | 910 Secs (895 Secs) | [3] | |
| | | | | | | | | [==>895.0 Secs] | | |
| 14 | | ANY | ACS/WFC, ACCUM, WFC | F606W | | | Prime + Parallel Group 13-14 in Visit 50 | 905 Secs (905 Secs) | [3] | |
| | | | | | | | | [==>] | | |
| 15 | | (1) G1-MAYALL-II | WFC3/UVIS, ACCUM, UVIS2-FIX | F814W | | POS TARG 0.2837,0.6188 | Prime + Parallel Group 15-16 in Visit 50 | 900 Secs (885 Secs) | [3] | |
| | | | | | | | | [==>885.0 Secs] | | |
| 16 | | ANY | ACS/WFC, ACCUM, WFC | F606W | | | Prime + Parallel Group 15-16 in Visit 50 | 890 Secs (890 Secs) | [3] | |
| | | | | | | | | [==>] | | |
| 17 | | (1) G1-MAYALL-II | WFC3/UVIS, ACCUM, UVIS2-FIX | F814W | | POS TARG 0.3827,0.6651 | Prime + Parallel Group 17-18 in Visit 50 | 910 Secs (895 Secs) | [3] | |
| | | | | | | | | [==>895.0 Secs] | | |
| 18 | | ANY | ACS/WFC, ACCUM, WFC | F606W | | | Prime + Parallel Group 17-18 in Visit 50 | 785 Secs (767 Secs) | [3] | |
| | | | | | | | | [==>767.0 Secs] | | |





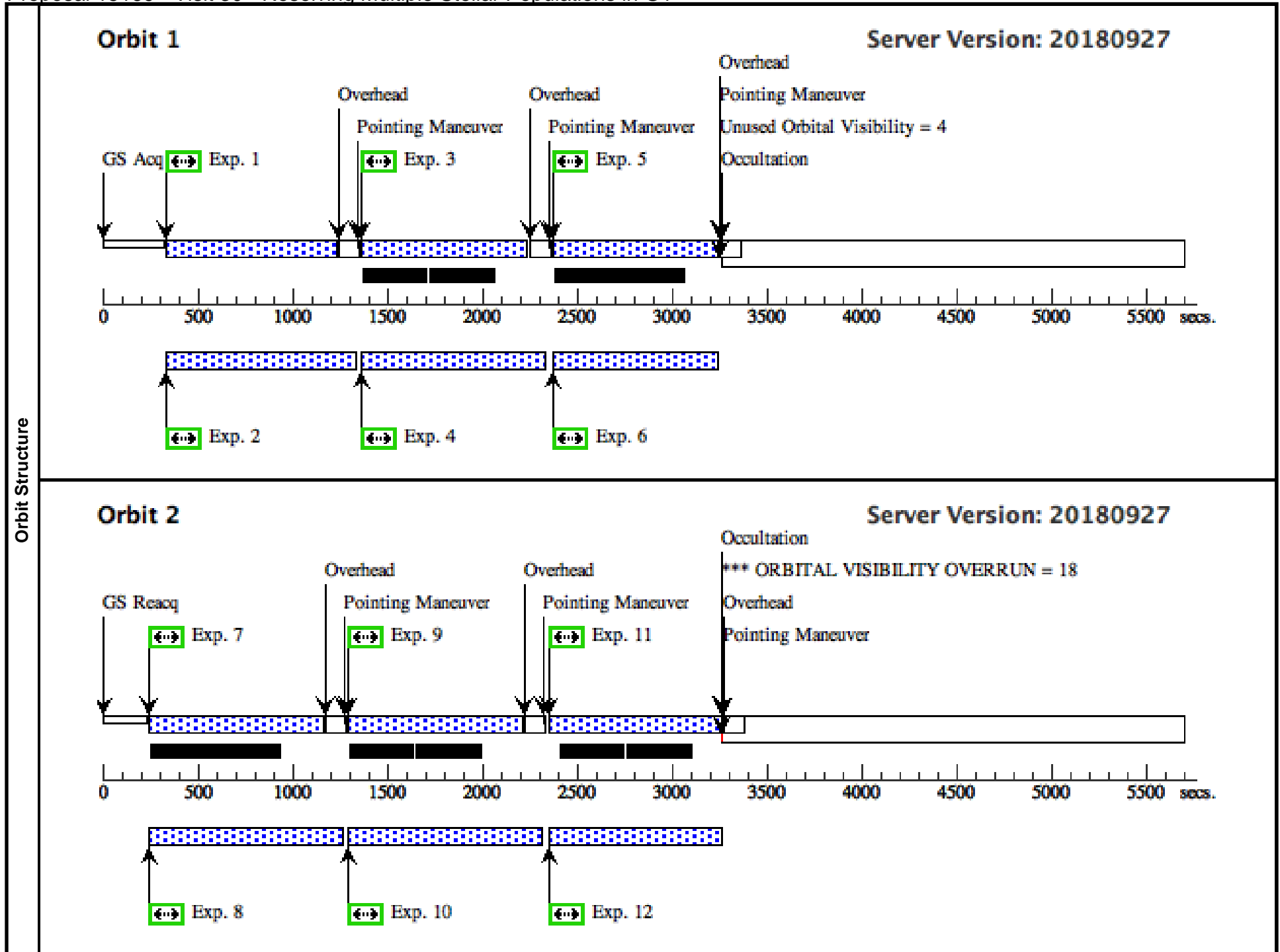
Proposal 15169 - Visit 30 - Resolving Multiple Stellar Populations in G1

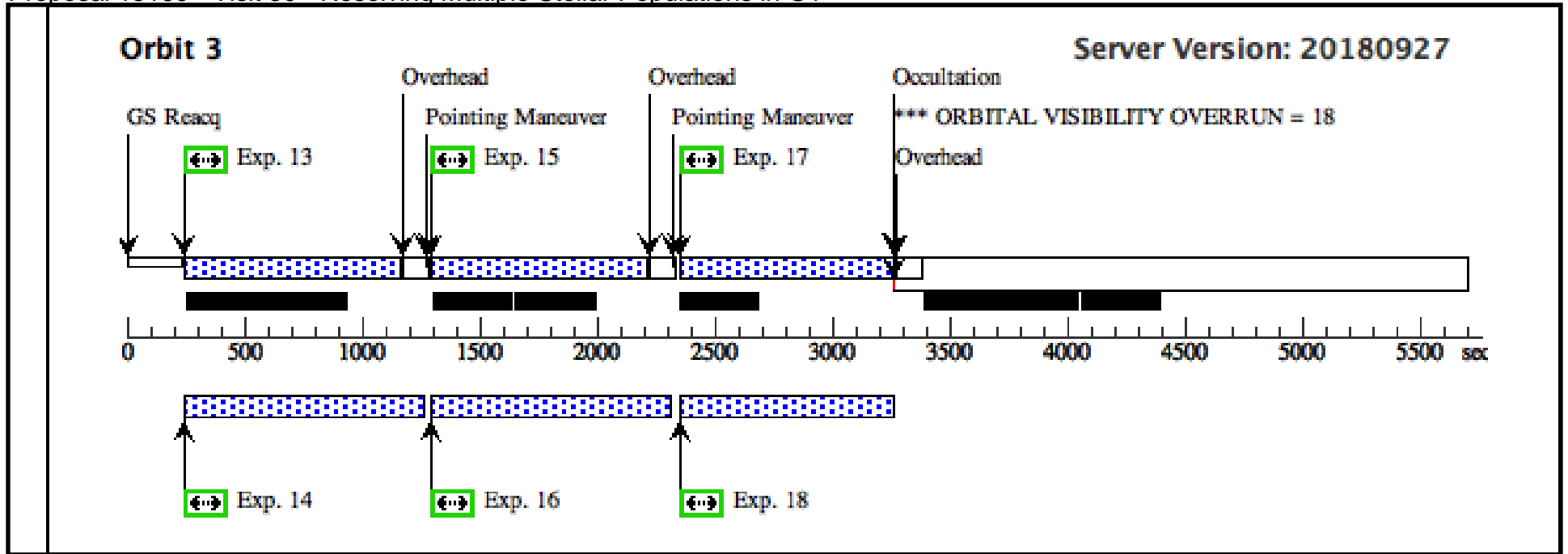
Mon Nov 19 22:00:31 GMT 2018

| | | | | | | |
|----------------------|--|--------------|---|---------------------------------|---------------|-------------------------|
| Visit | Proposal 15169, Visit 30, scheduling Diagnostic Status: Warning Scientific Instruments: WFC3/UVIS, ACS/WFC Special Requirements: ORIENT 98D TO 98 D | | | | | |
| Diagnostics | (Visit 30) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN (Visit 30) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN | | | | | |
| Fixed Targets | # | Name | Target Coordinates | Targ. Coord. Corrections | Fluxes | Miscellaneous |
| | (1) | G1-MAYALL-II | RA: 00 32 46.4600 (8.1935833d) Dec: +39 34 40.00 (39.57778d) Equinox: J2000 | | V=13.81 | Reference Frame: SIMBAD |
| | <i>Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.</i> Category=EXT-CLUSTER Description=[GLOBULAR CLUSTER] Extended=YES | | | | | |

Proposal 15169 - Visit 30 - Resolving Multiple Stellar Populations in G1

| # | Label | Target | Config,Mode,Aperture | Spectral Els. | Opt. Params. | Special Reqs. | Groups | Exp. Time (Total)/[Actual Dur.] | | Orbit |
|-----------|-------|------------------|-----------------------------|---------------|--------------|------------------------|--|---------------------------------|------|-------|
| | | | | | | | | | | |
| Exposures | 1 | (1) G1-MAYALL-II | WFC3/UVIS, ACCUM, UVIS2-FIX | F336W | FLASH=10 | POS TARG 0.3368,0.0429 | Prime + Parallel Group 1-2 in Visit 30 | 870 Secs (870 Secs) | [=>] | [1] |
| | 2 | ANY | ACS/WFC, ACCUM, WFC | F606W | | | Prime + Parallel Group 1-2 in Visit 30 | 795 Secs (795 Secs) | [=>] | [1] |
| | 3 | (1) G1-MAYALL-II | WFC3/UVIS, ACCUM, UVIS2-FIX | F336W | FLASH=10 | POS TARG 0.4358,0.0892 | Prime + Parallel Group 3-4 in Visit 30 | 870 Secs (870 Secs) | [=>] | [1] |
| | 4 | ANY | ACS/WFC, ACCUM, WFC | F606W | | | Prime + Parallel Group 3-4 in Visit 30 | 845 Secs (845 Secs) | [=>] | [1] |
| | 5 | (1) G1-MAYALL-II | WFC3/UVIS, ACCUM, UVIS2-FIX | F336W | FLASH=10 | POS TARG 0.4687,0.1836 | Prime + Parallel Group 5-6 in Visit 30 | 870 Secs (870 Secs) | [=>] | [1] |
| | 6 | ANY | ACS/WFC, ACCUM, WFC | F606W | | | Prime + Parallel Group 5-6 in Visit 30 | 745 Secs (745 Secs) | [=>] | [1] |
| | 7 | (1) G1-MAYALL-II | WFC3/UVIS, ACCUM, UVIS2-FIX | F336W | FLASH=10 | POS TARG 0.1684,0.0214 | Prime + Parallel Group 7-8 in Visit 30 | 920 Secs (920 Secs) | [=>] | [2] |
| | 8 | ANY | ACS/WFC, ACCUM, WFC | F606W | | | Prime + Parallel Group 7-8 in Visit 30 | 895 Secs (895 Secs) | [=>] | [2] |
| | 9 | (1) G1-MAYALL-II | WFC3/UVIS, ACCUM, UVIS2-FIX | F336W | FLASH=10 | POS TARG 0.2674,0.0678 | Prime + Parallel Group 9-10 in Visit 30 | 920 Secs (920 Secs) | [=>] | [2] |
| | 10 | ANY | ACS/WFC, ACCUM, WFC | F606W | | | Prime + Parallel Group 9-10 in Visit 30 | 895 Secs (895 Secs) | [=>] | [2] |
| | 11 | (1) G1-MAYALL-II | WFC3/UVIS, ACCUM, UVIS2-FIX | F336W | FLASH=10 | POS TARG 0.3003,0.1621 | Prime + Parallel Group 11-12 in Visit 30 | 915 Secs (915 Secs) | [=>] | [2] |
| | 12 | ANY | ACS/WFC, ACCUM, WFC | F814W | | | Prime + Parallel Group 11-12 in Visit 30 | 735 Secs (735 Secs) | [=>] | [2] |
| | 13 | (1) G1-MAYALL-II | WFC3/UVIS, ACCUM, UVIS2-FIX | F336W | FLASH=10 | POS TARG 0.3994,0.2085 | Prime + Parallel Group 13-14 in Visit 30 | 920 Secs (920 Secs) | [=>] | [3] |
| | 14 | ANY | ACS/WFC, ACCUM, WFC | F814W | | | Prime + Parallel Group 13-14 in Visit 30 | 895 Secs (895 Secs) | [=>] | [3] |
| | 15 | (1) G1-MAYALL-II | WFC3/UVIS, ACCUM, UVIS2-FIX | F336W | FLASH=10 | POS TARG 0.4323,0.3028 | Prime + Parallel Group 15-16 in Visit 30 | 920 Secs (920 Secs) | [=>] | [3] |
| | 16 | ANY | ACS/WFC, ACCUM, WFC | F814W | | | Prime + Parallel Group 15-16 in Visit 30 | 895 Secs (895 Secs) | [=>] | [3] |
| | 17 | (1) G1-MAYALL-II | WFC3/UVIS, ACCUM, UVIS2-FIX | F336W | FLASH=10 | POS TARG 0.5313,0.3492 | Prime + Parallel Group 17-18 in Visit 30 | 915 Secs (915 Secs) | [=>] | [3] |
| | 18 | ANY | ACS/WFC, ACCUM, WFC | F814W | | | Prime + Parallel Group 17-18 in Visit 30 | 790 Secs (790 Secs) | [=>] | [3] |





Proposal 15169 - Visit 40 - Resolving Multiple Stellar Populations in G1

Mon Nov 19 22:00:31 GMT 2018

| Visit | Proposal 15169, Visit 40, scheduling Diagnostic Status: Warning Scientific Instruments: WFC3/UVIS, ACS/WFC Special Requirements: ORIENT 98D TO 98 D | | | | | | | | | | | | | | | | |
|----------------------|---|---|--------------------------|--------------------|--------------------------|--------|---------------|-----|--------------|---|--|---------|-------------------------|--|--|--|--|
| Diagnostics | (Visit 40) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN (Visit 40) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN | | | | | | | | | | | | | | | | |
| Fixed Targets | <table border="1"> <thead> <tr> <th>#</th> <th>Name</th> <th>Target Coordinates</th> <th>Targ. Coord. Corrections</th> <th>Fluxes</th> <th>Miscellaneous</th> </tr> </thead> <tbody> <tr> <td>(1)</td> <td>G1-MAYALL-II</td> <td>RA: 00 32 46.4600 (8.1935833d) Dec: +39 34 40.00 (39.57778d) Equinox: J2000</td> <td></td> <td>V=13.81</td> <td>Reference Frame: SIMBAD</td> </tr> </tbody> </table> <p><i>Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.</i> Category=EXT-CLUSTER Description=[GLOBULAR CLUSTER] Extended=YES</p> | # | Name | Target Coordinates | Targ. Coord. Corrections | Fluxes | Miscellaneous | (1) | G1-MAYALL-II | RA: 00 32 46.4600 (8.1935833d) Dec: +39 34 40.00 (39.57778d) Equinox: J2000 | | V=13.81 | Reference Frame: SIMBAD | | | | |
| # | Name | Target Coordinates | Targ. Coord. Corrections | Fluxes | Miscellaneous | | | | | | | | | | | | |
| (1) | G1-MAYALL-II | RA: 00 32 46.4600 (8.1935833d) Dec: +39 34 40.00 (39.57778d) Equinox: J2000 | | V=13.81 | Reference Frame: SIMBAD | | | | | | | | | | | | |

Proposal 15169 - Visit 40 - Resolving Multiple Stellar Populations in G1

| # | Label | Target | Config,Mode,Aperture | Spectral Els. | Opt. Params. | Special Reqs. | Groups | Exp. Time (Total)/[Actual Dur.] | | Orbit |
|-----------|-------|------------------|-----------------------------|---------------|--------------|----------------------------|--|---------------------------------|------|-------|
| | | | | | | | | | | |
| Exposures | 1 | (1) G1-MAYALL-II | WFC3/UVIS, ACCUM, UVIS2-FIX | F336W | FLASH=10 | POS TARG 0.5678,0 .2299 | Prime + Parallel Gro up 1-2 in Visit 40 | 870 Secs (870 Secs) | [=>] | [1] |
| | 2 | ANY | ACS/WFC, ACCUM, WFC | F606W | | | Prime + Parallel Gro up 1-2 in Visit 40 | 795 Secs (795 Secs) | [=>] | [1] |
| | 3 | (1) G1-MAYALL-II | WFC3/UVIS, ACCUM, UVIS2-FIX | F336W | FLASH=10 | POS TARG 0.6006,0 .3243 | Prime + Parallel Gro up 3-4 in Visit 40 | 870 Secs (870 Secs) | [=>] | [1] |
| | 4 | ANY | ACS/WFC, ACCUM, WFC | F606W | | | Prime + Parallel Gro up 3-4 in Visit 40 | 845 Secs (845 Secs) | [=>] | [1] |
| | 5 | (1) G1-MAYALL-II | WFC3/UVIS, ACCUM, UVIS2-FIX | F336W | FLASH=10 | POS TARG 0.6997,0 .3706 | Prime + Parallel Gro up 5-6 in Visit 40 | 870 Secs (870 Secs) | [=>] | [1] |
| | 6 | ANY | ACS/WFC, ACCUM, WFC | F606W | | | Prime + Parallel Gro up 5-6 in Visit 40 | 745 Secs (745 Secs) | [=>] | [1] |
| | 7 | (1) G1-MAYALL-II | WFC3/UVIS, ACCUM, UVIS2-FIX | F336W | FLASH=10 | POS TARG 0.4259,0 .4147 | Prime + Parallel Gro up 7-8 in Visit 40 | 920 Secs (920 Secs) | [=>] | [2] |
| | 8 | ANY | ACS/WFC, ACCUM, WFC | F606W | | | Prime + Parallel Gro up 7-8 in Visit 40 | 895 Secs (895 Secs) | [=>] | [2] |
| | 9 | (1) G1-MAYALL-II | WFC3/UVIS, ACCUM, UVIS2-FIX | F336W | FLASH=10 | POS TARG 0.5250,0 .4610 | Prime + Parallel Gro up 9-10 in Visit 40 | 920 Secs (920 Secs) | [=>] | [2] |
| | 10 | ANY | ACS/WFC, ACCUM, WFC | F814W | | | Prime + Parallel Gro up 9-10 in Visit 40 | 840 Secs (840 Secs) | [=>] | [2] |
| | 11 | (1) G1-MAYALL-II | WFC3/UVIS, ACCUM, UVIS2-FIX | F336W | FLASH=10 | POS TARG 0.5578,0 .5554 | Prime + Parallel Gro up 11-12 in Visit 40 | 915 Secs (915 Secs) | [=>] | [2] |
| | 12 | ANY | ACS/WFC, ACCUM, WFC | F814W | | | Prime + Parallel Gro up 11-12 in Visit 40 | 790 Secs (790 Secs) | [=>] | [2] |
| | 13 | (1) G1-MAYALL-II | WFC3/UVIS, ACCUM, UVIS2-FIX | F438W | FLASH=5 | POS TARG 0.6569,0 .6017 | Prime + Parallel Gro up 13-14 in Visit 40 | 910 Secs (910 Secs) | [=>] | [3] |
| | 14 | ANY | ACS/WFC, ACCUM, WFC | F814W | | | Prime + Parallel Gro up 13-14 in Visit 40 | 905 Secs (905 Secs) | [=>] | [3] |
| | 15 | (1) G1-MAYALL-II | WFC3/UVIS, ACCUM, UVIS2-FIX | F814W | | POS TARG 0.6288,0 .440 | Prime + Parallel Gro up 15-16 in Visit 40 | 900 Secs (900 Secs) | [=>] | [3] |
| | 16 | ANY | ACS/WFC, ACCUM, WFC | F814W | | | Prime + Parallel Gro up 15-16 in Visit 40 | 890 Secs (890 Secs) | [=>] | [3] |
| | 17 | (1) G1-MAYALL-II | WFC3/UVIS, ACCUM, UVIS2-FIX | F814W | | POS TARG 0.4969,0 .57 | Prime + Parallel Gro up 17-18 in Visit 40 | 910 Secs (910 Secs) | [=>] | [3] |
| | 18 | ANY | ACS/WFC, ACCUM, WFC | F814W | | | Prime + Parallel Gro up 17-18 in Visit 40 | 785 Secs (785 Secs) | [=>] | [3] |

