



# 4793 - Unveiling the physics that govern massive star-formation in extragalactic Central Molecular Zones (eCMZs)

Cycle: 3, Proposal Category: GO

## INVESTIGATORS

| <i>Name</i>  | <i>Institution</i>                                   |
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JWST Proposal 4793 (Created: Wednesday, November 13, 2024, 3:00:13PM Eastern Standard Time) - Overview

| <i>Name</i>                                 | <i>Institution</i>                                   |
|---|--|
| Dr. Yu-Hsuan Teng (CoI)                     | University of Maryland                               |
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| Dr. Thomas Williams (CoI) (ESA Member)      | University of Oxford                                 |
| Dr. Mattia Carlo Sormani (CoI) (ESA Member) | Universitat Heidelberg                               |
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| Dr. Karin Marie Sandstrom (CoI)             | University of California - San Diego                 |
| Dr. Erik Rosolowsky (CoI) (CSA Member)      | University of Alberta                                |
| Dr. Simon Glover (CoI) (ESA Member)         | Universitat Heidelberg                               |
| Prof. Frank Bigiel (CoI) (ESA Member)       | Universitat Bonn, Argelander Institute for Astronomy |
| Dr. Yixian Cao (CoI) (ESA Member)           | Max Planck Institute for Extraterrestrial Physics    |
| Prof. Alberto Bolatto (CoI)                 | University of Maryland                               |
| Dr. Janice Lee (CoI)                        | Space Telescope Science Institute                    |

**OBSERVATIONS**

| <i>Folder</i>                    | <i>Observation</i> | <i>Label</i> | <i>Observing Template</i> | <i>Science Target</i> |
|----------------------------------|--------------------|--------------|---------------------------|-----------------------|
| NIRCAM imaging of emission lines |                    |              |                           |                       |
|                                  | 1                  | NGC1097      | NIRCam Imaging            | (1) NGC-1097          |
|                                  | 2                  | NGC1433      | NIRCam Imaging            | (2) NGC-1433          |
|                                  | 3                  | NGC1512      | NIRCam Imaging            | (3) NGC-1512          |
|                                  | 4                  | NGC1637      | NIRCam Imaging            | (4) NGC-1637          |
|                                  | 5                  | NGC1672      | NIRCam Imaging            | (5) NGC-1672          |
|                                  | 6                  | NGC1792      | NIRCam Imaging            | (6) NGC-1792          |
|                                  | 7                  | NGC1808      | NIRCam Imaging            | (7) NGC-1808          |
|                                  | 8                  | NGC2903      | NIRCam Imaging            | (8) NGC-2903          |
|                                  | 9                  | NGC2997      | NIRCam Imaging            | (9) NGC-2997          |
|                                  | 10                 | NGC3351      | NIRCam Imaging            | (10) NGC-3351         |
|                                  | 11                 | NGC3627      | NIRCam Imaging            | (11) NGC-3627         |
|                                  | 12                 | NGC4298      | NIRCam Imaging            | (12) NGC-4298         |
|                                  | 13                 | NGC4548      | NIRCam Imaging            | (13) NGC-4548         |

| <i>Folder</i> | <i>Observation</i> | <i>Label</i>   | <i>Observing Template</i> | <i>Science Target</i> |
|---------------|--------------------|----------------|---------------------------|-----------------------|
|               | 14                 | NGC5248        | NIRCam Imaging            | (14) NGC-5248         |
|               | 15                 | NGC5643        | NIRCam Imaging            | (15) NGC-5643         |
|               | 17                 | NGC5643_repeat | NIRCam Imaging            | (15) NGC-5643         |
|               | 16                 | NGC6300        | NIRCam Imaging            | (16) NGC-6300         |
|               | 18                 | NGC1808_repeat | NIRCam Imaging            | (7) NGC-1808          |

## ABSTRACT

Gas-rich galaxy centers like our own Central Molecular Zone (CMZ) are extreme environments for star formation where many formation promoting or inhibiting forces acting locally or on larger scales compete. CMZs are compact (<1kpc in size) and subject to high extinction, blocking optical light and limiting our understanding of the detailed physical processes at play. Observations that pierce through dust and resolve individual star-forming sites within galaxy centers are scarce. We propose ~10pc (0.2'') resolution NIRCam emission line imaging of a representative, unbiased set of 16 nearby well-studied extragalactic CMZs to provide the first robust statistical assessment of CMZ star formation properties (age, mass, size, location etc.), compare to in progress ALMA ~0.25'' mapping of their molecular gas giving cloud properties, and correlate these with global CMZ and galaxy properties to determine whether local processes (i.e. stellar feedback) or large-scale environment control their star formation activity and answer if the unexpected properties of our own CMZ are unusual or common. We will obtain continuum-subtracted maps of five NIR emission lines: Pa alpha, Br alpha, the [FeII] line at 1.64 micron, the H2 line at 2.12 micron, and the 3.3 micron PAH feature which together provide well-understood diagnostics to map the location, amount, and (relative) age of embedded sites of massive star formation. This comprehensive study will provide the urgently needed data to distinguish between theories for CMZ star formation that either argue for a highly time-variable evolution caused by local processes or a more steady-state evolution regulated by the large-scale environment.

## OBSERVING DESCRIPTION

We will use Module B of the NIRCam instrument to image the gas-rich centers (CMZs) of 16 nearby spiral galaxies in five filter combinations, in order to detect and characterize their (embedded) star formation activity. Our immediate objective is to obtain continuum-subtracted images in five emission lines: two hydrogen recombination lines (Pa alpha and Br alpha), the [FeII] at 1.64 micron, molecular hydrogen (H2) at 2.12 micron, and the PAH feature at 3.3 micron. Taken together, these have strong diagnostic power for constraining the physical processes driving the star formation process.

Specifically, we use the following filter combinations in the short- and long-wavelength channel: (i) F187N with F405N(+F444W), (ii) F164N(+F150W2) with F335M, (iii) F212N with F360M, (iv) F150W with F444W, and (v) F200W with F277W. These combinations provide a

sufficient number of 'off' filters to enable accurate continuum SED fitting and thus subtraction.

In order to achieve a roughly equal exposure depth across the field of view with improved PSF sampling and redundancy to correct for bad pixels and cosmic ray hits, we will use the INTRAMODULEBOX dither pattern with 4 primary and 2 subpixel positions (SMALL-GRID-DITHER). Given that our targets are brighter in the continuum filters, and may have a number of sources (e.g. a central AGN) that could saturate the detector, we use the BRIGHT2 readout pattern with 5 groups and one integration at each dither position, for a total of 859s on-source for the short wavelength broad-band filters. For the narrow-band filters which contain the faint line emission, we use the same setup with the SHALLOW4 readout pattern instead, for a total of 1632s on-source for the line containing short wavelength narrow-band filters. This results in sufficient signal-to-noise in the filters for all our targets for robust determination of high-quality line emission maps. We require one visit per galaxy.

As our targeted region of interest is smaller than the NIRCам Module B FoV, we require no restrictions on the orientation of the observations.

The resulting data rate over each observation is below the limit.

Proposal 4793 - Targets - Unveiling the physics that govern massive star-formation in extragalactic Central Molecular Zones (eCMZs)

| #   | Name     | Target Coordinates  | Targ. Coord. Corrections | Miscellaneous   |
|-----|----------|---|--------------------------|---|
| (1) | NGC-1097 | RA: 02 46 19.0590 (41.5794125d)<br>Dec: -30 16 29.68 (-30.27491d)<br>Equinox: J2000 | Epoch of Position: 2000  | <i>Comments: This object was generated by the targetselector and retrieved from the SIMBAD database. This object was generated by the targetselector and retrieved from the NED database.</i><br>Category=Galaxy<br>Description=[Active galactic nuclei, Disk galaxies, Spiral galaxies]<br>Extended=YES                      |
| (2) | NGC-1433 | RA: 03 42 1.5504 (55.5064600d)<br>Dec: -47 13 19.49 (-47.22208d)<br>Equinox: J2000  |                          | <i>Comments: This object was generated by the targetselector and retrieved from the NED database.</i><br>Category=Galaxy<br>Description=[Disk galaxies, Spiral galaxies]<br>Extended=YES  |
| (3) | NGC-1512 | RA: 04 03 54.2810 (60.9761708d)<br>Dec: -43 20 55.86 (-43.34885d)<br>Equinox: J2000 | Epoch of Position: 2000  | <i>Comments: This object was generated by the targetselector and retrieved from the SIMBAD database. This object was generated by the targetselector and retrieved from the NED database.</i><br>Category=Galaxy<br>Description=[Disk galaxies, Spiral galaxies]<br>Extended=YES  |
| (4) | NGC-1637 | RA: 04 41 28.1927 (70.3674696d)<br>Dec: -02 51 28.67 (-2.85796d)<br>Equinox: J2000  | Epoch of Position: 2000  | <i>Comments: This object was generated by the targetselector and retrieved from the SIMBAD database. This object was generated by the targetselector and retrieved from the SIMBAD database.</i><br>Category=Galaxy<br>Description=[Active galactic nuclei, Disk galaxies, Spiral galaxies]<br>Extended=YES                   |
| (5) | NGC-1672 | RA: 04 45 42.5520 (71.4273000d)<br>Dec: -59 14 50.68 (-59.24741d)<br>Equinox: J2000 | Epoch of Position: 2000  | <i>Comments: This object was generated by the targetselector and retrieved from the SIMBAD database. This object was generated by the targetselector and retrieved from the SIMBAD database.</i><br>Category=Galaxy<br>Description=[Active galactic nuclei, Disk galaxies, Spiral galaxies]<br>Extended=YES                   |
| (6) | NGC-1792 | RA: 05 05 14.4037 (76.3100154d)<br>Dec: -37 58 50.06 (-37.98057d)<br>Equinox: J2000 | Epoch of Position: 2000  | <i>Comments: This object was generated by the targetselector and retrieved from the SIMBAD database. This object was generated by the targetselector and retrieved from the NED database.</i><br>Category=Galaxy<br>Description=[Active galactic nuclei, Galaxy disks, Spiral galaxies]<br>Extended=YES                       |
| (7) | NGC-1808 | RA: 05 07 42.3430 (76.9264292d)<br>Dec: -37 30 46.98 (-37.51305d)<br>Equinox: J2000 | Epoch of Position: 2000  | <i>Comments: This object was generated by the targetselector and retrieved from the SIMBAD database. This object was generated by the targetselector and retrieved from the SIMBAD database.</i><br>Category=Galaxy<br>Description=[Active galactic nuclei, Disk galaxies, Seyfert galaxies, Spiral galaxies]<br>Extended=YES |

Fixed Targets

Proposal 4793 - Targets - Unveiling the physics that govern massive star-formation in extragalactic Central Molecular Zones (eCMZs)

|  |          |  |  |
|--|----------|--|--|
| (8)  | NGC-2903 | RA: 09 32 10.1088 (143.0421200d)<br>Dec: +21 30 2.99 (21.50083d)<br>Equinox: J2000   |  |
| <p><i>Comments: This object was generated by the targetselector and retrieved from the NED database.</i><br/> <i>Category=Galaxy</i><br/> <i>Description=[Disk galaxies, Spiral galaxies]</i><br/> <i>Extended=YES</i></p>   |          |  |  |
| (9)  | NGC-2997 | RA: 09 45 38.7542 (146.4114758d)<br>Dec: -31 11 27.35 (-31.19093d)<br>Equinox: J2000 | Proper Motion RA: -0.404 mas/yr<br>Proper Motion Dec: -0.733000092623115 mas/yr<br>Epoch of Position: 2000 |
| <p><i>Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.This object was generated by the targetselector and retrieved from the NED database.</i><br/> <i>Category=Galaxy</i><br/> <i>Description=[Disk galaxies, Spiral galaxies]</i><br/> <i>Extended=YES</i></p>                          |          |  |  |
| (10)   | NGC-3351 | RA: 10 43 57.7008 (160.9904200d)<br>Dec: +11 42 13.72 (11.70381d)<br>Equinox: J2000  |  |
| <p><i>Comments: This object was generated by the targetselector and retrieved from the NED database.</i><br/> <i>Category=Galaxy</i><br/> <i>Description=[Disk galaxies, Spiral galaxies]</i><br/> <i>Extended=YES</i></p>   |          |  |  |
| (11)   | NGC-3627 | RA: 11 20 14.9640 (170.0623500d)<br>Dec: +12 59 29.54 (12.99154d)<br>Equinox: J2000  |  |
| <p><i>Comments: This object was generated by the targetselector and retrieved from the NED database.</i><br/> <i>Category=Galaxy</i><br/> <i>Description=[Active galactic nuclei, Disk galaxies, Interacting galaxies, Spiral galaxies]</i><br/> <i>Extended=YES</i></p>   |          |  |  |
| (12)   | NGC-4298 | RA: 12 21 32.7579 (185.3864913d)<br>Dec: +14 36 22.05 (14.60613d)<br>Equinox: J2000  | Epoch of Position: 2000  |
| <p><i>Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.This object was generated by the targetselector and retrieved from the SIMBAD database.</i><br/> <i>Category=Galaxy</i><br/> <i>Description=[Disk galaxies, Interacting galaxies, Spiral galaxies]</i><br/> <i>Extended=YES</i></p> |          |  |  |
| (13)   | NGC-4548 | RA: 12 35 26.4447 (188.8601863d)<br>Dec: +14 29 46.76 (14.49632d)<br>Equinox: J2000  | Epoch of Position: 2015.5  |
| <p><i>Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.</i><br/> <i>Category=Galaxy</i><br/> <i>Description=[Disk galaxies, LINER galaxies, Spiral galaxies]</i><br/> <i>Extended=YES</i></p>  |          |  |  |
| (14)   | NGC-5248 | RA: 13 37 32.0145 (204.3833938d)<br>Dec: +08 53 6.50 (8.88514d)<br>Equinox: J2000    | Epoch of Position: 2000  |
| <p><i>Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.This object was generated by the targetselector and retrieved from the NED database.</i><br/> <i>Category=Galaxy</i><br/> <i>Description=[Disk galaxies, Spiral galaxies]</i><br/> <i>Extended=YES</i></p>                          |          |  |  |

## Proposal 4793 - Targets - Unveiling the physics that govern massive star-formation in extragalactic Central Molecular Zones (eCMZs)

(15) NGC-5643 RA: 14 32 40.7448 (218.1697700d)  
Dec: -44 10 27.88 (-44.17441d)  
Equinox: J2000

*Comments: This object was generated by the targetselector and retrieved from the NED database. This object was generated by the targetselector and retrieved from the NED database.*  
*Category=Galaxy*  
*Description=[Active galactic nuclei, Disk galaxies, Spiral galaxies]*  
*Extended=YES*

(16) NGC-6300 RA: 17 16 59.4696 (259.2477900d)  
Dec: -62 49 14.02 (-62.82056d)  
Equinox: J2000

*Comments: This object was generated by the targetselector and retrieved from the NED database. This object was generated by the targetselector and retrieved from the NED database.*  
*Category=Galaxy*  
*Description=[Active galactic nuclei, Disk galaxies, Spiral galaxies]*  
*Extended=YES*

Proposal 4793 - Observation 1 - Unveiling the physics that govern massive star-formation in extragalactic Central Molecular Zones (e...

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|                          |  |                            |   |                        |                                 |                         |                           |                           |                            |                         |
|--------------------------|--|----------------------------|---|------------------------|---------------------------------|-------------------------|---------------------------|---------------------------|----------------------------|-------------------------|
| <b>Observation</b>       | <p><b>Proposal 4793, Observation 1: NGC1097</b></p> <p><b>Diagnostic Status: Warning</b></p> <p>Observing Template: NIRCcam Imaging</p>  |                            |   |                        |                                 |                         |                           |                           |                            |                         |
| <b>Diagnostics</b>       | (Visit 1:1) Warning (Form): Overheads are provisional until the Visit Planner has been run.  |                            |   |                        |                                 |                         |                           |                           |                            |                         |
| <b>Fixed Targets</b>     | <b>#</b>   | <b>Name</b>                | <b>Target Coordinates</b>   |                        | <b>Targ. Coord. Corrections</b> |                         |                           | <b>Miscellaneous</b>      |                            |                         |
|                          | (1)  | NGC-1097                   | RA: 02 46 19.0590 (41.5794125d)<br>Dec: -30 16 29.68 (-30.27491d)<br>Equinox: J2000 |                        | Epoch of Position: 2000         |                         |                           |                           |                            |                         |
|                          | <p><i>Comments: This object was generated by the targetselector and retrieved from the SIMBAD database. This object was generated by the targetselector and retrieved from the NED database.</i></p> <p><i>Category=Galaxy</i></p> <p><i>Description=[Active galactic nuclei, Disk galaxies, Spiral galaxies]</i></p> <p><i>Extended=YES</i></p> |                            |   |                        |                                 |                         |                           |                           |                            |                         |
| <b>Template</b>          | <b>Module</b>  |                            |   |                        |                                 | <b>Subarray</b>         |                           |                           |                            |                         |
|                          | B  |                            |   |                        |                                 | FULL                    |                           |                           |                            |                         |
| <b>Dithers</b>           | <b>#</b>   | <b>Primary Dither Type</b> |   | <b>Primary Dithers</b> | <b>Subpixel Dither Type</b>     |                         | <b>Dither Size</b>        | <b>Subpixel Positions</b> |                            |                         |
|                          | 1  | INTRAMODULEX               |   | 4                      | SMALL-GRID-DITHER               |                         |                           | 2                         |                            |                         |
| <b>Spectral Elements</b> | <b>#</b>   | <b>Short Filter</b>        | <b>Long Filter</b>  | <b>Readout Pattern</b> | <b>Groups/Int</b>               | <b>Integrations/Exp</b> | <b>Total Integrations</b> | <b>Total Dithers</b>      | <b>Total Exposure Time</b> | <b>ETC Wkbk.Calc ID</b> |
|                          | 1  | F187N                      | F405N+F444W   | SHALLOW4               | 4                               | 1                       | 8                         | 8                         | 1631.989                   | 176679                  |
|                          | 2  | F164N+F150W2               | F335M   | SHALLOW4               | 4                               | 1                       | 8                         | 8                         | 1631.989                   | 176679                  |
|                          | 3  | F212N                      | F360M   | SHALLOW4               | 4                               | 1                       | 8                         | 8                         | 1631.989                   | 176679                  |
|                          | 4  | F150W                      | F444W   | BRIGHT2                | 5                               | 1                       | 8                         | 8                         | 858.942                    | 176679                  |
|                          | 5  | F200W                      | F277W   | BRIGHT2                | 5                               | 1                       | 8                         | 8                         | 858.942                    | 176679                  |

Proposal 4793 - Observation 2 - Unveiling the physics that govern massive star-formation in extragalactic Central Molecular Zones (e...

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|                             |   |                            |  |                        |                                 |                         |                           |                           |                            |                         |
|-----------------------------|---|----------------------------|--|------------------------|---------------------------------|-------------------------|---------------------------|---------------------------|----------------------------|-------------------------|
| <b>Observation</b>          | <p><b>Proposal 4793, Observation 2: NGC1433</b></p> <p><b>Diagnostic Status: Warning</b></p> <p>Observing Template: NIRCcam Imaging</p>   |                            |  |                        |                                 |                         |                           |                           |                            |                         |
| <b>Diagnostics</b>          | (Visit 2:1) Warning (Form): Overheads are provisional until the Visit Planner has been run.   |                            |  |                        |                                 |                         |                           |                           |                            |                         |
| <b>Fixed Targets</b>        | <b>#</b>  | <b>Name</b>                | <b>Target Coordinates</b>  |                        | <b>Targ. Coord. Corrections</b> |                         |                           | <b>Miscellaneous</b>      |                            |                         |
|                             | (2)   | NGC-1433                   | RA: 03 42 1.5504 (55.5064600d)<br>Dec: -47 13 19.49 (-47.22208d)<br>Equinox: J2000 |                        |                                 |                         |                           |                           |                            |                         |
|                             | <p><i>Comments: This object was generated by the targetselector and retrieved from the NED database.</i></p> <p><i>Category=Galaxy</i></p> <p><i>Description=[Disk galaxies, Spiral galaxies]</i></p> <p><i>Extended=YES</i></p>                      |                            |  |                        |                                 |                         |                           |                           |                            |                         |
| <b>Template</b>             | <b>Module</b>   |                            |  |                        |                                 | <b>Subarray</b>         |                           |                           |                            |                         |
|                             | B   |                            |  |                        |                                 | FULL                    |                           |                           |                            |                         |
| <b>Dithers</b>              | <b>#</b>  | <b>Primary Dither Type</b> |  | <b>Primary Dithers</b> | <b>Subpixel Dither Type</b>     |                         | <b>Dither Size</b>        | <b>Subpixel Positions</b> |                            |                         |
|                             | 1   | INTRAMODULEX               |  | 4                      | SMALL-GRID-DITHER               |                         |                           | 2                         |                            |                         |
| <b>Spectral Elements</b>    | <b>#</b>  | <b>Short Filter</b>        | <b>Long Filter</b>   | <b>Readout Pattern</b> | <b>Groups/Int</b>               | <b>Integrations/Exp</b> | <b>Total Integrations</b> | <b>Total Dithers</b>      | <b>Total Exposure Time</b> | <b>ETC Wkbk.Calc ID</b> |
|                             | 1   | F187N                      | F405N+F444W  | SHALLOW4               | 4                               | 1                       | 8                         | 8                         | 1631.989                   | 176679                  |
|                             | 2   | F164N+F150W2               | F335M  | SHALLOW4               | 4                               | 1                       | 8                         | 8                         | 1631.989                   | 176679                  |
|                             | 3   | F212N                      | F277W  | SHALLOW4               | 4                               | 1                       | 8                         | 8                         | 1631.989                   | 176679                  |
|                             | 4   | F150W                      | F444W  | BRIGHT2                | 5                               | 1                       | 8                         | 8                         | 858.942                    | 176679                  |
| <b>Special Requirements</b> | <p>Aperture PA Range 227.05262691 to 297.05262691 Degrees (V3 227.0 to 297.0)</p> <p>Aperture PA Range 298.05262691 to 351.05262691 Degrees (V3 298.0 to 351.0)</p> <p>Aperture PA Range 355.05262691 to 219.05262691 Degrees (V3 355.0 to 219.0)</p> |                            |  |                        |                                 |                         |                           |                           |                            |                         |

Proposal 4793 - Observation 3 - Unveiling the physics that govern massive star-formation in extragalactic Central Molecular Zones (e...

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|                             |   |                            |   |                        |                   |                                 |                           |                      |                            |                           |
|-----------------------------|---|----------------------------|---|------------------------|-------------------|---------------------------------|---------------------------|----------------------|----------------------------|---------------------------|
| <b>Observation</b>          | <p><b>Proposal 4793, Observation 3: NGC1512</b></p> <p><b>Diagnostic Status: Warning</b></p> <p>Observing Template: NIRCcam Imaging</p>   |                            |   |                        |                   |                                 |                           |                      |                            |                           |
| <b>Diagnostics</b>          | (Visit 3:1) Warning (Form): Overheads are provisional until the Visit Planner has been run.   |                            |   |                        |                   |                                 |                           |                      |                            |                           |
| <b>Fixed Targets</b>        | <b>#</b>  | <b>Name</b>                | <b>Target Coordinates</b>   |                        |                   | <b>Targ. Coord. Corrections</b> |                           | <b>Miscellaneous</b> |                            |                           |
|                             | (3)   | NGC-1512                   | RA: 04 03 54.2810 (60.9761708d)<br>Dec: -43 20 55.86 (-43.34885d)<br>Equinox: J2000 |                        |                   | Epoch of Position: 2000         |                           |                      |                            |                           |
|                             | <p><i>Comments: This object was generated by the targetselector and retrieved from the SIMBAD database. This object was generated by the targetselector and retrieved from the NED database.</i></p> <p><i>Category=Galaxy</i></p> <p><i>Description=[Disk galaxies, Spiral galaxies]</i></p> <p><i>Extended=YES</i></p>  |                            |   |                        |                   |                                 |                           |                      |                            |                           |
| <b>Template</b>             | <b>Module</b>   |                            |   |                        |                   | <b>Subarray</b>                 |                           |                      |                            |                           |
|                             | B   |                            |   |                        |                   | FULL                            |                           |                      |                            |                           |
| <b>Dithers</b>              | <b>#</b>  | <b>Primary Dither Type</b> |   | <b>Primary Dithers</b> |                   | <b>Subpixel Dither Type</b>     |                           | <b>Dither Size</b>   |                            | <b>Subpixel Positions</b> |
|                             | 1   | INTRAMODULEX               |   | 4                      |                   | SMALL-GRID-DITHER               |                           |                      |                            | 2                         |
| <b>Spectral Elements</b>    | <b>#</b>  | <b>Short Filter</b>        | <b>Long Filter</b>  | <b>Readout Pattern</b> | <b>Groups/Int</b> | <b>Integrations/Exp</b>         | <b>Total Integrations</b> | <b>Total Dithers</b> | <b>Total Exposure Time</b> | <b>ETC Wkbk.Calc ID</b>   |
|                             | 1   | F187N                      | F405N+F444W   | SHALLOW4               | 4                 | 1                               | 8                         | 8                    | 1631.989                   | 176679                    |
|                             | 2   | F164N+F150W2               | F335M   | SHALLOW4               | 4                 | 1                               | 8                         | 8                    | 1631.989                   | 176679                    |
|                             | 3   | F212N                      | F277W   | SHALLOW4               | 4                 | 1                               | 8                         | 8                    | 1631.989                   | 176679                    |
|                             | 4   | F150W                      | F444W   | BRIGHT2                | 5                 | 1                               | 8                         | 8                    | 858.942                    | 176679                    |
| <b>Special Requirements</b> | <p>Aperture PA Range 22.05262691 to 23.05262691 Degrees (V3 22.0 to 23.0)</p> <p>Aperture PA Range 27.05262691 to 63.05262691 Degrees (V3 27.0 to 63.0)</p> <p>Aperture PA Range 65.05262691 to 161.05262691 Degrees (V3 65.0 to 161.0)</p> <p>Aperture PA Range 163.05262691 to 9.05262691 Degrees (V3 163.0 to 9.0)</p> |                            |   |                        |                   |                                 |                           |                      |                            |                           |

Proposal 4793 - Observation 4 - Unveiling the physics that govern massive star-formation in extragalactic Central Molecular Zones (e...

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|                             |   |                            |  |                        |                                 |                         |                           |                           |                            |                         |
|-----------------------------|---|----------------------------|--|------------------------|---------------------------------|-------------------------|---------------------------|---------------------------|----------------------------|-------------------------|
| <b>Observation</b>          | <p><b>Proposal 4793, Observation 4: NGC1637</b></p> <p><b>Diagnostic Status: Warning</b></p> <p>Observing Template: NIRCam Imaging</p>  |                            |  |                        |                                 |                         |                           |                           |                            |                         |
| <b>Diagnostics</b>          | (Visit 4:1) Warning (Form): Overheads are provisional until the Visit Planner has been run.   |                            |  |                        |                                 |                         |                           |                           |                            |                         |
| <b>Fixed Targets</b>        | <b>#</b>  | <b>Name</b>                | <b>Target Coordinates</b>  |                        | <b>Targ. Coord. Corrections</b> |                         |                           | <b>Miscellaneous</b>      |                            |                         |
|                             | (4)   | NGC-1637                   | RA: 04 41 28.1927 (70.3674696d)<br>Dec: -02 51 28.67 (-2.85796d)<br>Equinox: J2000 |                        | Epoch of Position: 2000         |                         |                           |                           |                            |                         |
|                             | <p><i>Comments: This object was generated by the targetselector and retrieved from the SIMBAD database. This object was generated by the targetselector and retrieved from the SIMBAD database.</i></p> <p><i>Category=Galaxy</i></p> <p><i>Description=[Active galactic nuclei, Disk galaxies, Spiral galaxies]</i></p> <p><i>Extended=YES</i></p>   |                            |  |                        |                                 |                         |                           |                           |                            |                         |
| <b>Template</b>             | <b>Module</b>   |                            |  |                        |                                 | <b>Subarray</b>         |                           |                           |                            |                         |
|                             | B   |                            |  |                        |                                 | FULL                    |                           |                           |                            |                         |
| <b>Dithers</b>              | <b>#</b>  | <b>Primary Dither Type</b> |  | <b>Primary Dithers</b> | <b>Subpixel Dither Type</b>     |                         | <b>Dither Size</b>        | <b>Subpixel Positions</b> |                            |                         |
|                             | 1   | INTRAMODULEX               |  | 4                      | SMALL-GRID-DITHER               |                         |                           | 2                         |                            |                         |
| <b>Spectral Elements</b>    | <b>#</b>  | <b>Short Filter</b>        | <b>Long Filter</b>   | <b>Readout Pattern</b> | <b>Groups/Int</b>               | <b>Integrations/Exp</b> | <b>Total Integrations</b> | <b>Total Dithers</b>      | <b>Total Exposure Time</b> | <b>ETC Wkbk.Calc ID</b> |
|                             | 1   | F187N                      | F405N+F444W  | SHALLOW4               | 4                               | 1                       | 8                         | 8                         | 1631.989                   | 176679                  |
|                             | 2   | F164N+F150W2               | F335M  | SHALLOW4               | 4                               | 1                       | 8                         | 8                         | 1631.989                   | 176679                  |
|                             | 3   | F212N                      | F360M  | SHALLOW4               | 4                               | 1                       | 8                         | 8                         | 1631.989                   | 176679                  |
|                             | 4   | F150W                      | F444W  | BRIGHT2                | 5                               | 1                       | 8                         | 8                         | 858.942                    | 176679                  |
|                             | 5   | F200W                      | F277W  | BRIGHT2                | 5                               | 1                       | 8                         | 8                         | 858.942                    | 176679                  |
| <b>Special Requirements</b> | <p>Aperture PA Range 7.05262691 to 43.05262691 Degrees (V3 7.0 to 43.0)</p> <p>Aperture PA Range 48.05262691 to 110.05262691 Degrees (V3 48.0 to 110.0)</p> <p>Aperture PA Range 120.05262691 to 121.05262691 Degrees (V3 120.0 to 121.0)</p> <p>Aperture PA Range 125.05262691 to 152.05262691 Degrees (V3 125.0 to 152.0)</p> <p>Aperture PA Range 155.05262691 to 168.05262691 Degrees (V3 155.0 to 168.0)</p> <p>Aperture PA Range 169.05262691 to 208.05262691 Degrees (V3 169.0 to 208.0)</p> <p>Aperture PA Range 219.05262691 to 222.05262691 Degrees (V3 219.0 to 222.0)</p> <p>Aperture PA Range 224.05262691 to 228.05262691 Degrees (V3 224.0 to 228.0)</p> |                            |  |                        |                                 |                         |                           |                           |                            |                         |

Proposal 4793 - Observation 5 - Unveiling the physics that govern massive star-formation in extragalactic Central Molecular Zones (e...

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|-----------------------------|---|----------------------------|---|------------------------|---------------------------------|-------------------------|---------------------------|---------------------------|----------------------------|-------------------------|
| <b>Observation</b>          | <p><b>Proposal 4793, Observation 5: NGC1672</b></p> <p><b>Diagnostic Status: Warning</b></p> <p>Observing Template: NIRCam Imaging</p>  |                            |   |                        |                                 |                         |                           |                           |                            |                         |
| <b>Diagnostics</b>          | (Visit 5:1) Warning (Form): Overheads are provisional until the Visit Planner has been run.   |                            |   |                        |                                 |                         |                           |                           |                            |                         |
| <b>Fixed Targets</b>        | <b>#</b>  | <b>Name</b>                | <b>Target Coordinates</b>   |                        | <b>Targ. Coord. Corrections</b> |                         |                           | <b>Miscellaneous</b>      |                            |                         |
|                             | (5)   | NGC-1672                   | RA: 04 45 42.5520 (71.4273000d)<br>Dec: -59 14 50.68 (-59.24741d)<br>Equinox: J2000 |                        | Epoch of Position: 2000         |                         |                           |                           |                            |                         |
|                             | <p><i>Comments: This object was generated by the targetselector and retrieved from the SIMBAD database. This object was generated by the targetselector and retrieved from the SIMBAD database.</i></p> <p>Category=Galaxy<br/>Description=[Active galactic nuclei, Disk galaxies, Spiral galaxies]</p>   |                            |   |                        |                                 |                         |                           |                           |                            |                         |
| <b>Template</b>             | <b>Module</b>   |                            |   |                        |                                 | <b>Subarray</b>         |                           |                           |                            |                         |
|                             | B   |                            |   |                        |                                 | FULL                    |                           |                           |                            |                         |
| <b>Dithers</b>              | <b>#</b>  | <b>Primary Dither Type</b> |   | <b>Primary Dithers</b> | <b>Subpixel Dither Type</b>     |                         | <b>Dither Size</b>        | <b>Subpixel Positions</b> |                            |                         |
|                             | 1   | INTRAMODULEX               |   | 4                      | SMALL-GRID-DITHER               |                         |                           | 2                         |                            |                         |
| <b>Spectral Elements</b>    | <b>#</b>  | <b>Short Filter</b>        | <b>Long Filter</b>  | <b>Readout Pattern</b> | <b>Groups/Int</b>               | <b>Integrations/Exp</b> | <b>Total Integrations</b> | <b>Total Dithers</b>      | <b>Total Exposure Time</b> | <b>ETC Wkbk.Calc ID</b> |
|                             | 1   | F187N                      | F405N+F444W   | SHALLOW4               | 4                               | 1                       | 8                         | 8                         | 1631.989                   | 176679                  |
|                             | 2   | F164N+F150W2               | F335M   | SHALLOW4               | 4                               | 1                       | 8                         | 8                         | 1631.989                   | 176679                  |
|                             | 3   | F212N                      | F277W   | SHALLOW4               | 4                               | 1                       | 8                         | 8                         | 1631.989                   | 176679                  |
|                             | 4   | F150W                      | F444W   | BRIGHT2                | 5                               | 1                       | 8                         | 8                         | 858.942                    | 176679                  |
| <b>Special Requirements</b> | <p>Aperture PA Range 15.05262691 to 18.05262691 Degrees (V3 15.0 to 18.0)</p> <p>Aperture PA Range 19.05262691 to 63.05262691 Degrees (V3 19.0 to 63.0)</p> <p>Aperture PA Range 66.05262691 to 92.05262691 Degrees (V3 66.0 to 92.0)</p> <p>Aperture PA Range 97.05262691 to 100.05262691 Degrees (V3 97.0 to 100.0)</p> <p>Aperture PA Range 109.05262691 to 260.05262691 Degrees (V3 109.0 to 260.0)</p> <p>Aperture PA Range 261.05262691 to 272.05262691 Degrees (V3 261.0 to 272.0)</p> <p>Aperture PA Range 282.05262691 to 284.05262691 Degrees (V3 282.0 to 284.0)</p> <p>Aperture PA Range 287.05262691 to 292.05262691 Degrees (V3 287.0 to 292.0)</p> <p>Aperture PA Range 297.05262691 to 304.05262691 Degrees (V3 297.0 to 304.0)</p> <p>Aperture PA Range 310.05262691 to 4.05262691 Degrees (V3 310.0 to 4.0)</p> |                            |   |                        |                                 |                         |                           |                           |                            |                         |

Proposal 4793 - Observation 6 - Unveiling the physics that govern massive star-formation in extragalactic Central Molecular Zones (e...

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|                          |  |                            |   |                        |                                 |                         |                           |                           |                            |                         |
|--------------------------|--|----------------------------|---|------------------------|---------------------------------|-------------------------|---------------------------|---------------------------|----------------------------|-------------------------|
| <b>Observation</b>       | <p><b>Proposal 4793, Observation 6: NGC1792</b></p> <p><b>Diagnostic Status: Warning</b></p> <p>Observing Template: NIRCcam Imaging</p>  |                            |   |                        |                                 |                         |                           |                           |                            |                         |
| <b>Diagnostics</b>       | (Visit 6:1) Warning (Form): Overheads are provisional until the Visit Planner has been run.  |                            |   |                        |                                 |                         |                           |                           |                            |                         |
| <b>Fixed Targets</b>     | <b>#</b>   | <b>Name</b>                | <b>Target Coordinates</b>   |                        | <b>Targ. Coord. Corrections</b> |                         |                           | <b>Miscellaneous</b>      |                            |                         |
|                          | (6)  | NGC-1792                   | RA: 05 05 14.4037 (76.3100154d)<br>Dec: -37 58 50.06 (-37.98057d)<br>Equinox: J2000 |                        | Epoch of Position: 2000         |                         |                           |                           |                            |                         |
|                          | <p><i>Comments: This object was generated by the targetselector and retrieved from the SIMBAD database. This object was generated by the targetselector and retrieved from the NED database.</i></p> <p>Category=Galaxy<br/>Description=[Active galactic nuclei, Galaxy disks, Spiral galaxies]<br/>Extended=YES</p> |                            |   |                        |                                 |                         |                           |                           |                            |                         |
| <b>Template</b>          | <b>Module</b>  |                            |   |                        |                                 | <b>Subarray</b>         |                           |                           |                            |                         |
|                          | B  |                            |   |                        |                                 | FULL                    |                           |                           |                            |                         |
| <b>Dithers</b>           | <b>#</b>   | <b>Primary Dither Type</b> |   | <b>Primary Dithers</b> | <b>Subpixel Dither Type</b>     |                         | <b>Dither Size</b>        | <b>Subpixel Positions</b> |                            |                         |
|                          | 1  | INTRAMODULEX               |   | 4                      | SMALL-GRID-DITHER               |                         |                           | 2                         |                            |                         |
| <b>Spectral Elements</b> | <b>#</b>   | <b>Short Filter</b>        | <b>Long Filter</b>  | <b>Readout Pattern</b> | <b>Groups/Int</b>               | <b>Integrations/Exp</b> | <b>Total Integrations</b> | <b>Total Dithers</b>      | <b>Total Exposure Time</b> | <b>ETC Wkbk.Calc ID</b> |
|                          | 1  | F187N                      | F405N+F444W   | SHALLOW4               | 4                               | 1                       | 8                         | 8                         | 1631.989                   | 176679                  |
|                          | 2  | F164N+F150W2               | F335M   | SHALLOW4               | 4                               | 1                       | 8                         | 8                         | 1631.989                   | 176679                  |
|                          | 3  | F212N                      | F360M   | SHALLOW4               | 4                               | 1                       | 8                         | 8                         | 1631.989                   | 176679                  |
|                          | 4  | F150W                      | F444W   | BRIGHT2                | 5                               | 1                       | 8                         | 8                         | 858.942                    | 176679                  |
|                          | 5  | F200W                      | F277W   | BRIGHT2                | 5                               | 1                       | 8                         | 8                         | 858.942                    | 176679                  |

Proposal 4793 - Observation 7 - Unveiling the physics that govern massive star-formation in extragalactic Central Molecular Zones (e...

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|                          |   |                            |   |                        |                                 |                         |                           |                           |                            |                         |
|--------------------------|---|----------------------------|---|------------------------|---------------------------------|-------------------------|---------------------------|---------------------------|----------------------------|-------------------------|
| <b>Observation</b>       | <p><b>Proposal 4793, Observation 7: NGC1808</b></p> <p><b>Diagnostic Status: Warning</b></p> <p>Observing Template: NIRCcam Imaging</p>   |                            |   |                        |                                 |                         |                           |                           |                            |                         |
| <b>Diagnostics</b>       | (Visit 7:1) Warning (Form): Overheads are provisional until the Visit Planner has been run.   |                            |   |                        |                                 |                         |                           |                           |                            |                         |
| <b>Fixed Targets</b>     | <b>#</b>  | <b>Name</b>                | <b>Target Coordinates</b>   |                        | <b>Targ. Coord. Corrections</b> |                         |                           | <b>Miscellaneous</b>      |                            |                         |
|                          | (7)   | NGC-1808                   | RA: 05 07 42.3430 (76.9264292d)<br>Dec: -37 30 46.98 (-37.51305d)<br>Equinox: J2000 |                        | Epoch of Position: 2000         |                         |                           |                           |                            |                         |
|                          | <p><i>Comments: This object was generated by the targetselector and retrieved from the SIMBAD database. This object was generated by the targetselector and retrieved from the SIMBAD database.</i></p> <p><i>Category=Galaxy</i></p> <p><i>Description=[Active galactic nuclei, Disk galaxies, Seyfert galaxies, Spiral galaxies]</i></p> <p><i>Extended=YES</i></p> |                            |   |                        |                                 |                         |                           |                           |                            |                         |
| <b>Template</b>          | <b>Module</b>   |                            |   |                        |                                 | <b>Subarray</b>         |                           |                           |                            |                         |
|                          | B   |                            |   |                        |                                 | FULL                    |                           |                           |                            |                         |
| <b>Dithers</b>           | <b>#</b>  | <b>Primary Dither Type</b> |   | <b>Primary Dithers</b> | <b>Subpixel Dither Type</b>     |                         | <b>Dither Size</b>        | <b>Subpixel Positions</b> |                            |                         |
|                          | 1   | INTRAMODULEX               |   | 4                      | SMALL-GRID-DITHER               |                         |                           | 2                         |                            |                         |
| <b>Spectral Elements</b> | <b>#</b>  | <b>Short Filter</b>        | <b>Long Filter</b>  | <b>Readout Pattern</b> | <b>Groups/Int</b>               | <b>Integrations/Exp</b> | <b>Total Integrations</b> | <b>Total Dithers</b>      | <b>Total Exposure Time</b> | <b>ETC Wkbk.Calc ID</b> |
|                          | 1   | F187N                      | F405N+F444W   | SHALLOW4               | 4                               | 1                       | 8                         | 8                         | 1631.989                   | 176679                  |
|                          | 2   | F164N+F150W2               | F335M   | SHALLOW4               | 4                               | 1                       | 8                         | 8                         | 1631.989                   | 176679                  |
|                          | 3   | F212N                      | F360M   | SHALLOW4               | 4                               | 1                       | 8                         | 8                         | 1631.989                   | 176679                  |
|                          | 4   | F150W                      | F444W   | BRIGHT2                | 5                               | 1                       | 8                         | 8                         | 858.942                    | 176679                  |
|                          | 5   | F200W                      | F277W   | BRIGHT2                | 5                               | 1                       | 8                         | 8                         | 858.942                    | 176679                  |

Proposal 4793 - Observation 8 - Unveiling the physics that govern massive star-formation in extragalactic Central Molecular Zones (e...

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|                             |   |                            |  |                        |                                 |                         |                           |                           |                            |                         |
|-----------------------------|---|----------------------------|--|------------------------|---------------------------------|-------------------------|---------------------------|---------------------------|----------------------------|-------------------------|
| <b>Observation</b>          | <p><b>Proposal 4793, Observation 8: NGC2903</b></p> <p><b>Diagnostic Status: Warning</b></p> <p>Observing Template: NIRCcam Imaging</p>   |                            |  |                        |                                 |                         |                           |                           |                            |                         |
| <b>Diagnostics</b>          | (Visit 8:1) Warning (Form): Overheads are provisional until the Visit Planner has been run.   |                            |  |                        |                                 |                         |                           |                           |                            |                         |
| <b>Fixed Targets</b>        | <b>#</b>  | <b>Name</b>                | <b>Target Coordinates</b>  |                        | <b>Targ. Coord. Corrections</b> |                         |                           | <b>Miscellaneous</b>      |                            |                         |
|                             | (8)   | NGC-2903                   | RA: 09 32 10.1088 (143.0421200d)<br>Dec: +21 30 2.99 (21.50083d)<br>Equinox: J2000 |                        |                                 |                         |                           |                           |                            |                         |
|                             | <p><i>Comments: This object was generated by the targetselector and retrieved from the NED database.</i></p> <p><i>Category=Galaxy</i></p> <p><i>Description=[Disk galaxies, Spiral galaxies]</i></p> <p><i>Extended=YES</i></p>  |                            |  |                        |                                 |                         |                           |                           |                            |                         |
| <b>Template</b>             | <b>Module</b>   |                            |  |                        | <b>Subarray</b>                 |                         |                           |                           |                            |                         |
|                             | B   |                            |  |                        | FULL                            |                         |                           |                           |                            |                         |
| <b>Dithers</b>              | <b>#</b>  | <b>Primary Dither Type</b> |  | <b>Primary Dithers</b> | <b>Subpixel Dither Type</b>     |                         | <b>Dither Size</b>        | <b>Subpixel Positions</b> |                            |                         |
|                             | 1   | INTRAMODULEX               |  | 4                      | SMALL-GRID-DITHER               |                         |                           | 2                         |                            |                         |
| <b>Spectral Elements</b>    | <b>#</b>  | <b>Short Filter</b>        | <b>Long Filter</b>   | <b>Readout Pattern</b> | <b>Groups/Int</b>               | <b>Integrations/Exp</b> | <b>Total Integrations</b> | <b>Total Dithers</b>      | <b>Total Exposure Time</b> | <b>ETC Wkbk.Calc ID</b> |
|                             | 1   | F187N                      | F405N+F444W  | SHALLOW4               | 4                               | 1                       | 8                         | 8                         | 1631.989                   | 176679                  |
|                             | 2   | F164N+F150W2               | F335M  | SHALLOW4               | 4                               | 1                       | 8                         | 8                         | 1631.989                   | 176679                  |
|                             | 3   | F212N                      | F360M  | SHALLOW4               | 4                               | 1                       | 8                         | 8                         | 1631.989                   | 176679                  |
|                             | 4   | F150W                      | F444W  | BRIGHT2                | 5                               | 1                       | 8                         | 8                         | 858.942                    | 176679                  |
|                             | 5   | F200W                      | F277W  | BRIGHT2                | 5                               | 1                       | 8                         | 8                         | 858.942                    | 176679                  |
| <b>Special Requirements</b> | <p>Aperture PA Range 6.05262691 to 143.05262691 Degrees (V3 6.0 to 143.0)</p> <p>Aperture PA Range 155.05262691 to 201.05262691 Degrees (V3 155.0 to 201.0)</p> <p>Aperture PA Range 213.05262691 to 214.05262691 Degrees (V3 213.0 to 214.0)</p> <p>Aperture PA Range 218.05262691 to 235.05262691 Degrees (V3 218.0 to 235.0)</p> <p>Aperture PA Range 239.05262691 to 243.05262691 Degrees (V3 239.0 to 243.0)</p> <p>Aperture PA Range 246.05262691 to 318.05262691 Degrees (V3 246.0 to 318.0)</p> <p>Aperture PA Range 330.05262691 to 1.05262691 Degrees (V3 330.0 to 1.0)</p> |                            |  |                        |                                 |                         |                           |                           |                            |                         |

Proposal 4793 - Observation 9 - Unveiling the physics that govern massive star-formation in extragalactic Central Molecular Zones (e...

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|-----------------------------|---|----------------------------|--|------------------------|--|-------------------------|---------------------------|---------------------------|----------------------------|-------------------------|
| <b>Observation</b>          | <p><b>Proposal 4793, Observation 9: NGC2997</b></p> <p><b>Diagnostic Status: Warning</b></p> <p>Observing Template: NIRCcam Imaging</p>   |                            |  |                        |  |                         |                           |                           |                            |                         |
| <b>Diagnostics</b>          | (Visit 9:1) Warning (Form): Overheads are provisional until the Visit Planner has been run.   |                            |  |                        |  |                         |                           |                           |                            |                         |
| <b>Fixed Targets</b>        | <b>#</b>  | <b>Name</b>                | <b>Target Coordinates</b>  |                        | <b>Targ. Coord. Corrections</b>  |                         |                           | <b>Miscellaneous</b>      |                            |                         |
|                             | (9)   | NGC-2997                   | RA: 09 45 38.7542 (146.4114758d)<br>Dec: -31 11 27.35 (-31.19093d)<br>Equinox: J2000 |                        | Proper Motion RA: -0.404 mas/yr<br>Proper Motion Dec: -0.733000092623115 mas/yr<br>Epoch of Position: 2000 |                         |                           |                           |                            |                         |
|                             | <p><i>Comments: This object was generated by the targetselector and retrieved from the SIMBAD database. This object was generated by the targetselector and retrieved from the NED database.</i></p> <p><i>Category=Galaxy</i></p> <p><i>Description=[Disk galaxies, Spiral galaxies]</i></p> <p><i>Extended=YES</i></p>  |                            |  |                        |  |                         |                           |                           |                            |                         |
| <b>Template</b>             | <b>Module</b>   |                            |  |                        |  | <b>Subarray</b>         |                           |                           |                            |                         |
|                             | B   |                            |  |                        |  | FULL                    |                           |                           |                            |                         |
| <b>Dithers</b>              | <b>#</b>  | <b>Primary Dither Type</b> |  | <b>Primary Dithers</b> | <b>Subpixel Dither Type</b>  |                         | <b>Dither Size</b>        | <b>Subpixel Positions</b> |                            |                         |
|                             | 1   | INTRAMODULEX               |  | 4                      | SMALL-GRID-DITHER  |                         |                           | 2                         |                            |                         |
| <b>Spectral Elements</b>    | <b>#</b>  | <b>Short Filter</b>        | <b>Long Filter</b>   | <b>Readout Pattern</b> | <b>Groups/Int</b>  | <b>Integrations/Exp</b> | <b>Total Integrations</b> | <b>Total Dithers</b>      | <b>Total Exposure Time</b> | <b>ETC Wkbk.Calc ID</b> |
|                             | 1   | F187N                      | F405N+F444W  | SHALLOW4               | 4  | 1                       | 8                         | 8                         | 1631.989                   | 176679                  |
|                             | 2   | F164N+F150W2               | F335M  | SHALLOW4               | 4  | 1                       | 8                         | 8                         | 1631.989                   | 176679                  |
|                             | 3   | F212N                      | F360M  | SHALLOW4               | 4  | 1                       | 8                         | 8                         | 1631.989                   | 176679                  |
|                             | 4   | F150W                      | F444W  | BRIGHT2                | 5  | 1                       | 8                         | 8                         | 858.942                    | 176679                  |
|                             | 5   | F200W                      | F277W  | BRIGHT2                | 5  | 1                       | 8                         | 8                         | 858.942                    | 176679                  |
| <b>Special Requirements</b> | <p>Aperture PA Range 27.05262691 to 30.05262691 Degrees (V3 27.0 to 30.0)</p> <p>Aperture PA Range 33.05262691 to 114.05262691 Degrees (V3 33.0 to 114.0)</p> <p>Aperture PA Range 121.05262691 to 140.05262691 Degrees (V3 121.0 to 140.0)</p> <p>Aperture PA Range 173.05262691 to 175.05262691 Degrees (V3 173.0 to 175.0)</p> <p>Aperture PA Range 209.05262691 to 263.05262691 Degrees (V3 209.0 to 263.0)</p> <p>Aperture PA Range 281.05262691 to 287.05262691 Degrees (V3 281.0 to 287.0)</p> <p>Aperture PA Range 304.05262691 to 331.05262691 Degrees (V3 304.0 to 331.0)</p> <p>Aperture PA Range 335.05262691 to 17.05262691 Degrees (V3 335.0 to 17.0)</p> |                            |  |                        |  |                         |                           |                           |                            |                         |

Proposal 4793 - Observation 10 - Unveiling the physics that govern massive star-formation in extragalactic Central Molecular Zones (e...

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|                             |  |                            |   |                        |                                 |                         |                           |                           |                            |                         |
|-----------------------------|--|----------------------------|---|------------------------|---------------------------------|-------------------------|---------------------------|---------------------------|----------------------------|-------------------------|
| <b>Observation</b>          | <p><b>Proposal 4793, Observation 10: NGC3351</b></p> <p><b>Diagnostic Status: Warning</b></p> <p>Observing Template: NIRCcam Imaging</p>   |                            |   |                        |                                 |                         |                           |                           |                            |                         |
| <b>Diagnostics</b>          | (Visit 10:1) Warning (Form): Overheads are provisional until the Visit Planner has been run.   |                            |   |                        |                                 |                         |                           |                           |                            |                         |
| <b>Fixed Targets</b>        | <b>#</b>   | <b>Name</b>                | <b>Target Coordinates</b>   |                        | <b>Targ. Coord. Corrections</b> |                         |                           | <b>Miscellaneous</b>      |                            |                         |
|                             | (10)   | NGC-3351                   | RA: 10 43 57.7008 (160.9904200d)<br>Dec: +11 42 13.72 (11.70381d)<br>Equinox: J2000 |                        |                                 |                         |                           |                           |                            |                         |
|                             | <p><i>Comments: This object was generated by the targetselector and retrieved from the NED database.</i></p> <p><i>Category=Galaxy</i></p> <p><i>Description=[Disk galaxies, Spiral galaxies]</i></p> <p><i>Extended=YES</i></p> |                            |   |                        |                                 |                         |                           |                           |                            |                         |
| <b>Template</b>             | <b>Module</b>  |                            |   |                        |                                 | <b>Subarray</b>         |                           |                           |                            |                         |
|                             | B  |                            |   |                        |                                 | FULL                    |                           |                           |                            |                         |
| <b>Dithers</b>              | <b>#</b>   | <b>Primary Dither Type</b> |   | <b>Primary Dithers</b> | <b>Subpixel Dither Type</b>     |                         | <b>Dither Size</b>        | <b>Subpixel Positions</b> |                            |                         |
|                             | 1  | INTRAMODULEX               |   | 4                      | SMALL-GRID-DITHER               |                         |                           | 2                         |                            |                         |
| <b>Spectral Elements</b>    | <b>#</b>   | <b>Short Filter</b>        | <b>Long Filter</b>  | <b>Readout Pattern</b> | <b>Groups/Int</b>               | <b>Integrations/Exp</b> | <b>Total Integrations</b> | <b>Total Dithers</b>      | <b>Total Exposure Time</b> | <b>ETC Wkbk.Calc ID</b> |
|                             | 1  | F187N                      | F405N+F444W   | SHALLOW4               | 4                               | 1                       | 8                         | 8                         | 1631.989                   | 176679                  |
|                             | 2  | F164N+F150W2               | F335M   | SHALLOW4               | 4                               | 1                       | 8                         | 8                         | 1631.989                   | 176679                  |
|                             | 3  | F212N                      | F277W   | SHALLOW4               | 4                               | 1                       | 8                         | 8                         | 1631.989                   | 176679                  |
|                             | 4  | F150W                      | F444W   | BRIGHT2                | 5                               | 1                       | 8                         | 8                         | 858.942                    | 176679                  |
| <b>Special Requirements</b> | <p>Aperture PA Range 294.05262691 to 311.05262691 Degrees (V3 294.0 to 311.0)</p> <p>Aperture PA Range 328.05262691 to 293.05262691 Degrees (V3 328.0 to 293.0)</p>  |                            |   |                        |                                 |                         |                           |                           |                            |                         |

Proposal 4793 - Observation 11 - Unveiling the physics that govern massive star-formation in extragalactic Central Molecular Zones (e...

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|                             |  |                            |   |                        |                                 |                         |                           |                           |                            |                         |
|-----------------------------|--|----------------------------|---|------------------------|---------------------------------|-------------------------|---------------------------|---------------------------|----------------------------|-------------------------|
| <b>Observation</b>          | <p><b>Proposal 4793, Observation 11: NGC3627</b></p> <p><b>Diagnostic Status: Warning</b></p> <p>Observing Template: NIRCcam Imaging</p>   |                            |   |                        |                                 |                         |                           |                           |                            |                         |
| <b>Diagnostics</b>          | (Visit 11:1) Warning (Form): Overheads are provisional until the Visit Planner has been run.   |                            |   |                        |                                 |                         |                           |                           |                            |                         |
| <b>Fixed Targets</b>        | <b>#</b>   | <b>Name</b>                | <b>Target Coordinates</b>   |                        | <b>Targ. Coord. Corrections</b> |                         |                           | <b>Miscellaneous</b>      |                            |                         |
|                             | (11)   | NGC-3627                   | RA: 11 20 14.9640 (170.0623500d)<br>Dec: +12 59 29.54 (12.99154d)<br>Equinox: J2000 |                        |                                 |                         |                           |                           |                            |                         |
|                             | <p><i>Comments: This object was generated by the targetselector and retrieved from the NED database.</i></p> <p><i>Category=Galaxy</i></p> <p><i>Description=[Active galactic nuclei, Disk galaxies, Interacting galaxies, Spiral galaxies]</i></p> <p><i>Extended=YES</i></p> |                            |   |                        |                                 |                         |                           |                           |                            |                         |
| <b>Template</b>             | <b>Module</b>  |                            |   |                        |                                 | <b>Subarray</b>         |                           |                           |                            |                         |
|                             | B  |                            |   |                        |                                 | FULL                    |                           |                           |                            |                         |
| <b>Dithers</b>              | <b>#</b>   | <b>Primary Dither Type</b> |   | <b>Primary Dithers</b> | <b>Subpixel Dither Type</b>     |                         | <b>Dither Size</b>        | <b>Subpixel Positions</b> |                            |                         |
|                             | 1  | INTRAMODULEX               |   | 4                      | SMALL-GRID-DITHER               |                         |                           | 2                         |                            |                         |
| <b>Spectral Elements</b>    | <b>#</b>   | <b>Short Filter</b>        | <b>Long Filter</b>  | <b>Readout Pattern</b> | <b>Groups/Int</b>               | <b>Integrations/Exp</b> | <b>Total Integrations</b> | <b>Total Dithers</b>      | <b>Total Exposure Time</b> | <b>ETC Wkbk.Calc ID</b> |
|                             | 1  | F187N                      | F405N+F444W   | SHALLOW4               | 4                               | 1                       | 8                         | 8                         | 1631.989                   | 176679                  |
|                             | 2  | F164N+F150W2               | F335M   | SHALLOW4               | 4                               | 1                       | 8                         | 8                         | 1631.989                   | 176679                  |
|                             | 3  | F212N                      | F277W   | SHALLOW4               | 4                               | 1                       | 8                         | 8                         | 1631.989                   | 176679                  |
|                             | 4  | F150W                      | F444W   | BRIGHT2                | 5                               | 1                       | 8                         | 8                         | 858.942                    | 176679                  |
| <b>Special Requirements</b> | <p>Aperture PA Range 350.05262691 to 353.05262691 Degrees (V3 350.0 to 353.0)</p> <p>Aperture PA Range 356.05262691 to 339.05262691 Degrees (V3 356.0 to 339.0)</p>  |                            |   |                        |                                 |                         |                           |                           |                            |                         |

Proposal 4793 - Observation 12 - Unveiling the physics that govern massive star-formation in extragalactic Central Molecular Zones (e...

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|                             |   |                            |   |                        |                                 |                         |                           |                           |                            |                         |
|-----------------------------|---|----------------------------|---|------------------------|---------------------------------|-------------------------|---------------------------|---------------------------|----------------------------|-------------------------|
| <b>Observation</b>          | <p><b>Proposal 4793, Observation 12: NGC4298</b></p> <p><b>Diagnostic Status: Warning</b></p> <p>Observing Template: NIRCcam Imaging</p>  |                            |   |                        |                                 |                         |                           |                           |                            |                         |
| <b>Diagnostics</b>          | (Visit 12:1) Warning (Form): Overheads are provisional until the Visit Planner has been run.  |                            |   |                        |                                 |                         |                           |                           |                            |                         |
| <b>Fixed Targets</b>        | <b>#</b>  | <b>Name</b>                | <b>Target Coordinates</b>   |                        | <b>Targ. Coord. Corrections</b> |                         |                           | <b>Miscellaneous</b>      |                            |                         |
|                             | (12)  | NGC-4298                   | RA: 12 21 32.7579 (185.3864913d)<br>Dec: +14 36 22.05 (14.60613d)<br>Equinox: J2000 |                        | Epoch of Position: 2000         |                         |                           |                           |                            |                         |
|                             | <p><i>Comments: This object was generated by the targetselector and retrieved from the SIMBAD database. This object was generated by the targetselector and retrieved from the SIMBAD database.</i></p> <p><i>Category=Galaxy</i></p> <p><i>Description=[Disk galaxies, Interacting galaxies, Spiral galaxies]</i></p> <p><i>Extended=YES</i></p>   |                            |   |                        |                                 |                         |                           |                           |                            |                         |
| <b>Template</b>             | <b>Module</b>   |                            |   |                        |                                 | <b>Subarray</b>         |                           |                           |                            |                         |
|                             | B   |                            |   |                        |                                 | FULL                    |                           |                           |                            |                         |
| <b>Dithers</b>              | <b>#</b>  | <b>Primary Dither Type</b> |   | <b>Primary Dithers</b> | <b>Subpixel Dither Type</b>     |                         | <b>Dither Size</b>        | <b>Subpixel Positions</b> |                            |                         |
|                             | 1   | INTRAMODULEX               |   | 4                      | SMALL-GRID-DITHER               |                         |                           | 2                         |                            |                         |
| <b>Spectral Elements</b>    | <b>#</b>  | <b>Short Filter</b>        | <b>Long Filter</b>  | <b>Readout Pattern</b> | <b>Groups/Int</b>               | <b>Integrations/Exp</b> | <b>Total Integrations</b> | <b>Total Dithers</b>      | <b>Total Exposure Time</b> | <b>ETC Wkbk.Calc ID</b> |
|                             | 1   | F187N                      | F405N+F444W   | SHALLOW4               | 4                               | 1                       | 8                         | 8                         | 1631.989                   | 176679                  |
|                             | 2   | F164N+F150W2               | F335M   | SHALLOW4               | 4                               | 1                       | 8                         | 8                         | 1631.989                   | 176679                  |
|                             | 3   | F212N                      | F360M   | SHALLOW4               | 4                               | 1                       | 8                         | 8                         | 1631.989                   | 176679                  |
|                             | 4   | F150W                      | F444W   | BRIGHT2                | 5                               | 1                       | 8                         | 8                         | 858.942                    | 176679                  |
|                             | 5   | F200W                      | F277W   | BRIGHT2                | 5                               | 1                       | 8                         | 8                         | 858.942                    | 176679                  |
| <b>Special Requirements</b> | <p>Aperture PA Range 8.05262691 to 95.05262691 Degrees (V3 8.0 to 95.0)</p> <p>Aperture PA Range 101.05262691 to 152.05262691 Degrees (V3 101.0 to 152.0)</p> <p>Aperture PA Range 165.05262691 to 167.05262691 Degrees (V3 165.0 to 167.0)</p> <p>Aperture PA Range 171.05262691 to 254.05262691 Degrees (V3 171.0 to 254.0)</p> <p>Aperture PA Range 255.05262691 to 5.05262691 Degrees (V3 255.0 to 5.0)</p> |                            |   |                        |                                 |                         |                           |                           |                            |                         |

Proposal 4793 - Observation 13 - Unveiling the physics that govern massive star-formation in extragalactic Central Molecular Zones (e...

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|                             |   |                            |   |                        |                                 |                         |                           |                           |                            |                         |
|-----------------------------|---|----------------------------|---|------------------------|---------------------------------|-------------------------|---------------------------|---------------------------|----------------------------|-------------------------|
| <b>Observation</b>          | <p><b>Proposal 4793, Observation 13: NGC4548</b></p> <p><b>Diagnostic Status: Warning</b></p> <p>Observing Template: NIRCcam Imaging</p>  |                            |   |                        |                                 |                         |                           |                           |                            |                         |
| <b>Diagnostics</b>          | (Visit 13:1) Warning (Form): Overheads are provisional until the Visit Planner has been run.  |                            |   |                        |                                 |                         |                           |                           |                            |                         |
| <b>Fixed Targets</b>        | <b>#</b>  | <b>Name</b>                | <b>Target Coordinates</b>   |                        | <b>Targ. Coord. Corrections</b> |                         |                           | <b>Miscellaneous</b>      |                            |                         |
|                             | (13)  | NGC-4548                   | RA: 12 35 26.4447 (188.8601863d)<br>Dec: +14 29 46.76 (14.49632d)<br>Equinox: J2000 |                        | Epoch of Position: 2015.5       |                         |                           |                           |                            |                         |
|                             | <p><i>Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.</i></p> <p><i>Category=Galaxy</i></p> <p><i>Description=[Disk galaxies, LINER galaxies, Spiral galaxies]</i></p> <p><i>Extended=YES</i></p>   |                            |   |                        |                                 |                         |                           |                           |                            |                         |
| <b>Template</b>             | <b>Module</b>   |                            |   |                        |                                 | <b>Subarray</b>         |                           |                           |                            |                         |
|                             | B   |                            |   |                        |                                 | FULL                    |                           |                           |                            |                         |
| <b>Dithers</b>              | <b>#</b>  | <b>Primary Dither Type</b> |   | <b>Primary Dithers</b> | <b>Subpixel Dither Type</b>     |                         | <b>Dither Size</b>        | <b>Subpixel Positions</b> |                            |                         |
|                             | 1   | INTRAMODULEX               |   | 4                      | SMALL-GRID-DITHER               |                         |                           | 2                         |                            |                         |
| <b>Spectral Elements</b>    | <b>#</b>  | <b>Short Filter</b>        | <b>Long Filter</b>  | <b>Readout Pattern</b> | <b>Groups/Int</b>               | <b>Integrations/Exp</b> | <b>Total Integrations</b> | <b>Total Dithers</b>      | <b>Total Exposure Time</b> | <b>ETC Wkbk.Calc ID</b> |
|                             | 1   | F187N                      | F405N+F444W   | SHALLOW4               | 4                               | 1                       | 8                         | 8                         | 1631.989                   | 176679                  |
|                             | 2   | F164N+F150W2               | F335M   | SHALLOW4               | 4                               | 1                       | 8                         | 8                         | 1631.989                   | 176679                  |
|                             | 3   | F212N                      | F360M   | SHALLOW4               | 4                               | 1                       | 8                         | 8                         | 1631.989                   | 176679                  |
|                             | 4   | F150W                      | F444W   | BRIGHT2                | 5                               | 1                       | 8                         | 8                         | 858.942                    | 176679                  |
|                             | 5   | F200W                      | F277W   | BRIGHT2                | 5                               | 1                       | 8                         | 8                         | 858.942                    | 176679                  |
| <b>Special Requirements</b> | <p>Aperture PA Range 87.05262691 to 95.05262691 Degrees (V3 87.0 to 95.0)</p> <p>Aperture PA Range 102.05262691 to 123.05262691 Degrees (V3 102.0 to 123.0)</p> <p>Aperture PA Range 131.05262691 to 172.05262691 Degrees (V3 131.0 to 172.0)</p> <p>Aperture PA Range 194.05262691 to 292.05262691 Degrees (V3 194.0 to 292.0)</p> <p>Aperture PA Range 294.05262691 to 82.05262691 Degrees (V3 294.0 to 82.0)</p> |                            |   |                        |                                 |                         |                           |                           |                            |                         |

Proposal 4793 - Observation 14 - Unveiling the physics that govern massive star-formation in extragalactic Central Molecular Zones (e...

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|-----------------------------|--|----------------------------|---|------------------------|---------------------------------|-------------------------|---------------------------|---------------------------|----------------------------|-------------------------|
| <b>Observation</b>          | <p><b>Proposal 4793, Observation 14: NGC5248</b></p> <p><b>Diagnostic Status: Warning</b></p> <p>Observing Template: NIRCcam Imaging</p>   |                            |   |                        |                                 |                         |                           |                           |                            |                         |
| <b>Diagnostics</b>          | (Visit 14:1) Warning (Form): Overheads are provisional until the Visit Planner has been run.   |                            |   |                        |                                 |                         |                           |                           |                            |                         |
| <b>Fixed Targets</b>        | <b>#</b>   | <b>Name</b>                | <b>Target Coordinates</b>   |                        | <b>Targ. Coord. Corrections</b> |                         |                           | <b>Miscellaneous</b>      |                            |                         |
|                             | (14)   | NGC-5248                   | RA: 13 37 32.0145 (204.3833938d)<br>Dec: +08 53 6.50 (8.88514d)<br>Equinox: J2000 |                        | Epoch of Position: 2000         |                         |                           |                           |                            |                         |
|                             | <p><i>Comments: This object was generated by the targetselector and retrieved from the SIMBAD database. This object was generated by the targetselector and retrieved from the NED database.</i></p> <p><i>Category=Galaxy</i></p> <p><i>Description=[Disk galaxies, Spiral galaxies]</i></p> <p><i>Extended=YES</i></p> |                            |   |                        |                                 |                         |                           |                           |                            |                         |
| <b>Template</b>             | <b>Module</b>  |                            |   |                        |                                 | <b>Subarray</b>         |                           |                           |                            |                         |
|                             | B  |                            |   |                        |                                 | FULL                    |                           |                           |                            |                         |
| <b>Dithers</b>              | <b>#</b>   | <b>Primary Dither Type</b> |   | <b>Primary Dithers</b> | <b>Subpixel Dither Type</b>     |                         | <b>Dither Size</b>        | <b>Subpixel Positions</b> |                            |                         |
|                             | 1  | INTRAMODULEX               |   | 4                      | SMALL-GRID-DITHER               |                         |                           | 2                         |                            |                         |
| <b>Spectral Elements</b>    | <b>#</b>   | <b>Short Filter</b>        | <b>Long Filter</b>  | <b>Readout Pattern</b> | <b>Groups/Int</b>               | <b>Integrations/Exp</b> | <b>Total Integrations</b> | <b>Total Dithers</b>      | <b>Total Exposure Time</b> | <b>ETC Wkbk.Calc ID</b> |
|                             | 1  | F187N                      | F405N+F444W   | SHALLOW4               | 4                               | 1                       | 8                         | 8                         | 1631.989                   | 176679                  |
|                             | 2  | F164N+F150W2               | F335M   | SHALLOW4               | 4                               | 1                       | 8                         | 8                         | 1631.989                   | 176679                  |
|                             | 3  | F212N                      | F360M   | SHALLOW4               | 4                               | 1                       | 8                         | 8                         | 1631.989                   | 176679                  |
|                             | 4  | F150W                      | F444W   | BRIGHT2                | 5                               | 1                       | 8                         | 8                         | 858.942                    | 176679                  |
|                             | 5  | F200W                      | F277W   | BRIGHT2                | 5                               | 1                       | 8                         | 8                         | 858.942                    | 176679                  |
| <b>Special Requirements</b> | <p>Aperture PA Range 17.05262691 to 245.05262691 Degrees (V3 17.0 to 245.0)</p> <p>Aperture PA Range 248.05262691 to 9.05262691 Degrees (V3 248.0 to 9.0)</p>  |                            |   |                        |                                 |                         |                           |                           |                            |                         |

Proposal 4793 - Observation 15 - Unveiling the physics that govern massive star-formation in extragalactic Central Molecular Zones (e...

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|--------------------------|---|----------------------------|--|---------------------------------|-----------------------------|-------------------------|---------------------------|---------------------------|----------------------------|-------------------------|
| <b>Observation</b>       | <p><b>Proposal 4793, Observation 15: NGC5643</b></p> <p><b>Diagnostic Status: Warning</b></p> <p>Observing Template: NIRCcam Imaging</p>  |                            |  |                                 |                             |                         |                           |                           |                            |                         |
| <b>Diagnostics</b>       | (Visit 15:1) Warning (Form): Overheads are provisional until the Visit Planner has been run.  |                            |  |                                 |                             |                         |                           |                           |                            |                         |
| <b>Fixed Targets</b>     | <b>#</b>  | <b>Name</b>                | <b>Target Coordinates</b>  | <b>Targ. Coord. Corrections</b> |                             |                         | <b>Miscellaneous</b>      |                           |                            |                         |
|                          | (15)  | NGC-5643                   | RA: 14 32 40.7448 (218.1697700d)<br>Dec: -44 10 27.88 (-44.17441d)<br>Equinox: J2000 |                                 |                             |                         |                           |                           |                            |                         |
|                          | <p><i>Comments: This object was generated by the targetselector and retrieved from the NED database. This object was generated by the targetselector and retrieved from the NED database.</i></p> <p><i>Category=Galaxy</i></p> <p><i>Description=[Active galactic nuclei, Disk galaxies, Spiral galaxies]</i></p> <p><i>Extended=YES</i></p> |                            |  |                                 |                             |                         |                           |                           |                            |                         |
| <b>Template</b>          | <b>Module</b>   |                            |  |                                 |                             | <b>Subarray</b>         |                           |                           |                            |                         |
|                          | B   |                            |  |                                 |                             | FULL                    |                           |                           |                            |                         |
| <b>Dithers</b>           | <b>#</b>  | <b>Primary Dither Type</b> |  | <b>Primary Dithers</b>          | <b>Subpixel Dither Type</b> |                         | <b>Dither Size</b>        | <b>Subpixel Positions</b> |                            |                         |
|                          | 1   | INTRAMODULEX               |  | 4                               | SMALL-GRID-DITHER           |                         |                           | 2                         |                            |                         |
| <b>Spectral Elements</b> | <b>#</b>  | <b>Short Filter</b>        | <b>Long Filter</b>   | <b>Readout Pattern</b>          | <b>Groups/Int</b>           | <b>Integrations/Exp</b> | <b>Total Integrations</b> | <b>Total Dithers</b>      | <b>Total Exposure Time</b> | <b>ETC Wkbk.Calc ID</b> |
|                          | 1   | F187N                      | F405N+F444W  | SHALLOW4                        | 4                           | 1                       | 8                         | 8                         | 1631.989                   | 176679                  |
|                          | 2   | F164N+F150W2               | F335M  | SHALLOW4                        | 4                           | 1                       | 8                         | 8                         | 1631.989                   | 176679                  |
|                          | 3   | F212N                      | F360M  | SHALLOW4                        | 4                           | 1                       | 8                         | 8                         | 1631.989                   | 176679                  |
|                          | 4   | F150W                      | F444W  | BRIGHT2                         | 5                           | 1                       | 8                         | 8                         | 858.942                    | 176679                  |
|                          | 5   | F200W                      | F277W  | BRIGHT2                         | 5                           | 1                       | 8                         | 8                         | 858.942                    | 176679                  |

Proposal 4793 - Observation 17 - Unveiling the physics that govern massive star-formation in extragalactic Central Molecular Zones (e...

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|-----------------------------|---|----------------------------|--|------------------------|---------------------------------|-------------------------|---------------------------|---------------------------|----------------------------|-------------------------|
| <b>Observation</b>          | <p><b>Proposal 4793, Observation 17: NGC5643_repeat</b></p> <p><b>Diagnostic Status: Warning</b></p> <p>Observing Template: NIRCcam Imaging</p>   |                            |  |                        |                                 |                         |                           |                           |                            |                         |
| <b>Diagnostics</b>          | (Visit 17:1) Warning (Form): Overheads are provisional until the Visit Planner has been run.  |                            |  |                        |                                 |                         |                           |                           |                            |                         |
| <b>Fixed Targets</b>        | <b>#</b>  | <b>Name</b>                | <b>Target Coordinates</b>  |                        | <b>Targ. Coord. Corrections</b> |                         |                           | <b>Miscellaneous</b>      |                            |                         |
|                             | (15)  | NGC-5643                   | RA: 14 32 40.7448 (218.1697700d)<br>Dec: -44 10 27.88 (-44.17441d)<br>Equinox: J2000 |                        |                                 |                         |                           |                           |                            |                         |
|                             | <p><i>Comments: This object was generated by the targetselector and retrieved from the NED database. This object was generated by the targetselector and retrieved from the NED database.</i></p> <p><i>Category=Galaxy</i></p> <p><i>Description=[Active galactic nuclei, Disk galaxies, Spiral galaxies]</i></p> <p><i>Extended=YES</i></p>   |                            |  |                        |                                 |                         |                           |                           |                            |                         |
| <b>Template</b>             | <b>Module</b>   |                            |  |                        |                                 | <b>Subarray</b>         |                           |                           |                            |                         |
|                             | B   |                            |  |                        |                                 | FULL                    |                           |                           |                            |                         |
| <b>Dithers</b>              | <b>#</b>  | <b>Primary Dither Type</b> |  | <b>Primary Dithers</b> | <b>Subpixel Dither Type</b>     |                         | <b>Dither Size</b>        | <b>Subpixel Positions</b> |                            |                         |
|                             | 1   | INTRAMODULEX               |  | 4                      | SMALL-GRID-DITHER               |                         |                           | 2                         |                            |                         |
| <b>Spectral Elements</b>    | <b>#</b>  | <b>Short Filter</b>        | <b>Long Filter</b>   | <b>Readout Pattern</b> | <b>Groups/Int</b>               | <b>Integrations/Exp</b> | <b>Total Integrations</b> | <b>Total Dithers</b>      | <b>Total Exposure Time</b> | <b>ETC Wkbk.Calc ID</b> |
|                             | 1   | F187N                      | F405N+F444W  | SHALLOW4               | 4                               | 1                       | 8                         | 8                         | 1631.989                   | 176679                  |
|                             | 2   | F164N+F150W2               | F335M  | SHALLOW4               | 4                               | 1                       | 8                         | 8                         | 1631.989                   | 176679                  |
|                             | 3   | F212N                      | F360M  | SHALLOW4               | 4                               | 1                       | 8                         | 8                         | 1631.989                   | 176679                  |
|                             | 4   | F150W                      | F444W  | BRIGHT2                | 5                               | 1                       | 8                         | 8                         | 858.942                    | 176679                  |
|                             | 5   | F200W                      | F277W  | BRIGHT2                | 5                               | 1                       | 8                         | 8                         | 858.942                    | 176679                  |
| <b>Special Requirements</b> | <p>Aperture PA Range 38.05262691 to 40.05262691 Degrees (V3 38.0 to 40.0)</p> <p>Aperture PA Range 47.05262691 to 64.05262691 Degrees (V3 47.0 to 64.0)</p> <p>Aperture PA Range 75.05262691 to 95.05262691 Degrees (V3 75.0 to 95.0)</p> <p>Aperture PA Range 204.05262691 to 212.05262691 Degrees (V3 204.0 to 212.0)</p> <p>Aperture PA Range 230.05262691 to 262.05262691 Degrees (V3 230.0 to 262.0)</p> <p>Aperture PA Range 267.05262691 to 297.05262691 Degrees (V3 267.0 to 297.0)</p> <p>Aperture PA Range 304.05262691 to 313.05262691 Degrees (V3 304.0 to 313.0)</p> <p>Aperture PA Range 323.05262691 to 29.05262691 Degrees (V3 323.0 to 29.0)</p> |                            |  |                        |                                 |                         |                           |                           |                            |                         |

Proposal 4793 - Observation 16 - Unveiling the physics that govern massive star-formation in extragalactic Central Molecular Zones (e...

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|                          |   |                            |  |                                 |                             |                         |                           |                           |                            |                         |
|--------------------------|---|----------------------------|--|---------------------------------|-----------------------------|-------------------------|---------------------------|---------------------------|----------------------------|-------------------------|
| <b>Observation</b>       | <p><b>Proposal 4793, Observation 16: NGC6300</b></p> <p><b>Diagnostic Status: Warning</b></p> <p>Observing Template: NIRCcam Imaging</p>  |                            |  |                                 |                             |                         |                           |                           |                            |                         |
| <b>Diagnostics</b>       | (Visit 16:1) Warning (Form): Overheads are provisional until the Visit Planner has been run.  |                            |  |                                 |                             |                         |                           |                           |                            |                         |
| <b>Fixed Targets</b>     | <b>#</b>  | <b>Name</b>                | <b>Target Coordinates</b>  | <b>Targ. Coord. Corrections</b> |                             |                         | <b>Miscellaneous</b>      |                           |                            |                         |
|                          | (16)  | NGC-6300                   | RA: 17 16 59.4696 (259.2477900d)<br>Dec: -62 49 14.02 (-62.82056d)<br>Equinox: J2000 |                                 |                             |                         |                           |                           |                            |                         |
|                          | <p><i>Comments: This object was generated by the targetselector and retrieved from the NED database. This object was generated by the targetselector and retrieved from the NED database.</i></p> <p><i>Category=Galaxy</i></p> <p><i>Description=[Active galactic nuclei, Disk galaxies, Spiral galaxies]</i></p> <p><i>Extended=YES</i></p> |                            |  |                                 |                             |                         |                           |                           |                            |                         |
| <b>Template</b>          | <b>Module</b>   |                            |  |                                 |                             | <b>Subarray</b>         |                           |                           |                            |                         |
|                          | B   |                            |  |                                 |                             | FULL                    |                           |                           |                            |                         |
| <b>Dithers</b>           | <b>#</b>  | <b>Primary Dither Type</b> |  | <b>Primary Dithers</b>          | <b>Subpixel Dither Type</b> |                         | <b>Dither Size</b>        | <b>Subpixel Positions</b> |                            |                         |
|                          | 1   | INTRAMODULEX               |  | 4                               | SMALL-GRID-DITHER           |                         |                           | 2                         |                            |                         |
| <b>Spectral Elements</b> | <b>#</b>  | <b>Short Filter</b>        | <b>Long Filter</b>   | <b>Readout Pattern</b>          | <b>Groups/Int</b>           | <b>Integrations/Exp</b> | <b>Total Integrations</b> | <b>Total Dithers</b>      | <b>Total Exposure Time</b> | <b>ETC Wkbk.Calc ID</b> |
|                          | 1   | F187N                      | F405N+F444W  | SHALLOW4                        | 4                           | 1                       | 8                         | 8                         | 1631.989                   | 176679                  |
|                          | 2   | F164N+F150W2               | F335M  | SHALLOW4                        | 4                           | 1                       | 8                         | 8                         | 1631.989                   | 176679                  |
|                          | 3   | F212N                      | F360M  | SHALLOW4                        | 4                           | 1                       | 8                         | 8                         | 1631.989                   | 176679                  |
|                          | 4   | F150W                      | F444W  | BRIGHT2                         | 5                           | 1                       | 8                         | 8                         | 858.942                    | 176679                  |
|                          | 5   | F200W                      | F277W  | BRIGHT2                         | 5                           | 1                       | 8                         | 8                         | 858.942                    | 176679                  |

Proposal 4793 - Observation 18 - Unveiling the physics that govern massive star-formation in extragalactic Central Molecular Zones (e...

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| <b>Observation</b>          | <p><b>Proposal 4793, Observation 18: NGC1808_repeat</b></p> <p><b>Diagnostic Status: Warning</b></p> <p>Observing Template: NIRCam Imaging</p>   |   |                          |               |                    |                    |               |                     |                  |  |        |                     |                    |                          |               |                    |                    |   |                         |                   |   |       |             |          |   |   |   |   |          |        |   |              |       |          |   |   |   |   |          |        |   |       |       |          |   |   |   |   |          |        |   |       |       |         |   |   |   |   |         |        |   |       |       |         |   |   |   |   |         |        |
|-----------------------------|--|---|--------------------------|---------------|--------------------|--------------------|---------------|---------------------|------------------|--|--------|---------------------|--------------------|--------------------------|---------------|--------------------|--------------------|---|-------------------------|-------------------|---|-------|-------------|----------|---|---|---|---|----------|--------|---|--------------|-------|----------|---|---|---|---|----------|--------|---|-------|-------|----------|---|---|---|---|----------|--------|---|-------|-------|---------|---|---|---|---|---------|--------|---|-------|-------|---------|---|---|---|---|---------|--------|
| <b>Diagnostics</b>          | (Visit 18:1) Warning (Form): Overheads are provisional until the Visit Planner has been run.   |   |                          |               |                    |                    |               |                     |                  |  |        |                     |                    |                          |               |                    |                    |   |                         |                   |   |       |             |          |   |   |   |   |          |        |   |              |       |          |   |   |   |   |          |        |   |       |       |          |   |   |   |   |          |        |   |       |       |         |   |   |   |   |         |        |   |       |       |         |   |   |   |   |         |        |
| <b>Fixed Targets</b>        | <table border="1"> <thead> <tr> <th>#</th> <th>Name</th> <th>Target Coordinates</th> <th>Targ. Coord. Corrections</th> <th>Miscellaneous</th> </tr> </thead> <tbody> <tr> <td>(7)</td> <td>NGC-1808</td> <td>RA: 05 07 42.3430 (76.9264292d)<br/>Dec: -37 30 46.98 (-37.51305d)<br/>Equinox: J2000</td> <td>Epoch of Position: 2000</td> <td></td> </tr> </tbody> </table> <p><i>Comments: This object was generated by the targetselector and retrieved from the SIMBAD database. This object was generated by the targetselector and retrieved from the SIMBAD database.</i></p> <p><i>Category=Galaxy</i></p> <p><i>Description=[Active galactic nuclei, Disk galaxies, Seyfert galaxies, Spiral galaxies]</i></p> <p><i>Extended=YES</i></p>   |   |                          |               |                    |                    |               |                     |                  |  | #      | Name                | Target Coordinates | Targ. Coord. Corrections | Miscellaneous | (7)                | NGC-1808           | RA: 05 07 42.3430 (76.9264292d)<br>Dec: -37 30 46.98 (-37.51305d)<br>Equinox: J2000 | Epoch of Position: 2000 |                   |   |       |             |          |   |   |   |   |          |        |   |              |       |          |   |   |   |   |          |        |   |       |       |          |   |   |   |   |          |        |   |       |       |         |   |   |   |   |         |        |   |       |       |         |   |   |   |   |         |        |
| #                           | Name   | Target Coordinates  | Targ. Coord. Corrections | Miscellaneous |                    |                    |               |                     |                  |  |        |                     |                    |                          |               |                    |                    |   |                         |                   |   |       |             |          |   |   |   |   |          |        |   |              |       |          |   |   |   |   |          |        |   |       |       |          |   |   |   |   |          |        |   |       |       |         |   |   |   |   |         |        |   |       |       |         |   |   |   |   |         |        |
| (7)                         | NGC-1808   | RA: 05 07 42.3430 (76.9264292d)<br>Dec: -37 30 46.98 (-37.51305d)<br>Equinox: J2000 | Epoch of Position: 2000  |               |                    |                    |               |                     |                  |  |        |                     |                    |                          |               |                    |                    |   |                         |                   |   |       |             |          |   |   |   |   |          |        |   |              |       |          |   |   |   |   |          |        |   |       |       |          |   |   |   |   |          |        |   |       |       |         |   |   |   |   |         |        |   |       |       |         |   |   |   |   |         |        |
| <b>Template</b>             | <table border="1"> <thead> <tr> <th>Module</th> <th>Subarray</th> </tr> </thead> <tbody> <tr> <td>B</td> <td>FULL</td> </tr> </tbody> </table>   |   |                          |               |                    |                    |               |                     |                  |  | Module | Subarray            | B                  | FULL                     |               |                    |                    |   |                         |                   |   |       |             |          |   |   |   |   |          |        |   |              |       |          |   |   |   |   |          |        |   |       |       |          |   |   |   |   |          |        |   |       |       |         |   |   |   |   |         |        |   |       |       |         |   |   |   |   |         |        |
| Module                      | Subarray   |   |                          |               |                    |                    |               |                     |                  |  |        |                     |                    |                          |               |                    |                    |   |                         |                   |   |       |             |          |   |   |   |   |          |        |   |              |       |          |   |   |   |   |          |        |   |       |       |          |   |   |   |   |          |        |   |       |       |         |   |   |   |   |         |        |   |       |       |         |   |   |   |   |         |        |
| B                           | FULL   |   |                          |               |                    |                    |               |                     |                  |  |        |                     |                    |                          |               |                    |                    |   |                         |                   |   |       |             |          |   |   |   |   |          |        |   |              |       |          |   |   |   |   |          |        |   |       |       |          |   |   |   |   |          |        |   |       |       |         |   |   |   |   |         |        |   |       |       |         |   |   |   |   |         |        |
| <b>Dithers</b>              | <table border="1"> <thead> <tr> <th>#</th> <th>Primary Dither Type</th> <th>Primary Dithers</th> <th>Subpixel Dither Type</th> <th>Dither Size</th> <th>Subpixel Positions</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>INTRAMODULEX</td> <td>4</td> <td>SMALL-GRID-DITHER</td> <td></td> <td>2</td> </tr> </tbody> </table>  |   |                          |               |                    |                    |               |                     |                  |  | #      | Primary Dither Type | Primary Dithers    | Subpixel Dither Type     | Dither Size   | Subpixel Positions | 1                  | INTRAMODULEX  | 4                       | SMALL-GRID-DITHER |   | 2     |             |          |   |   |   |   |          |        |   |              |       |          |   |   |   |   |          |        |   |       |       |          |   |   |   |   |          |        |   |       |       |         |   |   |   |   |         |        |   |       |       |         |   |   |   |   |         |        |
| #                           | Primary Dither Type  | Primary Dithers   | Subpixel Dither Type     | Dither Size   | Subpixel Positions |                    |               |                     |                  |  |        |                     |                    |                          |               |                    |                    |   |                         |                   |   |       |             |          |   |   |   |   |          |        |   |              |       |          |   |   |   |   |          |        |   |       |       |          |   |   |   |   |          |        |   |       |       |         |   |   |   |   |         |        |   |       |       |         |   |   |   |   |         |        |
| 1                           | INTRAMODULEX   | 4   | SMALL-GRID-DITHER        |               | 2                  |                    |               |                     |                  |  |        |                     |                    |                          |               |                    |                    |   |                         |                   |   |       |             |          |   |   |   |   |          |        |   |              |       |          |   |   |   |   |          |        |   |       |       |          |   |   |   |   |          |        |   |       |       |         |   |   |   |   |         |        |   |       |       |         |   |   |   |   |         |        |
| <b>Spectral Elements</b>    | <table border="1"> <thead> <tr> <th>#</th> <th>Short Filter</th> <th>Long Filter</th> <th>Readout Pattern</th> <th>Groups/Int</th> <th>Integrations/Exp</th> <th>Total Integrations</th> <th>Total Dithers</th> <th>Total Exposure Time</th> <th>ETC Wkbk.Calc ID</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>F187N</td> <td>F405N+F444W</td> <td>SHALLOW4</td> <td>4</td> <td>1</td> <td>8</td> <td>8</td> <td>1631.989</td> <td>176679</td> </tr> <tr> <td>2</td> <td>F164N+F150W2</td> <td>F335M</td> <td>SHALLOW4</td> <td>4</td> <td>1</td> <td>8</td> <td>8</td> <td>1631.989</td> <td>176679</td> </tr> <tr> <td>3</td> <td>F212N</td> <td>F360M</td> <td>SHALLOW4</td> <td>4</td> <td>1</td> <td>8</td> <td>8</td> <td>1631.989</td> <td>176679</td> </tr> <tr> <td>4</td> <td>F150W</td> <td>F444W</td> <td>BRIGHT2</td> <td>5</td> <td>1</td> <td>8</td> <td>8</td> <td>858.942</td> <td>176679</td> </tr> <tr> <td>5</td> <td>F200W</td> <td>F277W</td> <td>BRIGHT2</td> <td>5</td> <td>1</td> <td>8</td> <td>8</td> <td>858.942</td> <td>176679</td> </tr> </tbody> </table> |   |                          |               |                    |                    |               |                     |                  |  | #      | Short Filter        | Long Filter        | Readout Pattern          | Groups/Int    | Integrations/Exp   | Total Integrations | Total Dithers   | Total Exposure Time     | ETC Wkbk.Calc ID  | 1 | F187N | F405N+F444W | SHALLOW4 | 4 | 1 | 8 | 8 | 1631.989 | 176679 | 2 | F164N+F150W2 | F335M | SHALLOW4 | 4 | 1 | 8 | 8 | 1631.989 | 176679 | 3 | F212N | F360M | SHALLOW4 | 4 | 1 | 8 | 8 | 1631.989 | 176679 | 4 | F150W | F444W | BRIGHT2 | 5 | 1 | 8 | 8 | 858.942 | 176679 | 5 | F200W | F277W | BRIGHT2 | 5 | 1 | 8 | 8 | 858.942 | 176679 |
| #                           | Short Filter   | Long Filter   | Readout Pattern          | Groups/Int    | Integrations/Exp   | Total Integrations | Total Dithers | Total Exposure Time | ETC Wkbk.Calc ID |  |        |                     |                    |                          |               |                    |                    |   |                         |                   |   |       |             |          |   |   |   |   |          |        |   |              |       |          |   |   |   |   |          |        |   |       |       |          |   |   |   |   |          |        |   |       |       |         |   |   |   |   |         |        |   |       |       |         |   |   |   |   |         |        |
| 1                           | F187N  | F405N+F444W   | SHALLOW4                 | 4             | 1                  | 8                  | 8             | 1631.989            | 176679           |  |        |                     |                    |                          |               |                    |                    |   |                         |                   |   |       |             |          |   |   |   |   |          |        |   |              |       |          |   |   |   |   |          |        |   |       |       |          |   |   |   |   |          |        |   |       |       |         |   |   |   |   |         |        |   |       |       |         |   |   |   |   |         |        |
| 2                           | F164N+F150W2   | F335M   | SHALLOW4                 | 4             | 1                  | 8                  | 8             | 1631.989            | 176679           |  |        |                     |                    |                          |               |                    |                    |   |                         |                   |   |       |             |          |   |   |   |   |          |        |   |              |       |          |   |   |   |   |          |        |   |       |       |          |   |   |   |   |          |        |   |       |       |         |   |   |   |   |         |        |   |       |       |         |   |   |   |   |         |        |
| 3                           | F212N  | F360M   | SHALLOW4                 | 4             | 1                  | 8                  | 8             | 1631.989            | 176679           |  |        |                     |                    |                          |               |                    |                    |   |                         |                   |   |       |             |          |   |   |   |   |          |        |   |              |       |          |   |   |   |   |          |        |   |       |       |          |   |   |   |   |          |        |   |       |       |         |   |   |   |   |         |        |   |       |       |         |   |   |   |   |         |        |
| 4                           | F150W  | F444W   | BRIGHT2                  | 5             | 1                  | 8                  | 8             | 858.942             | 176679           |  |        |                     |                    |                          |               |                    |                    |   |                         |                   |   |       |             |          |   |   |   |   |          |        |   |              |       |          |   |   |   |   |          |        |   |       |       |          |   |   |   |   |          |        |   |       |       |         |   |   |   |   |         |        |   |       |       |         |   |   |   |   |         |        |
| 5                           | F200W  | F277W   | BRIGHT2                  | 5             | 1                  | 8                  | 8             | 858.942             | 176679           |  |        |                     |                    |                          |               |                    |                    |   |                         |                   |   |       |             |          |   |   |   |   |          |        |   |              |       |          |   |   |   |   |          |        |   |       |       |          |   |   |   |   |          |        |   |       |       |         |   |   |   |   |         |        |   |       |       |         |   |   |   |   |         |        |
| <b>Special Requirements</b> | <p>Aperture PA Range 59.05262691 to 134.05262691 Degrees (V3 59.0 to 134.0)</p> <p>Aperture PA Range 144.05262691 to 147.05262691 Degrees (V3 144.0 to 147.0)</p> <p>Aperture PA Range 149.05262691 to 287.05262691 Degrees (V3 149.0 to 287.0)</p> <p>Aperture PA Range 288.05262691 to 302.05262691 Degrees (V3 288.0 to 302.0)</p> <p>Aperture PA Range 354.05262691 to 45.05262691 Degrees (V3 354.0 to 45.0)</p>  |   |                          |               |                    |                    |               |                     |                  |  |        |                     |                    |                          |               |                    |                    |   |                         |                   |   |       |             |          |   |   |   |   |          |        |   |              |       |          |   |   |   |   |          |        |   |       |       |          |   |   |   |   |          |        |   |       |       |         |   |   |   |   |         |        |   |       |       |         |   |   |   |   |         |        |