



# 1514 - Low Temperature Photometric Standard Check

Cycle: 1, Proposal Category: CAL/NIRISS

## INVESTIGATORS

| <i>Name</i>                  | <i>Institution</i>                                    | <i>E-Mail</i>         |
|------------------------------|---|-----------------------|
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## OBSERVATIONS

| <i>Folder</i>       | <i>Observation</i> | <i>Label</i> | <i>Observing Template</i>       | <i>Science Target</i> |
|---------------------|--------------------|--------------|---------------------------------|-----------------------|
| NIRISS imaging      |                    |              |                                 |                       |
|                     | 1                  |              | NIRISS External Calibration     | (8) 6300-HOSAMU       |
|                     | 2                  |              | NIRISS External Calibration     | (8) 6300-HOSAMU       |
| NIRSpec observation |                    |              |                                 |                       |
|                     | 3                  |              | NIRSpec Fixed Slit Spectroscopy | (8) 6300-HOSAMU       |

## ABSTRACT

Observation of a low temperature source are to be made to test for possible long wavelength filter leaks in the NIRISS imaging mode. The target is assumed to be a 5 km diameter asteroid at a distance of approximately 2.6 AU.

Various possible targets are included but only one needs to be used. The various targets have visibility times as follows to be at the right estimated brightness for the observation:

10/01 - 10/17: (3290) Azabu

10/17 - 10/31: (8770) Totanus

10/31 - 11/13: (32788) 1989 SJ3

11/13 - 11/25: (50587) 2000 ET45

11/25 - 12/08: (7051) Sean

12/08 - 12/23: (6300) Hosamu

12/23 - 01/04: (38998) 2000 UP26

This calibration program is provisional and may change in response to system developments and the final science program.

### **OBSERVING DESCRIPTION**

Short observations of an asteroid are planned for all the NIRISS filters in the SUB256 sub-array and with a 4-point dithering pattern. An asteroid of about 5 km diameter and at a distance between 2.4 and 2.8 AU at the time of observation is required to match the assumed brightness. Given a time window for the observations a target can be selected but here a dummy target is used.

This calibration requires an accompanying NIRSpec observation to give a calibration of the exact spectral shape of the asteroid at the time of observation.

# Proposal 1514 - Targets - Low Temperature Photometric Standard Check

| #                                 | Name         | Level 1   | Level 2 | Level 3 |
|-----------------------------------|--------------|---|---------|---------|
| (2)                               | 1998-BC1     | TYPE=ASTEROID,A=3.182070617342272,E=0.1494<br>473459389163,I=0.2977520690423893<br>.O=182.0960455266541,W=281.1257068624592,M=3<br>1.09143940924593,EQUINOX=J2000,EPOCH=08-<br>MAR-2015:00:00:00,EpochTimeScale=TDB |         |         |
| <i>Comments: Extended=NO</i>      |              |   |         |         |
| (3)                               | 3290-AZABU   | TYPE=ASTEROID,A=3.963799892411329,E=0.1270<br>066445169503,I=2.770002588546625<br>.O=75.23433634994542,W=112.4393436030088,M=3<br>05.8716105969991,EQUINOX=J2000,EPOCH=03-<br>FEB-2016:00:00:00,EpochTimeScale=TDB  |         |         |
| <i>Comments: Extended=NO</i>      |              |   |         |         |
| (4)                               | 8770-TOTANUS | TYPE=ASTEROID,A=3.113353159827594,E=0.1227<br>618864451488,I=2.102707223680064<br>.O=74.11862153958576,W=64.39983756928983,M=9<br>1.8320104910276,EQUINOX=J2000,EPOCH=15-<br>JUL-2015:00:00:00,EpochTimeScale=TDB   |         |         |
| <i>Comments: Extended=NO</i>      |              |   |         |         |
| (5)                               | 1989-SJ3     | TYPE=ASTEROID,A=3.132898820535498,E=0.2017<br>663302975966,I=2.39276280969594<br>.O=105.0407370141611,W=301.9351429363027,M=1<br>57.5433190658095,EQUINOX=J2000,EPOCH=09-<br>SEP-2014:00:00:00,EpochTimeScale=TDB   |         |         |
| <i>Comments: Extended=Unknown</i> |              |   |         |         |
| (6)                               | 2000-ET45    | TYPE=ASTEROID,A=2.929292559839474,E=0.0534<br>5628373462308,I=1.725641832641458<br>.O=359.7135460984986,W=178.1719083343196,M=3<br>56.8216093723199,EQUINOX=J2000,EPOCH=05-<br>FEB-2015:00:00:00,EpochTimeScale=TDB |         |         |
| <i>Comments: Extended=Unknown</i> |              |   |         |         |
| (7)                               | 7051-SEAN    | TYPE=ASTEROID,A=3.239078331641535,E=0.1130<br>113003553969,I=3.119348289404354<br>.O=57.35771844913457,W=179.4723215236947,M=9<br>8.92267605224401,EQUINOX=J2000,EPOCH=07-<br>JUL-2016:00:00:00,EpochTimeScale=TDB  |         |         |
| <i>Comments: Extended=Unknown</i> |              |   |         |         |
| (8)                               | 6300-HOSAMU  | TYPE=ASTEROID,A=3.247022584590867,E=0.1236<br>131632397061,I=1.859318521351727<br>.O=69.5968481599833,W=50.56552063774392,M=16<br>6.4706467513428,EQUINOX=J2000,EPOCH=18-<br>FEB-2015:00:00:00,EpochTimeScale=TDB   |         |         |
| <i>Comments: Extended=NO</i>      |              |   |         |         |
| (9)                               | 2000-UP26    | TYPE=ASTEROID,A=2.694745375438795,E=0.1426<br>733971348708,I=12.32384911226426<br>.O=199.9889932973172,W=271.6413256766839,M=1<br>74.5678195856334,EQUINOX=J2000,EPOCH=04-<br>NOV-2016:00:00:00,EpochTimeScale=TDB  |         |         |
| <i>Comments: Extended=NO</i>      |              |   |         |         |

Solar System Targets

# Proposal 1514 - Observation 1 - Low Temperature Photometric Standard Check

Tue Nov 29 18:00:53 GMT 2022

|                              |   |                     |   |                        |                    |                        |                           |                         |                      |                           |                            |                         |
|------------------------------|---|---------------------|---|------------------------|--------------------|------------------------|---------------------------|-------------------------|----------------------|---------------------------|----------------------------|-------------------------|
| <b>Observation</b>           | <b>Proposal 1514, Observation 1</b><br><b>Diagnostic Status: Warning</b><br>Observing Template: NIRISS External Calibration |                     |   |                        |                    |                        |                           |                         |                      |                           |                            |                         |
|                              | (Visit 1:1) Warning (Form): Overheads are provisional until the Visit Planner has been run.                                 |                     |   |                        |                    |                        |                           |                         |                      |                           |                            |                         |
| <b>Diagnostics</b>           |   |                     |   |                        |                    |                        |                           |                         |                      |                           |                            |                         |
|                              |   |                     |   |                        |                    |                        |                           |                         |                      |                           |                            |                         |
| <b>Solar System Targets</b>  | <b>#</b>  | <b>Name</b>         | <b>Level 1</b>  |                        |                    |                        | <b>Level 2</b>            |                         |                      | <b>Level 3</b>            |                            |                         |
|                              | (8)   | 6300-HOSAMU         | TYPE=ASTEROID,A=3.247022584590867,E=0.1236<br>131632397061,I=1.859318521351727<br>.O=69.5968481599833,W=50.56552063774392,M=16<br>6.4706467513428,EQUINOX=J2000,EPOCH=18-<br>FEB-2015:00:00:00,EpochTimeScale=TDB |                        |                    |                        |                           |                         |                      |                           |                            |                         |
| <i>Comments: Extended=NO</i> |   |                     |   |                        |                    |                        |                           |                         |                      |                           |                            |                         |
| <b>Acquisition</b>           | <b>#</b>  |                     |   |                        |                    |                        |                           |                         |                      |                           | <b>Target</b>              |                         |
|                              | 1   |                     |   |                        |                    |                        |                           |                         |                      |                           | NONE                       |                         |
| <b>Template</b>              | <b>Pointing Type</b>  |                     |   |                        |                    |                        |                           |                         |                      |                           |                            |                         |
|                              | PRIME   |                     |   |                        |                    |                        |                           |                         |                      |                           |                            |                         |
| <b>Dithers</b>               | <b>#</b>  | <b>Pattern Type</b> | <b>Image Dithers</b>  | <b>Primary Dithers</b> |                    |                        | <b>Subpixel Positions</b> |                         | <b>Pattern Size</b>  |                           |                            |                         |
|                              | 1   | IMAGING             | 4   |                        |                    |                        |                           |                         |                      |                           |                            |                         |
| <b>Spectral Elements</b>     | <b>#</b>  | <b>Subarray</b>     | <b>Aperture</b>   | <b>Filter Wheel</b>    | <b>Pupil Wheel</b> | <b>Readout Pattern</b> | <b>Groups/Int</b>         | <b>Integrations/Exp</b> | <b>Total Dithers</b> | <b>Total Integrations</b> | <b>Total Exposure Time</b> | <b>ETC Wkbk.Calc ID</b> |
|                              | 1   | SUB256              |   | F277W                  | CLEARP             | NISRAPID               | 10                        | 4                       | 4                    | 16                        | 122.021                    |                         |
|                              | 2   | SUB256              |   | F356W                  | CLEARP             | NISRAPID               | 10                        | 4                       | 4                    | 16                        | 122.021                    |                         |
|                              | 3   | SUB256              |   | F380M                  | CLEARP             | NISRAPID               | 50                        | 4                       | 4                    | 16                        | 564.543                    |                         |
|                              | 4   | SUB256              |   | F430M                  | CLEARP             | NISRAPID               | 50                        | 4                       | 4                    | 16                        | 564.543                    |                         |
|                              | 5   | SUB256              |   | F444W                  | CLEARP             | NISRAPID               | 10                        | 4                       | 4                    | 16                        | 122.021                    |                         |
|                              | 6   | SUB256              |   | F480M                  | CLEARP             | NISRAPID               | 10                        | 4                       | 4                    | 16                        | 122.021                    |                         |

## Proposal 1514 - Observation 1 - Low Temperature Photometric Standard Check

### Special Requirements

Between Dates 08-DEC-2022:00:00:00 and 23-DEC-2022:00:00:00

Group Observations 1, 2, 3, Non-interruptible

DEFAULT WINDOW: ANGULAR RATE 6300-HOSAMU FROM JWST LESS THAN 0.075

# Proposal 1514 - Observation 2 - Low Temperature Photometric Standard Check

Tue Nov 29 18:00:53 GMT 2022

|                              |   |                     |   |                      |                    |                        |                   |                           |                      |                           |                            |                         |
|------------------------------|---|---------------------|---|----------------------|--------------------|------------------------|-------------------|---------------------------|----------------------|---------------------------|----------------------------|-------------------------|
| <b>Observation</b>           | <b>Proposal 1514, Observation 2</b><br><b>Diagnostic Status: Warning</b><br>Observing Template: NIRISS External Calibration |                     |   |                      |                    |                        |                   |                           |                      |                           |                            |                         |
|                              | (Visit 2:1) Warning (Form): Overheads are provisional until the Visit Planner has been run.                                 |                     |   |                      |                    |                        |                   |                           |                      |                           |                            |                         |
| <b>Diagnostics</b>           |   |                     |   |                      |                    |                        |                   |                           |                      |                           |                            |                         |
|                              |   |                     |   |                      |                    |                        |                   |                           |                      |                           |                            |                         |
| <b>Solar System Targets</b>  | <b>#</b>  | <b>Name</b>         | <b>Level 1</b>  |                      |                    |                        | <b>Level 2</b>    |                           |                      | <b>Level 3</b>            |                            |                         |
|                              | (8)   | 6300-HOSAMU         | TYPE=ASTEROID,A=3.247022584590867,E=0.1236<br>131632397061,I=1.859318521351727<br>.O=69.5968481599833,W=50.56552063774392,M=16<br>6.4706467513428,EQUINOX=J2000,EPOCH=18-<br>FEB-2015:00:00:00,EpochTimeScale=TDB |                      |                    |                        |                   |                           |                      |                           |                            |                         |
| <i>Comments: Extended=NO</i> |   |                     |   |                      |                    |                        |                   |                           |                      |                           |                            |                         |
| <b>Acquisition</b>           | <b>#</b>  |                     |   |                      |                    |                        |                   |                           |                      |                           | <b>Target</b>              |                         |
|                              | 1   |                     |   |                      |                    |                        |                   |                           |                      |                           | NONE                       |                         |
| <b>Template</b>              | <b>Pointing Type</b>  |                     |   |                      |                    |                        |                   |                           |                      |                           |                            |                         |
|                              | PRIME   |                     |   |                      |                    |                        |                   |                           |                      |                           |                            |                         |
| <b>Dithers</b>               | <b>#</b>  | <b>Pattern Type</b> |   | <b>Image Dithers</b> |                    | <b>Primary Dithers</b> |                   | <b>Subpixel Positions</b> |                      | <b>Pattern Size</b>       |                            |                         |
|                              | 1   | IMAGING             |   | 4                    |                    |                        |                   |                           |                      |                           |                            |                         |
| <b>Spectral Elements</b>     | <b>#</b>  | <b>Subarray</b>     | <b>Aperture</b>   | <b>Filter Wheel</b>  | <b>Pupil Wheel</b> | <b>Readout Pattern</b> | <b>Groups/Int</b> | <b>Integrations/Ex p</b>  | <b>Total Dithers</b> | <b>Total Integrations</b> | <b>Total Exposure Time</b> | <b>ETC Wkbk.Calc ID</b> |
|                              | 1   | SUB256              |   | CLEAR                | F090W              | NISRAPID               | 10                | 4                         | 4                    | 16                        | 122.021                    |                         |
|                              | 2   | SUB256              |   | CLEAR                | F115W              | NISRAPID               | 10                | 4                         | 4                    | 16                        | 122.021                    |                         |
|                              | 3   | SUB256              |   | CLEAR                | F140M              | NISRAPID               | 10                | 4                         | 4                    | 16                        | 122.021                    |                         |
|                              | 4   | SUB256              |   | CLEAR                | F150W              | NISRAPID               | 10                | 4                         | 4                    | 16                        | 122.021                    |                         |
|                              | 5   | SUB256              |   | CLEAR                | F158M              | NISRAPID               | 25                | 4                         | 4                    | 16                        | 287.967                    |                         |
|                              | 6   | SUB256              |   | CLEAR                | F200W              | NISRAPID               | 15                | 4                         | 4                    | 16                        | 177.336                    |                         |

## Proposal 1514 - Observation 2 - Low Temperature Photometric Standard Check

Special Requirements

Group Observations 1, 2, 3, Non-interruptible

DEFAULT WINDOW: ANGULAR RATE 6300-HOSAMU FROM JWST LESS THAN 0.075

Proposal 1514 - Observation 3 - Low Temperature Photometric Standard Check

Tue Nov 29 18:00:53 GMT 2022

|                              |  |                                 |   |                        |                   |                          |                          |                         |                           |                            |                         |
|------------------------------|--|---------------------------------|---|------------------------|-------------------|--------------------------|--------------------------|-------------------------|---------------------------|----------------------------|-------------------------|
| <b>Observation</b>           | <b>Proposal 1514, Observation 3</b><br><b>Diagnostic Status: Warning</b><br>Observing Template: NIRSspec Fixed Slit Spectroscopy |                                 |   |                        |                   |                          |                          |                         |                           |                            |                         |
|                              | (Visit 3:1) Warning (Form): Overheads are provisional until the Visit Planner has been run.                                      |                                 |   |                        |                   |                          |                          |                         |                           |                            |                         |
| <b>Diagnostics</b>           |  |                                 |   |                        |                   |                          |                          |                         |                           |                            |                         |
|                              |  |                                 |   |                        |                   |                          |                          |                         |                           |                            |                         |
| <b>Solar System Targets</b>  | <b>#</b>   | <b>Name</b>                     | <b>Level 1</b>  |                        |                   |                          | <b>Level 2</b>           |                         |                           | <b>Level 3</b>             |                         |
|                              | (8)  | 6300-HOSAMU                     | TYPE=ASTEROID,A=3.247022584590867,E=0.1236<br>131632397061,I=1.859318521351727<br>.O=69.5968481599833,W=50.56552063774392,M=16<br>6.4706467513428,EQUINOX=J2000,EPOCH=18-<br>FEB-2015:00:00:00,EpochTimeScale=TDB |                        |                   |                          |                          |                         |                           |                            |                         |
| <i>Comments: Extended=NO</i> |  |                                 |   |                        |                   |                          |                          |                         |                           |                            |                         |
| <b>Acquisition</b>           | <b>#</b>   | <b>Target</b>                   | <b>TA Method</b>  | <b>Subarray</b>        | <b>Filter</b>     | <b>Readout Pattern</b>   | <b>Groups/Int</b>        | <b>Integrations/Exp</b> | <b>Total Integrations</b> | <b>Total Exposure Time</b> | <b>ETC Wkbk.Calc ID</b> |
|                              | 1  | SAME                            | WATA  | SUB2048                | F140X             | NRSRAPID                 | 3                        | 1                       | 1                         | 3.628                      | 23232                   |
| <b>Template</b>              | <b>Slit</b>  |                                 |   |                        | <b>Subarray</b>   |                          |                          |                         |                           |                            |                         |
|                              | S1600A1  |                                 |   |                        | FULL              |                          |                          |                         |                           |                            |                         |
| <b>Dithers</b>               | <b>#</b>   | <b>Primary Dither Positions</b> |   |                        |                   |                          | <b>Sub-Pixel Pattern</b> |                         |                           |                            |                         |
|                              | 1  | 5                               |   |                        |                   |                          | NONE                     |                         |                           |                            |                         |
| <b>Spectral Elements</b>     | <b>#</b>   | <b>Grating/Filter</b>           | <b>Slit</b>   | <b>Readout Pattern</b> | <b>Groups/Int</b> | <b>Integrations/Ex #</b> | <b>Autocal</b>           | <b>Total Dithers</b>    | <b>Total Integrations</b> | <b>Total Exposure Time</b> | <b>ETC Wkbk.Calc ID</b> |
|                              | 1  | PRISM/CLEAR                     | S1600A1   | NRSRAPID               | 10                | 1 1                      | NONE                     | 5                       | 5                         | 590.522                    |                         |

## Proposal 1514 - Observation 3 - Low Temperature Photometric Standard Check

Special Requirements

Group Observations 1, 2, 3, Non-interruptible

DEFAULT WINDOW: ANGULAR RATE 6300-HOSAMU FROM JWST LESS THAN 0.075