



# 1981 - Tell Me How I'm Supposed To Breathe With No Air: Measuring the Prevalence and Diversity of M-Dwarf Planet Atmospheres

Cycle: 1, Proposal Category: GO

## INVESTIGATORS

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| Dr. Laura C Mayorga (CoI)                      | The Johns Hopkins University Applied Physics Laboratory        |

## OBSERVATIONS

| <i>Folder</i> | <i>Observation</i> | <i>Label</i> | <i>Observing Template</i> | <i>Science Target</i> |
|---------------|--------------------|--------------|---------------------------|-----------------------|
| GJ 4102b      |                    |              |                           |                       |

JWST Proposal 1981 (Created: Tuesday, May 21, 2024 at 6:00:21 PM Eastern Standard Time) - Overview

| <i>Folder</i> | <i>Observation</i> | <i>Label</i> | <i>Observing Template</i>         | <i>Science Target</i> |
|---------------|--------------------|--------------|-----------------------------------|-----------------------|
|               | 41                 | Visit 1      | NIRSpec Bright Object Time Series | (4) GJ-4102           |
|               | 42                 | Visit 2      | NIRSpec Bright Object Time Series | (4) GJ-4102           |
|               | 44                 | Visit 4      | NIRSpec Bright Object Time Series | (4) GJ-4102           |
|               | 45                 | Visit 5      | NIRSpec Bright Object Time Series | (14) GJ-4102A         |
|               | 43                 | Visit 3      | NIRSpec Bright Object Time Series | (4) GJ-4102           |
| WOLF 437b     |                    |              |                                   |                       |
|               | 11                 | Visit 1      | NIRSpec Bright Object Time Series | (1) WOLF-437          |
|               | 12                 | Visit 2      | NIRSpec Bright Object Time Series | (1) WOLF-437          |
| GJ 1132b      |                    |              |                                   |                       |
|               | 21                 | Visit 1      | NIRSpec Bright Object Time Series | (2) GJ-1132           |
|               | 22                 | Visit 2      | NIRSpec Bright Object Time Series | (2) GJ-1132           |
|               | 23                 | Visit 3      | NIRSpec Bright Object Time Series | (2) GJ-1132           |
|               | 24                 | Visit 4      | NIRSpec Bright Object Time Series | (2) GJ-1132           |
| GJ-341b       |                    |              |                                   |                       |
|               | 31                 | Visit 1      | NIRCam Grism Time Series          | (3) GJ-341            |
|               | 32                 | Visit 2      | NIRCam Grism Time Series          | (3) GJ-341            |
|               | 33                 | Visit 3      | NIRCam Grism Time Series          | (3) GJ-341            |
| TRAPPIST-1h   |                    |              |                                   |                       |
|               | 51                 | Visit 1      | NIRSpec Bright Object Time Series | (5) TRAPPIST-1        |
|               | 53                 | Visit 3      | NIRSpec Bright Object Time Series | (5) TRAPPIST-1        |

**ABSTRACT**

One of JWST's four pillars of science points to finding the building blocks of life elsewhere in the universe. Planets orbiting M-dwarf stars represent our best (and only) opportunity to measure the spectrum of a potentially-habitable planet in the next decade. The quest towards habitability begins with a simple question: Does this planet have an atmosphere? Whether or not terrestrial M-dwarf planets can retain their atmospheres is a hotly debated topic and only a large observational campaign acquiring exoplanet transmission spectra can provide unequivocal evidence of atmospheres. Understanding which M-dwarf planets have atmospheres will focus future theoretical efforts and could provide the first evidence of a "cosmic shoreline", a universal division between planets with and without substantial atmospheres. Even the population of planets with tenuous atmospheres will inform us about atmospheric escape processes.

In this study, we will obtain transmission spectra of nine terrestrial planets orbiting the nearest M dwarfs using instrument modes that are sensitive to

CO<sub>2</sub> at 4.3 microns and CH<sub>4</sub> at 3.3 microns, the strongest such features in JWST's wavelength range. Upon successful completion of this campaign, we will know which transiting M-dwarf planets within 15 parsecs have atmospheres and, of those that do, the fundamental diversity in their basic atmospheric compositions. We will know how the presence of an atmosphere correlates with planet irradiation and escape velocity, and how the evolutionary history of M dwarfs shapes the atmospheres of the planets that orbit them. Ultimately, this study will generate new sparks of life in M-dwarf planet research.

## **OBSERVING DESCRIPTION**

We will perform time-series observations of five terrestrial exoplanets orbiting the nearest M dwarfs to determine which planets have atmospheres and, of those that do, the fundamental diversity in their basic atmospheric composition.

The fundamental parameter that determines the length of our time-series observations is the transit duration. Additionally, for each visit, we will require a few hours of baseline both before and after the transit to identify and effectively model any instrument systematics. We compute the exposure times, phase constraints, and signal-to-noise ratio (SNR) for each observation based on the JWST ETC, ExoCTK, and PandExo estimates. We require a total of 76 hours (including overheads) for the given primary targets. Below we provide details of each observation.

WOLF 347b: 2 transits, NIRSpec/G395

GJ 1132b: 2 transits, NIRSpec/G395

GJ 341b: 3 transits, NIRCам/F444W, PA constraints

GJ 4102b: 3 transits, NIRSpec/G395

TRAPPIST-1h: 3 transits, NIRSpec/PRISM, avoid multi-planet transits

All of the NIRSpec/G395H targets are too bright for TA and rely on a faint, nearby companion to avoid saturation. GJ 341 has PA constraints to avoid contamination from nearby targets. We will avoid TRAPPIST-1h transits that overlap with transits from other planets within the same system. The Visit Planner shows that there is a sufficient number of transit opportunities available for each target.

Proposal 1981 - Targets - Tell Me How I'm Supposed To Breathe With No Air: Measuring the Prevalence and Diversity of M-Dwarf Pla...

| #  | Name                     | Target Coordinates   | Targ. Coord. Corrections   | Miscellaneous |
|--|--------------------------|--|--|---------------|
| (1)  | WOLF-437                 | RA: 12 47 55.5675 (191.9815313d)<br>Dec: +09 44 57.91 (9.74942d)<br>Equinox: J2000   | Proper Motion RA: -0.06820279992207054 sec of time/yr<br>Proper Motion Dec: -0.4600339999115022 arcsec/yr<br>Parallax: 0.1237756"<br>Epoch of Position: 2015.5 |               |
| <i>Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.</i> |                          |  |  |               |
| <i>Added Parallax per Tony's suggestion</i><br>Category=Star<br>Description=[M dwarfs]<br>Extended=NO    |                          |  |  |               |
| (2)  | GJ-1132                  | RA: 10 14 50.1768 (153.7090700d)<br>Dec: -47 09 17.77 (-47.15494d)<br>Equinox: J2000 | Proper Motion RA: -0.10335027422347062 sec of time/yr<br>Proper Motion Dec: 0.414512 arcsec/yr<br>Parallax: 0.0793206"<br>Epoch of Position: 2015.5            |               |
| <i>Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.</i> |                          |  |  |               |
| <i>Added Parallax per Tony's suggestion</i><br>Category=Star<br>Description=[M dwarfs]                   |                          |  |  |               |
| (3)  | GJ-341                   | RA: 09 21 35.8504 (140.3993767d)<br>Dec: -60 16 52.21 (-60.28117d)<br>Equinox: J2000 | Proper Motion RA: -0.11297682918319278 sec of time/yr<br>Proper Motion Dec: 0.18209 arcsec/yr<br>Epoch of Position: 2015.5                                     |               |
| <i>Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.</i> |                          |  |  |               |
| Category=Star<br>Description=[M dwarfs]  |                          |  |  |               |
| (4)  | GJ-4102                  | RA: 19 20 57.1076 (290.2379483d)<br>Dec: -82 33 35.24 (-82.55979d)<br>Equinox: J2000 | Proper Motion RA: 0.1761679932340912 sec of time/yr<br>Proper Motion Dec: -1.2302199999567165 arcsec/yr<br>Epoch of Position: 2015.5                           |               |
| <i>Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.</i> |                          |  |  |               |
| Category=Unidentified<br>Description=[Infrared sources, Visible sources]                                 |                          |  |  |               |
| (5)  | TRAPPIST-1               | RA: 23 06 30.3341 (346.6263921d)<br>Dec: -05 02 36.46 (-5.04346d)<br>Equinox: J2000  | Proper Motion RA: 0.062299806210057845 sec of time/yr<br>Proper Motion Dec: -0.479402999985723 arcsec/yr<br>Epoch of Position: 2015.5                          |               |
| <i>Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.</i> |                          |  |  |               |
| Category=Star<br>Description=[M dwarfs]  |                          |  |  |               |
| (11)   | WOLF437-TARGETAQ-OPTION1 | RA: 12 47 50.8779 (191.9619912d)<br>Dec: +09 45 39.47 (9.76096d)<br>Equinox: J2000   | Proper Motion RA: -4.221782721885151E-4 sec of time/yr<br>Proper Motion Dec: -0.004376999959276873 arcsec/yr<br>Epoch of Position: 2015.5                      |               |
| <i>Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.</i> |                          |  |  |               |
| Category=Unidentified<br>Description=[Infrared sources, Visible sources]                                 |                          |  |  |               |

Fixed Targets

Proposal 1981 - Targets - Tell Me How I'm Supposed To Breathe With No Air: Measuring the Prevalence and Diversity of M-Dwarf Pla...

|      |                              |   |  |
|------|------------------------------|---|--|
| (12) | WOLF437-TARGETAQ-<br>OPTION2 | RA: 12 48 0.4697 (192.0019571d)<br>Dec: +09 45 9.17 (9.75255d)<br>Equinox: J2000<br><br><i>Comments: This object was generated by the targetselector and retrieved from the 2MASS database.</i><br><i>Category=Unidentified</i><br><i>Description=[Infrared sources]</i>  |  |
| (14) | GJ-4102A                     | RA: 19 20 57.1077 (290.2379487d)<br>Dec: -82 33 35.24 (-82.55979d)<br>Equinox: J2000<br><br><i>Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.</i><br><i>Added Parallax per Tony's suggestion</i><br><i>Category=Star</i><br><i>Description=[M dwarfs]</i>  | Proper Motion RA: 0.17622771481353314 sec of<br>time/yr<br>Proper Motion Dec: -1.23029700009738 arcsec/yr<br>Parallax: 0.0801134"<br>Epoch of Position: 2015.5 |
| (21) | GJ1132-TARGETAQ              | RA: 10 14 47.5083 (153.6979512d)<br>Dec: -47 08 56.17 (-47.14894d)<br>Equinox: J2000<br><br><i>Comments: This object was generated by the targetselector and retrieved from the 2MASS database.</i><br><br><i>K=14.089</i><br><i>J = 14.356</i><br><br><i>I recommend NRSRAPIDD6 with F140X for SNR~150.</i><br><i>Category=Unidentified</i><br><i>Description=[Infrared sources, Visible sources]</i>  | Proper Motion RA: -0.007 arcsec/yr<br>Proper Motion Dec: 0.007931 arcsec/yr<br>Epoch of Position: 2015.5   |
| (41) | GJ-4102-TARGETAQ             | RA: 19 21 4.4901 (290.2687087d)<br>Dec: -82 33 2.09 (-82.55058d)<br>Equinox: J2000<br><br><i>Comments: Fairly high proper motions but not moving out of the FoV any time soon.</i><br><i>Distance from target = 24.3"</i><br><i>2MASS 19210447-8233020</i><br><i>Jmag = 15.5</i><br><br><i>https://vizier.u-strasbg.fr/viz-bin/VizieR-5?-ref=VIZ5fb7e5325c20&amp;-out.add=&amp;-source=II/246/out&amp;2MASS===19210447-8233020</i><br><br><i>Gaia DR2 6347643492312233856</i><br><i>https://vizier.u-strasbg.fr/viz-bin/VizieR-5?-ref=VIZ5fb7e5325c20&amp;-out.add=&amp;-source=I/345/gaia2&amp;-c=290.26813836944%20-82.55052996389,eq=ICRS,rs=2&amp;-out.orig=o</i><br><br><i>Instrument set-up:</i><br><i>WATA, CLEAR, SUB32, NRSRAPID</i><br><i>Category=Unidentified</i><br><i>Description=[Infrared sources, Visible sources]</i> | Proper Motion RA: -17.178 mas/yr<br>Proper Motion Dec: 12.029 mas/yr<br>Epoch of Position: 2015.5  |

# Proposal 1981 - Targets - Tell Me How I'm Supposed To Breathe With No Air: Measuring the Prevalence and Diversity of M-Dwarf Pla...

(42) GJ-4102-TARGETAQ-J2000 RA: 19 21 4.4901 (290.2687087d) Proper Motion RA: -17.178 mas/yr  
Dec: -82 33 2.09 (-82.55058d) Proper Motion Dec: 12.029 mas/yr  
Equinox: J2000 Epoch of Position: 2000.0

*Comments: Fairly high proper motions but not moving out of the FoV any time soon.*

*Distance from target = 24.3"*

*2MASS 19210447-8233020*

*Jmag = 15.5*

*<https://vizier.u-strasbg.fr/viz-bin/VizieR-5?-ref=VIZ5fb7e5325c20&-out.add=.&-source=II/246/out&2MASS===19210447-8233020>*

*Gaia DR2 6347643492312233856*

*<https://vizier.u-strasbg.fr/viz-bin/VizieR-5?-ref=VIZ5fb7e5325c20&-out.add=.&-source=I/345/gaia2&-c=290.26813836944%20-82.55052996389,eq=ICRS,rs=2&-out.orig=o>*

*Instrument set-up:*

*WATA, CLEAR, SUB32, NRSRAPID*

*Category=Unidentified*

*Description=[Infrared sources, Visible sources]*

Proposal 1981 - Observation 41 - Tell Me How I'm Supposed To Breathe With No Air: Measuring the Prevalence and Diversity of M-D...

Tue May 21 23:00:21 GMT 2024

| <b>Observation</b>          | <p><b>Proposal 1981, Observation 41: Visit 1</b></p> <p><b>Diagnostic Status: Warning</b></p> <p>Observing Template: NIRSpec Bright Object Time Series</p>  |  |  |                  |                 |               |                    |                     |                     |                  |  |   |                |                    |                          |                  |                 |               |  |  |                     |                  |              |                     |      |       |       |            |      |           |       |      |       |
|-----------------------------|---|--|--|------------------|-----------------|---------------|--------------------|---------------------|---------------------|------------------|--|---|----------------|--------------------|--------------------------|------------------|-----------------|---------------|--|--|---------------------|------------------|--------------|---------------------|------|-------|-------|------------|------|-----------|-------|------|-------|
| <b>Diagnostics</b>          | <p>(Visit 1 (Obs 41)) Warning (Form): Exposure Duration exceeds the limit of 10000.0 seconds. Above this limit it is possible that a High Gain Antenna move may occur during the exposure.</p> <p>(Visit 41:1) Warning (Form): Overheads are provisional until the Visit Planner has been run.</p>  |  |  |                  |                 |               |                    |                     |                     |                  |  |   |                |                    |                          |                  |                 |               |  |  |                     |                  |              |                     |      |       |       |            |      |           |       |      |       |
| <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>(4)</td> <td>GJ-4102</td> <td>RA: 19 20 57.1076 (290.2379483d)<br/>Dec: -82 33 35.24 (-82.55979d)<br/>Equinox: J2000</td> <td>Proper Motion RA: 0.1761679932340912 sec of time/yr<br/>Proper Motion Dec: -1.2302199999567165 arcsec/yr<br/>Epoch of Position: 2015.5</td> <td></td> </tr> </tbody> </table> <p><i>Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.</i><br/> <i>Category=Unidentified</i><br/> <i>Description=[Infrared sources, Visible sources]</i></p> |  |  |                  |                 |               |                    |                     |                     |                  |  | # | Name           | Target Coordinates | Targ. Coord. Corrections | Miscellaneous    | (4)             | GJ-4102       | RA: 19 20 57.1076 (290.2379483d)<br>Dec: -82 33 35.24 (-82.55979d)<br>Equinox: J2000 | Proper Motion RA: 0.1761679932340912 sec of time/yr<br>Proper Motion Dec: -1.2302199999567165 arcsec/yr<br>Epoch of Position: 2015.5 |                     |                  |              |                     |      |       |       |            |      |           |       |      |       |
| #                           | Name  | Target Coordinates   | Targ. Coord. Corrections   | Miscellaneous    |                 |               |                    |                     |                     |                  |  |   |                |                    |                          |                  |                 |               |  |  |                     |                  |              |                     |      |       |       |            |      |           |       |      |       |
| (4)                         | GJ-4102   | RA: 19 20 57.1076 (290.2379483d)<br>Dec: -82 33 35.24 (-82.55979d)<br>Equinox: J2000 | Proper Motion RA: 0.1761679932340912 sec of time/yr<br>Proper Motion Dec: -1.2302199999567165 arcsec/yr<br>Epoch of Position: 2015.5 |                  |                 |               |                    |                     |                     |                  |  |   |                |                    |                          |                  |                 |               |  |  |                     |                  |              |                     |      |       |       |            |      |           |       |      |       |
| <b>Acquisition</b>          | <table border="1"> <thead> <tr> <th>#</th> <th>Target</th> <th>TA Method</th> <th>Subarray</th> <th>Filter</th> <th>Readout Pattern</th> <th>Groups/Int</th> <th>Integrations/Exp</th> <th>Total Integrations</th> <th>Total Exposure Time</th> <th>ETC Wkbk.Calc ID</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>41 GJ-4102-TARGETAQ</td> <td>WATA</td> <td>SUB32</td> <td>CLEAR</td> <td>NRSRAPIDD6</td> <td>3</td> <td>1</td> <td>1</td> <td>0.26</td> <td>76169</td> </tr> </tbody> </table>   |  |  |                  |                 |               |                    |                     |                     |                  |  | # | Target         | TA Method          | Subarray                 | Filter           | Readout Pattern | Groups/Int    | Integrations/Exp   | Total Integrations   | Total Exposure Time | ETC Wkbk.Calc ID | 1            | 41 GJ-4102-TARGETAQ | WATA | SUB32 | CLEAR | NRSRAPIDD6 | 3    | 1         | 1     | 0.26 | 76169 |
| #                           | Target  | TA Method  | Subarray   | Filter           | Readout Pattern | Groups/Int    | Integrations/Exp   | Total Integrations  | Total Exposure Time | ETC Wkbk.Calc ID |  |   |                |                    |                          |                  |                 |               |  |  |                     |                  |              |                     |      |       |       |            |      |           |       |      |       |
| 1                           | 41 GJ-4102-TARGETAQ   | WATA   | SUB32  | CLEAR            | NRSRAPIDD6      | 3             | 1                  | 1                   | 0.26                | 76169            |  |   |                |                    |                          |                  |                 |               |  |  |                     |                  |              |                     |      |       |       |            |      |           |       |      |       |
| <b>Template</b>             | <p>Subarray</p> <p>SUB2048</p>  |  |  |                  |                 |               |                    |                     |                     |                  |  |   |                |                    |                          |                  |                 |               |  |  |                     |                  |              |                     |      |       |       |            |      |           |       |      |       |
| <b>Spectral Elements</b>    | <table border="1"> <thead> <tr> <th>#</th> <th>Grating/Filter</th> <th>Readout Pattern</th> <th>Groups/Int</th> <th>Integrations/Exp</th> <th>Exposures/Dith</th> <th>Total Dithers</th> <th>Total Integrations</th> <th>Total Exposure Time</th> <th>ETC Wkbk.Calc ID</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>G395H/F290LP</td> <td>NRSRAPID</td> <td>9</td> <td>1158</td> <td>1</td> <td>1</td> <td>1158</td> <td>10468.876</td> <td>76169</td> </tr> </tbody> </table>   |  |  |                  |                 |               |                    |                     |                     |                  |  | # | Grating/Filter | Readout Pattern    | Groups/Int               | Integrations/Exp | Exposures/Dith  | Total Dithers | Total Integrations   | Total Exposure Time  | ETC Wkbk.Calc ID    | 1                | G395H/F290LP | NRSRAPID            | 9    | 1158  | 1     | 1          | 1158 | 10468.876 | 76169 |      |       |
| #                           | Grating/Filter  | Readout Pattern  | Groups/Int   | Integrations/Exp | Exposures/Dith  | Total Dithers | Total Integrations | Total Exposure Time | ETC Wkbk.Calc ID    |                  |  |   |                |                    |                          |                  |                 |               |  |  |                     |                  |              |                     |      |       |       |            |      |           |       |      |       |
| 1                           | G395H/F290LP  | NRSRAPID   | 9  | 1158             | 1               | 1             | 1158               | 10468.876           | 76169               |                  |  |   |                |                    |                          |                  |                 |               |  |  |                     |                  |              |                     |      |       |       |            |      |           |       |      |       |
| <b>Special Requirements</b> | <p>Phase 0.9548 to 0.9754 with period 2.0290882 Days and zero-phase 2458626.20653 HJD</p> <p>Time Series Observation</p> <p>No Parallel Attachments</p>   |  |  |                  |                 |               |                    |                     |                     |                  |  |   |                |                    |                          |                  |                 |               |  |  |                     |                  |              |                     |      |       |       |            |      |           |       |      |       |

Proposal 1981 - Observation 42 - Tell Me How I'm Supposed To Breathe With No Air: Measuring the Prevalence and Diversity of M-D...

Tue May 21 23:00:21 GMT 2024

| <b>Observation</b>          | <p><b>Proposal 1981, Observation 42: Visit 2</b></p> <p><b>Diagnostic Status: Warning</b></p> <p>Observing Template: NIRSpec Bright Object Time Series</p>  |  |  |                  |                 |               |                    |                     |                     |                  |  |   |                |                    |                          |                  |                 |               |                    |                     |                     |                  |              |                     |  |  |       |            |      |           |       |      |       |
|-----------------------------|---|--|--|------------------|-----------------|---------------|--------------------|---------------------|---------------------|------------------|--|---|----------------|--------------------|--------------------------|------------------|-----------------|---------------|--------------------|---------------------|---------------------|------------------|--------------|---------------------|--|--|-------|------------|------|-----------|-------|------|-------|
| <b>Diagnostics</b>          | <p>(Visit 2 (Obs 42)) Warning (Form): Exposure Duration exceeds the limit of 10000.0 seconds. Above this limit it is possible that a High Gain Antenna move may occur during the exposure.</p> <p>(Visit 42:1) Warning (Form): Overheads are provisional until the Visit Planner has been run.</p>  |  |  |                  |                 |               |                    |                     |                     |                  |  |   |                |                    |                          |                  |                 |               |                    |                     |                     |                  |              |                     |  |  |       |            |      |           |       |      |       |
| <b>Fixed Targets</b>        | <table border="1"> <thead> <tr> <th>#</th> <th>Name</th> <th>Target Coordinates</th> <th colspan="4">Targ. Coord. Corrections</th> <th colspan="4">Miscellaneous</th> </tr> </thead> <tbody> <tr> <td>(4)</td> <td>GJ-4102</td> <td>RA: 19 20 57.1076 (290.2379483d)<br/>Dec: -82 33 35.24 (-82.55979d)<br/>Equinox: J2000</td> <td colspan="4">Proper Motion RA: 0.1761679932340912 sec of time/yr<br/>Proper Motion Dec: -1.2302199999567165 arcsec/yr<br/>Epoch of Position: 2015.5</td> <td colspan="4"></td> </tr> </tbody> </table> <p><i>Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.</i><br/> <i>Category=Unidentified</i><br/> <i>Description=[Infrared sources, Visible sources]</i></p> |  |  |                  |                 |               |                    |                     |                     |                  |  | # | Name           | Target Coordinates | Targ. Coord. Corrections |                  |                 |               | Miscellaneous      |                     |                     |                  | (4)          | GJ-4102             | RA: 19 20 57.1076 (290.2379483d)<br>Dec: -82 33 35.24 (-82.55979d)<br>Equinox: J2000 | Proper Motion RA: 0.1761679932340912 sec of time/yr<br>Proper Motion Dec: -1.2302199999567165 arcsec/yr<br>Epoch of Position: 2015.5 |       |            |      |           |       |      |       |
| #                           | Name  | Target Coordinates   | Targ. Coord. Corrections   |                  |                 |               | Miscellaneous      |                     |                     |                  |  |   |                |                    |                          |                  |                 |               |                    |                     |                     |                  |              |                     |  |  |       |            |      |           |       |      |       |
| (4)                         | GJ-4102   | RA: 19 20 57.1076 (290.2379483d)<br>Dec: -82 33 35.24 (-82.55979d)<br>Equinox: J2000 | Proper Motion RA: 0.1761679932340912 sec of time/yr<br>Proper Motion Dec: -1.2302199999567165 arcsec/yr<br>Epoch of Position: 2015.5 |                  |                 |               |                    |                     |                     |                  |  |   |                |                    |                          |                  |                 |               |                    |                     |                     |                  |              |                     |  |  |       |            |      |           |       |      |       |
| <b>Acquisition</b>          | <table border="1"> <thead> <tr> <th>#</th> <th>Target</th> <th>TA Method</th> <th>Subarray</th> <th>Filter</th> <th>Readout Pattern</th> <th>Groups/Int</th> <th>Integrations/Exp</th> <th>Total Integrations</th> <th>Total Exposure Time</th> <th>ETC Wkbk.Calc ID</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>41 GJ-4102-TARGETAQ</td> <td>WATA</td> <td>SUB32</td> <td>CLEAR</td> <td>NRSRAPIDD6</td> <td>3</td> <td>1</td> <td>1</td> <td>0.26</td> <td>76169</td> </tr> </tbody> </table>   |  |  |                  |                 |               |                    |                     |                     |                  |  | # | Target         | TA Method          | Subarray                 | Filter           | Readout Pattern | Groups/Int    | Integrations/Exp   | Total Integrations  | Total Exposure Time | ETC Wkbk.Calc ID | 1            | 41 GJ-4102-TARGETAQ | WATA   | SUB32  | CLEAR | NRSRAPIDD6 | 3    | 1         | 1     | 0.26 | 76169 |
| #                           | Target  | TA Method  | Subarray   | Filter           | Readout Pattern | Groups/Int    | Integrations/Exp   | Total Integrations  | Total Exposure Time | ETC Wkbk.Calc ID |  |   |                |                    |                          |                  |                 |               |                    |                     |                     |                  |              |                     |  |  |       |            |      |           |       |      |       |
| 1                           | 41 GJ-4102-TARGETAQ   | WATA   | SUB32  | CLEAR            | NRSRAPIDD6      | 3             | 1                  | 1                   | 0.26                | 76169            |  |   |                |                    |                          |                  |                 |               |                    |                     |                     |                  |              |                     |  |  |       |            |      |           |       |      |       |
| <b>Template</b>             | <p>Subarray</p> <p>SUB2048</p>  |  |  |                  |                 |               |                    |                     |                     |                  |  |   |                |                    |                          |                  |                 |               |                    |                     |                     |                  |              |                     |  |  |       |            |      |           |       |      |       |
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| #                           | Grating/Filter  | Readout Pattern  | Groups/Int   | Integrations/Exp | Exposures/Dith  | Total Dithers | Total Integrations | Total Exposure Time | ETC Wkbk.Calc ID    |                  |  |   |                |                    |                          |                  |                 |               |                    |                     |                     |                  |              |                     |  |  |       |            |      |           |       |      |       |
| 1                           | G395H/F290LP  | NRSRAPID   | 9  | 1158             | 1               | 1             | 1158               | 10468.876           | 76169               |                  |  |   |                |                    |                          |                  |                 |               |                    |                     |                     |                  |              |                     |  |  |       |            |      |           |       |      |       |
| <b>Special Requirements</b> | <p>Phase 0.9548 to 0.9754 with period 2.0290882 Days and zero-phase 2458626.20653 HJD</p> <p>Time Series Observation</p> <p>No Parallel Attachments</p>   |  |  |                  |                 |               |                    |                     |                     |                  |  |   |                |                    |                          |                  |                 |               |                    |                     |                     |                  |              |                     |  |  |       |            |      |           |       |      |       |



Proposal 1981 - Observation 44 - Tell Me How I'm Supposed To Breathe With No Air: Measuring the Prevalence and Diversity of M-D...

Tue May 21 23:00:21 GMT 2024

| <b>Observation</b>          | <p><b>Proposal 1981, Observation 44: Visit 4</b></p> <p><b>Diagnostic Status: Warning</b></p> <p>Observing Template: NIRSpec Bright Object Time Series</p>  |  |  |                  |                 |               |                    |                     |                     |                  |  |   |                |                    |                          |                  |                 |               |                    |                     |                     |                  |              |                     |  |  |       |            |      |           |       |      |       |
|-----------------------------|---|--|--|------------------|-----------------|---------------|--------------------|---------------------|---------------------|------------------|--|---|----------------|--------------------|--------------------------|------------------|-----------------|---------------|--------------------|---------------------|---------------------|------------------|--------------|---------------------|--|--|-------|------------|------|-----------|-------|------|-------|
| <b>Diagnostics</b>          | <p>(Visit 4 (Obs 44)) Warning (Form): Exposure Duration exceeds the limit of 10000.0 seconds. Above this limit it is possible that a High Gain Antenna move may occur during the exposure.</p> <p>(Visit 44:1) Warning (Form): Overheads are provisional until the Visit Planner has been run.</p>  |  |  |                  |                 |               |                    |                     |                     |                  |  |   |                |                    |                          |                  |                 |               |                    |                     |                     |                  |              |                     |  |  |       |            |      |           |       |      |       |
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| #                           | Name  | Target Coordinates   | Targ. Coord. Corrections   |                  |                 |               | Miscellaneous      |                     |                     |                  |  |   |                |                    |                          |                  |                 |               |                    |                     |                     |                  |              |                     |  |  |       |            |      |           |       |      |       |
| (4)                         | GJ-4102   | RA: 19 20 57.1076 (290.2379483d)<br>Dec: -82 33 35.24 (-82.55979d)<br>Equinox: J2000 | Proper Motion RA: 0.1761679932340912 sec of time/yr<br>Proper Motion Dec: -1.2302199999567165 arcsec/yr<br>Epoch of Position: 2015.5 |                  |                 |               |                    |                     |                     |                  |  |   |                |                    |                          |                  |                 |               |                    |                     |                     |                  |              |                     |  |  |       |            |      |           |       |      |       |
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| #                           | Target  | TA Method  | Subarray   | Filter           | Readout Pattern | Groups/Int    | Integrations/Exp   | Total Integrations  | Total Exposure Time | ETC Wkbk.Calc ID |  |   |                |                    |                          |                  |                 |               |                    |                     |                     |                  |              |                     |  |  |       |            |      |           |       |      |       |
| 1                           | 41 GJ-4102-TARGETAQ   | WATA   | SUB32  | CLEAR            | NRSRAPIDD6      | 3             | 1                  | 1                   | 0.26                | 76169            |  |   |                |                    |                          |                  |                 |               |                    |                     |                     |                  |              |                     |  |  |       |            |      |           |       |      |       |
| <b>Template</b>             | <p>Subarray</p> <p>SUB2048</p>  |  |  |                  |                 |               |                    |                     |                     |                  |  |   |                |                    |                          |                  |                 |               |                    |                     |                     |                  |              |                     |  |  |       |            |      |           |       |      |       |
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| #                           | Grating/Filter  | Readout Pattern  | Groups/Int   | Integrations/Exp | Exposures/Dith  | Total Dithers | Total Integrations | Total Exposure Time | ETC Wkbk.Calc ID    |                  |  |   |                |                    |                          |                  |                 |               |                    |                     |                     |                  |              |                     |  |  |       |            |      |           |       |      |       |
| 1                           | G395H/F290LP  | NRSRAPID   | 9  | 1224             | 1               | 1             | 1224               | 11065.548           | 76169               |                  |  |   |                |                    |                          |                  |                 |               |                    |                     |                     |                  |              |                     |  |  |       |            |      |           |       |      |       |
| <b>Special Requirements</b> | <p>Phase 0.9599 to 0.9804 with period 2.0290882 Days and zero-phase 2458626.20653 HJD</p> <p>Time Series Observation</p> <p>No Parallel Attachments</p>   |  |  |                  |                 |               |                    |                     |                     |                  |  |   |                |                    |                          |                  |                 |               |                    |                     |                     |                  |              |                     |  |  |       |            |      |           |       |      |       |

Proposal 1981 - Observation 45 - Tell Me How I'm Supposed To Breathe With No Air: Measuring the Prevalence and Diversity of M-D...

Tue May 21 23:00:21 GMT 2024

| <b>Observation</b>       | <p><b>Proposal 1981, Observation 45: Visit 5</b></p> <p><b>Diagnostic Status: Warning</b></p> <p>Observing Template: NIRSpec Bright Object Time Series</p>  |  |   |                  |                 |               |                    |                     |                     |                  |   |                |                    |                          |                  |                 |               |                    |                     |                     |                  |              |                           |  |   |       |            |      |           |       |      |       |
|--------------------------|---|--|---|------------------|-----------------|---------------|--------------------|---------------------|---------------------|------------------|---|----------------|--------------------|--------------------------|------------------|-----------------|---------------|--------------------|---------------------|---------------------|------------------|--------------|---------------------------|--|---|-------|------------|------|-----------|-------|------|-------|
| <b>Diagnostics</b>       | <p>(Visit 5 (Obs 45)) Warning (Form): Exposure Duration exceeds the limit of 10000.0 seconds. Above this limit it is possible that a High Gain Antenna move may occur during the exposure.</p> <p>(Visit 45:1) Warning (Form): Overheads are provisional until the Visit Planner has been run.</p>  |  |   |                  |                 |               |                    |                     |                     |                  |   |                |                    |                          |                  |                 |               |                    |                     |                     |                  |              |                           |  |   |       |            |      |           |       |      |       |
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| #                        | Name  | Target Coordinates   | Targ. Coord. Corrections  |                  |                 |               | Miscellaneous      |                     |                     |                  |   |                |                    |                          |                  |                 |               |                    |                     |                     |                  |              |                           |  |   |       |            |      |           |       |      |       |
| (14)                     | GJ-4102A  | RA: 19 20 57.1077 (290.2379487d)<br>Dec: -82 33 35.24 (-82.55979d)<br>Equinox: J2000 | Proper Motion RA: 0.17622771481353314 sec of time/yr<br>Proper Motion Dec: -1.23029700009738 arcsec/yr<br>Parallax: 0.0801134"<br>Epoch of Position: 2015.5 |                  |                 |               |                    |                     |                     |                  |   |                |                    |                          |                  |                 |               |                    |                     |                     |                  |              |                           |  |   |       |            |      |           |       |      |       |
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| #                        | Target  | TA Method  | Subarray  | Filter           | Readout Pattern | Groups/Int    | Integrations/Exp   | Total Integrations  | Total Exposure Time | ETC Wkbk.Calc ID |   |                |                    |                          |                  |                 |               |                    |                     |                     |                  |              |                           |  |   |       |            |      |           |       |      |       |
| 1                        | 42 GJ-4102-TARGETAQ-J2000   | WATA   | SUB32   | CLEAR            | NRSRAPIDD6      | 3             | 1                  | 1                   | 0.26                | 76169            |   |                |                    |                          |                  |                 |               |                    |                     |                     |                  |              |                           |  |   |       |            |      |           |       |      |       |
| <b>Template</b>          | <p><b>Subarray</b></p> <p>SUB2048</p>   |  |   |                  |                 |               |                    |                     |                     |                  |   |                |                    |                          |                  |                 |               |                    |                     |                     |                  |              |                           |  |   |       |            |      |           |       |      |       |
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| #                        | Grating/Filter  | Readout Pattern  | Groups/Int  | Integrations/Exp | Exposures/Dith  | Total Dithers | Total Integrations | Total Exposure Time | ETC Wkbk.Calc ID    |                  |   |                |                    |                          |                  |                 |               |                    |                     |                     |                  |              |                           |  |   |       |            |      |           |       |      |       |
| 1                        | G395H/F290LP  | NRSRAPID   | 9   | 1224             | 1               | 1             | 1224               | 11065.548           | 76169               |                  |   |                |                    |                          |                  |                 |               |                    |                     |                     |                  |              |                           |  |   |       |            |      |           |       |      |       |

Proposal 1981 - Observation 45 - Tell Me How I'm Supposed To Breathe With No Air: Measuring the Prevalence and Diversity of M-D...

Special Requirements

Phase 0.9599 to 0.9804 with period 2.0290882 Days and zero-phase 2458626.20653 HJD  
Time Series Observation  
No Parallel Attachments

Proposal 1981 - Observation 43 - Tell Me How I'm Supposed To Breathe With No Air: Measuring the Prevalence and Diversity of M-D...

Tue May 21 23:00:21 GMT 2024

| <b>Observation</b>          | <p><b>Proposal 1981, Observation 43: Visit 3</b></p> <p><b>Diagnostic Status: Warning</b></p> <p>Observing Template: NIRSpec Bright Object Time Series</p>  |  |  |                  |                 |               |                    |                     |                     |                  |  |   |                |                    |                          |                  |                 |               |  |  |                     |                  |              |                     |      |       |       |            |      |           |       |      |       |
|-----------------------------|---|--|--|------------------|-----------------|---------------|--------------------|---------------------|---------------------|------------------|--|---|----------------|--------------------|--------------------------|------------------|-----------------|---------------|--|--|---------------------|------------------|--------------|---------------------|------|-------|-------|------------|------|-----------|-------|------|-------|
| <b>Diagnostics</b>          | <p>(Visit 3 (Obs 43)) Warning (Form): Exposure Duration exceeds the limit of 10000.0 seconds. Above this limit it is possible that a High Gain Antenna move may occur during the exposure.</p> <p>(Visit 43:1) Warning (Form): Overheads are provisional until the Visit Planner has been run.</p>  |  |  |                  |                 |               |                    |                     |                     |                  |  |   |                |                    |                          |                  |                 |               |  |  |                     |                  |              |                     |      |       |       |            |      |           |       |      |       |
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| #                           | Name  | Target Coordinates   | Targ. Coord. Corrections   | Miscellaneous    |                 |               |                    |                     |                     |                  |  |   |                |                    |                          |                  |                 |               |  |  |                     |                  |              |                     |      |       |       |            |      |           |       |      |       |
| (4)                         | GJ-4102   | RA: 19 20 57.1076 (290.2379483d)<br>Dec: -82 33 35.24 (-82.55979d)<br>Equinox: J2000 | Proper Motion RA: 0.1761679932340912 sec of time/yr<br>Proper Motion Dec: -1.2302199999567165 arcsec/yr<br>Epoch of Position: 2015.5 |                  |                 |               |                    |                     |                     |                  |  |   |                |                    |                          |                  |                 |               |  |  |                     |                  |              |                     |      |       |       |            |      |           |       |      |       |
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| #                           | Target  | TA Method  | Subarray   | Filter           | Readout Pattern | Groups/Int    | Integrations/Exp   | Total Integrations  | Total Exposure Time | ETC Wkbk.Calc ID |  |   |                |                    |                          |                  |                 |               |  |  |                     |                  |              |                     |      |       |       |            |      |           |       |      |       |
| 1                           | 41 GJ-4102-TARGETAQ   | WATA   | SUB32  | CLEAR            | NRSRAPIDD6      | 3             | 1                  | 1                   | 0.26                | 76169            |  |   |                |                    |                          |                  |                 |               |  |  |                     |                  |              |                     |      |       |       |            |      |           |       |      |       |
| <b>Template</b>             | <p>Subarray</p> <p>SUB2048</p>  |  |  |                  |                 |               |                    |                     |                     |                  |  |   |                |                    |                          |                  |                 |               |  |  |                     |                  |              |                     |      |       |       |            |      |           |       |      |       |
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| #                           | Grating/Filter  | Readout Pattern  | Groups/Int   | Integrations/Exp | Exposures/Dith  | Total Dithers | Total Integrations | Total Exposure Time | ETC Wkbk.Calc ID    |                  |  |   |                |                    |                          |                  |                 |               |  |  |                     |                  |              |                     |      |       |       |            |      |           |       |      |       |
| 1                           | G395H/F290LP  | NRSRAPID   | 9  | 1158             | 1               | 1             | 1158               | 10468.876           | 76169               |                  |  |   |                |                    |                          |                  |                 |               |  |  |                     |                  |              |                     |      |       |       |            |      |           |       |      |       |
| <b>Special Requirements</b> | <p>Phase 0.9548 to 0.9754 with period 2.0290882 Days and zero-phase 2458626.20653 HJD</p> <p>Time Series Observation</p> <p>No Parallel Attachments</p>   |  |  |                  |                 |               |                    |                     |                     |                  |  |   |                |                    |                          |                  |                 |               |  |  |                     |                  |              |                     |      |       |       |            |      |           |       |      |       |

Proposal 1981 - Observation 11 - Tell Me How I'm Supposed To Breathe With No Air: Measuring the Prevalence and Diversity of M-D...

Tue May 21 23:00:21 GMT 2024

| <b>Observation</b>       | <p><b>Proposal 1981, Observation 11: Visit 1</b></p> <p><b>Diagnostic Status: Warning</b></p> <p>Observing Template: NIRSpec Bright Object Time Series</p>  |  |  |                  |                 |               |                    |                     |                     |                  |   |                |                    |                          |                  |                 |               |                    |                     |                     |                  |              |                             |  |  |       |            |      |           |       |      |       |
|--------------------------|---|--|--|------------------|-----------------|---------------|--------------------|---------------------|---------------------|------------------|---|----------------|--------------------|--------------------------|------------------|-----------------|---------------|--------------------|---------------------|---------------------|------------------|--------------|-----------------------------|--|--|-------|------------|------|-----------|-------|------|-------|
| <b>Diagnostics</b>       | <p>(Visit 1 (Obs 11)) Warning (Form): Exposure Duration exceeds the limit of 10000.0 seconds. Above this limit it is possible that a High Gain Antenna move may occur during the exposure.</p> <p>(Visit 1 (Obs 11)) Warning (Form): The slew between the acquisition exposure and the farthest science exposure is 75.441 Arcsec (larger than the recommended limit of 38.000 Arcsec) and may result in reduced or no schedulability. See more information in the diagnostic browser.</p> <p>(Visit 11:1) Warning (Form): Overheads are provisional until the Visit Planner has been run.</p>  |  |  |                  |                 |               |                    |                     |                     |                  |   |                |                    |                          |                  |                 |               |                    |                     |                     |                  |              |                             |  |  |       |            |      |           |       |      |       |
| <b>Fixed Targets</b>     | <table border="1"> <thead> <tr> <th>#</th> <th>Name</th> <th>Target Coordinates</th> <th colspan="4">Targ. Coord. Corrections</th> <th colspan="4">Miscellaneous</th> </tr> </thead> <tbody> <tr> <td>(1)</td> <td>WOLF-437</td> <td>RA: 12 47 55.5675 (191.9815313d)<br/>Dec: +09 44 57.91 (9.74942d)<br/>Equinox: J2000</td> <td colspan="4">Proper Motion RA: -0.06820279992207054 sec of time/yr<br/>Proper Motion Dec: -0.4600339999115022 arcsec/yr<br/>Parallax: 0.1237756"<br/>Epoch of Position: 2015.5</td> <td colspan="4"></td> </tr> </tbody> </table> <p><i>Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.</i></p> <p><i>Added Parallax per Tony's suggestion</i><br/> <i>Category=Star</i><br/> <i>Description=[M dwarfs]</i><br/> <i>Extended=NO</i></p> |  |  |                  |                 |               |                    |                     |                     |                  | # | Name           | Target Coordinates | Targ. Coord. Corrections |                  |                 |               | Miscellaneous      |                     |                     |                  | (1)          | WOLF-437                    | RA: 12 47 55.5675 (191.9815313d)<br>Dec: +09 44 57.91 (9.74942d)<br>Equinox: J2000 | Proper Motion RA: -0.06820279992207054 sec of time/yr<br>Proper Motion Dec: -0.4600339999115022 arcsec/yr<br>Parallax: 0.1237756"<br>Epoch of Position: 2015.5 |       |            |      |           |       |      |       |
| #                        | Name  | Target Coordinates   | Targ. Coord. Corrections   |                  |                 |               | Miscellaneous      |                     |                     |                  |   |                |                    |                          |                  |                 |               |                    |                     |                     |                  |              |                             |  |  |       |            |      |           |       |      |       |
| (1)                      | WOLF-437  | RA: 12 47 55.5675 (191.9815313d)<br>Dec: +09 44 57.91 (9.74942d)<br>Equinox: J2000 | Proper Motion RA: -0.06820279992207054 sec of time/yr<br>Proper Motion Dec: -0.4600339999115022 arcsec/yr<br>Parallax: 0.1237756"<br>Epoch of Position: 2015.5 |                  |                 |               |                    |                     |                     |                  |   |                |                    |                          |                  |                 |               |                    |                     |                     |                  |              |                             |  |  |       |            |      |           |       |      |       |
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| #                        | Target  | TA Method  | Subarray   | Filter           | Readout Pattern | Groups/Int    | Integrations/Exp   | Total Integrations  | Total Exposure Time | ETC Wkbk.Calc ID |   |                |                    |                          |                  |                 |               |                    |                     |                     |                  |              |                             |  |  |       |            |      |           |       |      |       |
| 1                        | 11 WOLF437-TARGETAQ-OPTION1   | WATA   | SUB32  | F140X            | NRSRAPIDD6      | 3             | 1                  | 1                   | 0.26                | 76169            |   |                |                    |                          |                  |                 |               |                    |                     |                     |                  |              |                             |  |  |       |            |      |           |       |      |       |
| <b>Template</b>          | <p>Subarray</p> <p>SUB2048</p>  |  |  |                  |                 |               |                    |                     |                     |                  |   |                |                    |                          |                  |                 |               |                    |                     |                     |                  |              |                             |  |  |       |            |      |           |       |      |       |
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| #                        | Grating/Filter  | Readout Pattern  | Groups/Int   | Integrations/Exp | Exposures/Dith  | Total Dithers | Total Integrations | Total Exposure Time | ETC Wkbk.Calc ID    |                  |   |                |                    |                          |                  |                 |               |                    |                     |                     |                  |              |                             |  |  |       |            |      |           |       |      |       |
| 1                        | G395H/F290LP  | NRSRAPID   | 3  | 3507             | 1               | 1             | 3507               | 12725.079           | 76169               |                  |   |                |                    |                          |                  |                 |               |                    |                     |                     |                  |              |                             |  |  |       |            |      |           |       |      |       |

Proposal 1981 - Observation 11 - Tell Me How I'm Supposed To Breathe With No Air: Measuring the Prevalence and Diversity of M-D...

Special Requirements

Phase 0.9356 to 0.9640 with period 1.4671214 Days and zero-phase 2459670.58857 HJD  
Time Series Observation  
No Parallel Attachments

Proposal 1981 - Observation 12 - Tell Me How I'm Supposed To Breathe With No Air: Measuring the Prevalence and Diversity of M-D...

Tue May 21 23:00:21 GMT 2024

| <b>Observation</b>  | <p><b>Proposal 1981, Observation 12: Visit 2</b></p> <p><b>Diagnostic Status: Warning</b></p> <p>Observing Template: NIRSpec Bright Object Time Series</p>   |  |  |                  |                 |               |                    |                     |                     |                  |  |   |                |                    |                          |                  |                 |               |                    |                     |                     |                  |              |                             |  |  |       |            |      |           |       |      |       |   |  |  |  |  |  |  |  |  |  |  |
|---|--|--|--|------------------|-----------------|---------------|--------------------|---------------------|---------------------|------------------|--|---|----------------|--------------------|--------------------------|------------------|-----------------|---------------|--------------------|---------------------|---------------------|------------------|--------------|-----------------------------|--|--|-------|------------|------|-----------|-------|------|-------|---|--|--|--|--|--|--|--|--|--|--|
| <b>Diagnostics</b>  | <p>(Visit 2 (Obs 12)) Warning (Form): Exposure Duration exceeds the limit of 10000.0 seconds. Above this limit it is possible that a High Gain Antenna move may occur during the exposure.</p> <p>(Visit 2 (Obs 12)) Warning (Form): The slew between the acquisition exposure and the farthest science exposure is 75.441 Arcsec (larger than the recommended limit of 38.000 Arcsec) and may result in reduced or no schedulability. See more information in the diagnostic browser.</p> <p>(Visit 12:1) Warning (Form): Overheads are provisional until the Visit Planner has been run.</p>   |  |  |                  |                 |               |                    |                     |                     |                  |  |   |                |                    |                          |                  |                 |               |                    |                     |                     |                  |              |                             |  |  |       |            |      |           |       |      |       |   |  |  |  |  |  |  |  |  |  |  |
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| #   | Name   | Target Coordinates   | Targ. Coord. Corrections   |                  |                 |               | Miscellaneous      |                     |                     |                  |  |   |                |                    |                          |                  |                 |               |                    |                     |                     |                  |              |                             |  |  |       |            |      |           |       |      |       |   |  |  |  |  |  |  |  |  |  |  |
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| #   | Target   | TA Method  | Subarray   | Filter           | Readout Pattern | Groups/Int    | Integrations/Exp   | Total Integrations  | Total Exposure Time | ETC Wkbk.Calc ID |  |   |                |                    |                          |                  |                 |               |                    |                     |                     |                  |              |                             |  |  |       |            |      |           |       |      |       |   |  |  |  |  |  |  |  |  |  |  |
| 1   | 11 WOLF437-TARGETAQ-OPTION1  | WATA   | SUB32  | F140X            | NRSRAPIDD6      | 3             | 1                  | 1                   | 0.26                | 76169            |  |   |                |                    |                          |                  |                 |               |                    |                     |                     |                  |              |                             |  |  |       |            |      |           |       |      |       |   |  |  |  |  |  |  |  |  |  |  |
| <b>Template</b>   | <p>Subarray</p> <p>SUB2048</p>   |  |  |                  |                 |               |                    |                     |                     |                  |  |   |                |                    |                          |                  |                 |               |                    |                     |                     |                  |              |                             |  |  |       |            |      |           |       |      |       |   |  |  |  |  |  |  |  |  |  |  |
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| #   | Grating/Filter   | Readout Pattern  | Groups/Int   | Integrations/Exp | Exposures/Dith  | Total Dithers | Total Integrations | Total Exposure Time | ETC Wkbk.Calc ID    |                  |  |   |                |                    |                          |                  |                 |               |                    |                     |                     |                  |              |                             |  |  |       |            |      |           |       |      |       |   |  |  |  |  |  |  |  |  |  |  |
| 1   | G395H/F290LP   | NRSRAPID   | 3  | 3507             | 1               | 1             | 3507               | 12725.079           | 76169               |                  |  |   |                |                    |                          |                  |                 |               |                    |                     |                     |                  |              |                             |  |  |       |            |      |           |       |      |       |   |  |  |  |  |  |  |  |  |  |  |

Proposal 1981 - Observation 12 - Tell Me How I'm Supposed To Breathe With No Air: Measuring the Prevalence and Diversity of M-D...

Special Requirements

Phase 0.9356 to 0.9640 with period 1.4671214 Days and zero-phase 2459670.58857 HJD  
Time Series Observation  
No Parallel Attachments



Proposal 1981 - Observation 21 - Tell Me How I'm Supposed To Breathe With No Air: Measuring the Prevalence and Diversity of M-D...

Tue May 21 23:00:21 GMT 2024

| <b>Observation</b>       | <p><b>Proposal 1981, Observation 21: Visit 1</b></p> <p><b>Diagnostic Status: Warning</b></p> <p>Observing Template: NIRSpec Bright Object Time Series</p>  |  |   |                  |                 |               |                    |                     |                     |                  |   |                |                    |                          |                  |                 |               |  |   |                     |                  |              |                    |      |       |       |            |     |           |        |      |       |
|--------------------------|---|--|---|------------------|-----------------|---------------|--------------------|---------------------|---------------------|------------------|---|----------------|--------------------|--------------------------|------------------|-----------------|---------------|--|---|---------------------|------------------|--------------|--------------------|------|-------|-------|------------|-----|-----------|--------|------|-------|
| <b>Diagnostics</b>       | <p>(Visit 1 (Obs 21)) Warning (Form): Exposure Duration exceeds the limit of 10000.0 seconds. Above this limit it is possible that a High Gain Antenna move may occur during the exposure.</p> <p>(Visit 21:1) Warning (Form): Overheads are provisional until the Visit Planner has been run.</p>  |  |   |                  |                 |               |                    |                     |                     |                  |   |                |                    |                          |                  |                 |               |  |   |                     |                  |              |                    |      |       |       |            |     |           |        |      |       |
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| #                        | Name  | Target Coordinates   | Targ. Coord. Corrections  | Miscellaneous    |                 |               |                    |                     |                     |                  |   |                |                    |                          |                  |                 |               |  |   |                     |                  |              |                    |      |       |       |            |     |           |        |      |       |
| (2)                      | GJ-1132   | RA: 10 14 50.1768 (153.7090700d)<br>Dec: -47 09 17.77 (-47.15494d)<br>Equinox: J2000 | Proper Motion RA: -0.10335027422347062 sec of time/yr<br>Proper Motion Dec: 0.414512 arcsec/yr<br>Parallax: 0.0793206"<br>Epoch of Position: 2015.5 |                  |                 |               |                    |                     |                     |                  |   |                |                    |                          |                  |                 |               |  |   |                     |                  |              |                    |      |       |       |            |     |           |        |      |       |
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| #                        | Target  | TA Method  | Subarray  | Filter           | Readout Pattern | Groups/Int    | Integrations/Exp   | Total Integrations  | Total Exposure Time | ETC Wkbk.Calc ID |   |                |                    |                          |                  |                 |               |  |   |                     |                  |              |                    |      |       |       |            |     |           |        |      |       |
| 1                        | 21 GJ1132-TARGETAQ  | WATA   | SUB32   | F140X            | NRSRAPIDD6      | 3             | 1                  | 1                   | 0.26                | 76169            |   |                |                    |                          |                  |                 |               |  |   |                     |                  |              |                    |      |       |       |            |     |           |        |      |       |
| <b>Template</b>          | <p><b>Subarray</b></p> <p>SUB2048</p>   |  |   |                  |                 |               |                    |                     |                     |                  |   |                |                    |                          |                  |                 |               |  |   |                     |                  |              |                    |      |       |       |            |     |           |        |      |       |
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| #                        | Grating/Filter  | Readout Pattern  | Groups/Int  | Integrations/Exp | Exposures/Dith  | Total Dithers | Total Integrations | Total Exposure Time | ETC Wkbk.Calc ID    |                  |   |                |                    |                          |                  |                 |               |  |   |                     |                  |              |                    |      |       |       |            |     |           |        |      |       |
| 1                        | G395H/F290LP  | NRSRAPID   | 14  | 814              | 1               | 1             | 814                | 11030.091           | 134424              |                  |   |                |                    |                          |                  |                 |               |  |   |                     |                  |              |                    |      |       |       |            |     |           |        |      |       |

Proposal 1981 - Observation 21 - Tell Me How I'm Supposed To Breathe With No Air: Measuring the Prevalence and Diversity of M-D...

Special Requirements

Phase 0.9480 to 0.9736 with period 1.6289287 Days and zero-phase 2457184.55759 HJD  
Time Series Observation  
No Parallel Attachments

Proposal 1981 - Observation 22 - Tell Me How I'm Supposed To Breathe With No Air: Measuring the Prevalence and Diversity of M-D...

Tue May 21 23:00:21 GMT 2024

| <b>Observation</b>       | <p><b>Proposal 1981, Observation 22: Visit 2</b></p> <p><b>Diagnostic Status: Warning</b></p> <p>Observing Template: NIRSpec Bright Object Time Series</p>  |  |   |                  |                 |               |                    |                     |                     |                  |   |                |                    |                          |                  |                 |               |  |   |                     |                  |              |                    |      |       |       |            |     |           |        |      |       |
|--------------------------|---|--|---|------------------|-----------------|---------------|--------------------|---------------------|---------------------|------------------|---|----------------|--------------------|--------------------------|------------------|-----------------|---------------|--|---|---------------------|------------------|--------------|--------------------|------|-------|-------|------------|-----|-----------|--------|------|-------|
| <b>Diagnostics</b>       | <p>(Visit 2 (Obs 22)) Warning (Form): Exposure Duration exceeds the limit of 10000.0 seconds. Above this limit it is possible that a High Gain Antenna move may occur during the exposure.</p> <p>(Visit 22:1) Warning (Form): Overheads are provisional until the Visit Planner has been run.</p>  |  |   |                  |                 |               |                    |                     |                     |                  |   |                |                    |                          |                  |                 |               |  |   |                     |                  |              |                    |      |       |       |            |     |           |        |      |       |
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| #                        | Name  | Target Coordinates   | Targ. Coord. Corrections  | Miscellaneous    |                 |               |                    |                     |                     |                  |   |                |                    |                          |                  |                 |               |  |   |                     |                  |              |                    |      |       |       |            |     |           |        |      |       |
| (2)                      | GJ-1132   | RA: 10 14 50.1768 (153.7090700d)<br>Dec: -47 09 17.77 (-47.15494d)<br>Equinox: J2000 | Proper Motion RA: -0.10335027422347062 sec of time/yr<br>Proper Motion Dec: 0.414512 arcsec/yr<br>Parallax: 0.0793206"<br>Epoch of Position: 2015.5 |                  |                 |               |                    |                     |                     |                  |   |                |                    |                          |                  |                 |               |  |   |                     |                  |              |                    |      |       |       |            |     |           |        |      |       |
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| #                        | Target  | TA Method  | Subarray  | Filter           | Readout Pattern | Groups/Int    | Integrations/Exp   | Total Integrations  | Total Exposure Time | ETC Wkbk.Calc ID |   |                |                    |                          |                  |                 |               |  |   |                     |                  |              |                    |      |       |       |            |     |           |        |      |       |
| 1                        | 21 GJ1132-TARGETAQ  | WATA   | SUB32   | F140X            | NRSRAPIDD6      | 3             | 1                  | 1                   | 0.26                | 76169            |   |                |                    |                          |                  |                 |               |  |   |                     |                  |              |                    |      |       |       |            |     |           |        |      |       |
| <b>Template</b>          | <p><b>Subarray</b></p> <p>SUB2048</p>   |  |   |                  |                 |               |                    |                     |                     |                  |   |                |                    |                          |                  |                 |               |  |   |                     |                  |              |                    |      |       |       |            |     |           |        |      |       |
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| #                        | Grating/Filter  | Readout Pattern  | Groups/Int  | Integrations/Exp | Exposures/Dith  | Total Dithers | Total Integrations | Total Exposure Time | ETC Wkbk.Calc ID    |                  |   |                |                    |                          |                  |                 |               |  |   |                     |                  |              |                    |      |       |       |            |     |           |        |      |       |
| 1                        | G395H/F290LP  | NRSRAPID   | 14  | 814              | 1               | 1             | 814                | 11030.091           | 134424              |                  |   |                |                    |                          |                  |                 |               |  |   |                     |                  |              |                    |      |       |       |            |     |           |        |      |       |

Proposal 1981 - Observation 22 - Tell Me How I'm Supposed To Breathe With No Air: Measuring the Prevalence and Diversity of M-D...

Special Requirements

Phase 0.9480 to 0.9736 with period 1.6289287 Days and zero-phase 2457184.55759 HJD  
Time Series Observation  
No Parallel Attachments

Proposal 1981 - Observation 23 - Tell Me How I'm Supposed To Breathe With No Air: Measuring the Prevalence and Diversity of M-D...

Tue May 21 23:00:21 GMT 2024

| <b>Observation</b>       | <p><b>Proposal 1981, Observation 23: Visit 3</b></p> <p><b>Diagnostic Status: Warning</b></p> <p>Observing Template: NIRSpec Bright Object Time Series</p>  |  |   |                  |                 |               |                    |                     |                     |                  |   |                |                    |                          |                  |                 |               |  |   |                     |                  |              |                    |      |       |       |            |      |           |        |      |       |
|--------------------------|---|--|---|------------------|-----------------|---------------|--------------------|---------------------|---------------------|------------------|---|----------------|--------------------|--------------------------|------------------|-----------------|---------------|--|---|---------------------|------------------|--------------|--------------------|------|-------|-------|------------|------|-----------|--------|------|-------|
| <b>Diagnostics</b>       | <p>(Visit 3 (Obs 23)) Warning (Form): Exposure Duration exceeds the limit of 10000.0 seconds. Above this limit it is possible that a High Gain Antenna move may occur during the exposure.</p> <p>(Visit 23:1) Warning (Form): Overheads are provisional until the Visit Planner has been run.</p>  |  |   |                  |                 |               |                    |                     |                     |                  |   |                |                    |                          |                  |                 |               |  |   |                     |                  |              |                    |      |       |       |            |      |           |        |      |       |
| <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>(2)</td> <td>GJ-1132</td> <td>RA: 10 14 50.1768 (153.7090700d)<br/>Dec: -47 09 17.77 (-47.15494d)<br/>Equinox: J2000</td> <td>Proper Motion RA: -0.10335027422347062 sec of time/yr<br/>Proper Motion Dec: 0.414512 arcsec/yr<br/>Parallax: 0.0793206"<br/>Epoch of Position: 2015.5</td> <td></td> </tr> </tbody> </table> <p><i>Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.</i></p> <p><i>Added Parallax per Tony's suggestion</i><br/><i>Category=Star</i><br/><i>Description=[M dwarfs]</i></p> |  |   |                  |                 |               |                    |                     |                     |                  | # | Name           | Target Coordinates | Targ. Coord. Corrections | Miscellaneous    | (2)             | GJ-1132       | RA: 10 14 50.1768 (153.7090700d)<br>Dec: -47 09 17.77 (-47.15494d)<br>Equinox: J2000 | Proper Motion RA: -0.10335027422347062 sec of time/yr<br>Proper Motion Dec: 0.414512 arcsec/yr<br>Parallax: 0.0793206"<br>Epoch of Position: 2015.5 |                     |                  |              |                    |      |       |       |            |      |           |        |      |       |
| #                        | Name  | Target Coordinates   | Targ. Coord. Corrections  | Miscellaneous    |                 |               |                    |                     |                     |                  |   |                |                    |                          |                  |                 |               |  |   |                     |                  |              |                    |      |       |       |            |      |           |        |      |       |
| (2)                      | GJ-1132   | RA: 10 14 50.1768 (153.7090700d)<br>Dec: -47 09 17.77 (-47.15494d)<br>Equinox: J2000 | Proper Motion RA: -0.10335027422347062 sec of time/yr<br>Proper Motion Dec: 0.414512 arcsec/yr<br>Parallax: 0.0793206"<br>Epoch of Position: 2015.5 |                  |                 |               |                    |                     |                     |                  |   |                |                    |                          |                  |                 |               |  |   |                     |                  |              |                    |      |       |       |            |      |           |        |      |       |
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| #                        | Target  | TA Method  | Subarray  | Filter           | Readout Pattern | Groups/Int    | Integrations/Exp   | Total Integrations  | Total Exposure Time | ETC Wkbk.Calc ID |   |                |                    |                          |                  |                 |               |  |   |                     |                  |              |                    |      |       |       |            |      |           |        |      |       |
| 1                        | 21 GJ1132-TARGETAQ  | WATA   | SUB32   | F140X            | NRSRAPIDD6      | 3             | 1                  | 1                   | 0.26                | 76169            |   |                |                    |                          |                  |                 |               |  |   |                     |                  |              |                    |      |       |       |            |      |           |        |      |       |
| <b>Template</b>          | <p><b>Subarray</b></p> <p>SUB2048</p>   |  |   |                  |                 |               |                    |                     |                     |                  |   |                |                    |                          |                  |                 |               |  |   |                     |                  |              |                    |      |       |       |            |      |           |        |      |       |
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| #                        | Grating/Filter  | Readout Pattern  | Groups/Int  | Integrations/Exp | Exposures/Dith  | Total Dithers | Total Integrations | Total Exposure Time | ETC Wkbk.Calc ID    |                  |   |                |                    |                          |                  |                 |               |  |   |                     |                  |              |                    |      |       |       |            |      |           |        |      |       |
| 1                        | G395M/F290LP  | NRSRAPID   | 6   | 1732             | 1               | 1             | 1732               | 10971.319           | 134424              |                  |   |                |                    |                          |                  |                 |               |  |   |                     |                  |              |                    |      |       |       |            |      |           |        |      |       |

Proposal 1981 - Observation 23 - Tell Me How I'm Supposed To Breathe With No Air: Measuring the Prevalence and Diversity of M-D...

Special Requirements

Before Date 01-JUL-2024:00:00:00  
Phase 0.9480 to 0.9736 with period 1.6289287 Days and zero-phase 2457184.55759 HJD  
Time Series Observation  
No Parallel Attachments

Proposal 1981 - Observation 24 - Tell Me How I'm Supposed To Breathe With No Air: Measuring the Prevalence and Diversity of M-D...

Tue May 21 23:00:21 GMT 2024

| <b>Observation</b>       | <p><b>Proposal 1981, Observation 24: Visit 4</b></p> <p><b>Diagnostic Status: Warning</b></p> <p>Observing Template: NIRSpec Bright Object Time Series</p>  |  |   |                  |                 |               |                    |                     |                     |                  |   |                |                    |                          |                  |                 |               |  |   |                     |                  |              |                    |      |       |       |            |      |           |        |      |       |
|--------------------------|---|--|---|------------------|-----------------|---------------|--------------------|---------------------|---------------------|------------------|---|----------------|--------------------|--------------------------|------------------|-----------------|---------------|--|---|---------------------|------------------|--------------|--------------------|------|-------|-------|------------|------|-----------|--------|------|-------|
| <b>Diagnostics</b>       | <p>(Visit 4 (Obs 24)) Warning (Form): Exposure Duration exceeds the limit of 10000.0 seconds. Above this limit it is possible that a High Gain Antenna move may occur during the exposure.</p> <p>(Visit 24:1) Warning (Form): Overheads are provisional until the Visit Planner has been run.</p>  |  |   |                  |                 |               |                    |                     |                     |                  |   |                |                    |                          |                  |                 |               |  |   |                     |                  |              |                    |      |       |       |            |      |           |        |      |       |
| <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>(2)</td> <td>GJ-1132</td> <td>RA: 10 14 50.1768 (153.7090700d)<br/>Dec: -47 09 17.77 (-47.15494d)<br/>Equinox: J2000</td> <td>Proper Motion RA: -0.10335027422347062 sec of time/yr<br/>Proper Motion Dec: 0.414512 arcsec/yr<br/>Parallax: 0.0793206"<br/>Epoch of Position: 2015.5</td> <td></td> </tr> </tbody> </table> <p><i>Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.</i></p> <p><i>Added Parallax per Tony's suggestion</i><br/><i>Category=Star</i><br/><i>Description=[M dwarfs]</i></p> |  |   |                  |                 |               |                    |                     |                     |                  | # | Name           | Target Coordinates | Targ. Coord. Corrections | Miscellaneous    | (2)             | GJ-1132       | RA: 10 14 50.1768 (153.7090700d)<br>Dec: -47 09 17.77 (-47.15494d)<br>Equinox: J2000 | Proper Motion RA: -0.10335027422347062 sec of time/yr<br>Proper Motion Dec: 0.414512 arcsec/yr<br>Parallax: 0.0793206"<br>Epoch of Position: 2015.5 |                     |                  |              |                    |      |       |       |            |      |           |        |      |       |
| #                        | Name  | Target Coordinates   | Targ. Coord. Corrections  | Miscellaneous    |                 |               |                    |                     |                     |                  |   |                |                    |                          |                  |                 |               |  |   |                     |                  |              |                    |      |       |       |            |      |           |        |      |       |
| (2)                      | GJ-1132   | RA: 10 14 50.1768 (153.7090700d)<br>Dec: -47 09 17.77 (-47.15494d)<br>Equinox: J2000 | Proper Motion RA: -0.10335027422347062 sec of time/yr<br>Proper Motion Dec: 0.414512 arcsec/yr<br>Parallax: 0.0793206"<br>Epoch of Position: 2015.5 |                  |                 |               |                    |                     |                     |                  |   |                |                    |                          |                  |                 |               |  |   |                     |                  |              |                    |      |       |       |            |      |           |        |      |       |
| <b>Acquisition</b>       | <table border="1"> <thead> <tr> <th>#</th> <th>Target</th> <th>TA Method</th> <th>Subarray</th> <th>Filter</th> <th>Readout Pattern</th> <th>Groups/Int</th> <th>Integrations/Exp</th> <th>Total Integrations</th> <th>Total Exposure Time</th> <th>ETC Wkbk.Calc ID</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>21 GJ1132-TARGETAQ</td> <td>WATA</td> <td>SUB32</td> <td>F140X</td> <td>NRSRAPIDD6</td> <td>3</td> <td>1</td> <td>1</td> <td>0.26</td> <td>76169</td> </tr> </tbody> </table>  |  |   |                  |                 |               |                    |                     |                     |                  | # | Target         | TA Method          | Subarray                 | Filter           | Readout Pattern | Groups/Int    | Integrations/Exp   | Total Integrations  | Total Exposure Time | ETC Wkbk.Calc ID | 1            | 21 GJ1132-TARGETAQ | WATA | SUB32 | F140X | NRSRAPIDD6 | 3    | 1         | 1      | 0.26 | 76169 |
| #                        | Target  | TA Method  | Subarray  | Filter           | Readout Pattern | Groups/Int    | Integrations/Exp   | Total Integrations  | Total Exposure Time | ETC Wkbk.Calc ID |   |                |                    |                          |                  |                 |               |  |   |                     |                  |              |                    |      |       |       |            |      |           |        |      |       |
| 1                        | 21 GJ1132-TARGETAQ  | WATA   | SUB32   | F140X            | NRSRAPIDD6      | 3             | 1                  | 1                   | 0.26                | 76169            |   |                |                    |                          |                  |                 |               |  |   |                     |                  |              |                    |      |       |       |            |      |           |        |      |       |
| <b>Template</b>          | <p><b>Subarray</b></p> <p>SUB2048</p>   |  |   |                  |                 |               |                    |                     |                     |                  |   |                |                    |                          |                  |                 |               |  |   |                     |                  |              |                    |      |       |       |            |      |           |        |      |       |
| <b>Spectral Elements</b> | <table border="1"> <thead> <tr> <th>#</th> <th>Grating/Filter</th> <th>Readout Pattern</th> <th>Groups/Int</th> <th>Integrations/Exp</th> <th>Exposures/Dith</th> <th>Total Dithers</th> <th>Total Integrations</th> <th>Total Exposure Time</th> <th>ETC Wkbk.Calc ID</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>G395M/F290LP</td> <td>NRSRAPID</td> <td>6</td> <td>1932</td> <td>1</td> <td>1</td> <td>1932</td> <td>12238.215</td> <td>134424</td> </tr> </tbody> </table>  |  |   |                  |                 |               |                    |                     |                     |                  | # | Grating/Filter | Readout Pattern    | Groups/Int               | Integrations/Exp | Exposures/Dith  | Total Dithers | Total Integrations   | Total Exposure Time   | ETC Wkbk.Calc ID    | 1                | G395M/F290LP | NRSRAPID           | 6    | 1932  | 1     | 1          | 1932 | 12238.215 | 134424 |      |       |
| #                        | Grating/Filter  | Readout Pattern  | Groups/Int  | Integrations/Exp | Exposures/Dith  | Total Dithers | Total Integrations | Total Exposure Time | ETC Wkbk.Calc ID    |                  |   |                |                    |                          |                  |                 |               |  |   |                     |                  |              |                    |      |       |       |            |      |           |        |      |       |
| 1                        | G395M/F290LP  | NRSRAPID   | 6   | 1932             | 1               | 1             | 1932               | 12238.215           | 134424              |                  |   |                |                    |                          |                  |                 |               |  |   |                     |                  |              |                    |      |       |       |            |      |           |        |      |       |

Proposal 1981 - Observation 24 - Tell Me How I'm Supposed To Breathe With No Air: Measuring the Prevalence and Diversity of M-D...

Special Requirements

Before Date 01-JUL-2024:00:00:00  
Phase 0.9480 to 0.9736 with period 1.6289287 Days and zero-phase 2457184.55759 HJD  
Time Series Observation  
No Parallel Attachments



Proposal 1981 - Observation 31 - Tell Me How I'm Supposed To Breathe With No Air: Measuring the Prevalence and Diversity of M-D...

Tue May 21 23:00:21 GMT 2024

| <b>Observation</b>          | <p><b>Proposal 1981, Observation 31: Visit 1</b></p> <p><b>Diagnostic Status: Warning</b></p> <p>Observing Template: NIRCam Grism Time Series</p>   |  |  |                 |                  |                  |                    |                     |                  |  |          |                        |                    |                          |                 |                  |                  |  |  |                  |   |            |                    |             |       |      |   |      |           |       |
|-----------------------------|---|--|--|-----------------|------------------|------------------|--------------------|---------------------|------------------|--|----------|------------------------|--------------------|--------------------------|-----------------|------------------|------------------|--|--|------------------|---|------------|--------------------|-------------|-------|------|---|------|-----------|-------|
| <b>Diagnostics</b>          | <p>(Visit 1 (Obs 31)) Warning (Form): Exposure Duration exceeds the limit of 10000.0 seconds. Above this limit it is possible that a High Gain Antenna move may occur during the exposure.</p> <p>(Visit 31:1) Warning (Form): Overheads are provisional until the Visit Planner has been run.</p>  |  |  |                 |                  |                  |                    |                     |                  |  |          |                        |                    |                          |                 |                  |                  |  |  |                  |   |            |                    |             |       |      |   |      |           |       |
| <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>(3)</td> <td>GJ-341</td> <td>RA: 09 21 35.8504 (140.3993767d)<br/>Dec: -60 16 52.21 (-60.28117d)<br/>Equinox: J2000</td> <td>Proper Motion RA: -0.11297682918319278 sec of time/yr<br/>Proper Motion Dec: 0.18209 arcsec/yr<br/>Epoch of Position: 2015.5</td> <td></td> </tr> </tbody> </table> <p><i>Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.</i><br/> <i>Category=Star</i><br/> <i>Description=[M dwarfs]</i></p> |  |  |                 |                  |                  |                    |                     |                  |  | #        | Name                   | Target Coordinates | Targ. Coord. Corrections | Miscellaneous   | (3)              | GJ-341           | RA: 09 21 35.8504 (140.3993767d)<br>Dec: -60 16 52.21 (-60.28117d)<br>Equinox: J2000 | Proper Motion RA: -0.11297682918319278 sec of time/yr<br>Proper Motion Dec: 0.18209 arcsec/yr<br>Epoch of Position: 2015.5 |                  |   |            |                    |             |       |      |   |      |           |       |
| #                           | Name  | Target Coordinates   | Targ. Coord. Corrections   | Miscellaneous   |                  |                  |                    |                     |                  |  |          |                        |                    |                          |                 |                  |                  |  |  |                  |   |            |                    |             |       |      |   |      |           |       |
| (3)                         | GJ-341  | RA: 09 21 35.8504 (140.3993767d)<br>Dec: -60 16 52.21 (-60.28117d)<br>Equinox: J2000 | Proper Motion RA: -0.11297682918319278 sec of time/yr<br>Proper Motion Dec: 0.18209 arcsec/yr<br>Epoch of Position: 2015.5 |                 |                  |                  |                    |                     |                  |  |          |                        |                    |                          |                 |                  |                  |  |  |                  |   |            |                    |             |       |      |   |      |           |       |
| <b>Acquisition</b>          | <table border="1"> <thead> <tr> <th>#</th> <th>Target</th> <th>Subarray</th> <th>Filter</th> <th>Readout Pattern</th> <th>Groups/Int</th> <th>Integrations/Exp</th> <th>Total Integrations</th> <th>Total Exposure Time</th> <th>ETC Wkbk.Calc ID</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>SAME</td> <td>SUB32TATSGRIS<br/>M</td> <td>F405N+F444W</td> <td>RAPID</td> <td>3</td> <td>1</td> <td>1</td> <td>0.062</td> <td>76169</td> </tr> </tbody> </table>   |  |  |                 |                  |                  |                    |                     |                  |  | #        | Target                 | Subarray           | Filter                   | Readout Pattern | Groups/Int       | Integrations/Exp | Total Integrations   | Total Exposure Time  | ETC Wkbk.Calc ID | 1 | SAME       | SUB32TATSGRIS<br>M | F405N+F444W | RAPID | 3    | 1 | 1    | 0.062     | 76169 |
| #                           | Target  | Subarray   | Filter   | Readout Pattern | Groups/Int       | Integrations/Exp | Total Integrations | Total Exposure Time | ETC Wkbk.Calc ID |  |          |                        |                    |                          |                 |                  |                  |  |  |                  |   |            |                    |             |       |      |   |      |           |       |
| 1                           | SAME  | SUB32TATSGRIS<br>M   | F405N+F444W  | RAPID           | 3                | 1                | 1                  | 0.062               | 76169            |  |          |                        |                    |                          |                 |                  |                  |  |  |                  |   |            |                    |             |       |      |   |      |           |       |
| <b>Template</b>             | <table border="1"> <thead> <tr> <th>Subarray</th> <th>No. of Output Channels</th> </tr> </thead> <tbody> <tr> <td>SUBGRISM128</td> <td>4</td> </tr> </tbody> </table>   |  |  |                 |                  |                  |                    |                     |                  |  | Subarray | No. of Output Channels | SUBGRISM128        | 4                        |                 |                  |                  |  |  |                  |   |            |                    |             |       |      |   |      |           |       |
| Subarray                    | No. of Output Channels  |  |  |                 |                  |                  |                    |                     |                  |  |          |                        |                    |                          |                 |                  |                  |  |  |                  |   |            |                    |             |       |      |   |      |           |       |
| SUBGRISM128                 | 4   |  |  |                 |                  |                  |                    |                     |                  |  |          |                        |                    |                          |                 |                  |                  |  |  |                  |   |            |                    |             |       |      |   |      |           |       |
| <b>Spectral Elements</b>    | <table border="1"> <thead> <tr> <th>#</th> <th>Short Pupil+Filter</th> <th>Long Pupil+Filter</th> <th>Readout Pattern</th> <th>Groups/Int</th> <th>Integrations/Exp</th> <th>Exposures/Dith</th> <th>Total Integrations</th> <th>Total Exposure Time</th> <th>ETC Wkbk.Calc ID</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>WLP8+F212N</td> <td>GRISMR+F444W</td> <td>BRIGHT1</td> <td>3</td> <td>4652</td> <td>1</td> <td>4652</td> <td>18891.493</td> <td>76169</td> </tr> </tbody> </table>   |  |  |                 |                  |                  |                    |                     |                  |  | #        | Short Pupil+Filter     | Long Pupil+Filter  | Readout Pattern          | Groups/Int      | Integrations/Exp | Exposures/Dith   | Total Integrations   | Total Exposure Time  | ETC Wkbk.Calc ID | 1 | WLP8+F212N | GRISMR+F444W       | BRIGHT1     | 3     | 4652 | 1 | 4652 | 18891.493 | 76169 |
| #                           | Short Pupil+Filter  | Long Pupil+Filter  | Readout Pattern  | Groups/Int      | Integrations/Exp | Exposures/Dith   | Total Integrations | Total Exposure Time | ETC Wkbk.Calc ID |  |          |                        |                    |                          |                 |                  |                  |  |  |                  |   |            |                    |             |       |      |   |      |           |       |
| 1                           | WLP8+F212N  | GRISMR+F444W   | BRIGHT1  | 3               | 4652             | 1                | 4652               | 18891.493           | 76169            |  |          |                        |                    |                          |                 |                  |                  |  |  |                  |   |            |                    |             |       |      |   |      |           |       |
| <b>Special Requirements</b> | <p>Phase 0.9828 to 0.9883 with period 7.5768707 Days and zero-phase 2458544.0874 HJD<br/> Aperture PA Range 5 to 35 Degrees (V3 5.37562675 to 35.37562675)<br/> Aperture PA Range 75 to 110 Degrees (V3 75.37562675 to 110.37562675)<br/> Aperture PA Range 135 to 175 Degrees (V3 135.37562675 to 175.37562675)<br/> Aperture PA Range 185 to 215 Degrees (V3 185.37562675 to 215.37562675)<br/> Aperture PA Range 255 to 290 Degrees (V3 255.37562675 to 290.37562675)<br/> Aperture PA Range 315 to 355 Degrees (V3 315.37562675 to 355.37562675)<br/> Time Series Observation<br/> No Parallel Attachments</p>  |  |  |                 |                  |                  |                    |                     |                  |  |          |                        |                    |                          |                 |                  |                  |  |  |                  |   |            |                    |             |       |      |   |      |           |       |

Proposal 1981 - Observation 32 - Tell Me How I'm Supposed To Breathe With No Air: Measuring the Prevalence and Diversity of M-D...

Tue May 21 23:00:21 GMT 2024

| <b>Observation</b>          | <p><b>Proposal 1981, Observation 32: Visit 2</b></p> <p><b>Diagnostic Status: Warning</b></p> <p>Observing Template: NIRCam Grism Time Series</p>   |  |  |                 |                  |                  |                    |                     |                  |  |          |                        |                    |                          |                 |                  |                  |  |  |                  |   |            |                    |             |       |      |   |      |           |       |
|-----------------------------|---|--|--|-----------------|------------------|------------------|--------------------|---------------------|------------------|--|----------|------------------------|--------------------|--------------------------|-----------------|------------------|------------------|--|--|------------------|---|------------|--------------------|-------------|-------|------|---|------|-----------|-------|
| <b>Diagnostics</b>          | <p>(Visit 2 (Obs 32)) Warning (Form): Exposure Duration exceeds the limit of 10000.0 seconds. Above this limit it is possible that a High Gain Antenna move may occur during the exposure.</p> <p>(Visit 32:1) Warning (Form): Overheads are provisional until the Visit Planner has been run.</p>  |  |  |                 |                  |                  |                    |                     |                  |  |          |                        |                    |                          |                 |                  |                  |  |  |                  |   |            |                    |             |       |      |   |      |           |       |
| <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>(3)</td> <td>GJ-341</td> <td>RA: 09 21 35.8504 (140.3993767d)<br/>Dec: -60 16 52.21 (-60.28117d)<br/>Equinox: J2000</td> <td>Proper Motion RA: -0.11297682918319278 sec of time/yr<br/>Proper Motion Dec: 0.18209 arcsec/yr<br/>Epoch of Position: 2015.5</td> <td></td> </tr> </tbody> </table> <p><i>Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.</i><br/> <i>Category=Star</i><br/> <i>Description=[M dwarfs]</i></p> |  |  |                 |                  |                  |                    |                     |                  |  | #        | Name                   | Target Coordinates | Targ. Coord. Corrections | Miscellaneous   | (3)              | GJ-341           | RA: 09 21 35.8504 (140.3993767d)<br>Dec: -60 16 52.21 (-60.28117d)<br>Equinox: J2000 | Proper Motion RA: -0.11297682918319278 sec of time/yr<br>Proper Motion Dec: 0.18209 arcsec/yr<br>Epoch of Position: 2015.5 |                  |   |            |                    |             |       |      |   |      |           |       |
| #                           | Name  | Target Coordinates   | Targ. Coord. Corrections   | Miscellaneous   |                  |                  |                    |                     |                  |  |          |                        |                    |                          |                 |                  |                  |  |  |                  |   |            |                    |             |       |      |   |      |           |       |
| (3)                         | GJ-341  | RA: 09 21 35.8504 (140.3993767d)<br>Dec: -60 16 52.21 (-60.28117d)<br>Equinox: J2000 | Proper Motion RA: -0.11297682918319278 sec of time/yr<br>Proper Motion Dec: 0.18209 arcsec/yr<br>Epoch of Position: 2015.5 |                 |                  |                  |                    |                     |                  |  |          |                        |                    |                          |                 |                  |                  |  |  |                  |   |            |                    |             |       |      |   |      |           |       |
| <b>Acquisition</b>          | <table border="1"> <thead> <tr> <th>#</th> <th>Target</th> <th>Subarray</th> <th>Filter</th> <th>Readout Pattern</th> <th>Groups/Int</th> <th>Integrations/Exp</th> <th>Total Integrations</th> <th>Total Exposure Time</th> <th>ETC Wkbk.Calc ID</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>SAME</td> <td>SUB32TATSGRIS<br/>M</td> <td>F405N+F444W</td> <td>RAPID</td> <td>3</td> <td>1</td> <td>1</td> <td>0.062</td> <td>76169</td> </tr> </tbody> </table>   |  |  |                 |                  |                  |                    |                     |                  |  | #        | Target                 | Subarray           | Filter                   | Readout Pattern | Groups/Int       | Integrations/Exp | Total Integrations   | Total Exposure Time  | ETC Wkbk.Calc ID | 1 | SAME       | SUB32TATSGRIS<br>M | F405N+F444W | RAPID | 3    | 1 | 1    | 0.062     | 76169 |
| #                           | Target  | Subarray   | Filter   | Readout Pattern | Groups/Int       | Integrations/Exp | Total Integrations | Total Exposure Time | ETC Wkbk.Calc ID |  |          |                        |                    |                          |                 |                  |                  |  |  |                  |   |            |                    |             |       |      |   |      |           |       |
| 1                           | SAME  | SUB32TATSGRIS<br>M   | F405N+F444W  | RAPID           | 3                | 1                | 1                  | 0.062               | 76169            |  |          |                        |                    |                          |                 |                  |                  |  |  |                  |   |            |                    |             |       |      |   |      |           |       |
| <b>Template</b>             | <table border="1"> <thead> <tr> <th>Subarray</th> <th>No. of Output Channels</th> </tr> </thead> <tbody> <tr> <td>SUBGRISM128</td> <td>4</td> </tr> </tbody> </table>   |  |  |                 |                  |                  |                    |                     |                  |  | Subarray | No. of Output Channels | SUBGRISM128        | 4                        |                 |                  |                  |  |  |                  |   |            |                    |             |       |      |   |      |           |       |
| Subarray                    | No. of Output Channels  |  |  |                 |                  |                  |                    |                     |                  |  |          |                        |                    |                          |                 |                  |                  |  |  |                  |   |            |                    |             |       |      |   |      |           |       |
| SUBGRISM128                 | 4   |  |  |                 |                  |                  |                    |                     |                  |  |          |                        |                    |                          |                 |                  |                  |  |  |                  |   |            |                    |             |       |      |   |      |           |       |
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| #                           | Short Pupil+Filter  | Long Pupil+Filter  | Readout Pattern  | Groups/Int      | Integrations/Exp | Exposures/Dith   | Total Integrations | Total Exposure Time | ETC Wkbk.Calc ID |  |          |                        |                    |                          |                 |                  |                  |  |  |                  |   |            |                    |             |       |      |   |      |           |       |
| 1                           | WLP8+F212N  | GRISMR+F444W   | BRIGHT1  | 3               | 4652             | 1                | 4652               | 18891.493           | 76169            |  |          |                        |                    |                          |                 |                  |                  |  |  |                  |   |            |                    |             |       |      |   |      |           |       |
| <b>Special Requirements</b> | <p>Phase 0.9828 to 0.9883 with period 7.5768707 Days and zero-phase 2458544.0874 HJD<br/> Aperture PA Range 5 to 35 Degrees (V3 5.37562675 to 35.37562675)<br/> Aperture PA Range 75 to 110 Degrees (V3 75.37562675 to 110.37562675)<br/> Aperture PA Range 135 to 175 Degrees (V3 135.37562675 to 175.37562675)<br/> Aperture PA Range 185 to 215 Degrees (V3 185.37562675 to 215.37562675)<br/> Aperture PA Range 255 to 290 Degrees (V3 255.37562675 to 290.37562675)<br/> Aperture PA Range 315 to 355 Degrees (V3 315.37562675 to 355.37562675)<br/> Time Series Observation<br/> No Parallel Attachments</p>  |  |  |                 |                  |                  |                    |                     |                  |  |          |                        |                    |                          |                 |                  |                  |  |  |                  |   |            |                    |             |       |      |   |      |           |       |

Proposal 1981 - Observation 33 - Tell Me How I'm Supposed To Breathe With No Air: Measuring the Prevalence and Diversity of M-D...

Tue May 21 23:00:21 GMT 2024

| <b>Observation</b>          | <p><b>Proposal 1981, Observation 33: Visit 3</b></p> <p><b>Diagnostic Status: Warning</b></p> <p>Observing Template: NIRCam Grism Time Series</p>   |  |  |                 |                  |                  |                    |                     |                  |  |          |                        |                    |                          |                 |                  |                  |  |  |                  |   |            |                    |             |       |      |   |      |           |       |
|-----------------------------|---|--|--|-----------------|------------------|------------------|--------------------|---------------------|------------------|--|----------|------------------------|--------------------|--------------------------|-----------------|------------------|------------------|--|--|------------------|---|------------|--------------------|-------------|-------|------|---|------|-----------|-------|
| <b>Diagnostics</b>          | <p>(Visit 3 (Obs 33)) Warning (Form): Exposure Duration exceeds the limit of 10000.0 seconds. Above this limit it is possible that a High Gain Antenna move may occur during the exposure.</p> <p>(Visit 33:1) Warning (Form): Overheads are provisional until the Visit Planner has been run.</p>  |  |  |                 |                  |                  |                    |                     |                  |  |          |                        |                    |                          |                 |                  |                  |  |  |                  |   |            |                    |             |       |      |   |      |           |       |
| <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>(3)</td> <td>GJ-341</td> <td>RA: 09 21 35.8504 (140.3993767d)<br/>Dec: -60 16 52.21 (-60.28117d)<br/>Equinox: J2000</td> <td>Proper Motion RA: -0.11297682918319278 sec of time/yr<br/>Proper Motion Dec: 0.18209 arcsec/yr<br/>Epoch of Position: 2015.5</td> <td></td> </tr> </tbody> </table> <p><i>Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.</i><br/> <i>Category=Star</i><br/> <i>Description=[M dwarfs]</i></p> |  |  |                 |                  |                  |                    |                     |                  |  | #        | Name                   | Target Coordinates | Targ. Coord. Corrections | Miscellaneous   | (3)              | GJ-341           | RA: 09 21 35.8504 (140.3993767d)<br>Dec: -60 16 52.21 (-60.28117d)<br>Equinox: J2000 | Proper Motion RA: -0.11297682918319278 sec of time/yr<br>Proper Motion Dec: 0.18209 arcsec/yr<br>Epoch of Position: 2015.5 |                  |   |            |                    |             |       |      |   |      |           |       |
| #                           | Name  | Target Coordinates   | Targ. Coord. Corrections   | Miscellaneous   |                  |                  |                    |                     |                  |  |          |                        |                    |                          |                 |                  |                  |  |  |                  |   |            |                    |             |       |      |   |      |           |       |
| (3)                         | GJ-341  | RA: 09 21 35.8504 (140.3993767d)<br>Dec: -60 16 52.21 (-60.28117d)<br>Equinox: J2000 | Proper Motion RA: -0.11297682918319278 sec of time/yr<br>Proper Motion Dec: 0.18209 arcsec/yr<br>Epoch of Position: 2015.5 |                 |                  |                  |                    |                     |                  |  |          |                        |                    |                          |                 |                  |                  |  |  |                  |   |            |                    |             |       |      |   |      |           |       |
| <b>Acquisition</b>          | <table border="1"> <thead> <tr> <th>#</th> <th>Target</th> <th>Subarray</th> <th>Filter</th> <th>Readout Pattern</th> <th>Groups/Int</th> <th>Integrations/Exp</th> <th>Total Integrations</th> <th>Total Exposure Time</th> <th>ETC Wkbk.Calc ID</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>SAME</td> <td>SUB32TATSGRIS<br/>M</td> <td>F405N+F444W</td> <td>RAPID</td> <td>3</td> <td>1</td> <td>1</td> <td>0.062</td> <td>76169</td> </tr> </tbody> </table>   |  |  |                 |                  |                  |                    |                     |                  |  | #        | Target                 | Subarray           | Filter                   | Readout Pattern | Groups/Int       | Integrations/Exp | Total Integrations   | Total Exposure Time  | ETC Wkbk.Calc ID | 1 | SAME       | SUB32TATSGRIS<br>M | F405N+F444W | RAPID | 3    | 1 | 1    | 0.062     | 76169 |
| #                           | Target  | Subarray   | Filter   | Readout Pattern | Groups/Int       | Integrations/Exp | Total Integrations | Total Exposure Time | ETC Wkbk.Calc ID |  |          |                        |                    |                          |                 |                  |                  |  |  |                  |   |            |                    |             |       |      |   |      |           |       |
| 1                           | SAME  | SUB32TATSGRIS<br>M   | F405N+F444W  | RAPID           | 3                | 1                | 1                  | 0.062               | 76169            |  |          |                        |                    |                          |                 |                  |                  |  |  |                  |   |            |                    |             |       |      |   |      |           |       |
| <b>Template</b>             | <table border="1"> <thead> <tr> <th>Subarray</th> <th>No. of Output Channels</th> </tr> </thead> <tbody> <tr> <td>SUBGRISM128</td> <td>4</td> </tr> </tbody> </table>   |  |  |                 |                  |                  |                    |                     |                  |  | Subarray | No. of Output Channels | SUBGRISM128        | 4                        |                 |                  |                  |  |  |                  |   |            |                    |             |       |      |   |      |           |       |
| Subarray                    | No. of Output Channels  |  |  |                 |                  |                  |                    |                     |                  |  |          |                        |                    |                          |                 |                  |                  |  |  |                  |   |            |                    |             |       |      |   |      |           |       |
| SUBGRISM128                 | 4   |  |  |                 |                  |                  |                    |                     |                  |  |          |                        |                    |                          |                 |                  |                  |  |  |                  |   |            |                    |             |       |      |   |      |           |       |
| <b>Spectral Elements</b>    | <table border="1"> <thead> <tr> <th>#</th> <th>Short Pupil+Filter</th> <th>Long Pupil+Filter</th> <th>Readout Pattern</th> <th>Groups/Int</th> <th>Integrations/Exp</th> <th>Exposures/Dith</th> <th>Total Integrations</th> <th>Total Exposure Time</th> <th>ETC Wkbk.Calc ID</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>WLP8+F212N</td> <td>GRISMR+F444W</td> <td>BRIGHT1</td> <td>3</td> <td>4652</td> <td>1</td> <td>4652</td> <td>18891.493</td> <td>76169</td> </tr> </tbody> </table>   |  |  |                 |                  |                  |                    |                     |                  |  | #        | Short Pupil+Filter     | Long Pupil+Filter  | Readout Pattern          | Groups/Int      | Integrations/Exp | Exposures/Dith   | Total Integrations   | Total Exposure Time  | ETC Wkbk.Calc ID | 1 | WLP8+F212N | GRISMR+F444W       | BRIGHT1     | 3     | 4652 | 1 | 4652 | 18891.493 | 76169 |
| #                           | Short Pupil+Filter  | Long Pupil+Filter  | Readout Pattern  | Groups/Int      | Integrations/Exp | Exposures/Dith   | Total Integrations | Total Exposure Time | ETC Wkbk.Calc ID |  |          |                        |                    |                          |                 |                  |                  |  |  |                  |   |            |                    |             |       |      |   |      |           |       |
| 1                           | WLP8+F212N  | GRISMR+F444W   | BRIGHT1  | 3               | 4652             | 1                | 4652               | 18891.493           | 76169            |  |          |                        |                    |                          |                 |                  |                  |  |  |                  |   |            |                    |             |       |      |   |      |           |       |
| <b>Special Requirements</b> | <p>Phase 0.9828 to 0.9883 with period 7.5768707 Days and zero-phase 2458544.0874 HJD<br/> Aperture PA Range 5 to 35 Degrees (V3 5.37562675 to 35.37562675)<br/> Aperture PA Range 75 to 110 Degrees (V3 75.37562675 to 110.37562675)<br/> Aperture PA Range 135 to 175 Degrees (V3 135.37562675 to 175.37562675)<br/> Aperture PA Range 185 to 215 Degrees (V3 185.37562675 to 215.37562675)<br/> Aperture PA Range 255 to 290 Degrees (V3 255.37562675 to 290.37562675)<br/> Aperture PA Range 315 to 355 Degrees (V3 315.37562675 to 355.37562675)<br/> Time Series Observation<br/> No Parallel Attachments</p>  |  |  |                 |                  |                  |                    |                     |                  |  |          |                        |                    |                          |                 |                  |                  |  |  |                  |   |            |                    |             |       |      |   |      |           |       |

Proposal 1981 - Observation 51 - Tell Me How I'm Supposed To Breathe With No Air: Measuring the Prevalence and Diversity of M-D...

Tue May 21 23:00:21 GMT 2024

| <b>Observation</b>          | <p><b>Proposal 1981, Observation 51: Visit 1</b></p> <p><b>Diagnostic Status: Warning</b></p> <p>Observing Template: NIRSpec Bright Object Time Series</p>  |   |   |                  |                 |               |                    |                     |                     |                  |  |   |                |                    |                          |                  |                 |               |   |   |                     |                  |             |              |      |       |       |          |       |           |       |      |       |
|-----------------------------|---|---|---|------------------|-----------------|---------------|--------------------|---------------------|---------------------|------------------|--|---|----------------|--------------------|--------------------------|------------------|-----------------|---------------|---|---|---------------------|------------------|-------------|--------------|------|-------|-------|----------|-------|-----------|-------|------|-------|
| <b>Diagnostics</b>          | <p>(Visit 1 (Obs 51)) Warning (Form): Exposure Duration exceeds the limit of 10000.0 seconds. Above this limit it is possible that a High Gain Antenna move may occur during the exposure.</p> <p>(Visit 51:1) Warning (Form): Overheads are provisional until the Visit Planner has been run.</p>  |   |   |                  |                 |               |                    |                     |                     |                  |  |   |                |                    |                          |                  |                 |               |   |   |                     |                  |             |              |      |       |       |          |       |           |       |      |       |
| <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>(5)</td> <td>TRAPPIST-1</td> <td>RA: 23 06 30.3341 (346.6263921d)<br/>Dec: -05 02 36.46 (-5.04346d)<br/>Equinox: J2000</td> <td>Proper Motion RA: 0.062299806210057845 sec of time/yr<br/>Proper Motion Dec: -0.479402999985723 arcsec/yr<br/>Epoch of Position: 2015.5</td> <td></td> </tr> </tbody> </table> <p><i>Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.</i><br/> <i>Category=Star</i><br/> <i>Description=[M dwarfs]</i></p> |   |   |                  |                 |               |                    |                     |                     |                  |  | # | Name           | Target Coordinates | Targ. Coord. Corrections | Miscellaneous    | (5)             | TRAPPIST-1    | RA: 23 06 30.3341 (346.6263921d)<br>Dec: -05 02 36.46 (-5.04346d)<br>Equinox: J2000 | Proper Motion RA: 0.062299806210057845 sec of time/yr<br>Proper Motion Dec: -0.479402999985723 arcsec/yr<br>Epoch of Position: 2015.5 |                     |                  |             |              |      |       |       |          |       |           |       |      |       |
| #                           | Name  | Target Coordinates  | Targ. Coord. Corrections  | Miscellaneous    |                 |               |                    |                     |                     |                  |  |   |                |                    |                          |                  |                 |               |   |   |                     |                  |             |              |      |       |       |          |       |           |       |      |       |
| (5)                         | TRAPPIST-1  | RA: 23 06 30.3341 (346.6263921d)<br>Dec: -05 02 36.46 (-5.04346d)<br>Equinox: J2000 | Proper Motion RA: 0.062299806210057845 sec of time/yr<br>Proper Motion Dec: -0.479402999985723 arcsec/yr<br>Epoch of Position: 2015.5 |                  |                 |               |                    |                     |                     |                  |  |   |                |                    |                          |                  |                 |               |   |   |                     |                  |             |              |      |       |       |          |       |           |       |      |       |
| <b>Acquisition</b>          | <table border="1"> <thead> <tr> <th>#</th> <th>Target</th> <th>TA Method</th> <th>Subarray</th> <th>Filter</th> <th>Readout Pattern</th> <th>Groups/Int</th> <th>Integrations/Exp</th> <th>Total Integrations</th> <th>Total Exposure Time</th> <th>ETC Wkbk.Calc ID</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>5 TRAPPIST-1</td> <td>WATA</td> <td>SUB32</td> <td>F110W</td> <td>NRSRAPID</td> <td>3</td> <td>1</td> <td>1</td> <td>0.08</td> <td>76169</td> </tr> </tbody> </table>  |   |   |                  |                 |               |                    |                     |                     |                  |  | # | Target         | TA Method          | Subarray                 | Filter           | Readout Pattern | Groups/Int    | Integrations/Exp  | Total Integrations  | Total Exposure Time | ETC Wkbk.Calc ID | 1           | 5 TRAPPIST-1 | WATA | SUB32 | F110W | NRSRAPID | 3     | 1         | 1     | 0.08 | 76169 |
| #                           | Target  | TA Method   | Subarray  | Filter           | Readout Pattern | Groups/Int    | Integrations/Exp   | Total Integrations  | Total Exposure Time | ETC Wkbk.Calc ID |  |   |                |                    |                          |                  |                 |               |   |   |                     |                  |             |              |      |       |       |          |       |           |       |      |       |
| 1                           | 5 TRAPPIST-1  | WATA  | SUB32   | F110W            | NRSRAPID        | 3             | 1                  | 1                   | 0.08                | 76169            |  |   |                |                    |                          |                  |                 |               |   |   |                     |                  |             |              |      |       |       |          |       |           |       |      |       |
| <b>Template</b>             | <p>Subarray</p> <p>SUB512</p>   |   |   |                  |                 |               |                    |                     |                     |                  |  |   |                |                    |                          |                  |                 |               |   |   |                     |                  |             |              |      |       |       |          |       |           |       |      |       |
| <b>Spectral Elements</b>    | <table border="1"> <thead> <tr> <th>#</th> <th>Grating/Filter</th> <th>Readout Pattern</th> <th>Groups/Int</th> <th>Integrations/Exp</th> <th>Exposures/Dith</th> <th>Total Dithers</th> <th>Total Integrations</th> <th>Total Exposure Time</th> <th>ETC Wkbk.Calc ID</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>PRISM/CLEAR</td> <td>NRSRAPID</td> <td>5</td> <td>10550</td> <td>1</td> <td>1</td> <td>10550</td> <td>14531.992</td> <td>76169</td> </tr> </tbody> </table>  |   |   |                  |                 |               |                    |                     |                     |                  |  | # | Grating/Filter | Readout Pattern    | Groups/Int               | Integrations/Exp | Exposures/Dith  | Total Dithers | Total Integrations  | Total Exposure Time   | ETC Wkbk.Calc ID    | 1                | PRISM/CLEAR | NRSRAPID     | 5    | 10550 | 1     | 1        | 10550 | 14531.992 | 76169 |      |       |
| #                           | Grating/Filter  | Readout Pattern   | Groups/Int  | Integrations/Exp | Exposures/Dith  | Total Dithers | Total Integrations | Total Exposure Time | ETC Wkbk.Calc ID    |                  |  |   |                |                    |                          |                  |                 |               |   |   |                     |                  |             |              |      |       |       |          |       |           |       |      |       |
| 1                           | PRISM/CLEAR   | NRSRAPID  | 5   | 10550            | 1               | 1             | 10550              | 14531.992           | 76169               |                  |  |   |                |                    |                          |                  |                 |               |   |   |                     |                  |             |              |      |       |       |          |       |           |       |      |       |
| <b>Special Requirements</b> | <p>Before Date 01-JAN-2024:00:00:00<br/>                 Phase 0.9944 to 0.9966 with period 18.765 Days and zero-phase 2459877.02238 HJD<br/>                 Time Series Observation<br/>                 No Parallel Attachments</p>  |   |   |                  |                 |               |                    |                     |                     |                  |  |   |                |                    |                          |                  |                 |               |   |   |                     |                  |             |              |      |       |       |          |       |           |       |      |       |

Proposal 1981 - Observation 53 - Tell Me How I'm Supposed To Breathe With No Air: Measuring the Prevalence and Diversity of M-D...

Tue May 21 23:00:21 GMT 2024

| <b>Observation</b>          | <p><b>Proposal 1981, Observation 53: Visit 3</b></p> <p><b>Diagnostic Status: Warning</b></p> <p>Observing Template: NIRSpec Bright Object Time Series</p>  |   |   |                  |                 |               |                    |                     |                     |                  |  |   |                |                    |                          |                  |                 |               |   |   |                     |                  |             |              |      |       |       |          |       |           |       |      |       |
|-----------------------------|---|---|---|------------------|-----------------|---------------|--------------------|---------------------|---------------------|------------------|--|---|----------------|--------------------|--------------------------|------------------|-----------------|---------------|---|---|---------------------|------------------|-------------|--------------|------|-------|-------|----------|-------|-----------|-------|------|-------|
| <b>Diagnostics</b>          | <p>(Visit 3 (Obs 53)) Warning (Form): Exposure Duration exceeds the limit of 10000.0 seconds. Above this limit it is possible that a High Gain Antenna move may occur during the exposure.</p> <p>(Visit 53:1) Warning (Form): Overheads are provisional until the Visit Planner has been run.</p>  |   |   |                  |                 |               |                    |                     |                     |                  |  |   |                |                    |                          |                  |                 |               |   |   |                     |                  |             |              |      |       |       |          |       |           |       |      |       |
| <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>(5)</td> <td>TRAPPIST-1</td> <td>RA: 23 06 30.3341 (346.6263921d)<br/>Dec: -05 02 36.46 (-5.04346d)<br/>Equinox: J2000</td> <td>Proper Motion RA: 0.062299806210057845 sec of time/yr<br/>Proper Motion Dec: -0.479402999985723 arcsec/yr<br/>Epoch of Position: 2015.5</td> <td></td> </tr> </tbody> </table> <p><i>Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.</i><br/> <i>Category=Star</i><br/> <i>Description=[M dwarfs]</i></p> |   |   |                  |                 |               |                    |                     |                     |                  |  | # | Name           | Target Coordinates | Targ. Coord. Corrections | Miscellaneous    | (5)             | TRAPPIST-1    | RA: 23 06 30.3341 (346.6263921d)<br>Dec: -05 02 36.46 (-5.04346d)<br>Equinox: J2000 | Proper Motion RA: 0.062299806210057845 sec of time/yr<br>Proper Motion Dec: -0.479402999985723 arcsec/yr<br>Epoch of Position: 2015.5 |                     |                  |             |              |      |       |       |          |       |           |       |      |       |
| #                           | Name  | Target Coordinates  | Targ. Coord. Corrections  | Miscellaneous    |                 |               |                    |                     |                     |                  |  |   |                |                    |                          |                  |                 |               |   |   |                     |                  |             |              |      |       |       |          |       |           |       |      |       |
| (5)                         | TRAPPIST-1  | RA: 23 06 30.3341 (346.6263921d)<br>Dec: -05 02 36.46 (-5.04346d)<br>Equinox: J2000 | Proper Motion RA: 0.062299806210057845 sec of time/yr<br>Proper Motion Dec: -0.479402999985723 arcsec/yr<br>Epoch of Position: 2015.5 |                  |                 |               |                    |                     |                     |                  |  |   |                |                    |                          |                  |                 |               |   |   |                     |                  |             |              |      |       |       |          |       |           |       |      |       |
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| #                           | Target  | TA Method   | Subarray  | Filter           | Readout Pattern | Groups/Int    | Integrations/Exp   | Total Integrations  | Total Exposure Time | ETC Wkbk.Calc ID |  |   |                |                    |                          |                  |                 |               |   |   |                     |                  |             |              |      |       |       |          |       |           |       |      |       |
| 1                           | 5 TRAPPIST-1  | WATA  | SUB32   | F110W            | NRSRAPID        | 3             | 1                  | 1                   | 0.08                | 76169            |  |   |                |                    |                          |                  |                 |               |   |   |                     |                  |             |              |      |       |       |          |       |           |       |      |       |
| <b>Template</b>             | <p>Subarray</p> <p>SUB512</p>   |   |   |                  |                 |               |                    |                     |                     |                  |  |   |                |                    |                          |                  |                 |               |   |   |                     |                  |             |              |      |       |       |          |       |           |       |      |       |
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| #                           | Grating/Filter  | Readout Pattern   | Groups/Int  | Integrations/Exp | Exposures/Dith  | Total Dithers | Total Integrations | Total Exposure Time | ETC Wkbk.Calc ID    |                  |  |   |                |                    |                          |                  |                 |               |   |   |                     |                  |             |              |      |       |       |          |       |           |       |      |       |
| 1                           | PRISM/CLEAR   | NRSRAPID  | 5   | 10550            | 1               | 1             | 10550              | 14531.992           | 76169               |                  |  |   |                |                    |                          |                  |                 |               |   |   |                     |                  |             |              |      |       |       |          |       |           |       |      |       |
| <b>Special Requirements</b> | <p>Before Date 01-JAN-2024:00:00:00<br/>                 Phase 0.9944 to 0.9966 with period 18.765 Days and zero-phase 2459877.02238 HJD<br/>                 Time Series Observation<br/>                 No Parallel Attachments</p>  |   |   |                  |                 |               |                    |                     |                     |                  |  |   |                |                    |                          |                  |                 |               |   |   |                     |                  |             |              |      |       |       |          |       |           |       |      |       |