



4551 - MIR Extinction for ice sightlines with measured UV extinction

Cycle: 3, Proposal Category: GTO

INVESTIGATORS

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| Petia Yanchulova Merica-Jones (CoI) | Space Telescope Science Institute |
| Dr. Dries Van De Putte (CoI) | Space Telescope Science Institute |
| Dr. David R. Law (CoI) | Space Telescope Science Institute |
| Dr. Karl Misselt (CoI) | University of Arizona |

OBSERVATIONS

| <i>Folder</i> | <i>Observation</i> | <i>Label</i> | <i>Observing Template</i> | <i>Science Target</i> |
|--------------------|--------------------|--------------|-------------------------------------|-----------------------|
| Observation Folder | | | | |
| | 1 | HD 283809 | MIRI Medium Resolution Spectroscopy | (1) HD-283809 |
| | 2 | HD 29647 | MIRI Medium Resolution Spectroscopy | (2) HD-29647 |

ABSTRACT

This program observes the two existing sightlines that have strong ice absorption at 3 microns and measured UV extinction curves.

Both sightlines probe the Taurus molecular cloud.

The observations will allow the MIR extinction from 5-28 microns to be measured, both continuum and features.

The results will be used to probe the impact of ice on the dust grain properties alone and through comparison to results from two cycle 1 GO programs.

OBSERVING DESCRIPTION

Both targets are quite bright and high S/N observations can be obtained with relatively short exposure times.

All 3 grating settings are included with a 4-pt dither pattern.

The observations follow best practices for MIRI MRS observations of bright point sources.

Exposure times increased given the increase of 0.1 hours to the allocated time.

Proposal 4551 - Targets - MIR Extinction for ice sightlines with measured UV extinction

| Fixed Targets | # | Name | Target Coordinates | Targ. Coord. Corrections | Miscellaneous |
|---|---|---|---|---|---------------|
| | (1) | HD-283809 | RA: 04 41 24.7252 (70.3530217d) Dec: +25 54 48.40 (25.91344d) Equinox: J2000 | Proper Motion RA: 1.486 mas/yr Proper Motion Dec: -8.374999970328645 mas/yr Epoch of Position: 2000 | |
| | <i>Comments: This object was generated by the targetselector and retrieved from the SIMBAD database. Category=Star Description=[B dwarfs]</i> | | | | |
| (2) | HD-29647 | RA: 04 41 8.0449 (70.2835204d) Dec: +25 59 33.95 (25.99276d) Equinox: J2000 | Proper Motion RA: 12.016 mas/yr Proper Motion Dec: -10.980999968523975 mas/yr Epoch of Position: 2000 | | |
| <i>Comments: This object was generated by the targetselector and retrieved from the SIMBAD database. Category=Star Description=[B giants]</i> | | | | | |

Proposal 4551 - Observation 1 - MIR Extinction for ice sightlines with measured UV extinction

Fri Jan 05 18:00:14 GMT 2024

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|--|--|------------------|--|----------------------|-----------------|---|--------------------|---------------------|------------------|-------------------------|--------------------|---------------------|------------------|
| Observation | Proposal 4551, Observation 1: HD 283809 Diagnostic Status: Warning Observing Template: MIRI Medium Resolution Spectroscopy | | | | | | | | | | | | |
| | (Visit 1:1) Warning (Form): Overheads are provisional until the Visit Planner has been run. | | | | | | | | | | | | |
| Fixed Targets | # | Name | Target Coordinates | | | Targ. Coord. Corrections | | | Miscellaneous | | | | |
| | (1) | HD-283809 | RA: 04 41 24.7252 (70.3530217d) Dec: +25 54 48.40 (25.91344d) Equinox: J2000 | | | Proper Motion RA: 1.486 mas/yr Proper Motion Dec: -8.374999970328645 mas/yr Epoch of Position: 2000 | | | | | | | |
| Comments: This object was generated by the targetselector and retrieved from the SIMBAD database. Category=Star Description=[B dwarfs] | | | | | | | | | | | | | |
| Acquisition | # | Target | Filter | Readout Pattern | Groups/Int | Integrations/Exp | Total Integrations | Total Exposure Time | ETC Wkbk.Calc ID | | | | |
| | 1 | SAME | FND | FAST | 4 | 1 | 1 | 11.1 | 184825 | | | | |
| Template | Primary Channel | | | Simultaneous Imaging | | | Imager Subarray | | | Grating Wheel Direction | | | |
| | All MRS | | | NO | | | FULL | | | NEUTRAL | | | |
| Dithers | # | Dither Type | | | Optimized For | | | Direction | | | | | |
| | 1 | 4-Point | | | POINT SOURCE | | | NEGATIVE | | | | | |
| Spectral Elements | # | Wavelength Range | Detector | Filter | Readout Pattern | Groups/Int | Integrations/Exp | Exposures/Dith | Dither | Total Dithers | Total Integrations | Total Exposure Time | ETC Wkbk.Calc ID |
| | 1 | SHORT(A) | MRSLONG | | FASTR1 | 11 | 1 | 1 | Dither 1 | 4 | 4 | 122.102 | 184825 |
| | 1 | SHORT(A) | MRSSHORT | | FASTR1 | 11 | 1 | 1 | Dither 1 | 4 | 4 | 122.102 | 184825 |
| | 2 | MEDIUM(B) | MRSLONG | | FASTR1 | 11 | 1 | 1 | Dither 1 | 4 | 4 | 122.102 | 184825 |
| | 2 | MEDIUM(B) | MRSSHORT | | FASTR1 | 11 | 1 | 1 | Dither 1 | 4 | 4 | 122.102 | 184825 |
| | 3 | LONG(C) | MRSLONG | | FASTR1 | 11 | 1 | 1 | Dither 1 | 4 | 4 | 122.102 | 184825 |
| | 3 | LONG(C) | MRSSHORT | | FASTR1 | 11 | 1 | 1 | Dither 1 | 4 | 4 | 122.102 | 184825 |

Proposal 4551 - Observation 2 - MIR Extinction for ice sightlines with measured UV extinction

Fri Jan 05 18:00:14 GMT 2024

| | | | | | | | | | | | | | |
|--|---|------------------|---|----------------------|-----------------|---|--------------------|---------------------|------------------|-------------------------|--------------------|---------------------|------------------|
| Observation | Proposal 4551, Observation 2: HD 29647 Diagnostic Status: Warning Observing Template: MIRI Medium Resolution Spectroscopy | | | | | | | | | | | | |
| | (Visit 2:1) Warning (Form): Overheads are provisional until the Visit Planner has been run. | | | | | | | | | | | | |
| Fixed Targets | # | Name | Target Coordinates | | | Targ. Coord. Corrections | | | Miscellaneous | | | | |
| | (2) | HD-29647 | RA: 04 41 8.0449 (70.2835204d) Dec: +25 59 33.95 (25.99276d) Equinox: J2000 | | | Proper Motion RA: 12.016 mas/yr Proper Motion Dec: -10.980999968523975 mas/yr Epoch of Position: 2000 | | | | | | | |
| Comments: This object was generated by the targetselector and retrieved from the SIMBAD database. Category=Star Description=[B giants] | | | | | | | | | | | | | |
| Acquisition | # | Target | Filter | Readout Pattern | Groups/Int | Integrations/Exp | Total Integrations | Total Exposure Time | ETC Wkbk.Calc ID | | | | |
| | 1 | SAME | FND | FAST | 4 | 1 | 1 | 11.1 | 184827 | | | | |
| Template | Primary Channel | | | Simultaneous Imaging | | | Imager Subarray | | | Grating Wheel Direction | | | |
| | All MRS | | | NO | | | FULL | | | NEUTRAL | | | |
| Dithers | # | Dither Type | | | Optimized For | | | Direction | | | | | |
| | 1 | 4-Point | | | POINT SOURCE | | | NEGATIVE | | | | | |
| Spectral Elements | # | Wavelength Range | Detector | Filter | Readout Pattern | Groups/Int | Integrations/Exp | Exposures/Dith | Dither | Total Dithers | Total Integrations | Total Exposure Time | ETC Wkbk.Calc ID |
| | 1 | SHORT(A) | MRSLONG | | FASTR1 | 11 | 1 | 1 | Dither 1 | 4 | 4 | 122.102 | 184827 |
| | 1 | SHORT(A) | MRSSHORT | | FASTR1 | 11 | 1 | 1 | Dither 1 | 4 | 4 | 122.102 | 184827 |
| | 2 | MEDIUM(B) | MRSLONG | | FASTR1 | 11 | 1 | 1 | Dither 1 | 4 | 4 | 122.102 | 184827 |
| | 2 | MEDIUM(B) | MRSSHORT | | FASTR1 | 11 | 1 | 1 | Dither 1 | 4 | 4 | 122.102 | 184827 |
| | 3 | LONG(C) | MRSLONG | | FASTR1 | 11 | 1 | 1 | Dither 1 | 4 | 4 | 122.102 | 184827 |
| | 3 | LONG(C) | MRSSHORT | | FASTR1 | 11 | 1 | 1 | Dither 1 | 4 | 4 | 122.102 | 184827 |