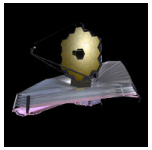

4818 - A survey to search for silicate vapor atmospheres in the ultra-hot terrestrial planet population

Cycle: 3, Proposal Category: GO

INVESTIGATORS

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OBSERVATIONS

Folder	*Observation*	*Label*	*Observing Template*	*Science Target*
GJ 9827				
	1	GJ 9827	MIRI Low Resolution Spectroscopy	(1) GJ-9827
	2	GJ 9827 Background	MIRI Low Resolution Spectroscopy	(11) GJ-9827_BKG
HD 20329				
	3	HD 20329	MIRI Low Resolution Spectroscopy	(2) HD-20329

Folder	*Observation*	*Label*	*Observing Template*	*Science Target*
	4	HD 20329 Background	MIRI Low Resolution Spectroscopy	(12) HD-20329_BKG
TOI-1416				
	5	TOI-1416	MIRI Low Resolution Spectroscopy	(3) TOI-1416
	6	TOI-1416 Background	MIRI Low Resolution Spectroscopy	(13) TOI-1416_BKG
TOI-500				
	7	TOI-500	MIRI Low Resolution Spectroscopy	(4) TOI-500
	8	TOI-500 Background	MIRI Low Resolution Spectroscopy	(14) TOI-500_BKG
TOI-1442				
	9	TOI-1442	MIRI Low Resolution Spectroscopy	(5) TOI-1442
	10	TOI-1442 Background	MIRI Low Resolution Spectroscopy	(15) TOI-1442_BKG
TOI-561				
	11	TOI-561	MIRI Low Resolution Spectroscopy	(6) TOI-561
	12	TOI-561 Background	MIRI Low Resolution Spectroscopy	(16) TOI-561_BKG
TOI-1075				
	13	TOI-1075	MIRI Low Resolution Spectroscopy	(7) TOI-1075
	14	TOI-1075 Background	MIRI Low Resolution Spectroscopy	(17) TOI-1075_BKG
TOI-1807				
	15	TOI-1807	MIRI Low Resolution Spectroscopy	(8) TOI-1807
	16	TOI-1807 Background	MIRI Low Resolution Spectroscopy	(18) TOI-1807_BKG
HD 3167				
	17	HD 3167	MIRI Low Resolution Spectroscopy	(9) HD-3167
	18	HD 3167 Background	MIRI Low Resolution Spectroscopy	(19) HD-3167_BKG
TOI-431				
	19	TOI-431	MIRI Low Resolution Spectroscopy	(10) TOI-431
	20	TOI-431 Background	MIRI Low Resolution Spectroscopy	(20) TOI-431_BKG

ABSTRACT

Theory predicts that terrestrial planets with irradiation temperatures above 1,700 K may be hot enough for silicate vapor atmospheres to form from evaporation of their solid surfaces. However, the exact temperature at which silicate vapor atmospheres appear is unknown because of several uncertainties in modeling the formation of these atmospheres. For example, the rate of cloud formation in silicate atmospheres is unknown, and the magnitude of the silicate greenhouse effect is relatively unconstrained. Additionally, the amount of heat a silicate vapor atmosphere could transport to

a planet's nightside is largely unknown. Models of silicate vapor atmospheres require observations to benchmark against in order to move past these large uncertainties.

We propose a survey of secondary eclipses of 10 terrestrial planets with irradiation temperatures T>1500 K to further our understanding of the formation and properties of silicate vapor atmospheres. Our survey will allow us to unambiguously identify the presence or absence of a silicate vapor atmosphere using just a single eclipse for each planet, constraining the turn-on temperature for the existence of silicate atmospheres. For those planets with atmospheres, we will be able to compare their temperature to the maximum expected temperature and constrain the amount of heat redistribution occurring. For those planets without atmospheres, we will use measurements of the inferred albedo to investigate to what extent their surfaces are impacted by space weathering. These targets sample a range of irradiation temperatures that is poorly covered by prior Spitzer and planned JWST observations.

OBSERVING DESCRIPTION

We will observe secondary eclipses of 10 short-period rocky planets with MIRI/LRS. Each visit is designed to capture the full secondary eclipse, 2 hours of out-of-eclipse baseline (an approximate 1:2 ratio with the 1-hour eclipses, so as to have enough baseline to correct for systematic trends), and 0.5 hours of settling time (as was found to be best practice from Cycle 1 observations).

We used PandExo to determine the optimal observing strategy for each target. All observations use the SLITLESSPRISM mode and the FASTR1 readout pattern, with the number of groups/integration scaled to give the greatest observing efficiency while staying below 85% saturation. All observations use the F1500W filter for target acquisition and 4 groups/integration for a single acquisition integration. This strategy results in well over the target acquisition SNR limit of 20.

Each eclipse observation is followed by a background observation, as recommended by Cycle 1 time-series observations with MIRI/LRS. The background observation is a sequence of 10 integrations with the same number of groups/integration as the primary science observations, and with an offset of 16" from the science observation.

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Miscellaneous
(1)	GJ-9827	RA: 23 27 4.8377 (351.7701571d) Dec: -01 17 10.58 (-1.28627d) Equinox: J2000	Proper Motion RA: 375.977 mas/yr Proper Motion Dec: 215.87 mas/yr Epoch of Position: 2000	
Comments: This object was generated by the targetselector and retrieved from the SIMBAD database. *Category=Star* *Description=[Exoplanets]* *Extended=NO*				
(2)	HD-20329	RA: 03 16 42.6298 (49.1776242d) Dec: +15 39 26.01 (15.65723d) Equinox: J2000	Proper Motion RA: 111.774 mas/yr Proper Motion Dec: -202.40999992893194 mas/yr Epoch of Position: 2000	
Comments: This object was generated by the targetselector and retrieved from the SIMBAD database. *Category=Star* *Description=[Exoplanets]* *Extended=NO*				
(3)	TOI-1416	RA: 14 27 41.7656 (216.9240233d) Dec: +41 57 12.32 (41.95342d) Equinox: J2000	Proper Motion RA: -92.254 mas/yr Proper Motion Dec: -101.23299994120316 mas/yr Epoch of Position: 2000	
Comments: This object was generated by the targetselector and retrieved from the SIMBAD database. *Category=Star* *Description=[Exoplanets]* *Extended=NO*				
(4)	TOI-500	RA: 07 06 13.9753 (106.5582304d) Dec: -47 35 13.87 (-47.58719d) Equinox: J2000	Proper Motion RA: 135.928 mas/yr Proper Motion Dec: -146.05799997298163 mas/yr Epoch of Position: 2000	
Comments: This object was generated by the targetselector and retrieved from the SIMBAD database. *Category=Star* *Description=[Exoplanets]* *Extended=NO*				
(5)	TOI-1442	RA: 19 09 9.7936 (287.2908067d) Dec: +74 10 20.22 (74.17228d) Equinox: J2000	Proper Motion RA: 81.959 mas/yr Proper Motion Dec: 462.70799999999997 mas/yr Epoch of Position: 2000	
Comments: This object was generated by the targetselector and retrieved from the SIMBAD database. *Category=Star* *Description=[Exoplanets]* *Extended=NO*				
(6)	TOI-561	RA: 09 52 44.5492 (148.1856217d) Dec: +06 12 58.92 (6.21637d) Equinox: J2000	Proper Motion RA: -108.504 mas/yr Proper Motion Dec: -61.27900010142184 mas/yr Epoch of Position: 2000	
Comments: This object was generated by the targetselector and retrieved from the SIMBAD database. *Category=Star* *Description=[Exoplanets]* *Extended=NO*				
(7)	TOI-1075	RA: 20 39 53.3385 (309.9722437d) Dec: -65 26 57.99 (-65.44944d) Equinox: J2000	Proper Motion RA: -99.84 mas/yr Proper Motion Dec: -60.01599995215656 mas/yr Epoch of Position: 2000	
Comments: This object was generated by the targetselector and retrieved from the SIMBAD database. *Category=Star* *Description=[Exoplanets]* *Extended=NO*				

(8)	TOI-1807	RA: 13 25 7.9957 (201.2833154d) Dec: +38 55 20.94 (38.92248d) Equinox: J2000	Proper Motion RA: -124.608 mas/yr Proper Motion Dec: -27.30000003339228 mas/yr Epoch of Position: 2000
Comments: This object was generated by the targetselector and retrieved from the SIMBAD database. *Category=Star* *Description=[Exoplanets]* *Extended=NO*			
(9)	HD-3167	RA: 00 34 57.5242 (8.7396842d) Dec: +04 22 53.28 (4.38147d) Equinox: J2000	Proper Motion RA: 107.569 mas/yr Proper Motion Dec: -173.33400005554722 mas/yr Epoch of Position: 2000
Comments: This object was generated by the targetselector and retrieved from the SIMBAD database. *Category=Star* *Description=[Exoplanets]* *Extended=NO*			
(10)	TOI-431	RA: 05 33 4.6005 (83.2691688d) Dec: -26 43 28.27 (-26.72452d) Equinox: J2000	Proper Motion RA: 16.886 mas/yr Proper Motion Dec: 150.779 mas/yr Epoch of Position: 2000
Comments: This object was generated by the targetselector and retrieved from the SIMBAD database. *Category=Star* *Description=[Exoplanets]* *Extended=NO*			
(11)	GJ-9827_BKG	RA: 23 27 5.4600 (351.7727500d) Dec: -01 16 52.90 (-1.28136d) Equinox: J2000	Epoch of Position: 2000
Comments: *Category=Unidentified* *Description=[Blank field]* *Extended=NO*			
(12)	HD-20329_BKG	RA: 03 16 40.2000 (49.1675000d) Dec: +15 39 49.30 (15.66369d) Equinox: J2000	Epoch of Position: 2000
Comments: *Category=Unidentified* *Description=[Blank field]* *Extended=NO*			
(13)	TOI-1416_BKG	RA: 14 27 39.2100 (216.9133750d) Dec: +41 57 1.60 (41.95044d) Equinox: J2000	Epoch of Position: 2000
Comments: *Category=Unidentified* *Description=[Blank field]* *Extended=NO*			
(14)	TOI-500_BKG	RA: 07 06 12.9500 (106.5539583d) Dec: -47 34 47.70 (-47.57992d) Equinox: J2000	Epoch of Position: 2000
Comments: *Category=Unidentified* *Description=[Blank field]* *Extended=NO*			

(15)	TOI-1442_BKG	RA: 19 09 15.5100 (287.3146250d) Dec: +74 10 26.70 (74.17408d) Equinox: J2000	Epoch of Position: 2000
Comments: *Category=Unidentified* *Description=[Blank field]* *Extended=NO*			
(16)	TOI-561_BKG	RA: 09 52 44.8800 (148.1870000d) Dec: +06 13 29.90 (6.22497d) Equinox: J2000	Epoch of Position: 2000
Comments: *Category=Unidentified* *Description=[Blank field]* *Extended=NO*			
(17)	TOI-1075_BKG	RA: 20 39 48.4900 (309.9520417d) Dec: -65 27 5.00 (-65.45139d) Equinox: J2000	Epoch of Position: 2000
Comments: *Category=Unidentified* *Description=[Blank field]* *Extended=NO*			
(18)	TOI-1807_BKG	RA: 13 25 6.0100 (201.2750417d) Dec: +38 55 8.70 (38.91908d) Equinox: J2000	Epoch of Position: 2000
Comments: *Category=Unidentified* *Description=[Blank field]* *Extended=NO*			
(19)	HD-3167_BKG	RA: 00 34 55.9700 (8.7332083d) Dec: +04 23 16.50 (4.38792d) Equinox: J2000	Epoch of Position: 2000
Comments: *Category=Unidentified* *Description=[Blank field]* *Extended=NO*			
(20)	TOI-431_BKG	RA: 05 33 2.6200 (83.2609167d) Dec: -26 43 6.80 (-26.71856d) Equinox: J2000	Epoch of Position: 2000
Comments: *Category=Unidentified* *Description=[Blank field]* *Extended=NO*			

Observation

Proposal 4818, Observation 1: GJ 9827

Mon Jul 07 21:00:20 GMT 2025

Diagnostic Status: Warning

Observing Template: MIRI Low Resolution Spectroscopy

Background Observations:[GJ 9827 Background (Obs 2)]

Diagnostics

(GJ 9827 (Obs 1)) 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.

(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)	GJ-9827	RA: 23 27 4.8377 (351.7701571d) Dec: -01 17 10.58 (-1.28627d) Equinox: J2000	Proper Motion RA: 375.977 mas/yr Proper Motion Dec: 215.87 mas/yr Epoch of Position: 2000	

Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.
Category=Star
Description=[Exoplanets]
Extended=NO

Acquisition

#	Target	Filter	Readout Pattern	Groups/Int	Integrations/Exp	Total Integrations	Total Exposure Time	ETC Wkbk.Calc ID
1	SAME	F1500W	FAST	4	1	1	0.636	176844.2

Template

Subarray	Obtain Verification Image?
SLITLESSPRISM	true

Dithers

#	Dither Type	No. Spectral Steps	Spectral Step Offset	No. Spatial Steps	Spatial Step Offset
1	NONE				

Pointing Verification

#	PV Readout Pattern	PV Groups/Int	PV Integrations/Exp	PV Total Integrations	PV Exposures/Dith	PV Total Dithers	PV Total Exposure Time	PV ETC Wkbk.Calc ID	Filter
1	FASTR1	5	1	1	1	1	0.795		F1500W

Spectral Elements

#	Readout Pattern	Groups/Int	Integrations/Exp	Total Integrations	Exposures/Dith	Total Dithers	Total Exposure Time	ETC Wkbk.Calc ID
1	FASTR1	10	8141	8141	1	1	14242.032	176844.1

Special Requirements

Phase 0.409 to 0.444 with period 1.208974 Days and zero-phase 2457738.8259 HJD
Time Series Observation
No Parallel Attachments

Sequence Observations 1, 2, Non-interruptible

Observation

Proposal 4818, Observation 2: GJ 9827 Background

Mon Jul 07 21:00:20 GMT 2025

Diagnostic Status: Warning

Observing Template: MIRI Low Resolution Spectroscopy

Background Observation For: [GJ 9827 (Obs 1)]

Diagnostics

(Visit 2:1) Warning (Form): Overheads are provisional until the Visit Planner has been run.

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Miscellaneous
(11)	GJ-9827_BKG	RA: 23 27 5.4600 (351.7727500d) Dec: -01 16 52.90 (-1.28136d) Equinox: J2000	Epoch of Position: 2000	

Comments:
Category=Unidentified
Description=[Blank field]
Extended=NO

Acquisition

#	Target
1	NONE

Template

AcqFilter	Subarray	Obtain Verification Image?
F1500W	SLITLESSPRISM	false

Dithers

#	Dither Type	No. Spectral Steps	Spectral Step Offset	No. Spatial Steps	Spatial Step Offset
1	NONE				

Spectral Elements

#	Readout Pattern	Groups/Int	Integrations/Exp	Total Integrations	Exposures/Dith	Total Dithers	Total Exposure Time	ETC Wkbk.Calc ID
1	FASTR1	10	10	10	1	1	17.335	176844.1

Special Requirements	Time Series Observation No Parallel Attachments Sequence Observations 1, 2, Non-interruptible

Observation

Proposal 4818, Observation 3: HD 20329

Mon Jul 07 21:00:20 GMT 2025

Diagnostic Status: Warning

Observing Template: MIRI Low Resolution Spectroscopy

Background Observations:[HD 20329 Background (Obs 4)]

Diagnostics

(HD 20329 (Obs 3)) 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.

(Visit 3:1) Warning (Form): Overheads are provisional until the Visit Planner has been run.

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Miscellaneous
(2)	HD-20329	RA: 03 16 42.6298 (49.1776242d) Dec: +15 39 26.01 (15.65723d) Equinox: J2000	Proper Motion RA: 111.774 mas/yr Proper Motion Dec: -202.40999992893194 mas/yr Epoch of Position: 2000	

Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.
Category=Star
Description=[Exoplanets]
Extended=NO

Acquisition

#	Target	Filter	Readout Pattern	Groups/Int	Integrations/Exp	Total Integrations	Total Exposure Time	ETC Wkbk.Calc ID
1	SAME	F1500W	FAST	4	1	1	0.636	176844.4

Template

Subarray	Obtain Verification Image?
SLITLESSPRISM	true

Dithers

#	Dither Type	No. Spectral Steps	Spectral Step Offset	No. Spatial Steps	Spatial Step Offset
1	NONE				

Pointing Verification

#	PV Readout Pattern	PV Groups/Int	PV Integrations/Exp	PV Total Integrations	PV Exposures/Dith	PV Total Dithers	PV Total Exposure Time	PV ETC Wkbk.Calc ID	Filter
1	FASTR1	5	1	1	1	1	0.795		F1500W

Spectral Elements

#	Readout Pattern	Groups/Int	Integrations/Exp	Total Integrations	Exposures/Dith	Total Dithers	Total Exposure Time	ETC Wkbk.Calc ID
1	FASTR1	10	8033	8033	1	1	14053.092	176844.3

Special Requirements

Phase 0.382 to 0.427 with period 0.92606086 Days and zero-phase 2459472.14261147 HJD
Time Series Observation
No Parallel Attachments

Sequence Observations 3, 4, Non-interruptible

Observation

Proposal 4818, Observation 4: HD 20329 Background

Mon Jul 07 21:00:20 GMT 2025

Diagnostic Status: Warning

Observing Template: MIRI Low Resolution Spectroscopy

Background Observation For: [HD 20329 (Obs 3)]

Diagnostics

(Visit 4:1) Warning (Form): Overheads are provisional until the Visit Planner has been run.

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Miscellaneous
(12)	HD-20329_BKG	RA: 03 16 40.2000 (49.1675000d) Dec: +15 39 49.30 (15.66369d) Equinox: J2000	Epoch of Position: 2000	

Comments:
Category=Unidentified
Description=[Blank field]
Extended=NO

Acquisition

#	Target
1	NONE

Template

AcqFilter	Subarray	Obtain Verification Image?
F1500W	SLITLESSPRISM	false

Dithers

#	Dither Type	No. Spectral Steps	Spectral Step Offset	No. Spatial Steps	Spatial Step Offset
1	NONE				

Spectral Elements

#	Readout Pattern	Groups/Int	Integrations/Exp	Total Integrations	Exposures/Dith	Total Dithers	Total Exposure Time	ETC Wkbk.Calc ID
1	FASTR1	10	10	10	1	1	17.335	176844.3

Special Requirements	Time Series Observation No Parallel Attachments Sequence Observations 3, 4, Non-interruptible

Observation

Proposal 4818, Observation 5: TOI-1416

Mon Jul 07 21:00:20 GMT 2025

Diagnostic Status: Warning

Observing Template: MIRI Low Resolution Spectroscopy

Background Observations:[TOI-1416 Background (Obs 6)]

Diagnostics

(TOI-1416 (Obs 5)) 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.

(Visit 5:1) Warning (Form): Overheads are provisional until the Visit Planner has been run.

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Miscellaneous
(3)	TOI-1416	RA: 14 27 41.7656 (216.9240233d) Dec: +41 57 12.32 (41.95342d) Equinox: J2000	Proper Motion RA: -92.254 mas/yr Proper Motion Dec: -101.23299994120316 mas/yr Epoch of Position: 2000	

Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.
Category=Star
Description=[Exoplanets]
Extended=NO

Acquisition

#	Target	Filter	Readout Pattern	Groups/Int	Integrations/Exp	Total Integrations	Total Exposure Time	ETC Wkbk.Calc ID
1	SAME	F1500W	FAST	4	1	1	0.636	176844.6

Template

Subarray	Obtain Verification Image?
SLITLESSPRISM	true

Dithers

#	Dither Type	No. Spectral Steps	Spectral Step Offset	No. Spatial Steps	Spatial Step Offset
1	NONE				

Pointing Verification

#	PV Readout Pattern	PV Groups/Int	PV Integrations/Exp	PV Total Integrations	PV Exposures/Dith	PV Total Dithers	PV Total Exposure Time	PV ETC Wkbk.Calc ID	Filter
1	FASTR1	5	1	1	1	1	0.795		F1500W

Spectral Elements

#	Readout Pattern	Groups/Int	Integrations/Exp	Total Integrations	Exposures/Dith	Total Dithers	Total Exposure Time	ETC Wkbk.Calc ID
1	FASTR1	18	4947	4947	1	1	14948.488	176844.5

Special Requirements

Phase 0.393 to 0.432 with period 1.0697568 Days and zero-phase 2458739.4621 HJD
Time Series Observation
No Parallel Attachments

Sequence Observations 5, 6, Non-interruptible

Observation

Proposal 4818, Observation 6: TOI-1416 Background

Mon Jul 07 21:00:20 GMT 2025

Diagnostic Status: Warning

Observing Template: MIRI Low Resolution Spectroscopy

Background Observation For: [TOI-1416 (Obs 5)]

Diagnostics

(Visit 6:1) Warning (Form): Overheads are provisional until the Visit Planner has been run.

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Miscellaneous
(13)	TOI-1416_BKG	RA: 14 27 39.2100 (216.9133750d) Dec: +41 57 1.60 (41.95044d) Equinox: J2000	Epoch of Position: 2000	

Comments:
Category=Unidentified
Description=[Blank field]
Extended=NO

Acquisition

#	Target
1	NONE

Template

AcqFilter	Subarray	Obtain Verification Image?
F1500W	SLITLESSPRISM	false

Dithers

#	Dither Type	No. Spectral Steps	Spectral Step Offset	No. Spatial Steps	Spatial Step Offset
1	NONE				

Spectral Elements

#	Readout Pattern	Groups/Int	Integrations/Exp	Total Integrations	Exposures/Dith	Total Dithers	Total Exposure Time	ETC Wkbk.Calc ID
1	FASTR1	18	10	10	1	1	30.059	176844.5

Special Requirements	Time Series Observation No Parallel Attachments Sequence Observations 5, 6, Non-interruptible

Observation

Proposal 4818, Observation 7: TOI-500

Mon Jul 07 21:00:20 GMT 2025

Diagnostic Status: Warning

Observing Template: MIRI Low Resolution Spectroscopy

Background Observations:[TOI-500 Background (Obs 8)]

Diagnostics

(TOI-500 (Obs 7)) 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.

(Visit 7:1) Warning (Form): Overheads are provisional until the Visit Planner has been run.

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Miscellaneous
(4)	TOI-500	RA: 07 06 13.9753 (106.5582304d) Dec: -47 35 13.87 (-47.58719d) Equinox: J2000	Proper Motion RA: 135.928 mas/yr Proper Motion Dec: -146.05799997298163 mas/yr Epoch of Position: 2000	

Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.
Category=Star
Description=[Exoplanets]
Extended=NO

Acquisition

#	Target	Filter	Readout Pattern	Groups/Int	Integrations/Exp	Total Integrations	Total Exposure Time	ETC Wkbk.Calc ID
1	SAME	F1500W	FAST	4	1	1	0.636	176844.8

Template

Subarray	Obtain Verification Image?
SLITLESSPRISM	true

Dithers

#	Dither Type	No. Spectral Steps	Spectral Step Offset	No. Spatial Steps	Spatial Step Offset
1	NONE				

Pointing Verification

#	PV Readout Pattern	PV Groups/Int	PV Integrations/Exp	PV Total Integrations	PV Exposures/Dith	PV Total Dithers	PV Total Exposure Time	PV ETC Wkbk.Calc ID	Filter
1	FASTR1	5	1	1	1	1	0.795		F1500W

Spectral Elements

#	Readout Pattern	Groups/Int	Integrations/Exp	Total Integrations	Exposures/Dith	Total Dithers	Total Exposure Time	ETC Wkbk.Calc ID
1	FASTR1	18	4345	4345	1	1	13129.388	176844.7

Special Requirements

Phase 0.309 to 0.386 with period 0.548177 Days and zero-phase 2458468.3905 HJD
Time Series Observation
No Parallel Attachments

Sequence Observations 7, 8, Non-interruptible

Observation

Proposal 4818, Observation 8: TOI-500 Background

Mon Jul 07 21:00:20 GMT 2025

Diagnostic Status: Warning

Observing Template: MIRI Low Resolution Spectroscopy

Background Observation For: [TOI-500 (Obs 7)]

Diagnostics

(Visit 8:1) Warning (Form): Overheads are provisional until the Visit Planner has been run.

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Miscellaneous
(14)	TOI-500_BKG	RA: 07 06 12.9500 (106.5539583d) Dec: -47 34 47.70 (-47.57992d) Equinox: J2000	Epoch of Position: 2000	

Comments:
Category=Unidentified
Description=[Blank field]
Extended=NO

Acquisition

#	Target
1	NONE

Template

AcqFilter	Subarray	Obtain Verification Image?
F1500W	SLITLESSPRISM	false

Dithers

#	Dither Type	No. Spectral Steps	Spectral Step Offset	No. Spatial Steps	Spatial Step Offset
1	NONE				

Spectral Elements

#	Readout Pattern	Groups/Int	Integrations/Exp	Total Integrations	Exposures/Dith	Total Dithers	Total Exposure Time	ETC Wkbk.Calc ID
1	FASTR1	18	10	10	1	1	30.059	176844.7

Special Requirements	Time Series Observation No Parallel Attachments Sequence Observations 7, 8, Non-interruptible

Observation

Proposal 4818, Observation 9: TOI-1442

Mon Jul 07 21:00:20 GMT 2025

Diagnostic Status: Warning

Observing Template: MIRI Low Resolution Spectroscopy

Background Observations:[TOI-1442 Background (Obs 10)]

Diagnostics

(TOI-1442 (Obs 9)) 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.

(Visit 9:1) Warning (Form): Overheads are provisional until the Visit Planner has been run.

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Miscellaneous
(5)	TOI-1442	RA: 19 09 9.7936 (287.2908067d) Dec: +74 10 20.22 (74.17228d) Equinox: J2000	Proper Motion RA: 81.959 mas/yr Proper Motion Dec: 462.70799999999997 mas/yr Epoch of Position: 2000	

Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.
Category=Star
Description=[Exoplanets]
Extended=NO

Acquisition

#	Target	Filter	Readout Pattern	Groups/Int	Integrations/Exp	Total Integrations	Total Exposure Time	ETC Wkbk.Calc ID
1	SAME	F1500W	FAST	4	1	1	0.636	176844.10

Template

Subarray	Obtain Verification Image?
SLITLESSPRISM	true

Dithers

#	Dither Type	No. Spectral Steps	Spectral Step Offset	No. Spatial Steps	Spatial Step Offset
1	NONE				

Pointing Verification

#	PV Readout Pattern	PV Groups/Int	PV Integrations/Exp	PV Total Integrations	PV Exposures/Dith	PV Total Dithers	PV Total Exposure Time	PV ETC Wkbk.Calc ID	Filter
1	FASTR1	5	1	1	1	1	0.795		F1500W

Spectral Elements

#	Readout Pattern	Groups/Int	Integrations/Exp	Total Integrations	Exposures/Dith	Total Dithers	Total Exposure Time	ETC Wkbk.Calc ID
1	FASTR1	108	687	687	1	1	11909.233	176844.9

Special Requirements

Phase 0.265 to 0.367 with period 0.4090677 Days and zero-phase 2458683.4523 HJD
Time Series Observation
No Parallel Attachments

Sequence Observations 9, 10, Non-interruptible

Observation

Proposal 4818, Observation 10: TOI-1442 Background

Mon Jul 07 21:00:20 GMT 2025

Diagnostic Status: Warning

Observing Template: MIRI Low Resolution Spectroscopy

Background Observation For: [TOI-1442 (Obs 9)]

Diagnostics

(Visit 10:1) Warning (Form): Overheads are provisional until the Visit Planner has been run.

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Miscellaneous
(15)	TOI-1442_BKG	RA: 19 09 15.5100 (287.3146250d) Dec: +74 10 26.70 (74.17408d) Equinox: J2000	Epoch of Position: 2000	

Comments:
Category=Unidentified
Description=[Blank field]
Extended=NO

Acquisition

#	Target
1	NONE

Template

AcqFilter	Subarray	Obtain Verification Image?
F1500W	SLITLESSPRISM	false

Dithers

#	Dither Type	No. Spectral Steps	Spectral Step Offset	No. Spatial Steps	Spatial Step Offset
1	NONE				

Spectral Elements

#	Readout Pattern	Groups/Int	Integrations/Exp	Total Integrations	Exposures/Dith	Total Dithers	Total Exposure Time	ETC Wkbk.Calc ID
1	FASTR1	108	10	10	1	1	173.195	176844.9

Special Requirements	Time Series Observation No Parallel Attachments Sequence Observations 9, 10, Non-interruptible

Observation

Proposal 4818, Observation 11: TOI-561

Mon Jul 07 21:00:20 GMT 2025

Diagnostic Status: Warning

Observing Template: MIRI Low Resolution Spectroscopy

Background Observations:[TOI-561 Background (Obs 12)]

Diagnostics

(TOI-561 (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.

(Visit 11:1) Warning (Form): Overheads are provisional until the Visit Planner has been run.

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Miscellaneous
(6)	TOI-561	RA: 09 52 44.5492 (148.1856217d) Dec: +06 12 58.92 (6.21637d) Equinox: J2000	Proper Motion RA: -108.504 mas/yr Proper Motion Dec: -61.27900010142184 mas/yr Epoch of Position: 2000	

Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.
Category=Star
Description=[Exoplanets]
Extended=NO

Acquisition

#	Target	Filter	Readout Pattern	Groups/Int	Integrations/Exp	Total Integrations	Total Exposure Time	ETC Wkbk.Calc ID
1	SAME	F1500W	FAST	4	1	1	0.636	176844.12

Template

Subarray	Obtain Verification Image?
SLITLESSPRISM	true

Dithers

#	Dither Type	No. Spectral Steps	Spectral Step Offset	No. Spatial Steps	Spatial Step Offset
1	NONE				

Pointing Verification

#	PV Readout Pattern	PV Groups/Int	PV Integrations/Exp	PV Total Integrations	PV Exposures/Dith	PV Total Dithers	PV Total Exposure Time	PV ETC Wkbk.Calc ID	Filter
1	FASTR1	5	1	1	1	1	0.795		F1500W

Spectral Elements

#	Readout Pattern	Groups/Int	Integrations/Exp	Total Integrations	Exposures/Dith	Total Dithers	Total Exposure Time	ETC Wkbk.Calc ID
1	FASTR1	32	2715	2715	1	1	14249.03	176844.12

Special Requirements

Phase 0.252 to 0.346 with period 0.4465688 Days and zero-phase 2459317.7498 HJD
Time Series Observation
No Parallel Attachments

Sequence Observations 11, 12, Non-interruptible

Observation

Proposal 4818, Observation 12: TOI-561 Background

Mon Jul 07 21:00:20 GMT 2025

Diagnostic Status: Warning

Observing Template: MIRI Low Resolution Spectroscopy

Background Observation For: [TOI-561 (Obs 11)]

Diagnostics

(Visit 12:1) Warning (Form): Overheads are provisional until the Visit Planner has been run.

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Miscellaneous
(16)	TOI-561_BKG	RA: 09 52 44.8800 (148.1870000d) Dec: +06 13 29.90 (6.22497d) Equinox: J2000	Epoch of Position: 2000	

Comments:
Category=Unidentified
Description=[Blank field]
Extended=NO

Acquisition

#	Target
1	NONE

Template

AcqFilter	Subarray	Obtain Verification Image?
F1500W	SLITLESSPRISM	false

Dithers

#	Dither Type	No. Spectral Steps	Spectral Step Offset	No. Spatial Steps	Spatial Step Offset
1	NONE				

Spectral Elements

#	Readout Pattern	Groups/Int	Integrations/Exp	Total Integrations	Exposures/Dith	Total Dithers	Total Exposure Time	ETC Wkbk.Calc ID
1	FASTR1	32	10	10	1	1	52.324	176844.12

Special Requirements	Time Series Observation No Parallel Attachments Sequence Observations 11, 12, Non-interruptible

Observation

Proposal 4818, Observation 13: TOI-1075

Mon Jul 07 21:00:20 GMT 2025

Diagnostic Status: Warning

Observing Template: MIRI Low Resolution Spectroscopy

Background Observations:[TOI-1075 Background (Obs 14)]

Diagnostics

(TOI-1075 (Obs 13)) 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.

(Visit 13:1) Warning (Form): Overheads are provisional until the Visit Planner has been run.

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Miscellaneous
(7)	TOI-1075	RA: 20 39 53.3385 (309.9722437d) Dec: -65 26 57.99 (-65.44944d) Equinox: J2000	Proper Motion RA: -99.84 mas/yr Proper Motion Dec: -60.01599995215656 mas/yr Epoch of Position: 2000	

Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.
Category=Star
Description=[Exoplanets]
Extended=NO

Acquisition

#	Target	Filter	Readout Pattern	Groups/Int	Integrations/Exp	Total Integrations	Total Exposure Time	ETC Wkbk.Calc ID
1	SAME	F1500W	FAST	4	1	1	0.636	176844.14

Template

Subarray	Obtain Verification Image?
SLITLESSPRISM	true

Dithers

#	Dither Type	No. Spectral Steps	Spectral Step Offset	No. Spatial Steps	Spatial Step Offset
1	NONE				

Pointing Verification

#	PV Readout Pattern	PV Groups/Int	PV Integrations/Exp	PV Total Integrations	PV Exposures/Dith	PV Total Dithers	PV Total Exposure Time	PV ETC Wkbk.Calc ID	Filter
1	FASTR1	5	1	1	1	1	0.795		F1500W

Spectral Elements

#	Readout Pattern	Groups/Int	Integrations/Exp	Total Integrations	Exposures/Dith	Total Dithers	Total Exposure Time	ETC Wkbk.Calc ID
1	FASTR1	55	1478	1478	1	1	13163.264	176844.13

Special Requirements

Phase 0.327 to 0.396 with period 0.6047328 Days and zero-phase 2458654.2510 HJD
Time Series Observation
No Parallel Attachments

Sequence Observations 13, 14, Non-interruptible

Observation

Proposal 4818, Observation 14: TOI-1075 Background

Mon Jul 07 21:00:20 GMT 2025

Diagnostic Status: Warning

Observing Template: MIRI Low Resolution Spectroscopy

Background Observation For: [TOI-1075 (Obs 13)]

Diagnostics

(Visit 14:1) Warning (Form): Overheads are provisional until the Visit Planner has been run.

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Miscellaneous
(17)	TOI-1075_BKG	RA: 20 39 48.4900 (309.9520417d) Dec: -65 27 5.00 (-65.45139d) Equinox: J2000	Epoch of Position: 2000	

Comments:
Category=Unidentified
Description=[Blank field]
Extended=NO

Acquisition

#	Target
1	NONE

Template

AcqFilter	Subarray	Obtain Verification Image?
F1500W	SLITLESSPRISM	false

Dithers

#	Dither Type	No. Spectral Steps	Spectral Step Offset	No. Spatial Steps	Spatial Step Offset
1	NONE				

Spectral Elements

#	Readout Pattern	Groups/Int	Integrations/Exp	Total Integrations	Exposures/Dith	Total Dithers	Total Exposure Time	ETC Wkbk.Calc ID
1	FASTR1	55	10	10	1	1	88.903	176844.13

Special Requirements	Time Series Observation No Parallel Attachments Sequence Observations 13, 14, Non-interruptible

Observation

Proposal 4818, Observation 15: TOI-1807

Mon Jul 07 21:00:20 GMT 2025

Diagnostic Status: Warning

Observing Template: MIRI Low Resolution Spectroscopy

Background Observations:[TOI-1807 Background (Obs 16)]

Diagnostics

(TOI-1807 (Obs 15)) 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.

(Visit 15:1) Warning (Form): Overheads are provisional until the Visit Planner has been run.

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Miscellaneous
(8)	TOI-1807	RA: 13 25 7.9957 (201.2833154d) Dec: +38 55 20.94 (38.92248d) Equinox: J2000	Proper Motion RA: -124.608 mas/yr Proper Motion Dec: -27.30000003339228 mas/yr Epoch of Position: 2000	

Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.
Category=Star
Description=[Exoplanets]
Extended=NO

Acquisition

#	Target	Filter	Readout Pattern	Groups/Int	Integrations/Exp	Total Integrations	Total Exposure Time	ETC Wkbk.Calc ID
1	SAME	F1500W	FAST	4	1	1	0.636	176844.16

Template

Subarray	Obtain Verification Image?
SLITLESSPRISM	true

Dithers

#	Dither Type	No. Spectral Steps	Spectral Step Offset	No. Spatial Steps	Spatial Step Offset
1	NONE				

Pointing Verification

#	PV Readout Pattern	PV Groups/Int	PV Integrations/Exp	PV Total Integrations	PV Exposures/Dith	PV Total Dithers	PV Total Exposure Time	PV ETC Wkbk.Calc ID	Filter
1	FASTR1	5	1	1	1	1	0.795		F1500W

Spectral Elements

#	Readout Pattern	Groups/Int	Integrations/Exp	Total Integrations	Exposures/Dith	Total Dithers	Total Exposure Time	ETC Wkbk.Calc ID
1	FASTR1	15	5182	5182	1	1	13186.165	176844.15

Special Requirements

Phase 0.311 to 0.387 with period 0.549372 Days and zero-phase 2457000.166 HJD
Time Series Observation
No Parallel Attachments

Sequence Observations 15, 16, Non-interruptible

Observation

Proposal 4818, Observation 16: TOI-1807 Background

Mon Jul 07 21:00:20 GMT 2025

Diagnostic Status: Warning

Observing Template: MIRI Low Resolution Spectroscopy

Background Observation For: [TOI-1807 (Obs 15)]

Diagnostics

(Visit 16:1) Warning (Form): Overheads are provisional until the Visit Planner has been run.

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Miscellaneous
(18)	TOI-1807_BKG	RA: 13 25 6.0100 (201.2750417d) Dec: +38 55 8.70 (38.91908d) Equinox: J2000	Epoch of Position: 2000	

Comments:
Category=Unidentified
Description=[Blank field]
Extended=NO

Acquisition

#	Target
1	NONE

Template

AcqFilter	Subarray	Obtain Verification Image?
F1500W	SLITLESSPRISM	false

Dithers

#	Dither Type	No. Spectral Steps	Spectral Step Offset	No. Spatial Steps	Spatial Step Offset
1	NONE				

Spectral Elements

#	Readout Pattern	Groups/Int	Integrations/Exp	Total Integrations	Exposures/Dith	Total Dithers	Total Exposure Time	ETC Wkbk.Calc ID
1	FASTR1	15	10	10	1	1	25.287	176844.15

Special Requirements	Time Series Observation No Parallel Attachments Sequence Observations 15, 16, Non-interruptible

Observation

Proposal 4818, Observation 17: HD 3167

Mon Jul 07 21:00:20 GMT 2025

Diagnostic Status: Warning

Observing Template: MIRI Low Resolution Spectroscopy

Background Observations:[HD 3167 Background (Obs 18)]

Diagnostics

(HD 3167 (Obs 17)) 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.

(Visit 17:1) Warning (Form): Overheads are provisional until the Visit Planner has been run.

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Miscellaneous
(9)	HD-3167	RA: 00 34 57.5242 (8.7396842d) Dec: +04 22 53.28 (4.38147d) Equinox: J2000	Proper Motion RA: 107.569 mas/yr Proper Motion Dec: -173.33400005554722 mas/yr Epoch of Position: 2000	

Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.
Category=Star
Description=[Exoplanets]
Extended=NO

Acquisition

#	Target	Filter	Readout Pattern	Groups/Int	Integrations/Exp	Total Integrations	Total Exposure Time	ETC Wkbk.Calc ID
1	SAME	F1500W	FAST	4	1	1	0.636	176844.18

Template

Subarray	Obtain Verification Image?
SLITLESSPRISM	true

Dithers

#	Dither Type	No. Spectral Steps	Spectral Step Offset	No. Spatial Steps	Spatial Step Offset
1	NONE				

Pointing Verification

#	PV Readout Pattern	PV Groups/Int	PV Integrations/Exp	PV Total Integrations	PV Exposures/Dith	PV Total Dithers	PV Total Exposure Time	PV ETC Wkbk.Calc ID	Filter
1	FASTR1	5	1	1	1	1	0.795		F1500W

Spectral Elements

#	Readout Pattern	Groups/Int	Integrations/Exp	Total Integrations	Exposures/Dith	Total Dithers	Total Exposure Time	ETC Wkbk.Calc ID
1	FASTR1	9	9636	9636	1	1	15324.935	176844.17

Special Requirements

Phase 0.378 to 0.422 with period 0.95965428 Days and zero-phase 2458269.57891 HJD
Time Series Observation
No Parallel Attachments

Sequence Observations 17, 18, Non-interruptible

Observation

Proposal 4818, Observation 18: HD 3167 Background

Mon Jul 07 21:00:20 GMT 2025

Diagnostic Status: Warning

Observing Template: MIRI Low Resolution Spectroscopy

Background Observation For: [HD 3167 (Obs 17)]

Diagnostics

(Visit 18:1) Warning (Form): Overheads are provisional until the Visit Planner has been run.

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Miscellaneous
(19)	HD-3167_BKG	RA: 00 34 55.9700 (8.7332083d) Dec: +04 23 16.50 (4.38792d) Equinox: J2000	Epoch of Position: 2000	

Comments:
Category=Unidentified
Description=[Blank field]
Extended=NO

Acquisition

#	Target
1	NONE

Template

AcqFilter	Subarray	Obtain Verification Image?
F1500W	SLITLESSPRISM	false

Dithers

#	Dither Type	No. Spectral Steps	Spectral Step Offset	No. Spatial Steps	Spatial Step Offset
1	NONE				

Spectral Elements

#	Readout Pattern	Groups/Int	Integrations/Exp	Total Integrations	Exposures/Dith	Total Dithers	Total Exposure Time	ETC Wkbk.Calc ID
1	FASTR1	9	10	10	1	1	15.745	176844.17

Special Requirements	Time Series Observation No Parallel Attachments Sequence Observations 17, 18, Non-interruptible

Observation

Proposal 4818, Observation 19: TOI-431

Mon Jul 07 21:00:20 GMT 2025

Diagnostic Status: Warning

Observing Template: MIRI Low Resolution Spectroscopy

Background Observations:[TOI-431 Background (Obs 20)]

Diagnostics

(TOI-431 (Obs 19)) 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.

(Visit 19:1) Warning (Form): Overheads are provisional until the Visit Planner has been run.

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Miscellaneous
(10)	TOI-431	RA: 05 33 4.6005 (83.2691688d)	Proper Motion RA: 16.886 mas/yr	
		Dec: -26 43 28.27 (-26.72452d)	Proper Motion Dec: 150.779 mas/yr	
		Equinox: J2000	Epoch of Position: 2000	

Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.
Category=Star
Description=[Exoplanets]
Extended=NO

Acquisition

#	Target	Filter	Readout Pattern	Groups/Int	Integrations/Exp	Total Integrations	Total Exposure Time	ETC Wkbk.Calc ID
1	SAME	F1500W	FAST	4	1	1	0.636	176844.20

Template

Subarray	Obtain Verification Image?
SLITLESSPRISM	true

Dithers

#	Dither Type	No. Spectral Steps	Spectral Step Offset	No. Spatial Steps	Spatial Step Offset
1	NONE				

Pointing Verification

#	PV Readout Pattern	PV Groups/Int	PV Integrations/Exp	PV Total Integrations	PV Exposures/Dith	PV Total Dithers	PV Total Exposure Time	PV ETC Wkbk.Calc ID	Filter
1	FASTR1	5	1	1	1	1	0.795		F1500W

Spectral Elements

#	Readout Pattern	Groups/Int	Integrations/Exp	Total Integrations	Exposures/Dith	Total Dithers	Total Exposure Time	ETC Wkbk.Calc ID
1	FASTR1	8	9400	9400	1	1	13454.625	176844.19

Special Requirements

Phase 0.283 to 0.369 with period 0.490047 Days and zero-phase 2458627.538 HJD
Time Series Observation
No Parallel Attachments

Sequence Observations 19, 20, Non-interruptible

Observation

Proposal 4818, Observation 20: TOI-431 Background

Mon Jul 07 21:00:20 GMT 2025

Diagnostic Status: Warning

Observing Template: MIRI Low Resolution Spectroscopy

Background Observation For: [TOI-431 (Obs 19)]

Diagnostics

(Visit 20:1) Warning (Form): Overheads are provisional until the Visit Planner has been run.

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Miscellaneous
(20)	TOI-431_BKG	RA: 05 33 2.6200 (83.2609167d) Dec: -26 43 6.80 (-26.71856d) Equinox: J2000	Epoch of Position: 2000	

Comments:
Category=Unidentified
Description=[Blank field]
Extended=NO

Acquisition

#	Target
1	NONE

Template

AcqFilter	Subarray	Obtain Verification Image?
F1500W	SLITLESSPRISM	false

Dithers

#	Dither Type	No. Spectral Steps	Spectral Step Offset	No. Spatial Steps	Spatial Step Offset
1	NONE				

Spectral Elements

#	Readout Pattern	Groups/Int	Integrations/Exp	Total Integrations	Exposures/Dith	Total Dithers	Total Exposure Time	ETC Wkbk.Calc ID
1	FASTR1	7	10	10	1	1	12.564	176844.19

Special Requirements	Time Series Observation No Parallel Attachments Sequence Observations 19, 20, Non-interruptible