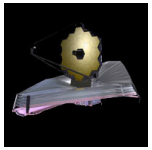

1640 - The infrared water spectrum as a tracer of pebble delivery to rocky planets

Cycle: 1, Proposal Category: GO

INVESTIGATORS

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OBSERVATIONS

Folder	*Observation*	*Label*	*Observing Template*	*Science Target*
Observation Folder				
	9	GQ Lup MIRI MRS	MIRI Medium Resolution Spectroscopy	(8) GQ-LUP
	6	04385 MIRI MRS	MIRI Medium Resolution Spectroscopy	(6) IRAS-04385

Folder	*Observation*	*Label*	*Observing Template*	*Science Target*
	11	04385 MIRI MRS - Repeat of observation 6	MIRI Medium Resolution Spectroscopy	(6) IRAS-04385
	3	GK Tau MIRI MRS	MIRI Medium Resolution Spectroscopy	(1) V-GK-TAU
	5	CI Tau MIRI MRS	MIRI Medium Resolution Spectroscopy	(5) V-CI-TAU
	10	RY Lup MIRI MRS	MIRI Medium Resolution Spectroscopy	(10) V-RY-LUP
	4	IQ Tau MIRI MRS	MIRI Medium Resolution Spectroscopy	(4) V-IQ-TAU
	1	HP Tau MIRI MRS	MIRI Medium Resolution Spectroscopy	(3) V-HP-TAU
	2	GO Tau MIRI MRS	MIRI Medium Resolution Spectroscopy	(2) V-GO-TAU

ABSTRACT

The dynamics and accretion of pebbles in protoplanetary disks are currently proposed to be decisive in forming planetary systems and determining their architecture and composition. Pebbles are expected to drift efficiently as soon as they reach mm-cm sizes at orbital radii of ~100 au, therefore feeding the inner disk with planet-building material. Depending on a lower or higher mass-flux of pebbles that makes it into the inner 2-3 au, models propose that systems of terrestrial planets rather than super-Earths would form. ALMA images of disks around 1-3 Myr-old stars have revealed that a range of pebble drift efficiencies exists, with some disks retaining pebbles at 50-200 au in systems of rings. While ALMA observations easily reveal pebbles retained in the outer disk, they cannot inform on the pebble mass flux into the inner rocky-planet-forming disk region. In this program, we will use the infrared water spectrum as a tracer of the inward mass-flux of pebbles that drift into the inner ~3 au in disks, by measuring water columns and their relation to the radial distribution of disk pebbles. While a connection between inner disk water and outer dust disk radius has been found using blended Spitzer spectra, the increased resolution of JWST-MIRI will for the first time separate optically thin from thick emission lines, providing a dramatic improvement in water column density measurements. We will provide estimates of pebble mass-fluxes delivered to inner disks in a luminosity-controlled sample of representative dust disk evolution types, and forward model those into inner disk planetary systems for comparison to ~1-10 Earth-mass exoplanets.

OBSERVING DESCRIPTION

This is a MIRI MRS program to obtain full spectral coverage between 4.9-28 micron in a sample of 10 protoplanetary disks: GK Tau, GO Tau, HP Tau, IQ Tau, CI Tau, IRAS 04385-2550, GM Aur, GQ Lup, DoAr 25, RY Lup. These disks sample the most essential matrix in dust disk evolution types (small/large disks, with/without an inner dust cavity). Spectral ranges and sensitivity have been optimized to detect a number of optically thin water emission lines that will provide a dramatic improvement in water column density measurements within ~3 au in these disks. Integration times are set to reach a S/N ~100 at ~27.5 micron, where some of the most spectrally-separated optically thin lines are. Given the essential disk sample and the high quality expected for the spectra, we allow immediate access to the data to support community efforts to obtain the highest S/N spectra by

fringe correction and calibrate follow-up disk chemistry proposals as early as possible in the JWST lifetime.

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Miscellaneous
(1)	V-GK-TAU	RA: 04 33 34.5715 (68.3940479d) Dec: +24 21 5.54 (24.35154d) Equinox: J2000	Proper Motion RA: 5.673414795653657E-4 sec of time/yr Proper Motion Dec: -0.020483000025706133 arcsec/yr Epoch of Position: 2015.5	
	Comments: This object was generated by the targetselector and retrieved from the SIMBAD database. *Category=Star* *Description=[Pre-main sequence stars, Protoplanetary disks]*			
(2)	V-GO-TAU	RA: 04 43 3.0816 (70.7628400d) Dec: +25 20 18.40 (25.33844d) Equinox: J2000	Proper Motion RA: 3.486776556121622E-4 sec of time/yr Proper Motion Dec: -0.020204999964335002 arcsec/yr Epoch of Position: 2015.5	
	Comments: This object was generated by the targetselector and retrieved from the SIMBAD database. *Category=Star* *Description=[Pre-main sequence stars, Protoplanetary disks]*			
(3)	V-HP-TAU	RA: 04 35 52.7921 (68.9699671d) Dec: +22 54 22.94 (22.90637d) Equinox: J2000	Proper Motion RA: 6.384827284048281E-4 sec of time/yr Proper Motion Dec: -0.013950000015938713 arcsec/yr Epoch of Position: 2015.5	
	Comments: This object was generated by the targetselector and retrieved from the SIMBAD database. *Category=Star* *Description=[Pre-main sequence stars, Protoplanetary disks]*			
(4)	V-IQ-TAU	RA: 04 29 51.5638 (67.4648492d) Dec: +26 06 44.53 (26.11237d) Equinox: J2000	Proper Motion RA: 4.420524909987628E-4 sec of time/yr Proper Motion Dec: -0.021007999998801097 arcsec/yr Epoch of Position: 2015.5	
	Comments: This object was generated by the targetselector and retrieved from the SIMBAD database. *Category=Star* *Description=[Pre-main sequence stars, Protoplanetary disks]*			
(5)	V-CI-TAU	RA: 04 33 52.0244 (68.4667683d) Dec: +22 50 29.83 (22.84162d) Equinox: J2000	Proper Motion RA: 6.441102078660821E-4 sec of time/yr Proper Motion Dec: -0.01706699999886041 arcsec/yr Epoch of Position: 2015.5	
	Comments: This object was generated by the targetselector and retrieved from the SIMBAD database. *Category=Star* *Description=[Pre-main sequence stars, Protoplanetary disks]*			
(6)	IRAS-04385	RA: 04 41 38.8330 (70.4118042d) Dec: +25 56 26.44 (25.94068d) Equinox: J2000	Proper Motion RA: 1.8563670765747866E-4 sec of time/yr Proper Motion Dec: -0.015482999970117817 arcsec/yr Epoch of Position: 2015.5	
	Comments: This object was generated by the targetselector and retrieved from the SIMBAD database. *Category=Star* *Description=[Pre-main sequence stars, Protoplanetary disks]*			
(8)	GQ-LUP	RA: 15 49 12.0874 (237.3003642d) Dec: -35 39 5.42 (-35.65151d) Equinox: J2000	Proper Motion RA: -0.0011696940773208812 sec of time/yr Proper Motion Dec: -0.02359599998271733 arcsec/yr Epoch of Position: 2015.5	
	Comments: This object was generated by the targetselector and retrieved from the SIMBAD database. *Category=Star* *Description=[Pre-main sequence stars, Protoplanetary disks]*			

	(10)	V-RY-LUP	RA: 15 59 28.3716 (239.8682150d) Dec: -40 21 51.59 (-40.36433d) Equinox: J2000	Proper Motion RA: -8.789824622612174E-4 sec of time/yr Proper Motion Dec: -0.02185400005600968 arcsec/yr Epoch of Position: 2015.5

Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.
Category=Star
Description=[Pre-main sequence stars, Protoplanetary disks]

Observation

Proposal 1640, Observation 9: GQ Lup MIRI MRS

Tue Aug 22 13:00:31 GMT 2023

Diagnostic Status: Warning

Observing Template: MIRI Medium Resolution Spectroscopy

Diagnostics

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

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Miscellaneous
(8)	GQ-LUP	RA: 15 49 12.0874 (237.3003642d) Dec: -35 39 5.42 (-35.65151d) Equinox: J2000	Proper Motion RA: -0.0011696940773208812 sec of time/yr Proper Motion Dec: -0.02359599998271733 arcsec/yr Epoch of Position: 2015.5	

Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.
Category=Star
Description=[Pre-main sequence stars, Protoplanetary disks]

Acquisition

#	Target	Filter	Readout Pattern	Groups/Int	Integrations/Exp	Total Integrations	Total Exposure Time	ETC Wkbk.Calc ID
1	8 GQ-LUP	FND	FAST	4	1	1	11.1	54265.13

Template

Primary Channel	Simultaneous Imaging	Imager Subarray	Grating Wheel Direction
ALL	YES	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		IMAGER	F770W	FASTR1	10	5	1	Dither 1	4	20	599.409	
1	SHORT(A)	MRSLONG		FASTR1	38	4	1	Dither 1	4	16	1720.525	
1	SHORT(A)	MRSSHORT		FASTR1	22	7	1	Dither 1	4	28	1776.026	
2		IMAGER	F770W	FASTR1	10	5	1	Dither 1	4	20	599.409	
2	MEDIUM(B)	MRSLONG		FASTR1	38	4	1	Dither 1	4	16	1720.525	
2	MEDIUM(B)	MRSSHORT		FASTR1	22	7	1	Dither 1	4	28	1776.026	
3		IMAGER	F770W	FASTR1	10	5	1	Dither 1	4	20	599.409	
3	LONG(C)	MRSLONG		FASTR1	38	4	1	Dither 1	4	16	1720.525	
3	LONG(C)	MRSSHORT		FASTR1	22	7	1	Dither 1	4	28	1776.026	

Observation

Proposal 1640, Observation 6: 04385 MIRI MRS

Tue Aug 22 13:00:31 GMT 2023

Diagnostic Status: Warning

Observing Template: MIRI Medium Resolution Spectroscopy

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
(6)	IRAS-04385	RA: 04 41 38.8330 (70.4118042d) Dec: +25 56 26.44 (25.94068d) Equinox: J2000	Proper Motion RA: 1.8563670765747866E-4 sec of time/yr Proper Motion Dec: -0.015482999970117817 arcsec/yr Epoch of Position: 2015.5	

Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.
Category=Star
Description=[Pre-main sequence stars, Protoplanetary disks]

Acquisition

#	Target	Filter	Readout Pattern	Groups/Int	Integrations/Exp	Total Integrations	Total Exposure Time	ETC Wkbk.Calc ID
1	6 IRAS-04385	FND	FAST	4	1	1	11.1	55778.62

Template

Primary Channel	Simultaneous Imaging	Imager Subarray	Grating Wheel Direction
ALL	YES	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		IMAGER	F770W	FASTR1	14	6	1	Dither 1	4	24	987.914	
1	LONG(C)	MRSLONG		FASTR1	21	4	1	Dither 1	4	16	965.714	
1	LONG(C)	MRSSHORT		FASTR1	14	6	1	Dither 1	4	24	987.914	
2		IMAGER	F770W	FASTR1	14	6	1	Dither 1	4	24	987.914	
2	MEDIUM(B)	MRSLONG		FASTR1	21	4	1	Dither 1	4	16	965.714	
2	MEDIUM(B)	MRSSHORT		FASTR1	14	6	1	Dither 1	4	24	987.914	
3		IMAGER	F770W	FASTR1	14	6	1	Dither 1	4	24	987.914	
3	SHORT(A)	MRSLONG		FASTR1	21	4	1	Dither 1	4	16	965.714	
3	SHORT(A)	MRSSHORT		FASTR1	14	6	1	Dither 1	4	24	987.914	

Observation

Proposal 1640, Observation 11: 04385 MIRI MRS - Repeat of observation 6

Tue Aug 22 13:00:31 GMT 2023

Diagnostic Status: Warning

Observing Template: MIRI Medium Resolution Spectroscopy

Diagnostics

(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)	IRAS-04385	RA: 04 41 38.8330 (70.4118042d) Dec: +25 56 26.44 (25.94068d) Equinox: J2000	Proper Motion RA: 1.8563670765747866E-4 sec of time/yr Proper Motion Dec: -0.015482999970117817 arcsec/yr Epoch of Position: 2015.5	

Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.
Category=Star
Description=[Pre-main sequence stars, Protoplanetary disks]

Acquisition

#	Target	Filter	Readout Pattern	Groups/Int	Integrations/Exp	Total Integrations	Total Exposure Time	ETC Wkbk.Calc ID
1	6 IRAS-04385	FND	FAST	4	1	1	11.1	55778.62

Template

Primary Channel	Simultaneous Imaging	Imager Subarray	Grating Wheel Direction
ALL	YES	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		IMAGER	F770W	FASTR1	14	6	1	Dither 1	4	24	987.914	
1	SHORT(A)	MRSLONG		FASTR1	21	4	1	Dither 1	4	16	965.714	
1	SHORT(A)	MRSSHORT		FASTR1	14	6	1	Dither 1	4	24	987.914	
2		IMAGER	F770W	FASTR1	14	6	1	Dither 1	4	24	987.914	
2	MEDIUM(B)	MRSLONG		FASTR1	21	4	1	Dither 1	4	16	965.714	
2	MEDIUM(B)	MRSSHORT		FASTR1	14	6	1	Dither 1	4	24	987.914	
3		IMAGER	F770W	FASTR1	14	6	1	Dither 1	4	24	987.914	
3	LONG(C)	MRSLONG		FASTR1	21	4	1	Dither 1	4	16	965.714	
3	LONG(C)	MRSSHORT		FASTR1	14	6	1	Dither 1	4	24	987.914	

Observation

Proposal 1640, Observation 3: GK Tau MIRI MRS Tue Aug 22 13:00:31 GMT 2023

Diagnostic Status: Warning

Observing Template: MIRI Medium Resolution Spectroscopy

Diagnostics

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

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Miscellaneous
(1)	V-GK-TAU	RA: 04 33 34.5715 (68.3940479d) Dec: +24 21 5.54 (24.35154d) Equinox: J2000	Proper Motion RA: 5.673414795653657E-4 sec of time/yr Proper Motion Dec: -0.020483000025706133 arcsec/yr Epoch of Position: 2015.5	

Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.
Category=Star
Description=[Pre-main sequence stars, Protoplanetary disks]

Acquisition

#	Target	Filter	Readout Pattern	Groups/Int	Integrations/Exp	Total Integrations	Total Exposure Time	ETC Wkbk.Calc ID
1	1 V-GK-TAU	FND	FAST	4	1	1	11.1	55778.65

Template

Primary Channel	Simultaneous Imaging	Imager Subarray	Grating Wheel Direction
ALL	YES	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		IMAGER	F770W	FASTR1	14	6	1	Dither 1	4	24	987.914	
1	SHORT(A)	MRSLONG		FASTR1	21	4	1	Dither 1	4	16	965.714	
1	SHORT(A)	MRSSHORT		FASTR1	14	6	1	Dither 1	4	24	987.914	
2		IMAGER	F770W	FASTR1	14	6	1	Dither 1	4	24	987.914	
2	MEDIUM(B)	MRSLONG		FASTR1	21	4	1	Dither 1	4	16	965.714	
2	MEDIUM(B)	MRSSHORT		FASTR1	14	6	1	Dither 1	4	24	987.914	
3		IMAGER	F770W	FASTR1	14	6	1	Dither 1	4	24	987.914	
3	LONG(C)	MRSLONG		FASTR1	21	4	1	Dither 1	4	16	965.714	
3	LONG(C)	MRSSHORT		FASTR1	14	6	1	Dither 1	4	24	987.914	

Observation

Proposal 1640, Observation 5: CI Tau MIRI MRS

Tue Aug 22 13:00:31 GMT 2023

Diagnostic Status: Warning

Observing Template: MIRI Medium Resolution Spectroscopy

Diagnostics

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

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Miscellaneous
(5)	V-CI-TAU	RA: 04 33 52.0244 (68.4667683d) Dec: +22 50 29.83 (22.84162d) Equinox: J2000	Proper Motion RA: 6.441102078660821E-4 sec of time/yr Proper Motion Dec: -0.01706699999886041 arcsec/yr Epoch of Position: 2015.5	

Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.
Category=Star
Description=[Pre-main sequence stars, Protoplanetary disks]

Acquisition

#	Target	Filter	Readout Pattern	Groups/Int	Integrations/Exp	Total Integrations	Total Exposure Time	ETC Wkbk.Calc ID
1	5 V-CI-TAU	FND	FAST	4	1	1	11.1	55778.63

Template

Primary Channel	Simultaneous Imaging	Imager Subarray	Grating Wheel Direction
ALL	YES	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		IMAGER	F770W	FASTR1	10	5	1	Dither 1	4	20	599.409	
1	SHORT(A)	MRSLONG		FASTR1	38	4	1	Dither 1	4	16	1720.525	
1	SHORT(A)	MRSSHORT		FASTR1	22	7	1	Dither 1	4	28	1776.026	
2		IMAGER	F770W	FASTR1	10	5	1	Dither 1	4	20	599.409	
2	MEDIUM(B)	MRSLONG		FASTR1	38	4	1	Dither 1	4	16	1720.525	
2	MEDIUM(B)	MRSSHORT		FASTR1	22	7	1	Dither 1	4	28	1776.026	
3		IMAGER	F770W	FASTR1	10	5	1	Dither 1	4	20	599.409	
3	LONG(C)	MRSLONG		FASTR1	38	4	1	Dither 1	4	16	1720.525	
3	LONG(C)	MRSSHORT		FASTR1	22	7	1	Dither 1	4	28	1776.026	

Observation

Proposal 1640, Observation 10: RY Lup MIRI MRS

Tue Aug 22 13:00:31 GMT 2023

Diagnostic Status: Warning

Observing Template: MIRI Medium Resolution Spectroscopy

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
(10)	V-RY-LUP	RA: 15 59 28.3716 (239.8682150d) Dec: -40 21 51.59 (-40.36433d) Equinox: J2000	Proper Motion RA: -8.789824622612174E-4 sec of time/yr Proper Motion Dec: -0.02185400005600968 arcsec/yr Epoch of Position: 2015.5	

Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.
Category=Star
Description=[Pre-main sequence stars, Protoplanetary disks]

Acquisition

#	Target	Filter	Readout Pattern	Groups/Int	Integrations/Exp	Total Integrations	Total Exposure Time	ETC Wkbk.Calc ID
1	10 V-RY-LUP	FND	FAST	4	1	1	11.1	55778.54

Template

Primary Channel	Simultaneous Imaging	Imager Subarray	Grating Wheel Direction
ALL	YES	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		IMAGER	F770W	FASTR1	14	6	1	Dither 1	4	24	987.914	
1	SHORT(A)	MRSLONG		FASTR1	21	4	1	Dither 1	4	16	965.714	
1	SHORT(A)	MRSSHORT		FASTR1	14	6	1	Dither 1	4	24	987.914	
2		IMAGER	F770W	FASTR1	14	6	1	Dither 1	4	24	987.914	
2	MEDIUM(B)	MRSLONG		FASTR1	21	4	1	Dither 1	4	16	965.714	
2	MEDIUM(B)	MRSSHORT		FASTR1	14	6	1	Dither 1	4	24	987.914	
3		IMAGER	F770W	FASTR1	14	6	1	Dither 1	4	24	987.914	
3	LONG(C)	MRSLONG		FASTR1	21	4	1	Dither 1	4	16	965.714	
3	LONG(C)	MRSSHORT		FASTR1	14	6	1	Dither 1	4	24	987.914	

Observation

Proposal 1640, Observation 4: IQ Tau MIRI MRS

Tue Aug 22 13:00:31 GMT 2023

Diagnostic Status: Warning

Observing Template: MIRI Medium Resolution Spectroscopy

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
(4)	V-IQ-TAU	RA: 04 29 51.5638 (67.4648492d) Dec: +26 06 44.53 (26.11237d) Equinox: J2000	Proper Motion RA: 4.420524909987628E-4 sec of time/yr Proper Motion Dec: -0.021007999998801097 arcsec/yr Epoch of Position: 2015.5	

Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.
Category=Star
Description=[Pre-main sequence stars, Protoplanetary disks]

Acquisition

#	Target	Filter	Readout Pattern	Groups/Int	Integrations/Exp	Total Integrations	Total Exposure Time	ETC Wkbk.Calc ID
1	4 V-IQ-TAU	FND	FAST	6	1	1	16.65	55778.68

Template

Primary Channel	Simultaneous Imaging	Imager Subarray	Grating Wheel Direction
ALL	YES	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		IMAGER	F770W	FASTR1	10	5	1	Dither 1	4	20	599.409	
1	SHORT(A)	MRSLONG		FASTR1	38	4	1	Dither 1	4	16	1720.525	
1	SHORT(A)	MRSSHORT		FASTR1	19	8	1	Dither 1	4	32	1764.925	
2		IMAGER	F770W	FASTR1	10	5	1	Dither 1	4	20	599.409	
2	MEDIUM(B)	MRSLONG		FASTR1	38	4	1	Dither 1	4	16	1720.525	
2	MEDIUM(B)	MRSSHORT		FASTR1	19	8	1	Dither 1	4	32	1764.925	
3		IMAGER	F770W	FASTR1	10	5	1	Dither 1	4	20	599.409	
3	LONG(C)	MRSLONG		FASTR1	38	4	1	Dither 1	4	16	1720.525	
3	LONG(C)	MRSSHORT		FASTR1	19	8	1	Dither 1	4	32	1764.925	

Observation

Proposal 1640, Observation 1: HP Tau MIRI MRS

Tue Aug 22 13:00:31 GMT 2023

Diagnostic Status: Warning

Observing Template: MIRI Medium Resolution Spectroscopy

Diagnostics

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

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Miscellaneous
(3)	V-HP-TAU	RA: 04 35 52.7921 (68.9699671d) Dec: +22 54 22.94 (22.90637d) Equinox: J2000	Proper Motion RA: 6.384827284048281E-4 sec of time/yr Proper Motion Dec: -0.013950000015938713 arcsec/yr Epoch of Position: 2015.5	

Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.
Category=Star
Description=[Pre-main sequence stars, Protoplanetary disks]

Acquisition

#	Target	Filter	Readout Pattern	Groups/Int	Integrations/Exp	Total Integrations	Total Exposure Time	ETC Wkbk.Calc ID
1	3 V-HP-TAU	FND	FAST	4	1	1	11.1	55778.67

Template

Primary Channel	Simultaneous Imaging	Imager Subarray	Grating Wheel Direction
ALL	YES	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		IMAGER	F770W	FASTR1	14	6	1	Dither 1	4	24	987.914	
1	SHORT(A)	MRSLONG		FASTR1	21	4	1	Dither 1	4	16	965.714	
1	SHORT(A)	MRSSHORT		FASTR1	14	6	1	Dither 1	4	24	987.914	
2		IMAGER	F770W	FASTR1	14	6	1	Dither 1	4	24	987.914	
2	MEDIUM(B)	MRSLONG		FASTR1	21	4	1	Dither 1	4	16	965.714	
2	MEDIUM(B)	MRSSHORT		FASTR1	14	6	1	Dither 1	4	24	987.914	
3		IMAGER	F770W	FASTR1	14	6	1	Dither 1	4	24	987.914	
3	LONG(C)	MRSLONG		FASTR1	21	4	1	Dither 1	4	16	965.714	
3	LONG(C)	MRSSHORT		FASTR1	14	6	1	Dither 1	4	24	987.914	

Observation

Proposal 1640, Observation 2: GO Tau MIRI MRS Tue Aug 22 13:00:31 GMT 2023

Diagnostic Status: Warning

Observing Template: MIRI Medium Resolution Spectroscopy

Diagnostics

(Visit 2:1) Warning (Form): Data Excess over lower threshold

(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)	V-GO-TAU	RA: 04 43 3.0816 (70.7628400d) Dec: +25 20 18.40 (25.33844d) Equinox: J2000	Proper Motion RA: 3.486776556121622E-4 sec of time/yr Proper Motion Dec: -0.020204999964335002 arcsec/yr Epoch of Position: 2015.5	

Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.
Category=Star
Description=[Pre-main sequence stars, Protoplanetary disks]

Acquisition

#	Target	Filter	Readout Pattern	Groups/Int	Integrations/Exp	Total Integrations	Total Exposure Time	ETC Wkbk.Calc ID
1	2 V-GO-TAU	FND	FAST	10	1	1	27.75	55778.53

Template

Primary Channel	Simultaneous Imaging	Imager Subarray	Grating Wheel Direction
ALL	YES	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		IMAGER	F770W	FASTR1	24	8	1	Dither 1	4	32	2208.932	
1	LONG(C)	MRSLONG		FASTR1	40	5	1	Dither 1	4	20	2264.433	
1	LONG(C)	MRSSHORT		FASTR1	20	10	1	Dither 1	4	40	2319.933	
2		IMAGER	F770W	FASTR1	24	8	1	Dither 1	4	32	2208.932	
2	MEDIUM(B)	MRSLONG		FASTR1	40	5	1	Dither 1	4	20	2264.433	
2	MEDIUM(B)	MRSSHORT		FASTR1	20	10	1	Dither 1	4	40	2319.933	
3		IMAGER	F770W	FASTR1	24	8	1	Dither 1	4	32	2208.932	
3	SHORT(A)	MRSLONG		FASTR1	40	5	1	Dither 1	4	20	2264.433	
3	SHORT(A)	MRSSHORT		FASTR1	20	10	1	Dither 1	4	40	2319.933	