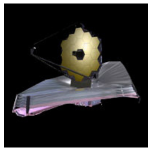

6620 - CAL-MIRI-334 LRS PSF Characterization

Cycle: 3, Proposal Category: CAL/MIRI

INVESTIGATORS

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OBSERVATIONS

Folder	*Observation*	*Label*	*Observing Template*	*Science Target*
Observation Folder				
	1	BD+60 1753 nod 1	MIRI Low Resolution Spectroscopy	(1) BD+60-1753
	2	BD+60 1753 center	MIRI Low Resolution Spectroscopy	(1) BD+60-1753
	3	BD+60 1753 nod 2	MIRI Low Resolution Spectroscopy	(1) BD+60-1753
	4	BD+60 1753 offset	MIRI Low Resolution Spectroscopy	(2) BD+60-1753-OFFSET
	7	Lipperta slitless	MIRI Low Resolution Spectroscopy	(6) Lipperta
	8	Lipperta offset	MIRI Low Resolution Spectroscopy	(7) Lipperta-offset

ABSTRACT

In order to characterize the point spread function (PSF) as a function of wavelength in the LRS slit and slitless modes, we will scan a point source across the two nod positions and the center of the slit and across the nominal pointing position in the SLITLESSPRISM subarray. These observations will improve the signal/noise ratio (SNR) obtained during commissioning in CAR-MIRI-074 and in Cycle 1 (CAL-MIRI-034). Detailed knowledge of the LRS PSF and the availability of a super-resolution PSF model will test the WebbPSF model, improve the SNR of the outer PSF, and facilitate better algorithms for extracting spectra from two-dimensional spectral images.

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

OBSERVING DESCRIPTION

This program observes standard stars in the slit and in slitless mode with a sub-pixel scan to sample the point-spread function.

Observations 1-4 are a non-interruptible sequence.

Observations 5-6 are also a non-interruptible sequence.

TIMING CONTRAINTS:

None.

BACKUP TARGET:

HD 180609 is a backup target if BD+60 1753 is not available and can be observed with the same intergration times.

Proposal 6620 - Targets - CAL-MIRI-334 LRS PSF Characterization

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Miscellaneous
(1)	BD+60-1753	RA: 17 24 52.2772 (261.2178217d) Dec: +60 25 50.78 (60.43077d) Equinox: J2000	Proper Motion RA: 3.981 mas/yr Proper Motion Dec: 1.809 mas/yr Parallax: 0.001968" Epoch of Position: 2000.0	
Comments: GAIA DR2 coordinates *Category=Star* *Description=[A dwarfs]* *Extended=NO*				
(2)	BD+60-1753-OFFSET	RA: 17 24 50.9260 (261.2121917d) Dec: +60 25 50.78 (60.43077d) Equinox: J2000	Proper Motion RA: 0 mas/yr Proper Motion Dec: 0 mas/yr Parallax: 0" Epoch of Position: 2000.0	
Comments: 10" west of BD+60 1753 *Category=Unidentified* *Description=[Blank field]* *Extended=NO*				
(3)	HD163466	RA: 17 52 25.3757 (268.1057321d) Dec: +60 23 46.94 (60.39637d) Equinox: J2000	Proper Motion RA: -2.730 mas/yr Proper Motion Dec: 42.672 mas/yr Parallax: 0.00509" Epoch of Position: 2000.0	
Comments: GAIA DR2 coordinates *Category=Star* *Description=[A dwarfs]* *Extended=NO*				
(4)	HD163466-OFFSET	RA: 17 52 24.0257 (268.1001071d) Dec: +60 23 46.94 (60.39637d) Equinox: J2000	Proper Motion RA: 0 mas/yr Proper Motion Dec: 0 mas/yr Parallax: 0" Epoch of Position: 2000.0	
Comments: 10" west of HD 163466 *Category=Unidentified* *Description=[Blank field]* *Extended=NO*				
(5)	HD180609	RA: 19 12 47.1996 (288.1966650d) Dec: +64 10 37.18 (64.17699d) Equinox: J2000	Proper Motion RA: -3.059 mas/yr Proper Motion Dec: -7.79 mas/yr Parallax: 0.00183" Epoch of Position: 2000.0	
Comments: GAIA DR2 coordinates *Category=Star* *Description=[A dwarfs]*				

Proposal 6620 - Targets - CAL-MIRI-334 LRS PSF Characterization

Solar System Targets

#	Name	Level 1	Level 2	Level 3
(6)	Lipperta	TYPE=ASTEROID,A=3.126086945594429,E=0.1823171838703358,I=0.2643136122725074,O=261.4370141950023,W=129.2130029681396,M=36.32087177066279,EQUINOX=J2000,EPOCH=18-SEP-2016:00:00:00,EpochTimeScale=TDB		
Comments: Orbital elements from Horizons *Extended=NO*				
(7)	Lipperta-offset	TYPE=ASTEROID,A=3.126086945594429,E=0.1823171838703358,I=0.2643136122725074,O=261.4370141950023,W=129.2130029681396,M=36.32087177066279,EQUINOX=J2000,EPOCH=18-SEP-2016:00:00:00,EpochTimeScale=TDB	TYPE=POS_ANGLE,RAD=60,ANG=0,REF=NORTH	
Comments: Orbital elements from Horizons *Extended=NO*				

Proposal 6620 - Observation 1 - CAL-MIRI-334 LRS PSF Characterization

Observation

Proposal 6620, Observation 1: BD+60 1753 nod 1 Wed Feb 12 23:00:10 GMT 2025

Diagnostic Status: Warning

Observing Template: MIRI Low Resolution Spectroscopy

Background Observations:[BD+60 1753 center (Obs 2), BD+60 1753 nod 2 (Obs 3), BD+60 1753 offset (Obs 4)]

Diagnostics

(BD+60 1753 nod 1 (Obs 1)) Warning (Form): Groups/Int cannot be 1, Groups/Int = 2 requires permission and Groups/Int of 3-4 is allowed but not recommended.

(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)	BD+60-1753	RA: 17 24 52.2772 (261.2178217d) Dec: +60 25 50.78 (60.43077d) Equinox: J2000	Proper Motion RA: 3.981 mas/yr Proper Motion Dec: 1.809 mas/yr Parallax: 0.001968" Epoch of Position: 2000.0	

Comments: GAIA DR2 coordinates
Category=Star
Description=[A dwarfs]
Extended=NO

Acquisition

#	Target	Filter	Readout Pattern	Groups/Int	Integrations/Exp	Total Integrations	Total Exposure Time	ETC Wkbk.Calc ID
1	SAME	F1000W	FAST	4	1	1	11.1	188785.04

Template

Subarray	Obtain Verification Image?
FULL	true

Dithers

#	Dither Type	No. Spectral Steps	Spectral Step Offset	No. Spatial Steps	Spatial Step Offset
1	INTRAPIXEL SLIT SCAN NOD1				

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	4	1	1	1	1	11.1		F1000W

Proposal 6620 - Observation 1 - CAL-MIRI-334 LRS PSF Characterization

Spectral Elements

#	Readout Pattern	Groups/Int	Integrations/Exp	Total Integrations	Exposures/Dith	Total Dithers	Total Exposure Time	ETC Wkbk.Calc ID
1	FASTR1	10	3	33	1	11	976.814	188785.01

Special Requirements

Sequence Observations 1, 2, 3, 4, Non-interruptible

Observation

Proposal 6620, Observation 2: BD+60 1753 center

Wed Feb 12 23:00:10 GMT 2025

Diagnostic Status: Warning

Observing Template: MIRI Low Resolution Spectroscopy

Background Observations:[BD+60 1753 nod 1 (Obs 1), BD+60 1753 nod 2 (Obs 3), BD+60 1753 offset (Obs 4)]

Diagnostics

(BD+60 1753 center (Obs 2)) Warning (Form): Groups/Int cannot be 1, Groups/Int = 2 requires permission and Groups/Int of 3-4 is allowed but not recommended.

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

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Miscellaneous
(1)	BD+60-1753	RA: 17 24 52.2772 (261.2178217d) Dec: +60 25 50.78 (60.43077d) Equinox: J2000	Proper Motion RA: 3.981 mas/yr Proper Motion Dec: 1.809 mas/yr Parallax: 0.001968" Epoch of Position: 2000.0	

Comments: GAIA DR2 coordinates
Category=Star
Description=[A dwarfs]
Extended=NO

Acquisition

#	Target	Filter	Readout Pattern	Groups/Int	Integrations/Exp	Total Integrations	Total Exposure Time	ETC Wkbk.Calc ID
1	SAME	F1000W	FAST	4	1	1	11.1	188785.04

Template

Subarray	Obtain Verification Image?
FULL	true

Dithers

#	Dither Type	No. Spectral Steps	Spectral Step Offset	No. Spatial Steps	Spatial Step Offset
1	INTRAPIXEL SLIT SCAN CENTER				

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	4	1	1	1	1	11.1		F1000W

Proposal 6620 - Observation 2 - CAL-MIRI-334 LRS PSF Characterization

Spectral Elements

#	Readout Pattern	Groups/Int	Integrations/Exp	Total Integrations	Exposures/Dith	Total Dithers	Total Exposure Time	ETC Wkbk.Calc ID
1	FASTR1	10	3	33	1	11	976.814	188785.01

Special Requirements

Sequence Observations 1, 2, 3, 4, Non-interruptible

Observation

Proposal 6620, Observation 3: BD+60 1753 nod 2

Wed Feb 12 23:00:10 GMT 2025

Diagnostic Status: Warning

Observing Template: MIRI Low Resolution Spectroscopy

Background Observations:[BD+60 1753 nod 1 (Obs 1), BD+60 1753 center (Obs 2), BD+60 1753 offset (Obs 4)]

Diagnostics

(BD+60 1753 nod 2 (Obs 3)) Warning (Form): Groups/Int cannot be 1, Groups/Int = 2 requires permission and Groups/Int of 3-4 is allowed but not recommended.

(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)	BD+60-1753	RA: 17 24 52.2772 (261.2178217d) Dec: +60 25 50.78 (60.43077d) Equinox: J2000	Proper Motion RA: 3.981 mas/yr Proper Motion Dec: 1.809 mas/yr Parallax: 0.001968" Epoch of Position: 2000.0	

Comments: GAIA DR2 coordinates
Category=Star
Description=[A dwarfs]
Extended=NO

Acquisition

#	Target	Filter	Readout Pattern	Groups/Int	Integrations/Exp	Total Integrations	Total Exposure Time	ETC Wkbk.Calc ID
1	SAME	F1000W	FAST	4	1	1	11.1	188785.04

Template

Subarray	Obtain Verification Image?
FULL	true

Dithers

#	Dither Type	No. Spectral Steps	Spectral Step Offset	No. Spatial Steps	Spatial Step Offset
1	INTRAPIXEL SLIT SCAN NOD2				

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	4	1	1	1	1	11.1		F1000W

Proposal 6620 - Observation 3 - CAL-MIRI-334 LRS PSF Characterization

Spectral Elements

#	Readout Pattern	Groups/Int	Integrations/Exp	Total Integrations	Exposures/Dith	Total Dithers	Total Exposure Time	ETC Wkbk.Calc ID
1	FASTR1	10	3	33	1	11	976.814	188785.01

Special Requirements

Sequence Observations 1, 2, 3, 4, Non-interruptible

Observation

Proposal 6620, Observation 4: BD+60 1753 offset

Wed Feb 12 23:00:10 GMT 2025

Diagnostic Status: Warning

Observing Template: MIRI Low Resolution Spectroscopy

Background Observation For: [BD+60 1753 nod 1 (Obs 1), BD+60 1753 center (Obs 2), BD+60 1753 nod 2 (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
(2)	BD+60-1753-OFFSET	RA: 17 24 50.9260 (261.2121917d) Dec: +60 25 50.78 (60.43077d) Equinox: J2000	Proper Motion RA: 0 mas/yr Proper Motion Dec: 0 mas/yr Parallax: 0" Epoch of Position: 2000.0	

Comments: 10" west of BD+60 1753
Category=Unidentified
Description=[Blank field]
Extended=NO

Acquisition

#	Target
1	NONE

Template

AcqFilter	Subarray	Obtain Verification Image?
F1000W	FULL	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	33	33	1	1	1004.564	188785.01

Special Requirements	
	Sequence Observations 1, 2, 3, 4, Non-interruptible

Observation

Proposal 6620, Observation 7: Lipperta slitless

Wed Feb 12 23:00:10 GMT 2025

Diagnostic Status: Warning

Observing Template: MIRI Low Resolution Spectroscopy

Background Observations:[Lipperta offset (Obs 8)]

Diagnostics

(Lipperta slitless (Obs 7)) Warning (Form): Groups/Int cannot be 1, Groups/Int = 2 requires permission and Groups/Int of 3-4 is allowed but not recommended.

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

(Lipperta slitless (Obs 7)) Informational (Form): The Visit Planner and Spike may produce different schedulability results.

Solar System Targets

#	Name	Level 1	Level 2	Level 3
(6)	Lipperta	TYPE=ASTEROID,A=3.126086945594429,E=0.1823171838703358,I=0.2643136122725074,O=261.4370141950023,W=129.2130029681396,M=36.32087177066279,EQUINOX=J2000,EPOCH=18-SEP-2016:00:00:00,EpochTimeScale=TDB		

Comments: Orbital elements from Horizons
Extended=NO

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	0.636	233226.08

Template

Subarray	Obtain Verification Image?
SLITLESSPRISM	true

Dithers

#	Dither Type	No. Spectral Steps	Spectral Step Offset	No. Spatial Steps	Spatial Step Offset
1	INTRAPIXEL SLITLESS SCAN				

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	4	1	1	1	1	0.636		FND

Proposal 6620 - Observation 7 - CAL-MIRI-334 LRS PSF Characterization

Spectral Elements

#	Readout Pattern	Groups/Int	Integrations/Exp	Total Integrations	Exposures/Dith	Total Dithers	Total Exposure Time	ETC Wkbk.Calc ID
1	FASTR1	24	5	55	1	11	216.931	233226.05

Special Requirements

Sequence Observations 7, 8, Non-interruptible

DEFAULT WINDOW: ANGULAR RATE Lipperta FROM JWST LESS THAN 0.075

Observation

Proposal 6620, Observation 8: Lipperta offset

Wed Feb 12 23:00:10 GMT 2025

Diagnostic Status: Warning

Observing Template: MIRI Low Resolution Spectroscopy

Background Observation For: [Lipperta slitless (Obs 7)]

Diagnostics

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

(Lipperta offset (Obs 8)) Informational (Form): The Visit Planner and Spike may produce different schedulability results.

Solar System Targets

#	Name	Level 1	Level 2	Level 3
(7)	Lipperta-offset	TYPE=ASTEROID,A=3.126086945594429,E=0.1823171838703358,I=0.2643136122725074,O=261.4370141950023,W=129.2130029681396,M=36.32087177066279,EQUINOX=J2000,EPOCH=18-SEP-2016:00:00:00,EpochTimeScale=TDB	TYPE=POS_ANGLE,RAD=60,ANG=0,REF=NORTH	

Comments: Orbital elements from Horizons
Extended=NO

Acquisition

#	Target
1	NONE

Template

AcqFilter	Subarray	Obtain Verification Image?
FND	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	24	55	55	1	1	218.521	233226.05

Special Requirements	
	On Hold On hold while we assess whether we need to replacde the target. Sequence Observations 7, 8, Non-interruptible DEFAULT WINDOW: ANGULAR RATE Lipperta-offset FROM JWST LESS THAN 0.075