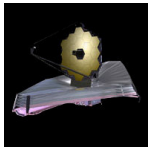

4297 - The Novel MIR Abundance Diagnostic Ne23

Cycle: 2, Proposal Category: GO

INVESTIGATORS

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OBSERVATIONS

Folder	*Observation*	*Label*	*Observing Template*	*Science Target*
Observation Folder				
	1	M33-438+800	MIRI Medium Resolution Spectroscopy	(1) M33-438+800
	2	M33+62+354	MIRI Medium Resolution Spectroscopy	(3) M33+62+354
	3	M33+553+448	MIRI Medium Resolution Spectroscopy	(4) M33+553+448
	4	M33+46-380	MIRI Medium Resolution Spectroscopy	(5) M33+46-380
	5	M33-72-1072	MIRI Medium Resolution Spectroscopy	(2) M33-72-1072
	6	M33-B Long	MIRI Medium Resolution Spectroscopy	(6) M33-B
	7	M33-B Short	MIRI Medium Resolution Spectroscopy	(6) M33-B
	8	NGC5457+668+174	MIRI Medium Resolution Spectroscopy	(7) NGC5457+668+174
	9	NGC5457+189-136	MIRI Medium Resolution Spectroscopy	(8) NGC5457+189-136
	109	NGC5457+189-136 Re Observe	MIRI Medium Resolution Spectroscopy	(108) NGC5457+189-136-ReObserve
	10	NGC5457-100-388	MIRI Medium Resolution Spectroscopy	(9) NGC5457-100-388
	11	NGC5457-205-98	MIRI Medium Resolution Spectroscopy	(10) NGC5457-205-98
	12	NGC5457-361-280	MIRI Medium Resolution Spectroscopy	(11) NGC5457-361-280

Folder	*Observation*	*Label*	*Observing Template*	*Science Target*
	14	NGC5457-B2	MIRI Medium Resolution Spectroscopy	(13) NGC5457-B2
	15	NGC5457-B1	MIRI Medium Resolution Spectroscopy	(12) NGC5457-B1
	110	NGC5457-B1 Re-Observe	MIRI Medium Resolution Spectroscopy	(12) NGC5457-B1
	16	NGC5457-B3	MIRI Medium Resolution Spectroscopy	(14) NGC5457-B3

ABSTRACT

Gas-phase abundances act as powerful tracers of star formation and galactic evolutionary mechanisms. Many prior surveys have relied on strong-line abundance diagnostics, which relate the emission of intense optical lines to the O/H abundance in a nebula. However, these diagnostics have been shown to have large variation and discrepancies when calibrated on empirical or model abundances. The application of different diagnostics produces variations in the shape of the mass-metallicity relation (MZR) at high-O/H, which limits our understanding of galaxy evolution in these highly enriched environments.

One alternative is to utilize the IR fine-structure lines, which are insensitive to the electron temperature and reddening, and which accurately probe gas-phase abundances/ionization conditions. Up to this point, aperture effects and low sensitivity of prior telescopes have limited the use of fine-structure lines in chemical abundance surveys. JWST's MIRI/MRS and its IFU capabilities address both issues, allowing for the most direct comparison of space-based MIR and ground-based optical observations of emission line sources. Within MIRI/MRS's Channel 3 are the Ne fine-structure lines, powerful tracers of chemical enrichment from high-mass stars and the ionization structure of the gas. We propose to measure a novel MIR abundance diagnostic, Ne23, in bright, extragalactic H II regions to evaluate the evolution of O/H as a function of Ne23. Once calibrated, the Ne23 diagnostic can be used to accurately infer O/H in a variety of sources over JWST's lifetime, including highly-obscured sources and high-O/H galaxies that will constrain the shape of the MZR.

OBSERVING DESCRIPTION

We propose to observe 10 H II regions, 5 in each of the spiral galaxies M101 and M33, with a broad range of metallicity and ionization conditions. MIRI/MRS IFU spectroscopy of the targeted regions is required to match the apertures used for ground-based observations of the same regions by the CHemical Abundances Of Spirals (CHAOS) project.

MIRI/MRS Science: We utilize Bands A and C to obtain coverage of the emission lines necessary to measure Ne23, namely [Ne II] 12.8um, [Ne III] 15.6um, and HuA. The science goal of robustly measuring Ne23 within the same area of extraction as prior optical observations requires high S/N

detections of all three lines. The exposure times were calculated using the CHAOS optical flux measurements of HB and [Ne III] 3868 to infer the HuA and [Ne III] 15.6um emission, respectively. The O^+/O^2+ ionic abundance fraction and the predicted [Ne III] 15.6um intensity were used to infer the emission from [Ne II] 12.8um.

We assume a 2D symmetric Gaussian with standard deviation equal to the expected value from CHAOS extractions, and we require an exposure time necessary to obtain a [Ne II] and [Ne III] S/N > 10 in each pixel within the H II region area. By satisfying this requirement, the HuA line is detected at S/N > 20 when using an extraction aperture of size equal to the optical aperture, which allows for a robust measurement of all lines needed to calculate Ne23.

MIRI/MRS Backgrounds: The proposed H II regions are extended, requiring a dedicated background to remove the thermal background. We have selected four background pointings that are free from emission in the Spitzer/IRAC 8m images of M101 and M33. Each sequence of H II region observations is followed by a background exposure of duration equal to the longest science exposure within that sequence.

Our total requested observation time is 11.89 hours with a total requested time of 23.43 hours.

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Miscellaneous
(1)	M33-438+800	RA: 01 33 16.5000 (23.3187500d) Dec: +30 52 49.21 (30.88034d) Equinox: J2000		
Comments: *Category=ISM* *Description=[H II regions]* *Extended=YES*				
(2)	M33-72-1072	RA: 01 33 45.0000 (23.4375000d) Dec: +30 21 38.41 (30.36067d) Equinox: J2000		
Comments: *Category=ISM* *Description=[H II regions]* *Extended=YES*				
(3)	M33+62+354	RA: 01 33 55.4000 (23.4808333d) Dec: +30 45 23.41 (30.75650d) Equinox: J2000		
Comments: *Category=ISM* *Description=[H II regions]* *Extended=YES*				
(4)	M33+553+448	RA: 01 34 33.5000 (23.6395833d) Dec: +30 46 57.00 (30.78250d) Equinox: J2000		
Comments: *Category=ISM* *Description=[H II regions]* *Extended=YES*				
(5)	M33+46-380	RA: 01 33 54.1000 (23.4754167d) Dec: +30 33 9.45 (30.55262d) Equinox: J2000		
Comments: *Category=ISM* *Description=[H II regions]* *Extended=YES*				
(6)	M33-B	RA: 01 32 23.6396 (23.0984983d) Dec: +30 41 39.21 (30.69422d) Equinox: J2000		
Comments: *Category=Calibration* *Description=[Telescope/sky background]*				
(7)	NGC5457+668+174	RA: 14 04 29.4000 (211.1225000d) Dec: +54 23 47.34 (54.39648d) Equinox: J2000		
Comments: *Category=ISM* *Description=[H II regions]* *Extended=YES*				

(8)	NGC5457+189-136	RA: 14 03 34.0700 (210.8919583d) Dec: +54 18 37.08 (54.31030d) Equinox: J2000
Comments: *Category=ISM* *Description=[H II regions]* *Extended=YES*		
(9)	NGC5457-100-388	RA: 14 03 1.1000 (210.7545833d) Dec: +54 14 27.97 (54.24110d) Equinox: J2000
Comments: *Category=ISM* *Description=[H II regions]* *Extended=YES*		
(10)	NGC5457-205-98	RA: 14 02 49.1700 (210.7048750d) Dec: +54 19 16.52 (54.32126d) Equinox: J2000
Comments: *Category=ISM* *Description=[H II regions]* *Extended=YES*		
(11)	NGC5457-361-280	RA: 14 02 29.5900 (210.6232917d) Dec: +54 16 13.77 (54.27049d) Equinox: J2000
Comments: *Category=ISM* *Description=[H II regions]* *Extended=YES*		
(12)	NGC5457-B1	RA: 14 03 47.1027 (210.9462613d) Dec: +54 12 56.78 (54.21577d) Equinox: J2000
Comments: *Category=Calibration* *Description=[Telescope/sky background]*		
(13)	NGC5457-B2	RA: 14 02 5.9903 (210.5249596d) Dec: +54 16 13.25 (54.27035d) Equinox: J2000
Comments: *Category=Calibration* *Description=[Telescope/sky background]*		
(14)	NGC5457-B3	RA: 14 04 32.2418 (211.1343408d) Dec: +54 20 40.74 (54.34465d) Equinox: J2000
Comments: *Category=Calibration* *Description=[Telescope/sky background]*		

	(108)	NGC5457+189-136-ReObserve	RA: 14 03 34.0700 (210.8919583d) Dec: +54 18 37.08 (54.31030d) Equinox: J2000
	Comments: *Category=ISM* *Description=[H II regions]* *Extended=YES*		

Observation

Proposal 4297, Observation 1: M33-438+800 Mon Apr 01 22:00:10 GMT 2024

Diagnostic Status: Warning

Observing Template: MIRI Medium Resolution Spectroscopy

Background Observations:[M33-B Short (Obs 7)]

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
(1)	M33-438+800	RA: 01 33 16.5000 (23.3187500d) Dec: +30 52 49.21 (30.88034d) Equinox: J2000		

Comments:
Category=ISM
Description=[H II regions]
Extended=YES

Acquisition

#	Target
1	NONE

Template

AcqFilter	Primary Channel	Simultaneous Imaging	Imager Subarray	Grating Wheel Direction
F1500W	All MRS	NO	FULL	FORWARD

Dithers

#	Dither Type	Optimized For	Direction
1	4-Point	EXTENDED 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	LONG(C)	MRSLONG		FASTR1	90	1	1	Dither 1	4	4	999.014	
1	LONG(C)	MRSSHORT		FASTR1	90	1	1	Dither 1	4	4	999.014	
2	SHORT(A)	MRSLONG		FASTR1	90	1	1	Dither 1	4	4	999.014	
2	SHORT(A)	MRSSHORT		FASTR1	90	1	1	Dither 1	4	4	999.014	

Special Requirements	Sequence Observations 1, 2, 3, 7, Non-interruptible

Observation

Proposal 4297, Observation 2: M33+62+354 Mon Apr 01 22:00:10 GMT 2024

Diagnostic Status: Warning

Observing Template: MIRI Medium Resolution Spectroscopy

Background Observations:[M33-B Short (Obs 7)]

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
(3)	M33+62+354	RA: 01 33 55.4000 (23.4808333d) Dec: +30 45 23.41 (30.75650d) Equinox: J2000		

Comments:
Category=ISM
Description=[H II regions]
Extended=YES

Acquisition

#	Target
1	NONE

Template

AcqFilter	Primary Channel	Simultaneous Imaging	Imager Subarray	Grating Wheel Direction
	All MRS	NO	FULL	FORWARD

Dithers

#	Dither Type	Optimized For	Direction
1	4-Point	EXTENDED 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	LONG(C)	MRSLONG		FASTR1	200	1	1	Dither 1	4	4	2220.032	
1	LONG(C)	MRSSHORT		FASTR1	200	1	1	Dither 1	4	4	2220.032	
2	SHORT(A)	MRSLONG		FASTR1	100	1	1	Dither 1	4	4	1110.016	
2	SHORT(A)	MRSSHORT		FASTR1	100	1	1	Dither 1	4	4	1110.016	

Special Requirements	Sequence Observations 1, 2, 3, 7, Non-interruptible

Observation

Proposal 4297, Observation 3: M33+553+448 Mon Apr 01 22:00:10 GMT 2024

Diagnostic Status: Warning

Observing Template: MIRI Medium Resolution Spectroscopy

Background Observations:[M33-B Short (Obs 7)]

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
(4)	M33+553+448	RA: 01 34 33.5000 (23.6395833d) Dec: +30 46 57.00 (30.78250d) Equinox: J2000		

Comments:
Category=ISM
Description=[H II regions]
Extended=YES

Acquisition

#	Target
1	NONE

Template

AcqFilter	Primary Channel	Simultaneous Imaging	Imager Subarray	Grating Wheel Direction
	All MRS	NO	FULL	FORWARD

Dithers

#	Dither Type	Optimized For	Direction
1	4-Point	EXTENDED 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	LONG(C)	MRSLONG		FASTR1	60	1	1	Dither 1	4	4	666.01	
1	LONG(C)	MRSSHORT		FASTR1	60	1	1	Dither 1	4	4	666.01	
2	SHORT(A)	MRSLONG		FASTR1	60	1	1	Dither 1	4	4	666.01	
2	SHORT(A)	MRSSHORT		FASTR1	60	1	1	Dither 1	4	4	666.01	

Special Requirements	Sequence Observations 1, 2, 3, 7, Non-interruptible

Observation

Proposal 4297, Observation 4: M33+46-380 Mon Apr 01 22:00:10 GMT 2024

Diagnostic Status: Warning

Observing Template: MIRI Medium Resolution Spectroscopy

Background Observations:[M33-B Long (Obs 6)]

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
(5)	M33+46-380	RA: 01 33 54.1000 (23.4754167d) Dec: +30 33 9.45 (30.55262d) Equinox: J2000		

Comments:
Category=ISM
Description=[H II regions]
Extended=YES

Acquisition

#	Target
1	NONE

Template

AcqFilter	Primary Channel	Simultaneous Imaging	Imager Subarray	Grating Wheel Direction
	All MRS	NO	FULL	FORWARD

Dithers

#	Dither Type	Optimized For	Direction
1	4-Point	EXTENDED 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	LONG(C)	MRSLONG		FASTR1	145	1	1	Dither 1	4	4	1609.523	
1	LONG(C)	MRSSHORT		FASTR1	145	1	1	Dither 1	4	4	1609.523	
2	SHORT(A)	MRSLONG		FASTR1	220	1	1	Dither 1	4	4	2442.035	
2	SHORT(A)	MRSSHORT		FASTR1	220	1	1	Dither 1	4	4	2442.035	

Special Requirements	Sequence Observations 4, 5, 6, Non-interruptible

Observation

Proposal 4297, Observation 5: M33-72-1072 Mon Apr 01 22:00:10 GMT 2024

Diagnostic Status: Warning

Observing Template: MIRI Medium Resolution Spectroscopy

Background Observations:[M33-B Long (Obs 6)]

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
(2)	M33-72-1072	RA: 01 33 45.0000 (23.4375000d) Dec: +30 21 38.41 (30.36067d) Equinox: J2000		

Comments:
Category=ISM
Description=[H II regions]
Extended=YES

Acquisition

#	Target
1	NONE

Template

AcqFilter	Primary Channel	Simultaneous Imaging	Imager Subarray	Grating Wheel Direction
	All MRS	NO	FULL	FORWARD

Dithers

#	Dither Type	Optimized For	Direction
1	4-Point	EXTENDED 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	LONG(C)	MRSLONG		FASTR1	70	1	1	Dither 1	4	4	777.011	
1	LONG(C)	MRSSHORT		FASTR1	70	1	1	Dither 1	4	4	777.011	
2	SHORT(A)	MRSLONG		FASTR1	80	1	1	Dither 1	4	4	888.013	
2	SHORT(A)	MRSSHORT		FASTR1	80	1	1	Dither 1	4	4	888.013	

Special Requirements	Sequence Observations 4, 5, 6, Non-interruptible

Observation

Proposal 4297, Observation 6: M33-B Long Mon Apr 01 22:00:10 GMT 2024

Diagnostic Status: Warning

Observing Template: MIRI Medium Resolution Spectroscopy

Background Observation For: [M33+46-380 (Obs 4), M33-72-1072 (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
(6)	M33-B	RA: 01 32 23.6396 (23.0984983d) Dec: +30 41 39.21 (30.69422d) Equinox: J2000		

Comments:
Category=Calibration
Description=[Telescope/sky background]

Acquisition

#	Target
1	NONE

Template

AcqFilter	Primary Channel	Simultaneous Imaging	Imager Subarray	Grating Wheel Direction
	All MRS	NO	FULL	FORWARD

Dithers

#	Dither Type	Optimized For	Direction
1	4-Point	BACKGROUND	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	LONG(C)	MRSLONG		FASTR1	145	1	1	Dither 1	4	4	1609.523	
1	LONG(C)	MRSSHORT		FASTR1	145	1	1	Dither 1	4	4	1609.523	
2	SHORT(A)	MRSLONG		FASTR1	220	1	1	Dither 1	4	4	2442.035	
2	SHORT(A)	MRSSHORT		FASTR1	220	1	1	Dither 1	4	4	2442.035	

Special Requirements	Sequence Observations 4, 5, 6, Non-interruptible

Observation

Proposal 4297, Observation 7: M33-B Short Mon Apr 01 22:00:10 GMT 2024

Diagnostic Status: Warning

Observing Template: MIRI Medium Resolution Spectroscopy

Background Observation For: [M33-438+800 (Obs 1), M33+62+354 (Obs 2), M33+553+448 (Obs 3)]

Diagnostics

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

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Miscellaneous
(6)	M33-B	RA: 01 32 23.6396 (23.0984983d) Dec: +30 41 39.21 (30.69422d) Equinox: J2000		

Comments:
Category=Calibration
Description=[Telescope/sky background]

Acquisition

#	Target
1	NONE

Template

AcqFilter	Primary Channel	Simultaneous Imaging	Imager Subarray	Grating Wheel Direction
	All MRS	NO	FULL	FORWARD

Dithers

#	Dither Type	Optimized For	Direction
1	4-Point	BACKGROUND	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	LONG(C)	MRSLONG		FASTR1	200	1	1	Dither 1	4	4	2220.032	
1	LONG(C)	MRSSHORT		FASTR1	200	1	1	Dither 1	4	4	2220.032	
2	SHORT(A)	MRSLONG		FASTR1	100	1	1	Dither 1	4	4	1110.016	
2	SHORT(A)	MRSSHORT		FASTR1	100	1	1	Dither 1	4	4	1110.016	

Special Requirements	Sequence Observations 1, 2, 3, 7, Non-interruptible

Observation

Proposal 4297, Observation 8: NGC5457+668+174 Mon Apr 01 22:00:10 GMT 2024

Diagnostic Status: Warning

Observing Template: MIRI Medium Resolution Spectroscopy

Background Observations:[NGC5457-B3 (Obs 16)]

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
(7)	NGC5457+668+174	RA: 14 04 29.4000 (211.1225000d) Dec: +54 23 47.34 (54.39648d) Equinox: J2000		

Comments:
Category=ISM
Description=[H II regions]
Extended=YES

Acquisition

#	Target
1	NONE

Template

AcqFilter	Primary Channel	Simultaneous Imaging	Imager Subarray	Grating Wheel Direction
	All MRS	NO	FULL	NEUTRAL

Dithers

#	Dither Type	Optimized For	Direction
1	4-Point	EXTENDED 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	LONG(C)	MRSLONG		FASTR1	90	1	1	Dither 1	4	4	999.014	
1	LONG(C)	MRSSHORT		FASTR1	90	1	1	Dither 1	4	4	999.014	
2	SHORT(A)	MRSLONG		FASTR1	100	1	1	Dither 1	4	4	1110.016	
2	SHORT(A)	MRSSHORT		FASTR1	100	1	1	Dither 1	4	4	1110.016	

Special Requirements	Sequence Observations 8, 16, Non-interruptible

Observation

Proposal 4297, Observation 9: NGC5457+189-136 Mon Apr 01 22:00:10 GMT 2024

Diagnostic Status: Warning

Observing Template: MIRI Medium Resolution Spectroscopy

Background Observations:[NGC5457-B2 (Obs 14)]

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)	NGC5457+189-136	RA: 14 03 34.0700 (210.8919583d) Dec: +54 18 37.08 (54.31030d) Equinox: J2000		

Comments:
Category=ISM
Description=[H II regions]
Extended=YES

Acquisition

#	Target
1	NONE

Template

AcqFilter	Primary Channel	Simultaneous Imaging	Imager Subarray	Grating Wheel Direction
	All MRS	NO	FULL	NEUTRAL

Dithers

#	Dither Type	Optimized For	Direction
1	4-Point	EXTENDED 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	LONG(C)	MRSLONG		FASTR1	60	1	1	Dither 1	4	4	666.01	
1	LONG(C)	MRSSHORT		FASTR1	60	1	1	Dither 1	4	4	666.01	
2	SHORT(A)	MRSLONG		FASTR1	60	1	1	Dither 1	4	4	666.01	
2	SHORT(A)	MRSSHORT		FASTR1	60	1	1	Dither 1	4	4	666.01	

Special Requirements	Sequence Observations 9, 11, 14, Non-interruptible

Observation

Proposal 4297, Observation 109: NGC5457+189-136 ReObserve Mon Apr 01 22:00:10 GMT 2024

Diagnostic Status: Warning

Observing Template: MIRI Medium Resolution Spectroscopy

Background Observations:[NGC5457-B1 Re-Observe (Obs 110)]

Diagnostics

(Visit 109:1) Warning (Form): Overheads are provisional until the Visit Planner has been run.

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Miscellaneous
(108)	NGC5457+189-136-ReObserve	RA: 14 03 34.0700 (210.8919583d) Dec: +54 18 37.08 (54.31030d) Equinox: J2000		

Comments:
Category=ISM
Description=[H II regions]
Extended=YES

Acquisition

#	Target
1	NONE

Template

AcqFilter	Primary Channel	Simultaneous Imaging	Imager Subarray	Grating Wheel Direction
	All MRS	NO	FULL	NEUTRAL

Dithers

#	Dither Type	Optimized For	Direction
1	4-Point	EXTENDED 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	60	1	1	Dither 1	4	4	666.01	
1	SHORT(A)	MRSSHORT		FASTR1	60	1	1	Dither 1	4	4	666.01	
2	LONG(C)	MRSLONG		FASTR1	60	1	1	Dither 1	4	4	666.01	
2	LONG(C)	MRSSHORT		FASTR1	60	1	1	Dither 1	4	4	666.01	

Special Requirements	Sequence Observations 109, 110, Non-interruptible

Observation

Proposal 4297, Observation 10: NGC5457-100-388 Mon Apr 01 22:00:10 GMT 2024

Diagnostic Status: Warning

Observing Template: MIRI Medium Resolution Spectroscopy

Background Observations:[NGC5457-B1 (Obs 15)]

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
(9)	NGC5457-100-388	RA: 14 03 1.1000 (210.7545833d) Dec: +54 14 27.97 (54.24110d) Equinox: J2000		

Comments:
Category=ISM
Description=[H II regions]
Extended=YES

Acquisition

#	Target
1	NONE

Template

AcqFilter	Primary Channel	Simultaneous Imaging	Imager Subarray	Grating Wheel Direction
	All MRS	NO	FULL	NEUTRAL

Dithers

#	Dither Type	Optimized For	Direction
1	4-Point	EXTENDED 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	LONG(C)	MRSLONG		FASTR1	60	1	1	Dither 1	4	4	666.01	
1	LONG(C)	MRSSHORT		FASTR1	60	1	1	Dither 1	4	4	666.01	
2	SHORT(A)	MRSLONG		FASTR1	60	1	1	Dither 1	4	4	666.01	
2	SHORT(A)	MRSSHORT		FASTR1	60	1	1	Dither 1	4	4	666.01	

Special Requirements	Sequence Observations 10, 12, 15, Non-interruptible

Observation

Proposal 4297, Observation 11: NGC5457-205-98 Mon Apr 01 22:00:10 GMT 2024

Diagnostic Status: Warning

Observing Template: MIRI Medium Resolution Spectroscopy

Background Observations:[NGC5457-B2 (Obs 14)]

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
(10)	NGC5457-205-98	RA: 14 02 49.1700 (210.7048750d) Dec: +54 19 16.52 (54.32126d) Equinox: J2000		

Comments:
Category=ISM
Description=[H II regions]
Extended=YES

Acquisition

#	Target
1	NONE

Template

AcqFilter	Primary Channel	Simultaneous Imaging	Imager Subarray	Grating Wheel Direction
	All MRS	NO	FULL	NEUTRAL

Dithers

#	Dither Type	Optimized For	Direction
1	4-Point	EXTENDED 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	LONG(C)	MRSLONG		FASTR1	200	1	1	Dither 1	4	4	2220.032	
1	LONG(C)	MRSSHORT		FASTR1	200	1	1	Dither 1	4	4	2220.032	
2	SHORT(A)	MRSLONG		FASTR1	100	1	1	Dither 1	4	4	1110.016	
2	SHORT(A)	MRSSHORT		FASTR1	100	1	1	Dither 1	4	4	1110.016	

Special Requirements	Sequence Observations 9, 11, 14, Non-interruptible

Observation

Proposal 4297, Observation 12: NGC5457-361-280 Mon Apr 01 22:00:10 GMT 2024

Diagnostic Status: Warning

Observing Template: MIRI Medium Resolution Spectroscopy

Background Observations:[NGC5457-B1 (Obs 15)]

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
(11)	NGC5457-361-280	RA: 14 02 29.5900 (210.6232917d) Dec: +54 16 13.77 (54.27049d) Equinox: J2000		

Comments:
Category=ISM
Description=[H II regions]
Extended=YES

Acquisition

#	Target
1	NONE

Template

AcqFilter	Primary Channel	Simultaneous Imaging	Imager Subarray	Grating Wheel Direction
	All MRS	NO	FULL	NEUTRAL

Dithers

#	Dither Type	Optimized For	Direction
1	4-Point	EXTENDED 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	LONG(C)	MRSLONG		FASTR1	120	1	1	Dither 1	4	4	1332.019	
1	LONG(C)	MRSSHORT		FASTR1	120	1	1	Dither 1	4	4	1332.019	
2	SHORT(A)	MRSLONG		FASTR1	200	1	1	Dither 1	4	4	2220.032	
2	SHORT(A)	MRSSHORT		FASTR1	200	1	1	Dither 1	4	4	2220.032	

Special Requirements	Sequence Observations 10, 12, 15, Non-interruptible

Observation

Proposal 4297, Observation 14: NGC5457-B2 Mon Apr 01 22:00:10 GMT 2024

Diagnostic Status: Warning

Observing Template: MIRI Medium Resolution Spectroscopy

Background Observation For: [NGC5457+189-136 (Obs 9), NGC5457-205-98 (Obs 11)]

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
(13)	NGC5457-B2	RA: 14 02 5.9903 (210.5249596d) Dec: +54 16 13.25 (54.27035d) Equinox: J2000		

Comments:
Category=Calibration
Description=[Telescope/sky background]

Acquisition

#	Target
1	NONE

Template

AcqFilter	Primary Channel	Simultaneous Imaging	Imager Subarray	Grating Wheel Direction
	All MRS	NO	FULL	NEUTRAL

Dithers

#	Dither Type	Optimized For	Direction
1	4-Point	BACKGROUND	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	LONG(C)	MRSLONG		FASTR1	200	1	1	Dither 1	4	4	2220.032	
1	LONG(C)	MRSSHORT		FASTR1	200	1	1	Dither 1	4	4	2220.032	
2	SHORT(A)	MRSLONG		FASTR1	100	1	1	Dither 1	4	4	1110.016	
2	SHORT(A)	MRSSHORT		FASTR1	100	1	1	Dither 1	4	4	1110.016	

Special Requirements	Sequence Observations 9, 11, 14, Non-interruptible

Observation

Proposal 4297, Observation 15: NGC5457-B1 Mon Apr 01 22:00:10 GMT 2024

Diagnostic Status: Warning

Observing Template: MIRI Medium Resolution Spectroscopy

Background Observation For: [NGC5457-100-388 (Obs 10), NGC5457-361-280 (Obs 12)]

Diagnostics

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

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Miscellaneous
(12)	NGC5457-B1	RA: 14 03 47.1027 (210.9462613d) Dec: +54 12 56.78 (54.21577d) Equinox: J2000		

Comments:
Category=Calibration
Description=[Telescope/sky background]

Acquisition

#	Target
1	NONE

Template

AcqFilter	Primary Channel	Simultaneous Imaging	Imager Subarray	Grating Wheel Direction
	All MRS	NO	FULL	NEUTRAL

Dithers

#	Dither Type	Optimized For	Direction
1	4-Point	BACKGROUND	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	LONG(C)	MRSLONG		FASTR1	120	1	1	Dither 1	4	4	1332.019	
1	LONG(C)	MRSSHORT		FASTR1	120	1	1	Dither 1	4	4	1332.019	
2	SHORT(A)	MRSLONG		FASTR1	200	1	1	Dither 1	4	4	2220.032	
2	SHORT(A)	MRSSHORT		FASTR1	200	1	1	Dither 1	4	4	2220.032	

Special Requirements	Sequence Observations 10, 12, 15, Non-interruptible

Observation

Proposal 4297, Observation 110: NGC5457-B1 Re-Observe Mon Apr 01 22:00:10 GMT 2024

Diagnostic Status: Warning

Observing Template: MIRI Medium Resolution Spectroscopy

Background Observation For: [NGC5457+189-136 ReObserve (Obs 109)]

Diagnostics

(Visit 110:1) Warning (Form): Overheads are provisional until the Visit Planner has been run.

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Miscellaneous
(12)	NGC5457-B1	RA: 14 03 47.1027 (210.9462613d) Dec: +54 12 56.78 (54.21577d) Equinox: J2000		

Comments:
Category=Calibration
Description=[Telescope/sky background]

Acquisition

#	Target
1	NONE

Template

AcqFilter	Primary Channel	Simultaneous Imaging	Imager Subarray	Grating Wheel Direction
	All MRS	NO	FULL	NEUTRAL

Dithers

#	Dither Type	Optimized For	Direction
1	2-Point	BACKGROUND	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	60	1	1	Dither 1	2	2	333.005	
1	SHORT(A)	MRSSHORT		FASTR1	60	1	1	Dither 1	2	2	333.005	
2	LONG(C)	MRSLONG		FASTR1	60	1	1	Dither 1	2	2	333.005	
2	LONG(C)	MRSSHORT		FASTR1	60	1	1	Dither 1	2	2	333.005	

Special Requirements	Sequence Observations 109, 110, Non-interruptible

Observation

Proposal 4297, Observation 16: NGC5457-B3 Mon Apr 01 22:00:10 GMT 2024

Diagnostic Status: Warning

Observing Template: MIRI Medium Resolution Spectroscopy

Background Observation For: [NGC5457+668+174 (Obs 8)]

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
(14)	NGC5457-B3	RA: 14 04 32.2418 (211.1343408d) Dec: +54 20 40.74 (54.34465d) Equinox: J2000		

Comments:
Category=Calibration
Description=[Telescope/sky background]

Acquisition

#	Target
1	NONE

Template

AcqFilter	Primary Channel	Simultaneous Imaging	Imager Subarray	Grating Wheel Direction
	All MRS	NO	FULL	NEUTRAL

Dithers

#	Dither Type	Optimized For	Direction
1	4-Point	BACKGROUND	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	LONG(C)	MRSLONG		FASTR1	90	1	1	Dither 1	4	4	999.014	
1	LONG(C)	MRSSHORT		FASTR1	90	1	1	Dither 1	4	4	999.014	
2	SHORT(A)	MRSLONG		FASTR1	100	1	1	Dither 1	4	4	1110.016	
2	SHORT(A)	MRSSHORT		FASTR1	100	1	1	Dither 1	4	4	1110.016	

Special Requirements	Sequence Observations 8, 16, Non-interruptible