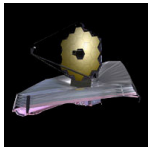

2424 - Revealing the Ionizing Spectrum of Low-Metallicity Galaxies with MIRI

Cycle: 1, Proposal Category: GO

INVESTIGATORS

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OBSERVATIONS

Folder	*Observation*	*Label*	*Observing Template*	*Science Target*
Observation Folder				
	1	J1608	MIRI Medium Resolution Spectroscopy	(1) J160810+352809
	901	WOPR 01	MIRI Medium Resolution Spectroscopy	(1) J160810+352809
	2	J1608 Bkg	MIRI Medium Resolution Spectroscopy	(2) J1608-BACKGROUND
	902	WOPR 02	MIRI Medium Resolution Spectroscopy	(2) J1608-BACKGROUND
	3	J1509	MIRI Medium Resolution Spectroscopy	(3) J150934+373146
	4	J1509 Bkg	MIRI Medium Resolution Spectroscopy	(4) J1509-BACKGROUND
	5	J1044	MIRI Medium Resolution Spectroscopy	(5) J104458+035313
	6	J1044 Bkg	MIRI Medium Resolution Spectroscopy	(6) J1044-BACKGROUND
	7	SB82	MIRI Medium Resolution Spectroscopy	(7) SB82
	8	SB82 Bkg	MIRI Medium Resolution Spectroscopy	(8) SB82-BACKGROUND
	9	J1224	MIRI Medium Resolution Spectroscopy	(9) J122437+372437
	10	J1224 Bkg	MIRI Medium Resolution Spectroscopy	(10) J1224-BACKGROUND

Folder	*Observation*	*Label*	*Observing Template*	*Science Target*
	11	J1202	MIRI Medium Resolution Spectroscopy	(11) J120202+541551
	12	J1202 Bkg	MIRI Medium Resolution Spectroscopy	(12) J1202-BACKGROUND

ABSTRACT

The ionizing spectral energy distributions (SEDs) of young stellar populations are a key ingredient in studies of galactic star formation histories, feedback, and nebular emission. While observations indicate that galaxies' ionizing spectra become significantly harder at low metallicity, current stellar population models struggle to reproduce the observed high-ionization emission lines. Observationally, constraining the ionizing spectral shape with UV and optical emission lines is difficult, given uncertainties due to dust extinction, underlying stellar spectral features, relative abundances, and radiative transfer effects.

Here, we propose MIRI MRS spectroscopy to measure a suite of nebular emission lines with ionization potentials of 22-97 eV and constrain the ionizing spectral shape of six low-metallicity galaxies. The sample galaxies have existing HST UV spectra to constrain the non-ionizing spectrum and span a range of metallicities and ionization conditions. By comparing the MIR spectra with photoionization models, we will systematically test ionizing SED models and different proposed sources of hard ionizing photons. Our results will serve as new observational constraints that will be used to improve low-metallicity SED models. In addition, with spatially resolved maps of [Ne III], [SIV], and [S III] lines, we will compare the ionization structure of different star-forming knots and trace the propagation and escape of ionizing radiation. These MIRI observations will provide new insights into stellar populations, stellar evolution, and ionizing spectra at low metallicity.

OBSERVING DESCRIPTION

We propose JWST/MIRI MRS observations of six low-redshift, low-metallicity galaxies. We plan to cover the full MIR spectrum and therefore request observations in each of the three MIRI wavelength range settings. Since our sources are extended, we adopt the extended source four-point dither pattern. We use the minimum number of integrations, limiting each integration to no more than ~2000 seconds. We have chosen to enable the recommended simultaneous MIRI imaging, using the F1130W filter. We reduce the number of groupsand use the BRIGHTSKY subarray in one case to avoid saturating any stars within 140 arcsec of our target.

Given the spatial extent of our targets, we require dedicated background exposures in a non-interruptible sequence for the same exposure time as our sources. We choose background regions that have no targets within the MRS field-of-view in either the SDSS or WISE surveys. We require that the edge of the Channel 4 field-of-view be > 13 kpc away at our target's redshift during the background observation.

We do not need target acquisitions, as we do not require our pointing to be accurate to within 0.1”. Our total requested observation is 11.52 hours for science and background observations for a total request of 24.49 hours, including overhead.

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Miscellaneous
(1)	J160810+352809	RA: 16 08 10.3600 (242.0431667d) Dec: +35 28 9.34 (35.46926d) Equinox: J2000	Epoch of Position: 2000	
Comments: *Category=Galaxy* *Description=[Blue compact dwarf galaxies, Emission line galaxies, Lyman-alpha galaxies, Starburst galaxies]* *Extended=YES*				
(2)	J1608-BACKGROUND	RA: 16 08 10.7064 (242.0446100d) Dec: +35 28 39.83 (35.47773d) Equinox: J2000	Epoch of Position: 2000	
Comments: *Category=Calibration* *Description=[Telescope/sky background]*				
(3)	J150934+373146	RA: 15 09 34.1700 (227.3923750d) Dec: +37 31 46.11 (37.52947d) Equinox: J2000	Epoch of Position: 2000	
Comments: *Category=Galaxy* *Description=[Blue compact dwarf galaxies, Emission line galaxies, Lyman-alpha galaxies, Starburst galaxies]* *Extended=YES*				
(4)	J1509-BACKGROUND	RA: 15 09 36.1776 (227.4007400d) Dec: +37 31 17.94 (37.52165d) Equinox: J2000	Epoch of Position: 2000	
Comments: *Category=Calibration* *Description=[Telescope/sky background]*				
(5)	J104458+035313	RA: 10 44 57.7900 (161.2407917d) Dec: +03 53 13.10 (3.88697d) Equinox: J2000	Epoch of Position: 2000	
Comments: *Category=Galaxy* *Description=[Blue compact dwarf galaxies, Emission line galaxies, Lyman-alpha galaxies, Starburst galaxies]* *Extended=YES*				
(6)	J1044-BACKGROUND	RA: 10 44 59.1528 (161.2464700d) Dec: +03 54 2.00 (3.90056d) Equinox: J2000	Epoch of Position: 2000	
Comments: *Category=Calibration* *Description=[Telescope/sky background]*				
(7)	SB82	RA: 11 55 28.3400 (178.8680833d) Dec: +57 39 51.97 (57.66444d) Equinox: J2000	Epoch of Position: 2000	
Comments: *Category=Galaxy* *Description=[Blue compact dwarf galaxies, Emission line galaxies, Lyman-alpha galaxies, Starburst galaxies]* *Extended=YES*				

(8)	SB82-BACKGROUND	RA: 11 55 31.8216 (178.8825900d) Dec: +57 40 19.74 (57.67215d) Equinox: J2000	Epoch of Position: 2000
Comments: *Category=Calibration* *Description=[Telescope/sky background]*			
(9)	J122437+372437	RA: 12 24 36.7100 (186.1529583d) Dec: +37 24 36.50 (37.41014d) Equinox: J2000	Epoch of Position: 2000
Comments: *Category=Galaxy* *Description=[Blue compact dwarf galaxies, Emission line galaxies, Lyman-alpha galaxies, Starburst galaxies]* *Extended=YES*			
(10)	J1224-BACKGROUND	RA: 12 24 34.8984 (186.1454100d) Dec: +37 24 54.14 (37.41504d) Equinox: J2000	Epoch of Position: 2000
Comments: *Category=Calibration* *Description=[Telescope/sky background]*			
(11)	J120202+541551	RA: 12 02 2.4940 (180.5103917d) Dec: +54 15 51.05 (54.26418d) Equinox: J2000	Epoch of Position: 2000
Comments: *Category=Galaxy* *Description=[Blue compact dwarf galaxies, Emission line galaxies, Lyman-alpha galaxies, Starburst galaxies]* *Extended=YES*			
(12)	J1202-BACKGROUND	RA: 12 01 55.7304 (180.4822100d) Dec: +54 16 20.57 (54.27238d) Equinox: J2000	Epoch of Position: 2000
Comments: *Category=Calibration* *Description=[Telescope/sky background]*			

Observation

Proposal 2424, Observation 1: J1608

Tue Apr 25 21:01:24 GMT 2023

Diagnostic Status: Warning

Observing Template: MIRI Medium Resolution Spectroscopy

Background Observations:[J1608 Bkg (Obs 2)]

Diagnostics

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

(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)	J160810+352809	RA: 16 08 10.3600 (242.0431667d) Dec: +35 28 9.34 (35.46926d) Equinox: J2000	Epoch of Position: 2000	

Comments:
Category=Galaxy
Description=[Blue compact dwarf galaxies, Emission line galaxies, Lyman-alpha galaxies, Starburst galaxies]
Extended=YES

Acquisition

#	Target
1	NONE

Template

AcqFilter	Primary Channel	Simultaneous Imaging	Imager Subarray
	ALL	YES	FULL

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		IMAGER	F1130W	FASTR1	5	1	1	Dither 1	4	4	55.501	
1	SHORT(A)	MRSLONG		FASTR1	150	2	1	Dither 1	4	8	3341.148	
1	SHORT(A)	MRSSHORT		FASTR1	150	2	1	Dither 1	4	8	3341.148	
2		IMAGER	F1130W	FASTR1	5	1	1	Dither 1	4	4	55.501	
2	MEDIUM(B)	MRSLONG		FASTR1	137	2	1	Dither 1	4	8	3052.544	
2	MEDIUM(B)	MRSSHORT		FASTR1	137	2	1	Dither 1	4	8	3052.544	
3		IMAGER	F1130W	FASTR1	5	1	1	Dither 1	4	4	55.501	
3	LONG(C)	MRSLONG		FASTR1	150	1	1	Dither 1	4	4	1665.024	
3	LONG(C)	MRSSHORT		FASTR1	150	1	1	Dither 1	4	4	1665.024	

Special Requirements	Sequence Observations 1, 2, Non-interruptible

Observation

Proposal 2424, Observation 901: WOPR 01 Tue Apr 25 21:01:24 GMT 2023

Diagnostic Status: Warning

Observing Template: MIRI Medium Resolution Spectroscopy

Background Observations:[WOPR 02 (Obs 902)]

Diagnostics

(Visit 901:1) Warning (Form): Data Excess over lower threshold

(Visit 901:1) Warning (Form): Overheads are provisional until the Visit Planner has been run.

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Miscellaneous
(1)	J160810+352809	RA: 16 08 10.3600 (242.0431667d) Dec: +35 28 9.34 (35.46926d) Equinox: J2000	Epoch of Position: 2000	

Comments:
Category=Galaxy
Description=[Blue compact dwarf galaxies, Emission line galaxies, Lyman-alpha galaxies, Starburst galaxies]
Extended=YES

Acquisition

#	Target
1	NONE

Template

AcqFilter	Primary Channel	Simultaneous Imaging	Imager Subarray
	ALL	YES	FULL

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		IMAGER	F1130W	FASTR1	5	1	1	Dither 1	4	4	55.501	
1	SHORT(A)	MRSLONG		FASTR1	150	2	1	Dither 1	4	8	3341.148	
1	SHORT(A)	MRSSHORT		FASTR1	150	2	1	Dither 1	4	8	3341.148	
2		IMAGER	F1130W	FASTR1	5	1	1	Dither 1	4	4	55.501	
2	MEDIUM(B)	MRSLONG		FASTR1	137	2	1	Dither 1	4	8	3052.544	
2	MEDIUM(B)	MRSSHORT		FASTR1	137	2	1	Dither 1	4	8	3052.544	
3		IMAGER	F1130W	FASTR1	5	1	1	Dither 1	4	4	55.501	
3	LONG(C)	MRSLONG		FASTR1	150	1	1	Dither 1	4	4	1665.024	
3	LONG(C)	MRSSHORT		FASTR1	150	1	1	Dither 1	4	4	1665.024	

Special Requirements	Sequence Observations 901, 902, Non-interruptible

Observation

Proposal 2424, Observation 2: J1608 Bkg Tue Apr 25 21:01:24 GMT 2023

Diagnostic Status: Warning

Observing Template: MIRI Medium Resolution Spectroscopy

Background Observation For: [J1608 (Obs 1)]

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)	J1608-BACKGROUND	RA: 16 08 10.7064 (242.0446100d) Dec: +35 28 39.83 (35.47773d) Equinox: J2000	Epoch of Position: 2000	

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

Acquisition

#	Target
1	NONE

Template

AcqFilter	Primary Channel	Simultaneous Imaging	Imager Subarray
	ALL	YES	FULL

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		IMAGER	F1130W	FASTR1	5	1	1	Dither 1	4	4	55.501	
1	SHORT(A)	MRSLONG		FASTR1	150	2	1	Dither 1	4	8	3341.148	
1	SHORT(A)	MRSSHORT		FASTR1	150	2	1	Dither 1	4	8	3341.148	
2		IMAGER	F1130W	FASTR1	5	1	1	Dither 1	4	4	55.501	
2	MEDIUM(B)	MRSLONG		FASTR1	137	2	1	Dither 1	4	8	3052.544	
2	MEDIUM(B)	MRSSHORT		FASTR1	137	2	1	Dither 1	4	8	3052.544	
3		IMAGER	F1130W	FASTR1	5	1	1	Dither 1	4	4	55.501	
3	LONG(C)	MRSLONG		FASTR1	150	1	1	Dither 1	4	4	1665.024	
3	LONG(C)	MRSSHORT		FASTR1	150	1	1	Dither 1	4	4	1665.024	

Special Requirements	Sequence Observations 1, 2, Non-interruptible

Observation

Proposal 2424, Observation 902: WOPR 02 Tue Apr 25 21:01:24 GMT 2023

Diagnostic Status: Warning

Observing Template: MIRI Medium Resolution Spectroscopy

Background Observation For: [WOPR 01 (Obs 901)]

Diagnostics

(Visit 902:1) Warning (Form): Data Excess over lower threshold

(Visit 902:1) Warning (Form): Overheads are provisional until the Visit Planner has been run.

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Miscellaneous
(2)	J1608-BACKGROUND	RA: 16 08 10.7064 (242.0446100d) Dec: +35 28 39.83 (35.47773d) Equinox: J2000	Epoch of Position: 2000	

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

Acquisition

#	Target
1	NONE

Template

AcqFilter	Primary Channel	Simultaneous Imaging	Imager Subarray
	ALL	YES	FULL

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		IMAGER	F1130W	FASTR1	5	1	1	Dither 1	4	4	55.501	
1	SHORT(A)	MRSLONG		FASTR1	150	2	1	Dither 1	4	8	3341.148	
1	SHORT(A)	MRSSHORT		FASTR1	150	2	1	Dither 1	4	8	3341.148	
2		IMAGER	F1130W	FASTR1	5	1	1	Dither 1	4	4	55.501	
2	MEDIUM(B)	MRSLONG		FASTR1	137	2	1	Dither 1	4	8	3052.544	
2	MEDIUM(B)	MRSSHORT		FASTR1	137	2	1	Dither 1	4	8	3052.544	
3		IMAGER	F1130W	FASTR1	5	1	1	Dither 1	4	4	55.501	
3	LONG(C)	MRSLONG		FASTR1	150	1	1	Dither 1	4	4	1665.024	
3	LONG(C)	MRSSHORT		FASTR1	150	1	1	Dither 1	4	4	1665.024	

Special Requirements	Sequence Observations 901, 902, Non-interruptible

Observation

Proposal 2424, Observation 3: J1509

Tue Apr 25 21:01:24 GMT 2023

Diagnostic Status: Warning

Observing Template: MIRI Medium Resolution Spectroscopy

Background Observations:[J1509 Bkg (Obs 4)]

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
(3)	J150934+373146	RA: 15 09 34.1700 (227.3923750d) Dec: +37 31 46.11 (37.52947d) Equinox: J2000	Epoch of Position: 2000	

Comments:
Category=Galaxy
Description=[Blue compact dwarf galaxies, Emission line galaxies, Lyman-alpha galaxies, Starburst galaxies]
Extended=YES

Acquisition

#	Target
1	NONE

Template

AcqFilter	Primary Channel	Simultaneous Imaging	Imager Subarray
	ALL	YES	FULL

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		IMAGER	F1130W	FASTR1	18	4	1	Dither 1	4	16	832.512	
1	LONG(C)	MRSLONG		FASTR1	100	1	1	Dither 1	4	4	1110.016	
1	LONG(C)	MRSSHORT		FASTR1	100	1	1	Dither 1	4	4	1110.016	
2		IMAGER	F1130W	FASTR1	17	7	1	Dither 1	4	28	1387.52	
2	MEDIUM(B)	MRSLONG		FASTR1	150	1	1	Dither 1	4	4	1665.024	
2	MEDIUM(B)	MRSSHORT		FASTR1	150	1	1	Dither 1	4	4	1665.024	
3		IMAGER	F1130W	FASTR1	18	2	1	Dither 1	4	8	410.706	
3	SHORT(A)	MRSLONG		FASTR1	60	1	1	Dither 1	4	4	666.01	
3	SHORT(A)	MRSSHORT		FASTR1	60	1	1	Dither 1	4	4	666.01	

Special Requirements	Sequence Observations 3, 4, Non-interruptible

Observation

Proposal 2424, Observation 4: J1509 Bkg Tue Apr 25 21:01:24 GMT 2023

Diagnostic Status: Warning

Observing Template: MIRI Medium Resolution Spectroscopy

Background Observation For: [J1509 (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
(4)	J1509-BACKGROUND	RA: 15 09 36.1776 (227.4007400d) Dec: +37 31 17.94 (37.52165d) Equinox: J2000	Epoch of Position: 2000	

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

Acquisition

#	Target
1	NONE

Template

AcqFilter	Primary Channel	Simultaneous Imaging	Imager Subarray
	ALL	YES	FULL

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		IMAGER	F1130W	FASTR1	18	4	1	Dither 1	4	16	832.512	
1	LONG(C)	MRSLONG		FASTR1	100	1	1	Dither 1	4	4	1110.016	
1	LONG(C)	MRSSHORT		FASTR1	100	1	1	Dither 1	4	4	1110.016	
2		IMAGER	F1130W	FASTR1	17	7	1	Dither 1	4	28	1387.52	
2	MEDIUM(B)	MRSLONG		FASTR1	150	1	1	Dither 1	4	4	1665.024	
2	MEDIUM(B)	MRSSHORT		FASTR1	150	1	1	Dither 1	4	4	1665.024	
3		IMAGER	F1130W	FASTR1	18	2	1	Dither 1	4	8	410.706	
3	SHORT(A)	MRSLONG		FASTR1	60	1	1	Dither 1	4	4	666.01	
3	SHORT(A)	MRSSHORT		FASTR1	60	1	1	Dither 1	4	4	666.01	

Special Requirements	Sequence Observations 3, 4, Non-interruptible

Observation

Proposal 2424, Observation 5: J1044

Tue Apr 25 21:01:24 GMT 2023

Diagnostic Status: Warning

Observing Template: MIRI Medium Resolution Spectroscopy

Background Observations:[J1044 Bkg (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
(5)	J104458+035313	RA: 10 44 57.7900 (161.2407917d) Dec: +03 53 13.10 (3.88697d) Equinox: J2000	Epoch of Position: 2000	

Comments:
Category=Galaxy
Description=[Blue compact dwarf galaxies, Emission line galaxies, Lyman-alpha galaxies, Starburst galaxies]
Extended=YES

Acquisition

#	Target
1	NONE

Template

AcqFilter	Primary Channel	Simultaneous Imaging	Imager Subarray
	ALL	YES	FULL

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		IMAGER	F1130W	FASTR1	10	10	1	Dither 1	4	40	1209.917	
1	LONG(C)	MRSLONG		FASTR1	130	1	1	Dither 1	4	4	1443.021	
1	LONG(C)	MRSSHORT		FASTR1	130	1	1	Dither 1	4	4	1443.021	
2		IMAGER	F1130W	FASTR1	10	5	1	Dither 1	4	20	599.409	
2	MEDIUM(B)	MRSLONG		FASTR1	75	1	1	Dither 1	4	4	832.512	
2	MEDIUM(B)	MRSSHORT		FASTR1	75	1	1	Dither 1	4	4	832.512	
3		IMAGER	F1130W	FASTR1	10	10	1	Dither 1	4	40	1209.917	
3	SHORT(A)	MRSLONG		FASTR1	125	1	1	Dither 1	4	4	1387.52	
3	SHORT(A)	MRSSHORT		FASTR1	125	1	1	Dither 1	4	4	1387.52	

Special Requirements	
	Background Limited. Background no more than 10th percentile above minimum Sequence Observations 5, 6, Non-interruptible

Observation

Proposal 2424, Observation 6: J1044 Bkg Tue Apr 25 21:01:24 GMT 2023

Diagnostic Status: Warning

Observing Template: MIRI Medium Resolution Spectroscopy

Background Observation For: [J1044 (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)	J1044-BACKGROUND	RA: 10 44 59.1528 (161.2464700d) Dec: +03 54 2.00 (3.90056d) Equinox: J2000	Epoch of Position: 2000	

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

Acquisition

#	Target
1	NONE

Template

AcqFilter	Primary Channel	Simultaneous Imaging	Imager Subarray
	ALL	YES	FULL

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		IMAGER	F1130W	FASTR1	10	10	1	Dither 1	4	40	1209.917	
1	LONG(C)	MRSLONG		FASTR1	130	1	1	Dither 1	4	4	1443.021	
1	LONG(C)	MRSSHORT		FASTR1	130	1	1	Dither 1	4	4	1443.021	
2		IMAGER	F1130W	FASTR1	10	5	1	Dither 1	4	20	599.409	
2	MEDIUM(B)	MRSLONG		FASTR1	75	1	1	Dither 1	4	4	832.512	
2	MEDIUM(B)	MRSSHORT		FASTR1	75	1	1	Dither 1	4	4	832.512	
3		IMAGER	F1130W	FASTR1	10	10	1	Dither 1	4	40	1209.917	
3	SHORT(A)	MRSLONG		FASTR1	125	1	1	Dither 1	4	4	1387.52	
3	SHORT(A)	MRSSHORT		FASTR1	125	1	1	Dither 1	4	4	1387.52	

Special Requirements	
	Background Limited. Background no more than 10th percentile above minimum Sequence Observations 5, 6, Non-interruptible

Observation

Proposal 2424, Observation 7: SB82 Tue Apr 25 21:01:24 GMT 2023

Diagnostic Status: Warning

Observing Template: MIRI Medium Resolution Spectroscopy

Background Observations:[SB82 Bkg (Obs 8)]

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
(7)	SB82	RA: 11 55 28.3400 (178.8680833d) Dec: +57 39 51.97 (57.66444d) Equinox: J2000	Epoch of Position: 2000	

Comments:
Category=Galaxy
Description=[Blue compact dwarf galaxies, Emission line galaxies, Lyman-alpha galaxies, Starburst galaxies]
Extended=YES

Acquisition

#	Target
1	NONE

Template

AcqFilter	Primary Channel	Simultaneous Imaging	Imager Subarray
	ALL	YES	FULL

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		IMAGER	F1130W	FASTR1	18	4	1	Dither 1	4	16	832.512	
1	LONG(C)	MRSLONG		FASTR1	75	1	1	Dither 1	4	4	832.512	
1	LONG(C)	MRSSHORT		FASTR1	75	1	1	Dither 1	4	4	832.512	
2		IMAGER	F1130W	FASTR1	17	8	1	Dither 1	4	32	1587.323	
2	MEDIUM(B)	MRSLONG		FASTR1	150	1	1	Dither 1	4	4	1665.024	
2	MEDIUM(B)	MRSSHORT		FASTR1	150	1	1	Dither 1	4	4	1665.024	
3		IMAGER	F1130W	FASTR1	18	1	1	Dither 1	4	4	199.803	
3	SHORT(A)	MRSLONG		FASTR1	25	1	1	Dither 1	4	4	277.504	
3	SHORT(A)	MRSSHORT		FASTR1	25	1	1	Dither 1	4	4	277.504	

Special Requirements	Sequence Observations 7, 8, Non-interruptible

Observation

Proposal 2424, Observation 8: SB82 Bkg Tue Apr 25 21:01:24 GMT 2023

Diagnostic Status: Warning

Observing Template: MIRI Medium Resolution Spectroscopy

Background Observation For: [SB82 (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
(8)	SB82-BACKGROUND	RA: 11 55 31.8216 (178.8825900d) Dec: +57 40 19.74 (57.67215d) Equinox: J2000	Epoch of Position: 2000	

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

Acquisition

#	Target
1	NONE

Template

AcqFilter	Primary Channel	Simultaneous Imaging	Imager Subarray
	ALL	YES	FULL

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		IMAGER	F1130W	FASTR1	18	4	1	Dither 1	4	16	832.512	
1	LONG(C)	MRSLONG		FASTR1	75	1	1	Dither 1	4	4	832.512	
1	LONG(C)	MRSSHORT		FASTR1	75	1	1	Dither 1	4	4	832.512	
2		IMAGER	F1130W	FASTR1	17	8	1	Dither 1	4	32	1587.323	
2	MEDIUM(B)	MRSLONG		FASTR1	150	1	1	Dither 1	4	4	1665.024	
2	MEDIUM(B)	MRSSHORT		FASTR1	150	1	1	Dither 1	4	4	1665.024	
3		IMAGER	F1130W	FASTR1	18	1	1	Dither 1	4	4	199.803	
3	SHORT(A)	MRSLONG		FASTR1	25	1	1	Dither 1	4	4	277.504	
3	SHORT(A)	MRSSHORT		FASTR1	25	1	1	Dither 1	4	4	277.504	

Special Requirements	Sequence Observations 7, 8, Non-interruptible

Observation

Proposal 2424, Observation 9: J1224

Tue Apr 25 21:01:24 GMT 2023

Diagnostic Status: Warning

Observing Template: MIRI Medium Resolution Spectroscopy

Background Observations:[J1224 Bkg (Obs 10)]

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
(9)	J122437+372437	RA: 12 24 36.7100 (186.1529583d) Dec: +37 24 36.50 (37.41014d) Equinox: J2000	Epoch of Position: 2000	

Comments:
Category=Galaxy
Description=[Blue compact dwarf galaxies, Emission line galaxies, Lyman-alpha galaxies, Starburst galaxies]
Extended=YES

Acquisition

#	Target
1	NONE

Template

AcqFilter	Primary Channel	Simultaneous Imaging	Imager Subarray
	ALL	YES	FULL

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		IMAGER	F1130W	FASTR1	6	7	1	Dither 1	4	28	532.808	
1	SHORT(A)	MRSLONG		FASTR1	55	1	1	Dither 1	4	4	610.509	
1	SHORT(A)	MRSSHORT		FASTR1	55	1	1	Dither 1	4	4	610.509	
2		IMAGER	F1130W	FASTR1	7	2	1	Dither 1	4	8	166.502	
2	MEDIUM(B)	MRSLONG		FASTR1	20	1	1	Dither 1	4	4	222.003	
2	MEDIUM(B)	MRSSHORT		FASTR1	20	1	1	Dither 1	4	4	222.003	
3		IMAGER	F1130W	FASTR1	7	2	1	Dither 1	4	8	166.502	
3	LONG(C)	MRSLONG		FASTR1	20	1	1	Dither 1	4	4	222.003	
3	LONG(C)	MRSSHORT		FASTR1	20	1	1	Dither 1	4	4	222.003	

Special Requirements	Sequence Observations 9, 10, Non-interruptible

Observation

Proposal 2424, Observation 10: J1224 Bkg Tue Apr 25 21:01:24 GMT 2023

Diagnostic Status: Warning

Observing Template: MIRI Medium Resolution Spectroscopy

Background Observation For: [J1224 (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
(10)	J1224-BACKGROUND	RA: 12 24 34.8984 (186.1454100d) Dec: +37 24 54.14 (37.41504d) Equinox: J2000	Epoch of Position: 2000	

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

Acquisition

#	Target
1	NONE

Template

AcqFilter	Primary Channel	Simultaneous Imaging	Imager Subarray
	ALL	YES	FULL

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		IMAGER	F1130W	FASTR1	6	7	1	Dither 1	4	28	532.808	
1	SHORT(A)	MRSLONG		FASTR1	55	1	1	Dither 1	4	4	610.509	
1	SHORT(A)	MRSSHORT		FASTR1	55	1	1	Dither 1	4	4	610.509	
2		IMAGER	F1130W	FASTR1	7	2	1	Dither 1	4	8	166.502	
2	MEDIUM(B)	MRSLONG		FASTR1	20	1	1	Dither 1	4	4	222.003	
2	MEDIUM(B)	MRSSHORT		FASTR1	20	1	1	Dither 1	4	4	222.003	
3		IMAGER	F1130W	FASTR1	7	2	1	Dither 1	4	8	166.502	
3	LONG(C)	MRSLONG		FASTR1	20	1	1	Dither 1	4	4	222.003	
3	LONG(C)	MRSSHORT		FASTR1	20	1	1	Dither 1	4	4	222.003	

Special Requirements	Sequence Observations 9, 10, Non-interruptible

Observation

Proposal 2424, Observation 11: J1202

Tue Apr 25 21:01:24 GMT 2023

Diagnostic Status: Warning

Observing Template: MIRI Medium Resolution Spectroscopy

Background Observations:[J1202 Bkg (Obs 12)]

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
(11)	J120202+541551	RA: 12 02 2.4940 (180.5103917d) Dec: +54 15 51.05 (54.26418d) Equinox: J2000	Epoch of Position: 2000	

Comments:
Category=Galaxy
Description=[Blue compact dwarf galaxies, Emission line galaxies, Lyman-alpha galaxies, Starburst galaxies]
Extended=YES

Acquisition

#	Target
1	NONE

Template

AcqFilter	Primary Channel	Simultaneous Imaging	Imager Subarray
	ALL	YES	BRIGHTSKY

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		IMAGER	F1130W	FASTR1	15	12	1	Dither 1	4	48	661.074	
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		IMAGER	F1130W	FASTR1	15	7	1	Dither 1	4	28	384.184	
2	MEDIUM(B)	MRSLONG		FASTR1	35	1	1	Dither 1	4	4	388.506	
2	MEDIUM(B)	MRSSHORT		FASTR1	35	1	1	Dither 1	4	4	388.506	
3		IMAGER	F1130W	FASTR1	15	12	1	Dither 1	4	48	661.074	
3	SHORT(A)	MRSLONG		FASTR1	60	1	1	Dither 1	4	4	666.01	
3	SHORT(A)	MRSSHORT		FASTR1	60	1	1	Dither 1	4	4	666.01	

Special Requirements	Sequence Observations 11, 12, Non-interruptible

Observation

Proposal 2424, Observation 12: J1202 Bkg Tue Apr 25 21:01:24 GMT 2023

Diagnostic Status: Warning

Observing Template: MIRI Medium Resolution Spectroscopy

Background Observation For: [J1202 (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
(12)	J1202-BACKGROUND	RA: 12 01 55.7304 (180.4822100d) Dec: +54 16 20.57 (54.27238d) Equinox: J2000	Epoch of Position: 2000	

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

Acquisition

#	Target
1	NONE

Template

AcqFilter	Primary Channel	Simultaneous Imaging	Imager Subarray
	ALL	YES	BRIGHTSKY

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		IMAGER	F1130W	FASTR1	15	12	1	Dither 1	4	48	661.074	
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		IMAGER	F1130W	FASTR1	15	7	1	Dither 1	4	28	384.184	
2	MEDIUM(B)	MRSLONG		FASTR1	35	1	1	Dither 1	4	4	388.506	
2	MEDIUM(B)	MRSSHORT		FASTR1	35	1	1	Dither 1	4	4	388.506	
3		IMAGER	F1130W	FASTR1	15	12	1	Dither 1	4	48	661.074	
3	SHORT(A)	MRSLONG		FASTR1	60	1	1	Dither 1	4	4	666.01	
3	SHORT(A)	MRSSHORT		FASTR1	60	1	1	Dither 1	4	4	666.01	

Special Requirements	Sequence Observations 11, 12, Non-interruptible