



1717 - Feedback around Supermassive Black Holes in Dusty Nuclei

Cycle: 1, Proposal Category: GO

INVESTIGATORS

<i>Name</i>	<i>Institution</i>
Dr. Vivian U (PI)	University of California - Irvine
Dr. Jeffrey Austin Sterling Rich Jr. (CoI)	Carnegie Institution of Washington
Dr. Loreto Barcos-Munoz (CoI)	Associated Universities, Inc.
Dr. George Privon (CoI)	Associated Universities, Inc.
Dr. Anne Medling (CoI)	University of Toledo
Dr. Lee Armus (CoI)	California Institute of Technology
Prof. Aaron S. Evans (CoI)	The University of Virginia
Dr. Tanio Diaz-Santos (CoI) (ESA Member)	FORTH - Institute of Astrophysics
Dr. Jason A. Surace (CoI)	California Institute of Technology
Dr. Yiqing Song (CoI) (ESA Member)	European Southern Observatory - Chile
Dr. Kirsten L. Larson (CoI)	Space Telescope Science Institute
Dr. Hanae Inami (CoI)	Hiroshima University
Dr. Sean Linden (CoI)	University of Arizona
Dr. Joseph M. Mazzeella (CoI)	California Institute of Technology
Dr. Sabrina Stierwalt (CoI)	Occidental College
Prof. David B. Sanders (CoI)	University of Hawaii
Dr. Justin H. Howell (CoI)	California Institute of Technology
Prof. Vassilis Charmandaris (CoI) (ESA Member)	University of Crete
Dr. Nicholas Z. Scoville (CoI)	California Institute of Technology
Marina Bianchin (CoI) (Contact)	University of California - Irvine

OBSERVATIONS

JWST Proposal 1717 (Created: Tuesday, August 22, 2023 at 12:00:38 AM Eastern Standard Time) - Overview

<i>Folder</i>	<i>Observation</i>	<i>Label</i>	<i>Observing Template</i>	<i>Science Target</i>
Mrk 273				
	1	Mrk 273	MIRI Medium Resolution Spectroscopy	(1) MRK273
	2	Mrk 273 bg	MIRI Medium Resolution Spectroscopy	(2) MRK273-BG
Mrk 273				
	13	Mrk 273	MIRI Medium Resolution Spectroscopy	(1) MRK273
	14	Mrk 273 bg	MIRI Medium Resolution Spectroscopy	(2) MRK273-BG
VV 340a				
	3	vv 340a	MIRI Medium Resolution Spectroscopy	(7) VV340A
	4	vv 340a bg	MIRI Medium Resolution Spectroscopy	(8) VV340A-BG
UGC 5101				
	5	UGC 5101	MIRI Medium Resolution Spectroscopy	(9) UGC05101
	6	UGC 5101 bg	MIRI Medium Resolution Spectroscopy	(10) UGC05101-BG
iii zw 035				
	7	iii zw 035	MIRI Medium Resolution Spectroscopy	(3) IIZW035
	8	iii zw 035 bg	MIRI Medium Resolution Spectroscopy	(4) IIZW035-BG
IRAS F01364-1042				
	9	IRAS F01364-1042	MIRI Medium Resolution Spectroscopy	(5) IRASF01364-1042
	10	IRAS F01364-1042 bg	MIRI Medium Resolution Spectroscopy	(6) IRASF01364-1042-BG
IRAS F17207-0014				
	11	IRAS F17207-0014	MIRI Medium Resolution Spectroscopy	(11) IRASF17207-0014
	12	IRAS F17207-0014 bg	MIRI Medium Resolution Spectroscopy	(12) IRASF17207-0014-BG

ABSTRACT

When galactic outflows are triggered, what is the impact of feedback on the interstellar medium at the launch site? How much energy is transported into the circumnuclear regions and subsequently affect the dust geometry and metal distribution? What drives these winds and how do they depend on intrinsic AGN properties or nuclear star formation rates? Addressing these pressing questions will have a profound impact on our understanding of the role of feedback in galaxy evolution, and can only be answered observationally using high spatial- and spectral-resolution infrared instruments -- capable of peering through heavy dust screens into galactic nuclei where powerful outflows are launched -- finally made available with JWST.

Capitalizing on the unparalleled diagnostic capability MIRI exhibits over the full 5-28 micron range, our proposed MRS observations of 7 nearby luminous infrared galaxies known to host prominent shocked molecular outflows will provide a holistic view of the molecular gas, dust, AGN, star

formation, and metallicity in the central 4 kpc of ongoing galaxy mergers at the scales of 30-90 pc. We will determine the heating mechanisms for and gauge energetics of the outflows, correlate their spatial properties with AGN strength, and map their influence on metal distribution and star formation in different environments spanning a range of bolometric AGN fraction, infrared luminosities, and merger class. The 4x better spectral resolution of MRS over Spitzer IRS carries discovery potential in mapping the ionization state of the outflows.

Proprietary data rights are waived to enhance the data's legacy value and to facilitate Cycle 2 proposals for the community.

OBSERVING DESCRIPTION

We propose MIRI MRS observations for 7 sources in our sample of (U)LIRGs. Two of these sources will be observed as part of a GTO (IRAS F17207-0014; ID 1204, PI Rieke; covering only the short (A) sub-band within MRS) or an ERS (NGC 7469; ID 1328, PI Armus; covering all MIRI modes with sufficient exposure depth for our science goals) program, so we are proposing full 528m MIRI MRS observations for the remaining targets. We will fully utilize the wavelength range of four MRS channels for the suite of diagnostic lines accessible within 5-28m.

We will adopt the 4-point dither pattern optimized for an extended source for better sampling of the PSF with relatively uniform coverage. Since our targets span the FOV, we request an off-target observation with a 2-point dither pattern to reduce overheads while providing proper background subtraction for each source. The Background pointing and the Science observation are linked in an uninterruptible sequence for this purpose. Simultaneous MIRI imaging of another part of the host galaxy will be obtained in F560W, F770W, and F1500W bands, useful for improving astrometry and facilitating other ancillary science goals (i.e. mapping PAH features at F770W and dust temperature distribution using F560W and F1500W).

Proposal 1717 - Targets - Feedback around Supermassive Black Holes in Dusty Nuclei

#	Name	Target Coordinates	Targ. Coord. Corrections	Miscellaneous
(1)	MRK273	RA: 13 44 42.1310 (206.1755458d) Dec: +55 53 13.50 (55.88708d) Equinox: J2000		
<i>Comments:</i> <i>Category=Galaxy</i> <i>Description=[Ultraluminous infrared galaxies]</i> <i>Extended=YES</i>				
(2)	MRK273-BG	RA: 13 44 42.1310 (206.1755458d) Dec: +55 53 13.50 (55.88708d) Equinox: J2000		
<i>Comments:</i> <i>Category=Calibration</i> <i>Description=[Telescope/sky background]</i>				
(3)	IIIZW035	RA: 01 44 30.5000 (26.1270833d) Dec: +17 06 8.00 (17.10222d) Equinox: J2000		
<i>Comments:</i> <i>Category=Galaxy</i> <i>Description=[Ultraluminous infrared galaxies]</i> <i>Extended=YES</i>				
(4)	IIIZW035-BG	RA: 01 44 30.5000 (26.1270833d) Dec: +17 06 8.00 (17.10222d) Equinox: J2000		
<i>Comments:</i> <i>Category=Calibration</i> <i>Description=[Telescope/sky background]</i>				
(5)	IRASF01364-1042	RA: 01 38 52.8200 (24.7200833d) Dec: -10 27 11.80 (-10.45328d) Equinox: J2000		
<i>Comments:</i> <i>Category=Galaxy</i> <i>Description=[Ultraluminous infrared galaxies]</i> <i>Extended=YES</i>				
(6)	IRASF01364-1042-BG	RA: 01 38 52.8200 (24.7200833d) Dec: -10 27 11.80 (-10.45328d) Equinox: J2000		
<i>Comments:</i> <i>Category=Calibration</i> <i>Description=[Telescope/sky background]</i>				
(7)	VV340A	RA: 14 57 0.6770 (224.2528208d) Dec: +24 37 2.80 (24.61744d) Equinox: J2000		
<i>Comments:</i> <i>Category=Galaxy</i> <i>Description=[Ultraluminous infrared galaxies]</i> <i>Extended=YES</i>				

Fixed Targets

Proposal 1717 - Targets - Feedback around Supermassive Black Holes in Dusty Nuclei

(8)	VV340A-BG	RA: 14 57 0.6770 (224.2528208d) Dec: +24 37 2.80 (24.61744d) Equinox: J2000
<p><i>Comments:</i> <i>Category=Calibration</i> <i>Description=[Telescope/sky background]</i></p>		
(9)	UGC05101	RA: 09 35 51.6800 (143.9653333d) Dec: +61 21 12.30 (61.35342d) Equinox: J2000
<p><i>Comments:</i> <i>Category=Galaxy</i> <i>Description=[Ultraluminous infrared galaxies]</i> <i>Extended=YES</i></p>		
(10)	UGC05101-BG	RA: 09 35 51.6800 (143.9653333d) Dec: +61 21 12.30 (61.35342d) Equinox: J2000
<p><i>Comments:</i> <i>Category=Calibration</i> <i>Description=[Telescope/sky background]</i></p>		
(11)	IRASF17207-0014	RA: 17 23 21.9330 (260.8413875d) Dec: -00 17 1.22 (-.28367d) Equinox: J2000
<p><i>Comments:</i> <i>Category=Galaxy</i> <i>Description=[Ultraluminous infrared galaxies]</i> <i>Extended=YES</i></p>		
(12)	IRASF17207-0014-BG	RA: 17 23 21.9330 (260.8413875d) Dec: -00 17 1.22 (-.28367d) Equinox: J2000
<p><i>Comments:</i> <i>Category=Calibration</i> <i>Description=[Telescope/sky background]</i></p>		

Proposal 1717 - Observation 1 - Feedback around Supermassive Black Holes in Dusty Nuclei

Tue Aug 22 05:00:38 GMT 2023

Observation	Proposal 1717, Observation 1: Mrk 273 Diagnostic Status: Warning Observing Template: MIRI Medium Resolution Spectroscopy Background Observations:[Mrk 273 bg (Obs 2)]												
	(Mrk 273 (Obs 1)) Warning (Form): Imager Filter overlap. (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)	MRK273	RA: 13 44 42.1310 (206.1755458d) Dec: +55 53 13.50 (55.88708d) Equinox: J2000			Comments: Category=Galaxy Description=[Ultraluminous infrared galaxies] Extended=YES							
Acquisition	#	Target											
	1	NONE											
Template	AcqFilter	Primary Channel			Simultaneous Imaging			Imager Subarray		Grating Wheel Direction			
		ALL			YES			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/E xp	Exposures/Dit h	Dither	Total Dithers	Total Integrations	Total Exposure Time	ETC Wkbk.Calc ID
	1		IMAGER	F1500W	FASTR1	5	17	1	Dither 1	4	68	1121.116	
	1	LONG(C)	MRSLONG		FASTR1	50	2	1	Dither 1	4	8	1121.116	59460.12
	1	LONG(C)	MRSSHORT		FASTR1	50	2	1	Dither 1	4	8	1121.116	59460.6
	2		IMAGER	F770W	FASTR1	5	17	1	Dither 1	4	68	1121.116	
	2	MEDIUM(B)	MRSLONG		FASTR1	50	2	1	Dither 1	4	8	1121.116	59460.11
	2	MEDIUM(B)	MRSSHORT		FASTR1	50	2	1	Dither 1	4	8	1121.116	59460.5
	3		IMAGER	F560W	FASTR1	5	17	1	Dither 1	4	68	1121.116	
	3	SHORT(A)	MRSLONG		FASTR1	50	2	1	Dither 1	4	8	1121.116	59460.10
	3	SHORT(A)	MRSSHORT		FASTR1	50	2	1	Dither 1	4	8	1121.116	59460.1

Proposal 1717 - Observation 1 - Feedback around Supermassive Black Holes in Dusty Nuclei

Special Requirements

Aperture PA Range 123 to 180 Degrees (V3 123.0 to 180.0)

Sequence Observations 1, 2, Non-interruptible

Proposal 1717 - Observation 2 - Feedback around Supermassive Black Holes in Dusty Nuclei

Tue Aug 22 05:00:38 GMT 2023

Observation	Proposal 1717, Observation 2: Mrk 273 bg Diagnostic Status: Warning Observing Template: MIRI Medium Resolution Spectroscopy Background Observation For: [Mrk 273 (Obs 1)]												
	(Mrk 273 bg (Obs 2)) Warning (Form): Imager Filter overlap. (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)	MRK273-BG	RA: 13 44 42.1310 (206.1755458d) Dec: +55 53 13.50 (55.88708d) Equinox: J2000										
<i>Comments:</i> <i>Category=Calibration</i> <i>Description=[Telescope/sky background]</i>													
Acquisition	#	Target											
	1	NONE											
Template	AcqFilter	Primary Channel			Simultaneous Imaging			Imager Subarray		Grating Wheel Direction			
		ALL			YES			FULL		NEUTRAL			
Dithers	#	Dither Type				Optimized For				Direction			
	1	2-Point				EXTENDED SOURCE				NEGATIVE			
Spectral Elements	#	Wavelength Range	Detector	Filter	Readout Pattern	Groups/Int	Integrations/E xp	Exposures/Dit h	Dither	Total Dithers	Total Integrations	Total Exposure Time	ETC Wkbk.Calc ID
	1		IMAGER	F1500W	FASTR1	5	17	1	Dither 1	2	34	560.558	
	1	LONG(C)	MRSLONG		FASTR1	50	2	1	Dither 1	2	4	560.558	
	1	LONG(C)	MRSSHORT		FASTR1	50	2	1	Dither 1	2	4	560.558	
	2		IMAGER	F770W	FASTR1	5	17	1	Dither 1	2	34	560.558	
	2	MEDIUM(B)	MRSLONG		FASTR1	50	2	1	Dither 1	2	4	560.558	
	2	MEDIUM(B)	MRSSHORT		FASTR1	50	2	1	Dither 1	2	4	560.558	
	3		IMAGER	F560W	FASTR1	5	17	1	Dither 1	2	34	560.558	
	3	SHORT(A)	MRSLONG		FASTR1	50	2	1	Dither 1	2	4	560.558	
	3	SHORT(A)	MRSSHORT		FASTR1	50	2	1	Dither 1	2	4	560.558	

Proposal 1717 - Observation 2 - Feedback around Supermassive Black Holes in Dusty Nuclei

Special Requirements

Aperture PA Range 123 to 180 Degrees (V3 123.0 to 180.0)
Offset -35.35221743551228 arcsec, -65.20669314992436 arcsec

Sequence Observations 1, 2, Non-interruptible

Proposal 1717 - Observation 13 - Feedback around Supermassive Black Holes in Dusty Nuclei

Tue Aug 22 05:00:38 GMT 2023

Observation	Proposal 1717, Observation 13: Mrk 273 Diagnostic Status: Warning Observing Template: MIRI Medium Resolution Spectroscopy Background Observations:[Mrk 273 bg (Obs 14)]												
	(Mrk 273 (Obs 13)) Warning (Form): Imager Filter overlap. (Visit 13:1) Warning (Form): Overheads are provisional until the Visit Planner has been run.												
Fixed Targets	#	Name	Target Coordinates		Targ. Coord. Corrections				Miscellaneous				
	(1)	MRK273	RA: 13 44 42.1310 (206.1755458d) Dec: +55 53 13.50 (55.88708d) Equinox: J2000										
Comments: Category=Galaxy Description=[Ultraluminous infrared galaxies] Extended=YES													
Acquisition	#	Target											
	1	NONE											
Template	AcqFilter	Primary Channel		Simultaneous Imaging		Imager Subarray		Grating Wheel Direction					
		ALL		YES		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		IMAGER	F1500W	FASTR1	5	17	1	Dither 1	4	68	1121.116	
	1	LONG(C)	MRSLONG		FASTR1	72	2	1	Dither 1	4	8	1609.523	59460.12
	1	LONG(C)	MRSSSHORT		FASTR1	72	2	1	Dither 1	4	8	1609.523	59460.6
	2		IMAGER	F770W	FASTR1	5	17	1	Dither 1	4	68	1121.116	
	2	MEDIUM(B)	MRSLONG		FASTR1	50	2	1	Dither 1	4	8	1121.116	59460.11
	2	MEDIUM(B)	MRSSSHORT		FASTR1	50	2	1	Dither 1	4	8	1121.116	59460.5
	3		IMAGER	F560W	FASTR1	5	17	1	Dither 1	4	68	1121.116	
	3	SHORT(A)	MRSLONG		FASTR1	50	2	1	Dither 1	4	8	1121.116	59460.10
	3	SHORT(A)	MRSSSHORT		FASTR1	50	2	1	Dither 1	4	8	1121.116	59460.1

Proposal 1717 - Observation 13 - Feedback around Supermassive Black Holes in Dusty Nuclei

Special Requirements

Sequence Observations 13, 14, Non-interruptible

Proposal 1717 - Observation 14 - Feedback around Supermassive Black Holes in Dusty Nuclei

Tue Aug 22 05:00:38 GMT 2023

Observation	Proposal 1717, Observation 14: Mrk 273 bg Diagnostic Status: Warning Observing Template: MIRI Medium Resolution Spectroscopy Background Observation For: [Mrk 273 (Obs 13)]												
	(Mrk 273 bg (Obs 14)) Warning (Form): Imager Filter overlap. (Visit 14:1) Warning (Form): Overheads are provisional until the Visit Planner has been run.												
Diagnosics													
Fixed Targets	#	Name	Target Coordinates				Targ. Coord. Corrections			Miscellaneous			
	(2)	MRK273-BG	RA: 13 44 42.1310 (206.1755458d) Dec: +55 53 13.50 (55.88708d) Equinox: J2000										
<i>Comments:</i> <i>Category=Calibration</i> <i>Description=[Telescope/sky background]</i>													
Acquisition	#	Target											
	1	NONE											
Template	AcqFilter	Primary Channel			Simultaneous Imaging			Imager Subarray		Grating Wheel Direction			
		ALL			YES			FULL		NEUTRAL			
Dithers	#	Dither Type				Optimized For				Direction			
	1	2-Point				EXTENDED SOURCE				NEGATIVE			
Spectral Elements	#	Wavelength Range	Detector	Filter	Readout Pattern	Groups/Int	Integrations/E xp	Exposures/Dit h	Dither	Total Dithers	Total Integrations	Total Exposure Time	ETC Wkbk.Calc ID
	1		IMAGER	F1500W	FASTR1	5	17	1	Dither 1	2	34	560.558	
	1	LONG(C)	MRSLONG		FASTR1	72	2	1	Dither 1	2	4	804.762	
	1	LONG(C)	MRSSHORT		FASTR1	72	2	1	Dither 1	2	4	804.762	
	2		IMAGER	F770W	FASTR1	5	17	1	Dither 1	2	34	560.558	
	2	MEDIUM(B)	MRSLONG		FASTR1	50	2	1	Dither 1	2	4	560.558	
	2	MEDIUM(B)	MRSSHORT		FASTR1	50	2	1	Dither 1	2	4	560.558	
	3		IMAGER	F560W	FASTR1	5	17	1	Dither 1	2	34	560.558	
	3	SHORT(A)	MRSLONG		FASTR1	50	2	1	Dither 1	2	4	560.558	
	3	SHORT(A)	MRSSHORT		FASTR1	50	2	1	Dither 1	2	4	560.558	

Proposal 1717 - Observation 14 - Feedback around Supermassive Black Holes in Dusty Nuclei

Special Requirements

Offset -35.35221743551228 arcsec, -65.20669314992436 arcsec

Sequence Observations 13, 14, Non-interruptible

Proposal 1717 - Observation 3 - Feedback around Supermassive Black Holes in Dusty Nuclei

Tue Aug 22 05:00:38 GMT 2023

Observation	Proposal 1717, Observation 3: vv 340a Diagnostic Status: Warning Observing Template: MIRI Medium Resolution Spectroscopy Background Observations:[vv 340a bg (Obs 4)]												
	(vv 340a (Obs 3)) Warning (Form): Imager Filter overlap. (Visit 3:1) Warning (Form): Overheads are provisional until the Visit Planner has been run.												
Fixed Targets	#	Name	Target Coordinates				Targ. Coord. Corrections			Miscellaneous			
	(7)	VV340A	RA: 14 57 0.6770 (224.2528208d) Dec: +24 37 2.80 (24.61744d) Equinox: J2000										
Comments: Category=Galaxy Description=[Ultraluminous infrared galaxies] Extended=YES													
Acquisition	#	Target											
	1	NONE											
Template	AcqFilter	Primary Channel			Simultaneous Imaging			Imager Subarray		Grating Wheel Direction			
		ALL			YES			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/E xp	Exposures/Dit h	Dither	Total Dithers	Total Integrations	Total Exposure Time	ETC Wkbk.Calc ID
	1		IMAGER	F1500W	FASTR1	5	34	1	Dither 1	4	136	2253.332	
	1	LONG(C)	MRSLONG		SLOWR1	24	1	1	Dither 1	4	4	2293.432	63689.62
	1	LONG(C)	MRSSHORT		SLOWR1	24	1	1	Dither 1	4	4	2293.432	63689.56
	2		IMAGER	F770W	FASTR1	5	34	1	Dither 1	4	136	2253.332	
	2	MEDIUM(B)	MRSLONG		SLOWR1	24	1	1	Dither 1	4	4	2293.432	63689.61
	2	MEDIUM(B)	MRSSHORT		SLOWR1	24	1	1	Dither 1	4	4	2293.432	63689.55
	3		IMAGER	F560W	FASTR1	5	34	1	Dither 1	4	136	2253.332	
	3	SHORT(A)	MRSLONG		SLOWR1	24	1	1	Dither 1	4	4	2293.432	63689.60
	3	SHORT(A)	MRSSHORT		SLOWR1	24	1	1	Dither 1	4	4	2293.432	63689.1

Proposal 1717 - Observation 3 - Feedback around Supermassive Black Holes in Dusty Nuclei

Special Requirements

Aperture PA Range 231 to 287 Degrees (V3 231.0 to 287.0)

Sequence Observations 3, 4, Non-interruptible

Proposal 1717 - Observation 4 - Feedback around Supermassive Black Holes in Dusty Nuclei

Tue Aug 22 05:00:38 GMT 2023

Observation	Proposal 1717, Observation 4: vv 340a bg Diagnostic Status: Warning Observing Template: MIRI Medium Resolution Spectroscopy Background Observation For: [vv 340a (Obs 3)]												
	(vv 340a bg (Obs 4)) Warning (Form): Imager Filter overlap. (Visit 4:1) Warning (Form): Overheads are provisional until the Visit Planner has been run.												
Fixed Targets	#	Name	Target Coordinates				Targ. Coord. Corrections			Miscellaneous			
	(8)	VV340A-BG	RA: 14 57 0.6770 (224.2528208d) Dec: +24 37 2.80 (24.61744d) Equinox: J2000 <i>Comments:</i> <i>Category=Calibration</i> <i>Description=[Telescope/sky background]</i>										
Acquisition	#	Target											
	1	NONE											
Template	AcqFilter	Primary Channel			Simultaneous Imaging			Imager Subarray		Grating Wheel Direction			
		ALL			YES			FULL		NEUTRAL			
Dithers	#	Dither Type				Optimized For				Direction			
	1	2-Point				EXTENDED SOURCE				NEGATIVE			
Spectral Elements	#	Wavelength Range	Detector	Filter	Readout Pattern	Groups/Int	Integrations/E xp	Exposures/Dit h	Dither	Total Dithers	Total Integrations	Total Exposure Time	ETC Wkbk.Calc ID
	1		IMAGER	F1500W	FASTR1	5	34	1	Dither 1	2	68	1126.666	
	1	LONG(C)	MRSLONG		SLOWR1	24	1	1	Dither 1	2	2	1146.716	
	1	LONG(C)	MRSSHORT		SLOWR1	24	1	1	Dither 1	2	2	1146.716	
	2		IMAGER	F770W	FASTR1	5	34	1	Dither 1	2	68	1126.666	
	2	MEDIUM(B)	MRSLONG		SLOWR1	24	1	1	Dither 1	2	2	1146.716	
	2	MEDIUM(B)	MRSSHORT		SLOWR1	24	1	1	Dither 1	2	2	1146.716	
	3		IMAGER	F560W	FASTR1	5	34	1	Dither 1	2	68	1126.666	
	3	SHORT(A)	MRSLONG		SLOWR1	24	1	1	Dither 1	2	2	1146.716	
	3	SHORT(A)	MRSSHORT		SLOWR1	24	1	1	Dither 1	2	2	1146.716	

Proposal 1717 - Observation 4 - Feedback around Supermassive Black Holes in Dusty Nuclei

Special Requirements

Aperture PA Range 231 to 287 Degrees (V3 231.0 to 287.0)
Offset -65.1150722885318 arcsec, -63.26684936814877 arcsec

Sequence Observations 3, 4, Non-interruptible

Proposal 1717 - Observation 5 - Feedback around Supermassive Black Holes in Dusty Nuclei

Tue Aug 22 05:00:38 GMT 2023

Observation	Proposal 1717, Observation 5: UGC 5101 Diagnostic Status: Warning Observing Template: MIRI Medium Resolution Spectroscopy Background Observations:[UGC 5101 bg (Obs 6)]												
	(UGC 5101 (Obs 5)) Warning (Form): Imager Filter overlap. (Visit 5:1) Warning (Form): Overheads are provisional until the Visit Planner has been run.												
Fixed Targets	#	Name	Target Coordinates				Targ. Coord. Corrections			Miscellaneous			
	(9)	UGC05101	RA: 09 35 51.6800 (143.9653333d) Dec: +61 21 12.30 (61.35342d) Equinox: J2000 <i>Comments:</i> <i>Category=Galaxy</i> <i>Description=[Ultraluminous infrared galaxies]</i> <i>Extended=YES</i>										
Acquisition	#	Target											
	1	NONE											
Template	AcqFilter	Primary Channel			Simultaneous Imaging			Imager Subarray		Grating Wheel Direction			
		ALL			YES			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/E xp	Exposures/Dit h	Dither	Total Dithers	Total Integrations	Total Exposure Time	ETC Wkbk.Calc ID
	1		IMAGER	F560W	FASTR1	5	17	1	Dither 1	4	68	1121.116	
	1	SHORT(A)	MRSLONG		FASTR1	50	2	1	Dither 1	4	8	1121.116	59460.46
	1	SHORT(A)	MRSSHORT		FASTR1	50	2	1	Dither 1	4	8	1121.116	59460.40
	2		IMAGER	F770W	FASTR1	5	17	1	Dither 1	4	68	1121.116	
	2	MEDIUM(B)	MRSLONG		FASTR1	50	2	1	Dither 1	4	8	1121.116	59460.47
	2	MEDIUM(B)	MRSSHORT		FASTR1	50	2	1	Dither 1	4	8	1121.116	59460.41
	3		IMAGER	F1500W	FASTR1	5	17	1	Dither 1	4	68	1121.116	
	3	LONG(C)	MRSLONG		FASTR1	50	2	1	Dither 1	4	8	1121.116	59460.48
	3	LONG(C)	MRSSHORT		FASTR1	50	2	1	Dither 1	4	8	1121.116	59460.42

Proposal 1717 - Observation 5 - Feedback around Supermassive Black Holes in Dusty Nuclei

Special Requirements

Aperture PA Range 124 to 182 Degrees (V3 124.0 to 182.0)

Sequence Observations 5, 6, Non-interruptible

Proposal 1717 - Observation 6 - Feedback around Supermassive Black Holes in Dusty Nuclei

Tue Aug 22 05:00:38 GMT 2023

Observation	Proposal 1717, Observation 6: UGC 5101 bg Diagnostic Status: Warning Observing Template: MIRI Medium Resolution Spectroscopy Background Observation For: [UGC 5101 (Obs 5)]												
	(UGC 5101 bg (Obs 6)) Warning (Form): Imager Filter overlap. (Visit 6:1) Warning (Form): Overheads are provisional until the Visit Planner has been run.												
Diagnosics													
Fixed Targets	#	Name	Target Coordinates				Targ. Coord. Corrections			Miscellaneous			
	(10)	UGC05101-BG	RA: 09 35 51.6800 (143.9653333d) Dec: +61 21 12.30 (61.35342d) Equinox: J2000										
<i>Comments:</i> <i>Category=Calibration</i> <i>Description=[Telescope/sky background]</i>													
Acquisition	#	Target											
	1	NONE											
Template	AcqFilter	Primary Channel			Simultaneous Imaging			Imager Subarray		Grating Wheel Direction			
		ALL			YES			FULL		NEUTRAL			
Dithers	#	Dither Type				Optimized For				Direction			
	1	2-Point				EXTENDED SOURCE				NEGATIVE			
Spectral Elements	#	Wavelength Range	Detector	Filter	Readout Pattern	Groups/Int	Integrations/E xp	Exposures/Dit h	Dither	Total Dithers	Total Integrations	Total Exposure Time	ETC Wkbk.Calc ID
	1		IMAGER	F560W	FASTR1	5	17	1	Dither 1	2	34	560.558	
	1	SHORT(A)	MRSLONG		FASTR1	50	2	1	Dither 1	2	4	560.558	
	1	SHORT(A)	MRSSHORT		FASTR1	50	2	1	Dither 1	2	4	560.558	
	2		IMAGER	F770W	FASTR1	5	17	1	Dither 1	2	34	560.558	
	2	MEDIUM(B)	MRSLONG		FASTR1	50	2	1	Dither 1	2	4	560.558	
	2	MEDIUM(B)	MRSSHORT		FASTR1	50	2	1	Dither 1	2	4	560.558	
	3		IMAGER	F1500W	FASTR1	5	17	1	Dither 1	2	34	560.558	
	3	LONG(C)	MRSLONG		FASTR1	50	2	1	Dither 1	2	4	560.558	
	3	LONG(C)	MRSSHORT		FASTR1	50	2	1	Dither 1	2	4	560.558	

Proposal 1717 - Observation 6 - Feedback around Supermassive Black Holes in Dusty Nuclei

Special Requirements

Aperture PA Range 124 to 182 Degrees (V3 124.0 to 182.0)
Offset -38.556299200034246 arcsec, -76.5746054396168 arcsec

Sequence Observations 5, 6, Non-interruptible

Proposal 1717 - Observation 7 - Feedback around Supermassive Black Holes in Dusty Nuclei

Tue Aug 22 05:00:38 GMT 2023

Observation	Proposal 1717, Observation 7: iii zw 035 Diagnostic Status: Warning Observing Template: MIRI Medium Resolution Spectroscopy Background Observations:[iii zw 035 bg (Obs 8)]												
	(iii zw 035 (Obs 7)) Warning (Form): Imager Filter overlap. (Visit 7:1) Warning (Form): Overheads are provisional until the Visit Planner has been run. (Visit 7:1) Informational (Form): Visit schedulable, but most scheduling windows are when JWST is pointed in direction of greatest micrometeoroid impact risk. This is likely due to scheduling special requirements.												
Diagnosics													
Fixed Targets	#	Name	Target Coordinates				Targ. Coord. Corrections			Miscellaneous			
	(3)	IIIZW035	RA: 01 44 30.5000 (26.1270833d) Dec: +17 06 8.00 (17.10222d) Equinox: J2000										
<i>Comments:</i> <i>Category=Galaxy</i> <i>Description=[Ultraluminous infrared galaxies]</i> <i>Extended=YES</i>													
Acquisition	#	Target											
	1	NONE											
Template	AcqFilter	Primary Channel				Simultaneous Imaging			Imager Subarray		Grating Wheel Direction		
		ALL				YES			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/E xp	Exposures/Dit h	Dither	Total Dithers	Total Integrations	Total Exposure Time	ETC Wkbk.Calc ID
	1		IMAGER	F560W	FASTR1	5	57	1	Dither 1	4	228	3785.155	
	1	SHORT(A)	MRSLONG		SLOWR1	40	1	1	Dither 1	4	4	3822.387	59460.34
	1	SHORT(A)	MRSSSHORT		SLOWR1	40	1	1	Dither 1	4	4	3822.387	59460.28
	2		IMAGER	F770W	FASTR1	5	57	1	Dither 1	4	228	3785.155	
	2	MEDIUM(B)	MRSLONG		SLOWR1	40	1	1	Dither 1	4	4	3822.387	59460.35
	2	MEDIUM(B)	MRSSSHORT		SLOWR1	40	1	1	Dither 1	4	4	3822.387	59460.29
	3		IMAGER	F1500W	FASTR1	5	57	1	Dither 1	4	228	3785.155	
	3	LONG(C)	MRSLONG		SLOWR1	57	1	1	Dither 1	4	4	5446.902	59460.36
	3	LONG(C)	MRSSSHORT		SLOWR1	57	1	1	Dither 1	4	4	5446.902	59460.30

Proposal 1717 - Observation 7 - Feedback around Supermassive Black Holes in Dusty Nuclei

Special Requirements

Aperture PA Range 235 to 253 Degrees (V3 235.0 to 253.0)

Sequence Observations 7, 8, Non-interruptible

Proposal 1717 - Observation 8 - Feedback around Supermassive Black Holes in Dusty Nuclei

Tue Aug 22 05:00:38 GMT 2023

Observation	Proposal 1717, Observation 8: iii zw 035 bg Diagnostic Status: Warning Observing Template: MIRI Medium Resolution Spectroscopy Background Observation For: [iii zw 035 (Obs 7)]												
	(iii zw 035 bg (Obs 8)) Warning (Form): Imager Filter overlap. (Visit 8:1) Warning (Form): Overheads are provisional until the Visit Planner has been run. (Visit 8:1) Informational (Form): Visit schedulable, but most scheduling windows are when JWST is pointed in direction of greatest micrometeoroid impact risk. This is likely due to scheduling special requirements.												
Diagnosics													
Fixed Targets	#	Name	Target Coordinates				Targ. Coord. Corrections			Miscellaneous			
	(4)	IIIZW035-BG	RA: 01 44 30.5000 (26.1270833d) Dec: +17 06 8.00 (17.10222d) Equinox: J2000										
<i>Comments:</i> <i>Category=Calibration</i> <i>Description=[Telescope/sky background]</i>													
Acquisition	#	Target											
	1	NONE											
Template	AcqFilter	Primary Channel			Simultaneous Imaging			Imager Subarray		Grating Wheel Direction			
		ALL			YES			FULL		NEUTRAL			
Dithers	#	Dither Type				Optimized For				Direction			
	1	2-Point				EXTENDED SOURCE				NEGATIVE			
Spectral Elements	#	Wavelength Range	Detector	Filter	Readout Pattern	Groups/Int	Integrations/E xp	Exposures/Dit h	Dither	Total Dithers	Total Integrations	Total Exposure Time	ETC Wkbk.Calc ID
	1		IMAGER	F560W	FASTR1	5	57	1	Dither 1	2	114	1892.577	
	1	SHORT(A)	MRSLONG		SLOWR1	40	1	1	Dither 1	2	2	1911.194	
	1	SHORT(A)	MRSSHORT		SLOWR1	40	1	1	Dither 1	2	2	1911.194	
	2		IMAGER	F770W	FASTR1	5	57	1	Dither 1	2	114	1892.577	
	2	MEDIUM(B)	MRSLONG		SLOWR1	40	1	1	Dither 1	2	2	1911.194	
	2	MEDIUM(B)	MRSSHORT		SLOWR1	40	1	1	Dither 1	2	2	1911.194	
	3		IMAGER	F1500W	FASTR1	5	57	1	Dither 1	2	114	1892.577	
	3	LONG(C)	MRSLONG		SLOWR1	57	1	1	Dither 1	2	2	2723.451	
	3	LONG(C)	MRSSHORT		SLOWR1	57	1	1	Dither 1	2	2	2723.451	

Proposal 1717 - Observation 8 - Feedback around Supermassive Black Holes in Dusty Nuclei

Special Requirements

Aperture PA Range 235 to 253 Degrees (V3 235.0 to 253.0)
Offset -50.46355956348569 arcsec, -39.515805237881935 arcsec

Sequence Observations 7, 8, Non-interruptible

Proposal 1717 - Observation 9 - Feedback around Supermassive Black Holes in Dusty Nuclei

Tue Aug 22 05:00:38 GMT 2023

Observation	Proposal 1717, Observation 9: IRAS F01364-1042 Diagnostic Status: Warning Observing Template: MIRI Medium Resolution Spectroscopy Background Observations:[IRAS F01364-1042 bg (Obs 10)]												
	(IRAS F01364-1042 (Obs 9)) Warning (Form): Imager Filter overlap. (Visit 9:1) Warning (Form): Overheads are provisional until the Visit Planner has been run.												
Fixed Targets	#	Name	Target Coordinates			Targ. Coord. Corrections			Miscellaneous				
	(5)	IRASF01364-1042	RA: 01 38 52.8200 (24.7200833d) Dec: -10 27 11.80 (-10.45328d) Equinox: J2000										
Comments: Category=Galaxy Description=[Ultraluminous infrared galaxies] Extended=YES													
Acquisition	#	Target											
	1	NONE											
Template	AcqFilter	Primary Channel			Simultaneous Imaging			Imager Subarray		Grating Wheel Direction			
		ALL			YES			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/E xp	Exposures/Dit h	Dither	Total Dithers	Total Integrations	Total Exposure Time	ETC Wkbk.Calc ID
	1		IMAGER	F1500W	FASTR1	5	60	1	Dither 1	4	240	3984.957	
	1	LONG(C)	MRSLONG		SLOWR1	60	1	1	Dither 1	4	4	5733.581	59460.24
	1	LONG(C)	MRSSSHORT		SLOWR1	60	1	1	Dither 1	4	4	5733.581	59460.18
	2		IMAGER	F770W	FASTR1	5	60	1	Dither 1	4	240	3984.957	
	2	MEDIUM(B)	MRSLONG		SLOWR1	42	1	1	Dither 1	4	4	4013.507	59460.23
	2	MEDIUM(B)	MRSSSHORT		SLOWR1	42	1	1	Dither 1	4	4	4013.507	59460.17
	3		IMAGER	F560W	FASTR1	5	60	1	Dither 1	4	240	3984.957	
	3	SHORT(A)	MRSLONG		SLOWR1	42	1	1	Dither 1	4	4	4013.507	59460.22
	3	SHORT(A)	MRSSSHORT		SLOWR1	42	1	1	Dither 1	4	4	4013.507	59460.16

Proposal 1717 - Observation 9 - Feedback around Supermassive Black Holes in Dusty Nuclei

Special Requirements

Aperture PA Range 241 to 275 Degrees (V3 241.0 to 275.0)

Sequence Observations 9, 10, Non-interruptible

Proposal 1717 - Observation 10 - Feedback around Supermassive Black Holes in Dusty Nuclei

Tue Aug 22 05:00:38 GMT 2023

Observation	Proposal 1717, Observation 10: IRAS F01364-1042 bg Diagnostic Status: Warning Observing Template: MIRI Medium Resolution Spectroscopy Background Observation For: [IRAS F01364-1042 (Obs 9)]												
	(IRAS F01364-1042 bg (Obs 10)) Warning (Form): Imager Filter overlap. (Visit 10:1) Warning (Form): Overheads are provisional until the Visit Planner has been run.												
Diagnosics													
Fixed Targets	#	Name	Target Coordinates			Targ. Coord. Corrections			Miscellaneous				
	(6)	IRASF01364-1042-BG	RA: 01 38 52.8200 (24.7200833d) Dec: -10 27 11.80 (-10.45328d) Equinox: J2000										
<i>Comments:</i> Category=Calibration Description=[Telescope/sky background]													
Acquisition	#	Target											
	1	NONE											
Template	AcqFilter	Primary Channel			Simultaneous Imaging			Imager Subarray		Grating Wheel Direction			
		ALL			YES			FULL		NEUTRAL			
Dithers	#	Dither Type			Optimized For			Direction					
	1	2-Point			EXTENDED SOURCE			NEGATIVE					
Spectral Elements	#	Wavelength Range	Detector	Filter	Readout Pattern	Groups/Int	Integrations/E xp	Exposures/Dit h	Dither	Total Dithers	Total Integrations	Total Exposure Time	ETC Wkbk.Calc ID
	1		IMAGER	F1500W	FASTR1	5	60	1	Dither 1	2	120	1992.479	
	1	LONG(C)	MRSLONG		SLOWR1	60	1	1	Dither 1	2	2	2866.79	
	1	LONG(C)	MRSSHORT		SLOWR1	60	1	1	Dither 1	2	2	2866.79	
	2		IMAGER	F770W	FASTR1	5	60	1	Dither 1	2	120	1992.479	
	2	MEDIUM(B)	MRSLONG		SLOWR1	42	1	1	Dither 1	2	2	2006.753	
	2	MEDIUM(B)	MRSSHORT		SLOWR1	42	1	1	Dither 1	2	2	2006.753	
	3		IMAGER	F560W	FASTR1	5	60	1	Dither 1	2	120	1992.479	
	3	SHORT(A)	MRSLONG		SLOWR1	42	1	1	Dither 1	2	2	2006.753	
	3	SHORT(A)	MRSSHORT		SLOWR1	42	1	1	Dither 1	2	2	2006.753	

Proposal 1717 - Observation 10 - Feedback around Supermassive Black Holes in Dusty Nuclei

Special Requirements

Aperture PA Range 241 to 275 Degrees (V3 241.0 to 275.0)
Offset -73.83359023078013 arcsec, -69.31272454800425 arcsec

Sequence Observations 9, 10, Non-interruptible

Proposal 1717 - Observation 11 - Feedback around Supermassive Black Holes in Dusty Nuclei

Tue Aug 22 05:00:38 GMT 2023

Observation	Proposal 1717, Observation 11: IRAS F17207-0014 Diagnostic Status: Warning Observing Template: MIRI Medium Resolution Spectroscopy Background Observations:[IRAS F17207-0014 bg (Obs 12)]												
	(IRAS F17207-0014 (Obs 11)) Warning (Form): Imager Filter overlap. (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)	IRASF17207-0014	RA: 17 23 21.9330 (260.8413875d) Dec: -00 17 1.22 (-.28367d) Equinox: J2000										
Comments: Category=Galaxy Description=[Ultraluminous infrared galaxies] Extended=YES													
Acquisition	#	Target											
	1	NONE											
Template	AcqFilter	Primary Channel			Simultaneous Imaging		Imager Subarray		Grating Wheel Direction				
		ALL			YES		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/E xp	Exposures/Dit h	Dither	Total Dithers	Total Integrations	Total Exposure Time	ETC Wkbk.Calc ID
	1		IMAGER	F1500W	FASTR1	5	41	1	Dither 1	4	164	2719.539	
	1	LONG(C)	MRSLONG		SLOWR1	20	2	1	Dither 1	4	8	3917.947	63689.71
	1	LONG(C)	MRSSHORT		SLOWR1	20	2	1	Dither 1	4	8	3917.947	63689.67
	2		IMAGER	F770W	FASTR1	5	41	1	Dither 1	4	164	2719.539	
	2	MEDIUM(B)	MRSLONG		SLOWR1	14	2	1	Dither 1	4	8	2771.231	63689.70
	2	MEDIUM(B)	MRSSHORT		SLOWR1	14	2	1	Dither 1	4	8	2771.231	63689.66

Proposal 1717 - Observation 11 - Feedback around Supermassive Black Holes in Dusty Nuclei

Special Requirements

Aperture PA Range 88 to 124 Degrees (V3 88.0 to 124.0)

Sequence Observations 11, 12, Non-interruptible

Proposal 1717 - Observation 12 - Feedback around Supermassive Black Holes in Dusty Nuclei

Tue Aug 22 05:00:38 GMT 2023

Observation	Proposal 1717, Observation 12: IRAS F17207-0014 bg Diagnostic Status: Warning Observing Template: MIRI Medium Resolution Spectroscopy Background Observation For: [IRAS F17207-0014 (Obs 11)]												
	(IRAS F17207-0014 bg (Obs 12)) Warning (Form): Imager Filter overlap. (Visit 12:1) Warning (Form): Overheads are provisional until the Visit Planner has been run.												
Diagnosics													
Fixed Targets	#	Name	Target Coordinates				Targ. Coord. Corrections			Miscellaneous			
	(12)	IRASF17207-0014-BG	RA: 17 23 21.9330 (260.8413875d) Dec: -00 17 1.22 (-.28367d) Equinox: J2000										
<i>Comments:</i> <i>Category=Calibration</i> <i>Description=[Telescope/sky background]</i>													
Acquisition	#	Target											
	1	NONE											
Template	AcqFilter	Primary Channel				Simultaneous Imaging			Imager Subarray		Grating Wheel Direction		
		ALL				YES			FULL		NEUTRAL		
Dithers	#	Dither Type				Optimized For				Direction			
	1	2-Point				EXTENDED SOURCE				NEGATIVE			
Spectral Elements	#	Wavelength Range	Detector	Filter	Readout Pattern	Groups/Int	Integrations/E xp	Exposures/Dit h	Dither	Total Dithers	Total Integrations	Total Exposure Time	ETC Wkbk.Calc ID
	1		IMAGER	F1500W	FASTR1	5	41	1	Dither 1	2	82	1359.77	
	1	LONG(C)	MRSLONG		SLOWR1	20	2	1	Dither 1	2	4	1958.973	
	1	LONG(C)	MRSSHORT		SLOWR1	20	2	1	Dither 1	2	4	1958.973	
	2		IMAGER	F770W	FASTR1	5	41	1	Dither 1	2	82	1359.77	
	2	MEDIUM(B)	MRSLONG		SLOWR1	14	2	1	Dither 1	2	4	1385.615	
	2	MEDIUM(B)	MRSSHORT		SLOWR1	14	2	1	Dither 1	2	4	1385.615	

Proposal 1717 - Observation 12 - Feedback around Supermassive Black Holes in Dusty Nuclei

Special Requirements

Aperture PA Range 88 to 124 Degrees (V3 88.0 to 124.0)
Offset -30.417806040730774 arcsec, -43.2065779531832 arcsec

Sequence Observations 11, 12, Non-interruptible