



1265 - NGC6240

Cycle: 1, Proposal Category: GTO

INVESTIGATORS

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OBSERVATIONS

<i>Folder</i>	<i>Observation</i>	<i>Label</i>	<i>Observing Template</i>	<i>Science Target</i>
Observation Folder				
	1	NGC6240-INT-MIRI	MIRI Medium Resolution Spectroscopy	(4) NGC6240-INT-MRS
	2	NGC6240-bg-MIRI	MIRI Medium Resolution Spectroscopy	(2) NGC6240-BACKGROUND
	3	NGC6240-MIRIM	MIRI Imaging	(1) NGC6240-INT
	4	NGC6240-INT-NIRSpec	NIRSpec IFU Spectroscopy	(1) NGC6240-INT

ABSTRACT

This is the combined IFU spectroscopic MIRI+NIRSpec observation of the luminous infrared interacting galaxy NGC6240, tracing multiple diagnostics (ionized gas, molecular hot/warm gas, and dust features) with the goal of characterizing the physical properties of the circumnuclear regions (SF, stellar population, ISM properties), the dual AGN and the massive outflow. The observation IDs are: FERRUIT_4500, WRIGHT_7502, WRIGHT_7503 and WRIGHT_7504.

OBSERVING DESCRIPTION

This is a GTO proposal to observe NGC6240.

We will obtain MIRI MRS observations of the central region covering the two nuclei using all spectral settings to cover the entire 5-28micron spectral range. We will also take a background observation with the MIRI MRS. Additionally we will use the MIRI imager to obtain observations with two filters F560W and F1130W.

NIRSpec IFU observations include three high resolution gratings to cover the wavelength range from 1 to 5.3 microns. No target acquisition is considered, as there are many guide stars with gaia astrometry. The PA is restricted to minimise leakage through the MSA. In addition, as the field around NGC6240 is plenty of bright objects, leakage calibration exposures (for one dither position) are also included.

Proposal 1265 - Targets - NGC6240

#	Name	Target Coordinates	Targ. Coord. Corrections	Miscellaneous
(1)	NGC6240-INT	RA: 16 52 58.9150 (253.2454792d) Dec: +02 24 3.70 (2.40103d) Equinox: J2000		
<p><i>Comments: This "target" is at an intermediate position between the two nuclei of NGC6240. The coordinates have been obtained from the corresponding values for nuclei S and N in Table 2 of Scoville et al. (2015). Category=Galaxy Description=[Active galactic nuclei] Extended=YES</i></p>				
(2)	NGC6240-BACKGROUND	RA: 16 53 3.8364 (253.2659850d) Dec: +02 24 40.97 (2.41138d) Equinox: J2000		
<p><i>Comments: Category=Calibration Description=[Telescope/sky background] Extended=YES</i></p>				
(4)	NGC6240-INT-MRS	RA: 16 52 58.9150 (253.2454792d) Dec: +02 24 3.70 (2.40103d) Equinox: J2000		
<p><i>Comments: This "target" is at an intermediate position between the two nuclei of NGC6240. The coordinates have been obtained from the corresponding values for nuclei S and N in Table 2 of Scoville et al. (2015). Category=Galaxy Description=[Active galactic nuclei] Extended=YES</i></p>				

Fixed Targets

Proposal 1265 - Observation 1 - NGC6240

Fri Aug 04 18:01:01 GMT 2023

Observation	Proposal 1265, Observation 1: NGC6240-INT-MIRI Diagnostic Status: Warning Observing Template: MIRI Medium Resolution Spectroscopy Background Observations:[NGC6240-bg-MIRI (Obs 2)]												
	(Visit 1:1) Warning (Form): Overheads are provisional until the Visit Planner has been run.												
Diagnosics													
Fixed Targets	#	Name	Target Coordinates				Targ. Coord. Corrections			Miscellaneous			
	(4)	NGC6240-INT-MRS	RA: 16 52 58.9150 (253.2454792d) Dec: +02 24 3.70 (2.40103d) Equinox: J2000										
<i>Comments: This "target" is at an intermediate position between the two nuclei of NGC6240. The coordinates have been obtained from the corresponding values for nuclei S and N in Table 2 of Scoville et al. (2015). Category=Galaxy Description=[Active galactic nuclei] Extended=YES</i>													
Acquisition	#	Target											
	1	NONE											
Template	AcqFilter	Primary Channel				Simultaneous Imaging			Imager Subarray		Grating Wheel Direction		
	F560W	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	50	1	1	Dither 1	4	4	555.008	
	1	SHORT(A)	MRSLONG		FASTR1	50	1	1	Dither 1	4	4	555.008	
	1	SHORT(A)	MRSSHORT		FASTR1	50	1	1	Dither 1	4	4	555.008	
	2		IMAGER	F770W	FASTR1	50	1	1	Dither 1	4	4	555.008	
	2	MEDIUM(B)	MRSLONG		FASTR1	50	1	1	Dither 1	4	4	555.008	
	2	MEDIUM(B)	MRSSHORT		FASTR1	50	1	1	Dither 1	4	4	555.008	
	3		IMAGER	F1130W	FASTR1	50	1	1	Dither 1	4	4	555.008	
	3	LONG(C)	MRSLONG		FASTR1	50	1	1	Dither 1	4	4	555.008	
	3	LONG(C)	MRSSHORT		FASTR1	50	1	1	Dither 1	4	4	555.008	

Proposal 1265 - Observation 1 - NGC6240

Special Requirements

Sequence Observations 1, 2, Non-interruptible
Group Observations 1, 2, 3, 4 within 30 Days

Proposal 1265 - Observation 2 - NGC6240

Fri Aug 04 18:01:01 GMT 2023

Observation	Proposal 1265, Observation 2: NGC6240-bg-MIRI Diagnostic Status: Warning Observing Template: MIRI Medium Resolution Spectroscopy Background Observation For: [NGC6240-INT-MIRI (Obs 1)]												
	(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)	NGC6240-BACKGROUND	RA: 16 53 3.8364 (253.2659850d) Dec: +02 24 40.97 (2.41138d) Equinox: J2000										
Comments: Category=Calibration Description=[Telescope/sky background] Extended=YES													
Acquisition	#	Target											
	1	NONE											
Template	AcqFilter	Primary Channel		Simultaneous Imaging		Imager Subarray		Grating Wheel Direction					
	F560W	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	50	1	1	Dither 1	2	2	277.504	
	1	SHORT(A)	MRSLONG		FASTR1	50	1	1	Dither 1	2	2	277.504	
	1	SHORT(A)	MRSSHORT		FASTR1	50	1	1	Dither 1	2	2	277.504	
	2		IMAGER	F770W	FASTR1	50	1	1	Dither 1	2	2	277.504	
	2	MEDIUM(B)	MRSLONG		FASTR1	50	1	1	Dither 1	2	2	277.504	
	2	MEDIUM(B)	MRSSHORT		FASTR1	50	1	1	Dither 1	2	2	277.504	
	3		IMAGER	F1130W	FASTR1	50	1	1	Dither 1	2	2	277.504	
	3	LONG(C)	MRSLONG		FASTR1	50	1	1	Dither 1	2	2	277.504	
	3	LONG(C)	MRSSHORT		FASTR1	50	1	1	Dither 1	2	2	277.504	

Proposal 1265 - Observation 2 - NGC6240

Special Requirements

Sequence Observations 1, 2, Non-interruptible
Group Observations 1, 2, 3, 4 within 30 Days

Proposal 1265 - Observation 3 - NGC6240

Fri Aug 04 18:01:01 GMT 2023

Observation	Proposal 1265, Observation 3: NGC6240-MIRIM Diagnostic Status: Warning Observing Template: MIRI Imaging										
Diagnostics	(Visit 3:1) Warning (Form): Overheads are provisional until the Visit Planner has been run.										
Fixed Targets	#	Name	Target Coordinates			Targ. Coord. Corrections		Miscellaneous			
	(1)	NGC6240-INT	RA: 16 52 58.9150 (253.2454792d) Dec: +02 24 3.70 (2.40103d) Equinox: J2000								
	<i>Comments: This "target" is at an intermediate position between the two nuclei of NGC6240. The coordinates have been obtained from the corresponding values for nuclei S and N in Table 2 of Scoville et al. (2015). Category=Galaxy Description=[Active galactic nuclei] Extended=YES</i>										
Template	Subarray FULL										
Mosaic	Rows	Columns	Row Overlap %	Column Overlap %	Row shift (deg)	Column shift (deg)	Tile Order				
	1	2	10.0	50.0	0.0	0.0	DEFAULT				
Dithers	#	Dither Type	Starting Point	Number of Points	Points	Starting Set	Number of Sets	Optimized For	Direction	Pattern Size	
	1	CYCLING	1	4						MEDIUM	
Spectral Elements	#	Filter	Readout Pattern	Groups/Int	Integrations/Exp	Exposures/Dith	Dither	Total Dithers	Total Integrations	Total Exposure Time	ETC Wkbk.Calc ID
	1	F560W	FASTR1	15	1	1	Dither 1	4	4	166.502	
	2	F1130W	FASTR1	15	1	1	Dither 1	4	4	166.502	

Proposal 1265 - Observation 3 - NGC6240

Special Requirements

Group Observations 1, 2, 3, 4 within 30 Days

Proposal 1265 - Observation 4 - NGC6240

Fri Aug 04 18:01:01 GMT 2023

Observation	<p>Proposal 1265, Observation 4: NGC6240-INT-NIRSpec</p> <p>Diagnostic Status: Warning</p> <p>Observing Template: NIRSpec IFU Spectroscopy</p>											
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			
	(1)	NGC6240-INT	RA: 16 52 58.9150 (253.2454792d) Dec: +02 24 3.70 (2.40103d) Equinox: J2000									
	<p><i>Comments: This "target" is at an intermediate position between the two nuclei of NGC6240. The coordinates have been obtained from the corresponding values for nuclei S and N in Table 2 of Scoville et al. (2015). Category=Galaxy Description=[Active galactic nuclei] Extended=YES</i></p>											
Template	TA Method											
	NONE											
Dithers	#	Dither Type		Size	Starting Point			Number of Points	Points			
	1	CYCLING		MEDIUM	1			4				
Spectral Elements	#	Grating/Filter	Readout Pattern	Groups/Int	Integrations/Exp	Leakcal	Dither	Autocal	Total Dithers	Total Integrations	Total Exposure Time	ETC Wkbk.Calc ID
	1	G140H/F100LP	NRSIRS2RAPID	15	1	false	true	NONE	4	4	933.689	
	2	G140H/F100LP	NRSIRS2RAPID	15	1	true	false	NONE	1	1	233.422	
	3	G235H/F170LP	NRSIRS2RAPID	15	1	false	true	NONE	4	4	933.689	
	4	G235H/F170LP	NRSIRS2RAPID	15	1	true	false	NONE	1	1	233.422	
	5	G395H/F290LP	NRSIRS2RAPID	15	1	false	true	NONE	4	4	933.689	
	6	G395H/F290LP	NRSIRS2RAPID	15	1	true	false	NONE	1	1	233.422	

Proposal 1265 - Observation 4 - NGC6240

Special Requirements

Aperture PA Range 261 to 274 Degrees (V3 122.02746582 to 135.02746582)

Group Observations 1, 2, 3, 4 within 30 Days