



## 4489 - CAL-MIRI-222 MRS External Flatfield

Cycle: 2, Proposal Category: CAL/MIRI

### INVESTIGATORS

<i>Name</i>	<i>Institution</i>
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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	NGC 7027 background	MIRI Medium Resolution Spectroscopy	(2) NGC-7027-BACKGROUND
	2	NGC 7027 raster	MIRI Medium Resolution Spectroscopy	(1) NGC-7027

### ABSTRACT

This activity observes a bright, extended planetary nebula to provide illumination throughout the MIRI MRS FOV in order to derive fringe and pixel flatfields. This target was successfully used for such purposes during Cycle 1 (PID 1523) and this program repeats the observations to increase the total SNR of the derived flats as well as monitor for time variability. Observations are obtained using a dithered mosaic in order to sample the same locations on the sky with many different detector pixels (required for self-calibration).

This calibration program may change in response to system developments and the final Cycle 2 science program.

### OBSERVING DESCRIPTION

This program observes a bright planetary nebula in a 3x3 mosaic to measure the MRS pixel and fringe flatfield in a single non-interruptible sequence of target and background.

We do not obtain simultaneous imaging as the absolute pointing of the observations is not important, and the observing setup can otherwise pose data volume challenges.

The timing of this program within Cycle 2 is unconstrained.

Proposal 4489 - Targets - CAL-MIRI-222 MRS External Flatfield

	#	Name	Target Coordinates	Targ. Coord. Corrections	Miscellaneous
Fixed Targets	(1)	NGC-7027	RA: 21 07 1.8000 (316.7575000d) Dec: +42 14 10.00 (42.23611d) Equinox: J2000  <i>Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.</i> <i>Category=ISM</i> <i>Description=[Planetary nebulae]</i> <i>Extended=YES</i>		
	(2)	NGC-7027-BACKGROUND	RA: 21 07 0.0000 (316.7500000d) Dec: +42 14 41.00 (42.24472d) Equinox: J2000  <i>Comments:</i> <i>Category=Calibration</i> <i>Description=[Planetary nebulae]</i> <i>Extended=YES</i>		

Proposal 4489 - Observation 1 - CAL-MIRI-222 MRS External Flatfield

Wed May 03 22:05:34 GMT 2023

<b>Observation</b>	<b>Proposal 4489, Observation 1: NGC 7027 background</b> <b>Diagnostic Status: Warning</b> Observing Template: MIRI Medium Resolution Spectroscopy Background Observation For: [NGC 7027 raster (Obs 2)]												
	(Visit 1:1) Warning (Form): Overheads are provisional until the Visit Planner has been run.												
<b>Fixed Targets</b>	<b>#</b>	<b>Name</b>	<b>Target Coordinates</b>				<b>Targ. Coord. Corrections</b>			<b>Miscellaneous</b>			
	(2)	NGC-7027-BACKGROUND	RA: 21 07 0.0000 (316.7500000d) Dec: +42 14 41.00 (42.24472d) Equinox: J2000										
<i>Comments:</i> <i>Category=Calibration</i> <i>Description=[Planetary nebulae]</i> <i>Extended=YES</i>													
<b>Acquisition</b>	<b>#</b>	<b>Target</b>											
	1	NONE											
<b>Template</b>	<b>AcqFilter</b>	<b>Primary Channel</b>				<b>Simultaneous Imaging</b>			<b>Imager Subarray</b>				
	F560W	ALL				NO			FULL				
<b>Dithers</b>	<b>#</b>	<b>Dither Type</b>				<b>Optimized For</b>			<b>Direction</b>				
	1	2-Point				EXTENDED SOURCE			NEGATIVE				
<b>Spectral Elements</b>	<b>#</b>	<b>Wavelength Range</b>	<b>Detector</b>	<b>Filter</b>	<b>Readout Pattern</b>	<b>Groups/Int</b>	<b>Integrations/E xp</b>	<b>Exposures/Dit h</b>	<b>Dither</b>	<b>Total Dithers</b>	<b>Total Integrations</b>	<b>Total Exposure Time</b>	<b>ETC Wkbk.Calc ID</b>
	1	LONG(C)	MRSLONG		FASTR1	5	10	1	Dither 1	2	20	327.455	
	1	LONG(C)	MRSSHORT		FASTR1	5	10	1	Dither 1	2	20	327.455	
	2	MEDIUM(B)	MRSLONG		FASTR1	5	10	1	Dither 1	2	20	327.455	
	2	MEDIUM(B)	MRSSHORT		FASTR1	5	10	1	Dither 1	2	20	327.455	
	3	SHORT(A)	MRSLONG		FASTR1	5	10	1	Dither 1	2	20	327.455	
	3	SHORT(A)	MRSSHORT		FASTR1	5	10	1	Dither 1	2	20	327.455	

Proposal 4489 - Observation 1 - CAL-MIRI-222 MRS External Flatfield

Special Requirements

Sequence Observations 1, 2, Non-interruptible

Proposal 4489 - Observation 2 - CAL-MIRI-222 MRS External Flatfield

Wed May 03 22:05:34 GMT 2023

Observation	<b>Proposal 4489, Observation 2: NGC 7027 raster</b> <b>Diagnostic Status: Warning</b> Observing Template: MIRI Medium Resolution Spectroscopy Background Observations:[NGC 7027 background (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				
	(1)	NGC-7027	RA: 21 07 1.8000 (316.7575000d) Dec: +42 14 10.00 (42.23611d) Equinox: J2000  <i>Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.</i> Category=ISM Description=[Planetary nebulae] Extended=YES										
Acquisition	#	Target											
	1	NONE											
Template	AcqFilter	Primary Channel			Simultaneous Imaging			Imager Subarray					
	F560W	ALL			NO			FULL					
Mosaic	Rows	Columns	Row Overlap %	Column Overlap %	Row shift	Column shift	Tile Order						
	3	3	67.0	67.0	0.0	0.0	DEFAULT						
Dithers	#	Dither Type			Optimized For			Direction					
	1	2-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	5	10	1	Dither 1	2	20	327.455	
	1	LONG(C)	MRSSHORT		FASTR1	5	10	1	Dither 1	2	20	327.455	
	2	MEDIUM(B)	MRSLONG		FASTR1	5	10	1	Dither 1	2	20	327.455	
	2	MEDIUM(B)	MRSSHORT		FASTR1	5	10	1	Dither 1	2	20	327.455	
	3	SHORT(A)	MRSLONG		FASTR1	5	10	1	Dither 1	2	20	327.455	
	3	SHORT(A)	MRSSHORT		FASTR1	5	10	1	Dither 1	2	20	327.455	

Proposal 4489 - Observation 2 - CAL-MIRI-222 MRS External Flatfield

Special Requirements

Sequence Observations 1, 2, Non-interruptible