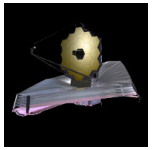

2731 - JWST Early Release Observation 5

Cycle: 0, Proposal Category: COM/ERO

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OBSERVATIONS

Folder	*Observation*	*Label*	*Observing Template*	*Science Target*
Imaging				
	1	NGC 3324 NIRCam imaging	NIRCam Imaging	(17) NGC-3324
	2	NGC 3324 MIRI imaging	MIRI Imaging	(17) NGC-3324

ABSTRACT

ERO observations of NGC3324, a section of the Carina star-forming complex. This proposal contains a NIRCam image, and a large MIRI imaging mosaic.

OBSERVING DESCRIPTION

ERO observation of part of NGC 3324, a star-forming region in the Carina complex. This ERO captures a sharp edge between a bubble formed by young, hot stars, and a dense cloud, adjacent to the region seen in a Hubble Heritage image, but brighter in the MIR. The pointing is selected to maximize contrast at optical and mid-infrared wavelengths, while taking advantage of the likely roll angle at the time of observation.

The observation includes NIRCam and MIRI imaging. The NIRCam FOV is likely angled close to the orientation of the ridge, requiring two tiles for most aesthetic coverage. The MIRI image uses 5 tiles to cover an aesthetically reasonable region with significant overlap with the NIRCam FOV, making this one of the more time-consuming MIRI images. This consideration sets a PA special requirement, appropriate for the likely timing of the ERO observations.

Filters are a combination of narrow-band and broad band to trace gas, dust, and background stars+galaxies.

Note that this ERO does not contain any spectroscopic observations.

NIRCam imaging

We use the FULLBOX dither pattern + a 71.5% overlap second mosaic tile for most uniform depth. Two vertical tiles are also used for coverage. We use the standard filter set for a star-forming region: F090W+F200W to image scattered light from dust and extinction colors of background stellar field, F187N (PaAlpha) to image the HII region, F470N to image H2 from jets and outflows, F335M to image PAH emission at NIRCam resolution, and F444W to provide a new long-wave sensitive point to dust scattering and CO. Exposure times are set to not saturate the nebular emission, but

some point sources will saturate. The brightest stars in the field are K~8.7 mag, W1~7.7 mag.

MIRI imaging

This is a large 5-tile mosaic. Each tile would be usable for the ERO, but the combination is needed for the panorama of the PDR ridge. The 8 point cycling large dither pattern will provide good depth coverage over the panorama. We set the tile overlap to 15% for smooth transitions between tiles. The usual 4 filters for star forming regions are used: F770W, F1130W for PAHs, F1280W, including the [NeII] line and F1800W for a long-wavelength point tracing cooler dust. Exposure times are set to not saturate the nebular emission, but some point sources will saturate. Brightest mid-infrared source in the field is W3~4.8 mag, W4~3.4 mag.

Update 11/13/2021
- Updated FOV for likely observing date
- Updated NIRCam dither to 2-tile Koekemoer pattern
- Updated readout pattern
- Re-arranged filter order to start with NBs

Update 4/10/2022
- Minor updates to FOV, proposal description
- decreased MIRI number of groups to 10-30, depending on filter for saturation safety.

Update 4/25/2022
- Added NIRCam and MIRI tile for better coverage and composition.

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Miscellaneous
(17)	NGC-3324	RA: 10 36 51.0990 (159.2129125d) Dec: -58 37 12.19 (-58.62005d) Equinox: J2000	Proper Motion RA: -0.0010287180654063367 sec of time/yr Proper Motion Dec: 0.00354 arcsec/yr Epoch of Position: 2015.5	

Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.
Category=ISM
Description=[Dense interstellar clouds]

Observation

Proposal 2731, Observation 1: NGC 3324 NIRCam imaging Fri May 13 18:01:18 GMT 2022

Diagnostic Status: Warning

Observing Template: NIRCam Imaging

Diagnostics

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

(Visit 1:2) Warning (Form): Overheads are provisional until the Visit Planner has been run.

(Visit 1:3) Warning (Form): Overheads are provisional until the Visit Planner has been run.

(Visit 1:4) Warning (Form): Overheads are provisional until the Visit Planner has been run.

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Miscellaneous
(17)	NGC-3324	RA: 10 36 51.0990 (159.2129125d) Dec: -58 37 12.19 (-58.62005d) Equinox: J2000	Proper Motion RA: -0.0010287180654063367 sec of time/yr Proper Motion Dec: 0.00354 arcsec/yr Epoch of Position: 2015.5	

Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.
Category=ISM
Description=[Dense interstellar clouds]

Template

Module	Subarray
ALL	FULL

Mosaic

Rows	Columns	Row Overlap %	Column Overlap %	Row shift	Column shift	Tile Order
2	2	10.0	71.5	0.0	0.0	DEFAULT

Dithers

#	Primary Dither Type	Primary Dithers	Subpixel Dither Type	Dither Size	Subpixel Positions
1	FULLBOX	5TIGHT	STANDARD		1

Spectral Elements

#	Short Filter	Long Filter	Readout Pattern	Groups/Int	Integrations/Exp	Total Integrations	Total Dithers	Total Exposure Time	ETC Wkbk.Calc ID
1	F187N	F470N+F444W	SHALLOW2	6	1	5	5	1449.464	
2	F090W	F335M	BRIGHT1	8	1	5	5	805.258	
3	F200W	F444W	BRIGHT1	8	1	5	5	805.258	

Special Requirements	
	Group Visits within 53.0 Days Aperture PA Range 101.88744876 to 102.88744876 Degrees (V3 102.0 to 103.0) Visits Same PA

Observation

Proposal 2731, Observation 2: NGC 3324 MIRI imaging Fri May 13 18:01:18 GMT 2022

Diagnostic Status: Warning

Observing Template: MIRI Imaging

Diagnostics

(Visit 2:1) Warning (Form): Overheads are provisional until the Visit Planner has been run.
(Visit 2:2) Warning (Form): Overheads are provisional until the Visit Planner has been run.
(Visit 2:3) Warning (Form): Overheads are provisional until the Visit Planner has been run.
(Visit 2:4) Warning (Form): Overheads are provisional until the Visit Planner has been run.
(Visit 2:5) Warning (Form): Overheads are provisional until the Visit Planner has been run.

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Miscellaneous
(17)	NGC-3324	RA: 10 36 51.0990 (159.2129125d) Dec: -58 37 12.19 (-58.62005d) Equinox: J2000	Proper Motion RA: -0.0010287180654063367 sec of time/yr Proper Motion Dec: 0.00354 arcsec/yr Epoch of Position: 2015.5	

Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.
Category=ISM
Description=[Dense interstellar clouds]

Template

Subarray
FULL

Mosaic

Rows	Columns	Row Overlap %	Column Overlap %	Row shift	Column shift	Tile Order
1	5	15.0	15.0	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	8		1	1			LARGE

Spectral Elements

#	Filter	Readout Pattern	Groups/Int	Integrations/Exp	Exposures/Dith	Dither	Total Dithers	Total Integrations	Total Exposure Time	ETC Wkbk.Calc ID
1	F1130W	FASTR1	30	2	1	Dither 1	8	16	1354.22	
2	F770W	FASTR1	30	2	1	Dither 1	8	16	1354.22	
3	F1280W	FASTR1	15	4	1	Dither 1	8	32	1398.62	
4	F1800W	FASTR1	10	5	1	Dither 1	8	40	1198.817	

Special Requirements	
	Group Visits within 53.0 Days Aperture PA Range 116.83425324 to 117.83425324 Degrees (V3 112.0 to 113.0) Visits Same PA Offset -32.72131546332989 arcsec, -12.138878489660595 arcsec