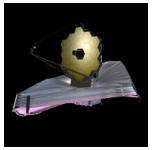

2732 - JWST Early Release Observation 6

Cycle: 0, Proposal Category: COM/ERO

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OBSERVATIONS

Folder	*Observation*	*Label*	*Observing Template*	*Science Target*
Imaging				
	1	NGC 7320 NIRCam imaging	NIRCam Imaging	(1) NGC-7320
	2	NGC 7320 MIRI imaging	MIRI Imaging	(1) NGC-7320
	6	NGC 7320 MIRI imaging	MIRI Imaging	(1) NGC-7320
Spectroscopy				
	3	NGC 7319 AGN NIRSpec IFU	NIRSpec IFU Spectroscopy	(2) NGC-7319
	4	NGC 7319 AGN MRS spectroscopy	MIRI Medium Resolution Spectroscopy	(4) NGC-7319-MRS
	5	NGC 7319 AGN MRS BG	MIRI Medium Resolution Spectroscopy	(3) NGC-7319-BG

ABSTRACT

ERO observations of the Stephan's Quintet compact Hickson Group. This proposal contains a large NIRCam imaging field, a smaller MIRI imaging field, and NIRSpec IFU+MIRI MRS spectroscopy the NGC7319 Seyfert II core.

OBSERVING DESCRIPTION

ERO of the Stephan's Quintet compact group. The group consists of at least 5-6 individual large galaxies at z=0.02597, some of which are actively interacting. One, NGC7319, harbors a bright Seyfert 2 core.

NIRCam Imaging

- NIRCam imaging of (almost) the entire compact group. Since the redshift of the merger is large enough that narrow-band filters are not usable, wide filters are used spanning a wide range in wavelength: F090W, F150W, F200W, F277W, F356W, F444W. While the final image product will aim to be as square as possible, the intramodule (not intramodulebox) dither is used to get as uniform depth coverage as possible in the center of the FOV in the SW channel. We drive the exposure parameters by a need to maximize dynamic range (high sensitivity, but without saturating too many brighter sources). Specifically, the brightest area is the NGC7319 AGN core. The imaging has a depth that will yield SNR>100 of the K-20 knots.

MIRI Imaging

- MIRI imaging of NGC7318 and NGC7319 For MIRI we use 3 filters, F770W, F1000W, and F1500W, to trace PAHs, and the most embedded star-forming clusters. MIRI imaging cannot cover the entire group in a reasonable time, so we cover 3 of galaxy cores in a strip orthogonal to the NIRCam coverage. This pointing includes the NGC7319 core for context with the IFUs. We use 8 dither points using the large cycling pattern to maximize the spatial coverage of a single tile (at the expense of some variable depth coverage on the edges). The core of the body does not saturate at FASTR1 and ngroup=30. We checked that we do not saturate on the background in the F1800W filter.

- MIRI MRS of the NGC7319 core, thought to be a Seyfert 2. The MIRI MRS observation is accompanied by a single background observation to help remove the telescope background. The background is centered on a relatively blank piece of sky. Because of the background observation, the MIRI MRS observation have a non-interruptible SR. The AGN is very red, and expected to quickly yield SNR > 200 across the MRS range. The AGN is also suspected of being extended in Spitzer IRAC/MIPS, so should be quite extended for MRS.

- NIRSpec IFU of the core of NGC7319, same as MRS. We use the PRISM for maximal sensitivity and spectral range, especially at the shorter end (given how red it is). The IFU exposure parameters avoid saturation.

Update 11/13/2021
- Updated FOV to include two NIRCam tiles
- Each tile is dithered using a 2-tile Koekemoer pattern (so the whole thing looks like a 2x2)
- Updated readout patterns

Update 4/25/2022
- Added NIRCam tile for better coverage, avoiding having any cluster members too close to the edge of the field, offering a good frame.

Update 5/13/2022
- Changed MIRI filters to optimize resolution over the long F1800W filter.

Aupdate 6/28/2022
- Add two MIRI imaging tiles in Observation 6

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Miscellaneous
(1)	NGC-7320	RA: 22 35 59.5952 (338.9983133d) Dec: +33 57 28.73 (33.95798d) Equinox: J2000	Proper Motion RA: -1.0214465640154917E-4 sec of time/yr Proper Motion Dec: -1.6999997569655534E-4 arcsec/yr Epoch of Position: 2015.5	
Comments: This object was generated by the targetselector and retrieved from the SIMBAD database. Category=Clusters of Galaxies Description=[Interacting galaxies]				
(2)	NGC-7319	RA: 22 36 3.6020 (339.0150083d) Dec: +33 58 33.18 (33.97588d) Equinox: J2000	Epoch of Position: 2015.5	
Comments: This object was generated by the targetselector and retrieved from the SIMBAD database. Category=Galaxy Description=[Active galactic nuclei]				
(3)	NGC-7319-BG	RA: 22 36 7.7156 (339.0321483d) Dec: +33 59 40.37 (33.99455d) Equinox: J2000	Epoch of Position: 2015.5	
Comments: This object was generated by the targetselector and retrieved from the SIMBAD database. Category=Galaxy Description=[Active galactic nuclei]				
(4)	NGC-7319-MRS	RA: 22 36 3.6020 (339.0150083d) Dec: +33 58 33.18 (33.97588d) Equinox: J2000	Epoch of Position: 2015.5	
Comments: This object was generated by the targetselector and retrieved from the SIMBAD database. Category=Galaxy Description=[Active galactic nuclei]				

Observation

Proposal 2732, Observation 1: NGC 7320 NIRCam imaging

Tue Jun 28 21:01:16 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.
(Visit 1:5) Warning (Form): Overheads are provisional until the Visit Planner has been run.
(Visit 1:6) Warning (Form): Overheads are provisional until the Visit Planner has been run.

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Miscellaneous
(1)	NGC-7320	RA: 22 35 59.5952 (338.9983133d) Dec: +33 57 28.73 (33.95798d) Equinox: J2000	Proper Motion RA: -1.0214465640154917E-4 sec of time/yr Proper Motion Dec: -1.6999997569655534E-4 arcsec/yr Epoch of Position: 2015.5	

Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.
Category=Clusters of Galaxies
Description=[Interacting galaxies]

Template

Module	Subarray
ALL	FULL

Mosaic

Rows	Columns	Row Overlap %	Column Overlap %	Row shift	Column shift	Tile Order
3	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	F090W	F277W	SHALLOW2	5	1	5	5	1181.045	
2	F150W	F356W	SHALLOW2	5	1	5	5	1181.045	
3	F200W	F444W	SHALLOW2	5	1	5	5	1181.045	

Special Requirements	
	Group Visits within 53.0 Days Aperture PA Range 240.88744876 to 241.88744876 Degrees (V3 240.98475149 to 241.98475149) Visits Same PA

Observation

Proposal 2732, Observation 2: NGC 7320 MIRI imaging Tue Jun 28 21:01:16 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.

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Miscellaneous
(1)	NGC-7320	RA: 22 35 59.5952 (338.9983133d) Dec: +33 57 28.73 (33.95798d) Equinox: J2000	Proper Motion RA: -1.0214465640154917E-4 sec of time/yr Proper Motion Dec: -1.6999997569655534E-4 arcsec/yr Epoch of Position: 2015.5	

Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.
Category=Clusters of Galaxies
Description=[Interacting galaxies]

Template

Subarray
FULL

Mosaic

Rows	Columns	Row Overlap %	Column Overlap %	Row shift	Column shift	Tile Order
2	1	20.0	10.0	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	F770W	FASTR1	60	1	1	Dither 1	8	8	1332.019	
2	F1000W	FASTR1	60	1	1	Dither 1	8	8	1332.019	
3	F1500W	FASTR1	30	2	1	Dither 1	8	16	1354.22	

Special Requirements	
	Group Visits within 53.0 Days Aperture PA Range 245.83425324 to 246.83425324 Degrees (V3 240.99880427 to 241.99880427) Visits Same PA Offset 39.70146601262668 arcsec, 17.946326449012517 arcsec

Observation

Proposal 2732, Observation 6: NGC 7320 MIRI imaging

Tue Jun 28 21:01:16 GMT 2022

Diagnostic Status: Warning

Observing Template: MIRI Imaging

Diagnostics

(Visit 6:1) Warning (Form): Overheads are provisional until the Visit Planner has been run.

(Visit 6:2) Warning (Form): Overheads are provisional until the Visit Planner has been run.

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Miscellaneous
(1)	NGC-7320	RA: 22 35 59.5952 (338.9983133d) Dec: +33 57 28.73 (33.95798d) Equinox: J2000	Proper Motion RA: -1.0214465640154917E-4 sec of time/yr Proper Motion Dec: -1.6999997569655534E-4 arcsec/yr Epoch of Position: 2015.5	

Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.
Category=Clusters of Galaxies
Description=[Interacting galaxies]

Template

Subarray
FULL

Mosaic

Rows	Columns	Row Overlap %	Column Overlap %	Row shift	Column shift	Tile Order
1	2	20.0	20.0	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	F770W	FASTR1	60	1	1	Dither 1	8	8	1332.019	
2	F1000W	FASTR1	60	1	1	Dither 1	8	8	1332.019	
3	F1500W	FASTR1	30	2	1	Dither 1	8	16	1354.22	

Special Requirements	
	Group Visits within 53.0 Days Aperture PA Range 232.83544897 to 234.83544897 Degrees (V3 228.0 to 230.0) Visits Same PA Offset -57.63375889846857 arcsec, 18.15122781155903 arcsec

Observation

Proposal 2732, Observation 3: NGC 7319 AGN NIRSpec IFU Tue Jun 28 21:01:16 GMT 2022

Diagnostic Status: Warning

Observing Template: NIRSpec IFU Spectroscopy

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
(2)	NGC-7319	RA: 22 36 3.6020 (339.0150083d) Dec: +33 58 33.18 (33.97588d) Equinox: J2000	Epoch of Position: 2015.5	

Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.
Category=Galaxy
Description=[Active galactic nuclei]

Template

TA Method
NONE

Dithers

#	Dither Type	Size	Starting Point	Number of Points	Points
1	CYCLING	LARGE	1	8	

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	PRISM/CLEAR	NRSIRS2RAPID	10	1	false	true	NONE	8	8	1283.822	

Observation

Proposal 2732, Observation 4: NGC 7319 AGN MRS spectroscopy Tue Jun 28 21:01:16 GMT 2022

Diagnostic Status: Warning

Observing Template: MIRI Medium Resolution Spectroscopy

Background Observations:[NGC 7319 AGN MRS BG (Obs 5)]

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)	NGC-7319-MRS	RA: 22 36 3.6020 (339.0150083d) Dec: +33 58 33.18 (33.97588d) Equinox: J2000	Epoch of Position: 2015.5	

Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.
Category=Galaxy
Description=[Active galactic nuclei]

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	F770W	FASTR1	10	5	1	Dither 1	4	20	599.409	
1	SHORT(A)	MRSLONG		FASTR1	40	2	1	Dither 1	4	8	899.113	
1	SHORT(A)	MRSSHORT		FASTR1	40	2	1	Dither 1	4	8	899.113	
2		IMAGER	F1000W	FASTR1	10	5	1	Dither 1	4	20	599.409	
2	MEDIUM(B)	MRSLONG		FASTR1	40	2	1	Dither 1	4	8	899.113	
2	MEDIUM(B)	MRSSHORT		FASTR1	40	2	1	Dither 1	4	8	899.113	
3		IMAGER	F1130W	FASTR1	10	5	1	Dither 1	4	20	599.409	
3	LONG(C)	MRSLONG		FASTR1	40	2	1	Dither 1	4	8	899.113	
3	LONG(C)	MRSSHORT		FASTR1	40	2	1	Dither 1	4	8	899.113	

Special Requirements	Sequence Observations 4, 5, Non-interruptible

Observation

Proposal 2732, Observation 5: NGC 7319 AGN MRS BG Tue Jun 28 21:01:16 GMT 2022

Diagnostic Status: Warning

Observing Template: MIRI Medium Resolution Spectroscopy

Background Observation For: [NGC 7319 AGN MRS spectroscopy (Obs 4)]

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
(3)	NGC-7319-BG	RA: 22 36 7.7156 (339.0321483d) Dec: +33 59 40.37 (33.99455d) Equinox: J2000	Epoch of Position: 2015.5	

Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.
Category=Galaxy
Description=[Active galactic nuclei]

Acquisition

#	Target
1	NONE

Template

AcqFilter	Primary Channel	Simultaneous Imaging	Imager Subarray
	ALL	YES	FULL

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		IMAGER	F770W	FASTR1	10	5	1	Dither 1	2	10	299.704	
1	SHORT(A)	MRSLONG		FASTR1	40	2	1	Dither 1	2	4	449.556	
1	SHORT(A)	MRSSHORT		FASTR1	40	2	1	Dither 1	2	4	449.556	
2		IMAGER	F1000W	FASTR1	10	5	1	Dither 1	2	10	299.704	
2	MEDIUM(B)	MRSLONG		FASTR1	40	2	1	Dither 1	2	4	449.556	
2	MEDIUM(B)	MRSSHORT		FASTR1	40	2	1	Dither 1	2	4	449.556	
3		IMAGER	F1130W	FASTR1	10	5	1	Dither 1	2	10	299.704	
3	LONG(C)	MRSLONG		FASTR1	40	2	1	Dither 1	2	4	449.556	
3	LONG(C)	MRSSHORT		FASTR1	40	2	1	Dither 1	2	4	449.556	

Special Requirements	Sequence Observations 4, 5, Non-interruptible