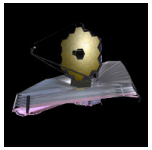

1840 - ALMA [OIII]88um Emitters. Signpost of Early Stellar Buildup and Reionization in the Universe

Cycle: 1, Proposal Category: GO

INVESTIGATORS

Name	*Institution*	*E-Mail*
Dr. Javier Alvarez-Marquez (PI) (ESA Member)	**Centro de Astrobiologia (CSIC/INTA) Inst. Nac. de Tec. Aero.**	**javier.alvarez@cab.inta-csic.es**
Dr. Takuya Hashimoto (CoI) (CoPI) (Contact)	University of Tsukuba	hashimoto.takuya.ga@u.tsukuba.ac.jp
Luis Colina Robledo (CoI) (ESA Member)	Centro de Astrobiologia (CSIC/INTA) Inst. Nac. de Tec. Aero.	colina@cab.inta-csic.es
Prof. Akio Inoue (CoI)	Waseda University	akinoue@aoni.waseda.jp
Rui Marques-Chaves (CoI) (ESA Member)	University of Geneva, Department of Astronomy	rui.marquescoelhochaves@unige.ch
Prof. Daniel Ceverino (CoI) (ESA Member)	Universidad Autonoma de Madrid (UAM)	daniel.ceverino@uam.es
Dr. Miguel Pereira Santaella (CoI) (ESA Member)	Instituto de Fisica Fundmental (CSIC),	miguel.pereira@cab.inta-csic.es
Dr. Santiago Arribas (CoI) (ESA Member)	Consejo Superior de Investigaciones Cientificas	arribas@cab.inta-csic.es
Dr. Yoichi Tamura (CoI)	Nagoya University	ytamura@a.phys.nagoya-u.ac.jp
Dr. Naoki Yoshida (CoI)	Institute for Physics and Mathematics of the Universe	naoki.yoshida@ipmu.jp
Dr. Tom Bakx (CoI)	Nagoya University	tjlcbakx@gmail.com
Dr. Ken Mawatari (CoI)	National Astronomical Observatory of Japan (NAOJ)	ken.mawatari@nao.ac.jp
Dr. Hiroshi Matsuo (CoI)	National Astronomical Observatory of Japan (NAOJ)	h.matsuo@nao.ac.jp

OBSERVATIONS

Folder	*Observation*	*Label*	*Observing Template*	*Science Target*
J1211-0118				
	2	NIRCam	NIRCam Imaging	(1) J1211-0118
J0235-0532				

Folder	*Observation*	*Label*	*Observing Template*	*Science Target*
	3	NIRSPec IFU	NIRSpec IFU Spectroscopy	(2) J0235-0532
	4	NIRCam	NIRCam Imaging	(2) J0235-0532
J0217-0208				
	5	NIRSPec IFU	NIRSpec IFU Spectroscopy	(4) J0217-0208
	6	NIRCam	NIRCam Imaging	(4) J0217-0208
J0217-0208-repeat				
	43	NIRCam	NIRCam Imaging	(4) J0217-0208
SDF-LBG-ID34				
	7	NIRSPec IFU	NIRSpec IFU Spectroscopy	(5) SDF-LBG-ID34
	8	NIRCam	NIRCam Imaging	(5) SDF-LBG-ID34
RXC-J2248-ID3				
	9	NIRSPec IFU	NIRSpec IFU Spectroscopy	(3) RXC-J2248-ID3
	10	NIRCam	NIRCam Imaging	(3) RXC-J2248-ID3
COS-2987030247				
	11	NIRSPec IFU	NIRSpec IFU Spectroscopy	(6) COS-2987030247
	12	NIRCam	NIRCam Imaging	(6) COS-2987030247
COS-3018555981				
	13	NIRCam	NIRCam Imaging	(7) COS-3018555981
SXDF				
	14	NIRSPec	NIRSpec IFU Spectroscopy	(11) SXDF-NB1006-2
	15	NIRCam	NIRCam Imaging	(11) SXDF-NB1006-2
B14-65666				
	16	NIRCam	NIRCam Imaging	(10) B14-65666
BDF-3299				
	31	NIRSPec	NIRSpec IFU Spectroscopy	(8) BDF-3299
	40	NIRCam	NIRCam Imaging	(8) BDF-3299
A2744-YD4				
	17	NIRSPec	NIRSpec IFU Spectroscopy	(12) A2744-YD4
A1689-zD1				
	18	NIRSPec	NIRSpec IFU Spectroscopy	(9) A1689-ZD1
	19	NIRCam	NIRCam Imaging	(9) A1689-ZD1
BDF-3299-repeat				

Folder	*Observation*	*Label*	*Observing Template*	*Science Target*
	41	NIRCam	NIRCam Imaging	(8) BDF-3299

ABSTRACT

Despite large efforts, the nature of the sources that reionize the universe is still unknown. Imaging surveys have concluded that galaxies are detected as increasingly strong [OIII]-line emitters at high redshifts. Recent studies argue that extreme [OIII] emitters (EW[OIII]5007Å>1000Å) at redshifts above 6 should be common, and be responsible for the reionization of the universe. However, their physical properties, especially Lyman continuum emissivity, are not firmly established yet. We here propose a set of NIRCam imaging and NIRSpec integral-field spectroscopy for a complete sample of LAEs/LBGs at redshifts above 6 identified as [OIII]88um emitters with ALMA. These data will establish i) the age and mass of the stellar population, ii) the structure of the stellar population and ionized gas nebula, iii) the physical conditions, kinematics and ionization status of the ISM, and iv) the LyC escape fraction. The combinations of JWST's deep and high-angular resolution multi-wavelength imaging and spectroscopy, in conjunction with ancillary ALMA data, will provide key information on the early stellar mass and galaxy assembly in the EoR, and the relevance of [OIII]88um emitters in the reionization of the universe.

OBSERVING DESCRIPTION

The goal of this proposal is to observe with NIRCam imaging and NIRSpec integral-field spectroscopy (IFS) a complete sample of [OIII]88um emitters detected with ALMA at redshift above 6. The number of sources are twelve, and the sample has been selected from all ALMA literatures and in conjunction with unpublished objects from the ALMA archive.

The observational program is divided in two main observations:

1) NIRCam imaging uses a set of six filters to observe the rest-frame UV-to-optical emission of each [OIII]88um emitter. Three NIRCam imaging observations are proposed per source. The short wavelength channel uses filters F115W, F150W, and F200W for all sources covering the rest-frame UV emission. The selection of filters in the long wavelength (LW) channel depends on the redshift of each source. Sources with redshifts, 6.03<z<6.31, use filters F250M, F300M, and F444W. Sources with redshifts z~6.8 use filters F250M, F335M, and F444W. Sources with redshift z~7.15 use F277W, F356W, and F444W. LW channel filters have been specially selected to sample the Balmer break and the optical continuum plus bright line (Hb+[OIII] and/or Ha) emission. NIRCam observations use SUBARRAY SUB400P of module B, and standard subpixel dither pather with 4 positions. The readout modes SHALLOW4, MEDIUM8, and DEEP8 are selected depending on the final exposure time of each observation. Source A2744-YD4 is not included in the NIRCam observations because it is covered by GTO programs.

2) NIRSpec IFS uses filter F290LP and gratings G395H or G395M to cover the main optical emission lines such as [OII]3727, Hb, [OIII]4959/5007, Ha, [NII]6548/6584, and [SII]6717/6731 that are redshifted into the wavelength range, 2.87-5.27um. In sources with redshifts ~7.15, the grating configuration G395M is requested instead of G395H beacuse the Hbeta+[OIII]4959,5007 lines fall in the gap between the detectors for G395H. A medium size cycling dither pattern with four positions is used in each observation, together with a NRSIRS2RAPID readout mode. The Leakcal is not requested in this observations (see special requirements), but a position angles have been defined in some sources to minimize the number of bright sources on the NIRSpec SMA. COS-3018555981 and B14-65666 sources are not included in the NIRSpec observations because they are covered by GTO programs.

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Miscellaneous
(1)	J1211-0118	RA: 12 11 37.1120 (182.9046333d) Dec: -01 18 16.50 (-1.30458d) Equinox: J2000		
Comments: *Category=Galaxy* *Description=[Lyman-alpha galaxies, Lyman-break galaxies]*				
(2)	J0235-0532	RA: 02 35 42.4120 (38.9267167d) Dec: -05 32 41.62 (-5.54489d) Equinox: J2000		
Comments: *Category=Galaxy* *Description=[High-redshift galaxies, Lyman-alpha galaxies]* *Extended=NO*				
(3)	RXC-J2248-ID3	RA: 22 48 45.8000 (342.1908333d) Dec: -44 32 14.92 (-44.53748d) Equinox: J2000		
Comments: *Category=Galaxy* *Description=[High-redshift galaxies, Lyman-alpha galaxies]* *Extended=NO*				
(4)	J0217-0208	RA: 02 17 21.6030 (34.3400125d) Dec: -02 08 52.78 (-2.14799d) Equinox: J2000		
Comments: *Category=Galaxy* *Description=[High-redshift galaxies, Lyman-alpha galaxies]* *Extended=NO*				
(5)	SDF-LBG-ID34	RA: 13 23 45.7570 (200.9406542d) Dec: +27 32 51.30 (27.54758d) Equinox: J2000		
Comments: *Category=Galaxy* *Description=[High-redshift galaxies, Lyman-alpha galaxies]* *Extended=NO*				
(6)	COS-2987030247	RA: 10 00 29.8700 (150.1244583d) Dec: +02 13 2.47 (2.21735d) Equinox: J2000		
Comments: *Category=Galaxy* *Description=[High-redshift galaxies, Lyman-alpha galaxies]* *Extended=NO*				
(7)	COS-3018555981	RA: 10 00 30.1850 (150.1257708d) Dec: +02 15 59.81 (2.26661d) Equinox: J2000		
Comments: *Category=Galaxy* *Description=[High-redshift galaxies, Lyman-alpha galaxies]* *Extended=NO*				

(8)	BDF-3299	RA: 22 28 12.3250 (337.0513542d) Dec: -35 10 0.64 (-35.16684d) Equinox: J2000
Comments: *Category=Galaxy* *Description=[High-redshift galaxies, Lyman-alpha galaxies]* *Extended=NO*		
(9)	A1689-ZD1	RA: 13 11 29.9600 (197.8748333d) Dec: -01 19 18.70 (-1.32186d) Equinox: J2000
Comments: *Category=Galaxy* *Description=[High-redshift galaxies]*		
(10)	B14-65666	RA: 10 01 40.6900 (150.4195417d) Dec: +01 54 52.42 (1.91456d) Equinox: J2000
Comments: *Category=Galaxy* *Description=[Lyman-alpha galaxies, Lyman-break galaxies]*		
(11)	SXDF-NB1006-2	RA: 02 18 56.5360 (34.7355667d) Dec: -05 19 58.87 (-5.33302d) Equinox: J2000
Comments: *Category=Galaxy* *Description=[High-redshift galaxies, Lyman-alpha galaxies]* *Extended=NO*		
(12)	A2744-YD4	RA: 00 14 24.9274 (3.6038642d) Dec: -30 22 56.15 (-30.38226d) Equinox: J2000
Comments: *Category=Galaxy* *Description=[High-redshift galaxies, Lyman-alpha galaxies]* *Extended=NO*		

Observation

Proposal 1840, Observation 2: NIRCam

Thu Feb 02 19:00:32 GMT 2023

Diagnostic Status: Warning

Observing Template: NIRCam Imaging

Diagnostics

(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)	J1211-0118	RA: 12 11 37.1120 (182.9046333d) Dec: -01 18 16.50 (-1.30458d) Equinox: J2000		

Comments:
Category=Galaxy
Description=[Lyman-alpha galaxies, Lyman-break galaxies]

Template

Module	Subarray
B	FULL

Dithers

#	Primary Dither Type	Primary Dithers	Subpixel Dither Type	Dither Size	Subpixel Positions
1	INTRAMODULEBOX	4	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	F115W	F250M	BRIGHT1	8	1	4	4	644.206	
2	F150W	F444W	RAPID	8	1	4	4	343.577	
3	F200W	F300M	BRIGHT1	7	1	4	4	558.312	

Special Requirements

Offset 35.0 arcsec, -25.0 arcsec
Background Limited. Background no more than 40th percentile above minimum

Observation

Proposal 1840, Observation 3: NIRSPec IFU

Thu Feb 02 19:00:32 GMT 2023

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)	J0235-0532	RA: 02 35 42.4120 (38.9267167d) Dec: -05 32 41.62 (-5.54489d) Equinox: J2000		

Comments:
Category=Galaxy
Description=[High-redshift galaxies, Lyman-alpha galaxies]
Extended=NO

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	G395H/F290LP	NRSIRS2RAPID	24	1	false	true	NONE	4	4	1458.889	

Observation

Proposal 1840, Observation 4: NIRCam

Thu Feb 02 19:00:32 GMT 2023

Diagnostic Status: Warning

Observing Template: NIRCam Imaging

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
(2)	J0235-0532	RA: 02 35 42.4120 (38.9267167d) Dec: -05 32 41.62 (-5.54489d) Equinox: J2000		

Comments:
Category=Galaxy
Description=[High-redshift galaxies, Lyman-alpha galaxies]
Extended=NO

Template

Module	Subarray
B	FULL

Dithers

#	Primary Dither Type	Primary Dithers	Subpixel Dither Type	Dither Size	Subpixel Positions
1	INTRAMODULEBOX	4	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	F115W	F250M	BRIGHT1	8	1	4	4	644.206	
2	F150W	F444W	RAPID	8	1	4	4	343.577	
3	F200W	F300M	BRIGHT1	7	1	4	4	558.312	

Special Requirements

Offset -25.0 arcsec, 35.0 arcsec
Background Limited. Background no more than 40th percentile above minimum

Observation

Proposal 1840, Observation 5: NIRSPec IFU

Thu Feb 02 19:00:32 GMT 2023

Diagnostic Status: Warning

Observing Template: NIRSpec IFU Spectroscopy

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
(4)	J0217-0208	RA: 02 17 21.6030 (34.3400125d) Dec: -02 08 52.78 (-2.14799d) Equinox: J2000		

Comments:
Category=Galaxy
Description=[High-redshift galaxies, Lyman-alpha galaxies]
Extended=NO

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	G395H/F290LP	NRSIRS2RAPID	14	1	false	true	NONE	4	4	875.333	

Observation

Proposal 1840, Observation 6: NIRCam Thu Feb 02 19:00:32 GMT 2023

Diagnostic Status: Warning

Observing Template: NIRCam Imaging

Comments: We have requested a V3 angle (from 0 to 180 degrees) to exclude a brigth star from the NIRCam FoV.

Diagnostics

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

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Miscellaneous
(4)	J0217-0208	RA: 02 17 21.6030 (34.3400125d) Dec: -02 08 52.78 (-2.14799d) Equinox: J2000		

Comments:
Category=Galaxy
Description=[High-redshift galaxies, Lyman-alpha galaxies]
Extended=NO

Template

Module	Subarray
B	FULL

Dithers

#	Primary Dither Type	Primary Dithers	Subpixel Dither Type	Dither Size	Subpixel Positions
1	INTRAMODULEBOX	4	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	F115W	F250M	RAPID	8	1	4	4	343.577	
2	F150W	F300M	RAPID	8	1	4	4	343.577	
3	F200W	F444W	RAPID	8	1	4	4	343.577	

Special Requirements

Aperture PA Range 0.02984889 to 180.02984889 Degrees (V3 359.9740136 to 179.9740136)
Offset 35.0 arcsec, -25.0 arcsec
Background Limited. Background no more than 40th percentile above minimum

Observation

Proposal 1840, Observation 43: NIRCam

Thu Feb 02 19:00:32 GMT 2023

Diagnostic Status: Warning

Observing Template: NIRCam Imaging

Diagnostics

(Visit 43:1) Warning (Form): Overheads are provisional until the Visit Planner has been run.

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Miscellaneous
(4)	J0217-0208	RA: 02 17 21.6030 (34.3400125d) Dec: -02 08 52.78 (-2.14799d) Equinox: J2000		

Comments:
Category=Galaxy
Description=[High-redshift galaxies, Lyman-alpha galaxies]
Extended=NO

Template

Module	Subarray
B	FULL

Dithers

#	Primary Dither Type	Primary Dithers	Subpixel Dither Type	Dither Size	Subpixel Positions
1	INTRAMODULEBOX	4	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	F115W	F250M	RAPID	8	1	4	4	343.577	
2	F150W	F300M	RAPID	8	1	4	4	343.577	
3	F200W	F444W	RAPID	8	1	4	4	343.577	

Special Requirements

Offset 35.0 arcsec, -25.0 arcsec
Background Limited. Background no more than 40th percentile above minimum

Observation

Proposal 1840, Observation 7: NIRSPec IFU Thu Feb 02 19:00:32 GMT 2023

Diagnostic Status: Warning

Observing Template: NIRSpec IFU Spectroscopy

Diagnostics

(Visit 7:1) Warning (Form): Overheads are provisional until the Visit Planner has been run.

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Miscellaneous
(5)	SDF-LBG-ID34	RA: 13 23 45.7570 (200.9406542d) Dec: +27 32 51.30 (27.54758d) Equinox: J2000		

Comments:
Category=Galaxy
Description=[High-redshift galaxies, Lyman-alpha galaxies]
Extended=NO

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	G395H/F290LP	NRSIRS2RAPID	50	1	false	true	NONE	4	4	2976.134	

Observation

Proposal 1840, Observation 8: NIRCam

Thu Feb 02 19:00:32 GMT 2023

Diagnostic Status: Warning

Observing Template: NIRCam Imaging

Diagnostics

(Visit 8:1) Warning (Form): Overheads are provisional until the Visit Planner has been run.

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Miscellaneous
(5)	SDF-LBG-ID34	RA: 13 23 45.7570 (200.9406542d) Dec: +27 32 51.30 (27.54758d) Equinox: J2000		

Comments:
Category=Galaxy
Description=[High-redshift galaxies, Lyman-alpha galaxies]
Extended=NO

Template

Module	Subarray
B	FULL

Dithers

#	Primary Dither Type	Primary Dithers	Subpixel Dither Type	Dither Size	Subpixel Positions
1	INTRAMODULEBOX	4	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	F115W	F250M	BRIGHT1	10	1	4	4	815.995	
2	F150W	F444W	BRIGHT1	8	1	4	4	644.206	
3	F200W	F300M	BRIGHT1	10	1	4	4	815.995	

Special Requirements

Offset -25.0 arcsec, 35.0 arcsec
Background Limited. Background no more than 40th percentile above minimum

Observation

Proposal 1840, Observation 9: NIRSPec IFU Thu Feb 02 19:00:32 GMT 2023

Diagnostic Status: Warning

Observing Template: NIRSpec IFU Spectroscopy

Comments: We have requested a V3 angle (from 15 to 295 degrees) to exclude a bright star from the SMA area during the IFU observations.

Diagnostics

(Visit 9:1) Warning (Form): Overheads are provisional until the Visit Planner has been run.

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Miscellaneous
(3)	RXC-J2248-ID3	RA: 22 48 45.8000 (342.1908333d) Dec: -44 32 14.92 (-44.53748d) Equinox: J2000		

Comments:
Category=Galaxy
Description=[High-redshift galaxies, Lyman-alpha galaxies]
Extended=NO

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	G395H/F290LP	NRSIRS2RAPID	90	1	false	true	NONE	4	4	5310.356	

Special Requirements

Aperture PA Range 153.892975 to 73.892975 Degrees (V3 14.92044082 to 294.92044082)

Observation

Proposal 1840, Observation 10: NIRCam Thu Feb 02 19:00:32 GMT 2023

Diagnostic Status: Warning

Observing Template: NIRCam Imaging

Comments: The PA and offset have been selected to obser the galaxy cluster to increase the value of the ancillary science and archival data

Diagnostics

(Visit 10:1) Warning (Form): Overheads are provisional until the Visit Planner has been run.

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Miscellaneous
(3)	RXC-J2248-ID3	RA: 22 48 45.8000 (342.1908333d) Dec: -44 32 14.92 (-44.53748d) Equinox: J2000		

Comments:
Category=Galaxy
Description=[High-redshift galaxies, Lyman-alpha galaxies]
Extended=NO

Template

Module	Subarray
B	FULL

Dithers

#	Primary Dither Type	Primary Dithers	Subpixel Dither Type	Dither Size	Subpixel Positions
1	INTRAMODULEBOX	4	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	F115W	F250M	SHALLOW4	6	1	4	4	1245.465	
2	F150W	F300M	SHALLOW4	5	1	4	4	1030.73	
3	F200W	F444W	SHALLOW4	6	1	4	4	1245.465	

Special Requirements

Aperture PA Range 0 to 100 Degrees (V3 359.94416471 to 99.94416471)
Offset -20.0 arcsec, -10.0 arcsec
Background Limited. Background no more than 40th percentile above minimum

Observation

Proposal 1840, Observation 11: NIRSPec IFU

Thu Feb 02 19:00:32 GMT 2023

Diagnostic Status: Warning

Observing Template: NIRSpec IFU Spectroscopy

Diagnostics

(Visit 11:1) Warning (Form): Overheads are provisional until the Visit Planner has been run.

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Miscellaneous
(6)	COS-2987030247	RA: 10 00 29.8700 (150.1244583d) Dec: +02 13 2.47 (2.21735d) Equinox: J2000		

Comments:
Category=Galaxy
Description=[High-redshift galaxies, Lyman-alpha galaxies]
Extended=NO

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	G395H/F290LP	NRSIRS2RAPID	45	1	false	true	NONE	4	4	2684.356	

Observation

Proposal 1840, Observation 12: NIRCam

Thu Feb 02 19:00:32 GMT 2023

Diagnostic Status: Warning

Observing Template: NIRCam Imaging

Diagnostics

(Visit 12:1) Warning (Form): Overheads are provisional until the Visit Planner has been run.

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Miscellaneous
(6)	COS-2987030247	RA: 10 00 29.8700 (150.1244583d) Dec: +02 13 2.47 (2.21735d) Equinox: J2000		

Comments:
Category=Galaxy
Description=[High-redshift galaxies, Lyman-alpha galaxies]
Extended=NO

Template

Module	Subarray
B	FULL

Dithers

#	Primary Dither Type	Primary Dithers	Subpixel Dither Type	Dither Size	Subpixel Positions
1	INTRAMODULEBOX	4	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	F115W	F250M	BRIGHT1	10	1	4	4	815.995	
2	F150W	F444W	BRIGHT1	7	1	4	4	558.312	
3	F200W	F335M	BRIGHT1	9	1	4	4	730.1	

Special Requirements

Offset -25.0 arcsec, 35.0 arcsec
Background Limited. Background no more than 40th percentile above minimum

Observation

Proposal 1840, Observation 13: NIRCam

Thu Feb 02 19:00:32 GMT 2023

Diagnostic Status: Warning

Observing Template: NIRCam Imaging

Diagnostics

(Visit 13:1) Warning (Form): Overheads are provisional until the Visit Planner has been run.

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Miscellaneous
(7)	COS-3018555981	RA: 10 00 30.1850 (150.1257708d) Dec: +02 15 59.81 (2.26661d) Equinox: J2000		

Comments:
Category=Galaxy
Description=[High-redshift galaxies, Lyman-alpha galaxies]
Extended=NO

Template

Module	Subarray
B	FULL

Dithers

#	Primary Dither Type	Primary Dithers	Subpixel Dither Type	Dither Size	Subpixel Positions
1	INTRAMODULEBOX	4	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	F115W	F250M	SHALLOW4	5	1	4	4	1030.73	
2	F150W	F444W	BRIGHT1	7	1	4	4	558.312	
3	F200W	F335M	BRIGHT1	9	1	4	4	730.1	

Special Requirements

Offset 35.0 arcsec, -25.0 arcsec
Background Limited. Background no more than 40th percentile above minimum

Observation

Proposal 1840, Observation 14: NIRSPec

Thu Feb 02 19:00:32 GMT 2023

Diagnostic Status: Warning

Observing Template: NIRSpec IFU Spectroscopy

Diagnostics

(Visit 14:1) Warning (Form): Overheads are provisional until the Visit Planner has been run.

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Miscellaneous
(11)	SXDF-NB1006-2	RA: 02 18 56.5360 (34.7355667d) Dec: -05 19 58.87 (-5.33302d) Equinox: J2000		

Comments:
Category=Galaxy
Description=[High-redshift galaxies, Lyman-alpha galaxies]
Extended=NO

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	G395M/F290LP	NRSIRS2RAPID	21	1	false	true	NONE	4	4	1283.822	

Observation

Proposal 1840, Observation 15: NIRCam

Thu Feb 02 19:00:32 GMT 2023

Diagnostic Status: Warning

Observing Template: NIRCam Imaging

Diagnostics

(Visit 15:1) Warning (Form): Overheads are provisional until the Visit Planner has been run.

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Miscellaneous
(11)	SXDF-NB1006-2	RA: 02 18 56.5360 (34.7355667d) Dec: -05 19 58.87 (-5.33302d) Equinox: J2000		

Comments:
Category=Galaxy
Description=[High-redshift galaxies, Lyman-alpha galaxies]
Extended=NO

Template

Module	Subarray
B	FULL

Dithers

#	Primary Dither Type	Primary Dithers	Subpixel Dither Type	Dither Size	Subpixel Positions
1	INTRAMODULEBOX	4	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	F115W	F277W	BRIGHT1	10	1	4	4	815.995	
2	F150W	F444W	SHALLOW4	10	1	4	4	2104.407	
3	F200W	F356W	BRIGHT1	9	1	4	4	730.1	

Special Requirements

Offset 35.0 arcsec, -25.0 arcsec
Background Limited. Background no more than 40th percentile above minimum

Observation

Proposal 1840, Observation 16: NIRCam

Thu Feb 02 19:00:32 GMT 2023

Diagnostic Status: Warning

Observing Template: NIRCam Imaging

Diagnostics

(Visit 16:1) Warning (Form): Overheads are provisional until the Visit Planner has been run.

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Miscellaneous
(10)	B14-65666	RA: 10 01 40.6900 (150.4195417d) Dec: +01 54 52.42 (1.91456d) Equinox: J2000		

Comments:
Category=Galaxy
Description=[Lyman-alpha galaxies, Lyman-break galaxies]

Template

Module	Subarray
B	FULL

Dithers

#	Primary Dither Type	Primary Dithers	Subpixel Dither Type	Dither Size	Subpixel Positions
1	INTRAMODULEBOX	4	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	F115W	F356W	BRIGHT1	9	1	4	4	730.1	
2	F150W	F444W	SHALLOW4	8	1	4	4	1674.936	
3	F200W	F277W	BRIGHT1	8	1	4	4	644.206	

Special Requirements

Offset 35.0 arcsec, 40.0 arcsec
Background Limited. Background no more than 40th percentile above minimum

Observation

Proposal 1840, Observation 31: NIRSPec Thu Feb 02 19:00:32 GMT 2023

Diagnostic Status: Warning

Observing Template: NIRSpec IFU Spectroscopy

Comments: We have requested a V3 angle (from 65 to 358 degrees) to exclude a bright star from the SMA area during the IFU observations.

Diagnostics

(Visit 31:1) Warning (Form): Overheads are provisional until the Visit Planner has been run.

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Miscellaneous
(8)	BDF-3299	RA: 22 28 12.3250 (337.0513542d) Dec: -35 10 0.64 (-35.16684d) Equinox: J2000		

Comments:
Category=Galaxy
Description=[High-redshift galaxies, Lyman-alpha galaxies]
Extended=NO

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	G395M/F290LP	NRSIRS2RAPID	50	1	false	true	NONE	4	4	2976.134	

Special Requirements

Aperture PA Range 203.892975 to 136.892975 Degrees (V3 64.92044082 to 357.92044082)

Observation

Proposal 1840, Observation 40: NIRCam

Thu Feb 02 19:00:32 GMT 2023

Diagnostic Status: Warning

Observing Template: NIRCam Imaging

Diagnostics

(Visit 40:1) Warning (Form): Overheads are provisional until the Visit Planner has been run.

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Miscellaneous
(8)	BDF-3299	RA: 22 28 12.3250 (337.0513542d) Dec: -35 10 0.64 (-35.16684d) Equinox: J2000		

Comments:
Category=Galaxy
Description=[High-redshift galaxies, Lyman-alpha galaxies]
Extended=NO

Template

Module	Subarray
B	FULL

Dithers

#	Primary Dither Type	Primary Dithers	Subpixel Dither Type	Dither Size	Subpixel Positions
1	INTRAMODULEBOX	4	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	F115W	F277W	SHALLOW4	10	1	4	4	2104.407	
2	F150W	F356W	MEDIUM8	6	1	4	4	2490.931	
3	F200W	F444W	SHALLOW4	7	1	4	4	1460.201	

Special Requirements

Offset -25.0 arcsec, 35.0 arcsec
Background Limited. Background no more than 40th percentile above minimum

Observation

Proposal 1840, Observation 17: NIRSPec

Thu Feb 02 19:00:32 GMT 2023

Diagnostic Status: Warning

Observing Template: NIRSpec IFU Spectroscopy

Comments: We have requested a V3 angle (from 62 to 143 degrees) to exclude 4 bright star from the SMA area during the IFU observations.
We have include an offset to target the overdensity of sources published in Zheng+14 and Ishigaki+16 papers.

Diagnostics

(Visit 17:1) Warning (Form): Overheads are provisional until the Visit Planner has been run.

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Miscellaneous
(12)	A2744-YD4	RA: 00 14 24.9274 (3.6038642d) Dec: -30 22 56.15 (-30.38226d) Equinox: J2000		

Comments:
Category=Galaxy
Description=[High-redshift galaxies, Lyman-alpha galaxies]
Extended=NO

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	G395H/F290LP	NRSIRS2RAPID	75	1	false	true	NONE	4	4	4435.023	

Special Requirements

Aperture PA Range 200.89297485 to 281.89297485 Degrees (V3 61.92044067 to 142.92044067)
Offset 0.6 arcsec, -0.4 arcsec

Observation

Proposal 1840, Observation 18: NIRSPec

Thu Feb 02 19:00:32 GMT 2023

Diagnostic Status: Warning

Observing Template: NIRSpec IFU Spectroscopy

Comments: We have requested a V3 angle (from 240 to 340 degrees) to exclude the center of the cluster from the SMA area during the IFU observations.

Diagnostics

(Visit 18:1) Warning (Form): Overheads are provisional until the Visit Planner has been run.

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Miscellaneous
(9)	A1689-ZD1	RA: 13 11 29.9600 (197.8748333d) Dec: -01 19 18.70 (-1.32186d) Equinox: J2000		

Comments:
Category=Galaxy
Description=[High-redshift galaxies]

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	G395M/F290LP	NRSIRS2RAPID	14	1	false	true	NONE	4	4	875.333	

Special Requirements

Aperture PA Range 18.89297485 to 118.89297485 Degrees (V3 239.92044067 to 339.92044067)

Observation

Proposal 1840, Observation 19: NIRCam Thu Feb 02 19:00:32 GMT 2023

Diagnostic Status: Warning

Observing Template: NIRCam Imaging

Comments: The PA and offset have been selected to obser the galaxy cluster to increase the value of the ancillary science and archival data

Diagnostics

(Visit 19:1) Warning (Form): Overheads are provisional until the Visit Planner has been run.

(Visit 19:1) Warning (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.

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Miscellaneous
(9)	A1689-ZD1	RA: 13 11 29.9600 (197.8748333d) Dec: -01 19 18.70 (-1.32186d) Equinox: J2000		

Comments:
Category=Galaxy
Description=[High-redshift galaxies]

Template

Module	Subarray
B	FULL

Dithers

#	Primary Dither Type	Primary Dithers	Subpixel Dither Type	Dither Size	Subpixel Positions
1	INTRAMODULEBOX	4	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	F115W	F277W	SHALLOW4	5	1	4	4	1030.73	
2	F150W	F444W	SHALLOW4	10	1	4	4	2104.407	
3	F200W	F356W	BRIGHT1	9	1	4	4	730.1	

Special Requirements

Aperture PA Range 275 to 300 Degrees (V3 274.94416471 to 299.94416471)
Offset -35.0 arcsec, 25.0 arcsec
Background Limited. Background no more than 40th percentile above minimum

Observation

Proposal 1840, Observation 41: NIRCam

Thu Feb 02 19:00:32 GMT 2023

Diagnostic Status: Warning

Observing Template: NIRCam Imaging

Diagnostics

(Visit 41:1) Warning (Form): Overheads are provisional until the Visit Planner has been run.

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Miscellaneous
(8)	BDF-3299	RA: 22 28 12.3250 (337.0513542d) Dec: -35 10 0.64 (-35.16684d) Equinox: J2000		

Comments:
Category=Galaxy
Description=[High-redshift galaxies, Lyman-alpha galaxies]
Extended=NO

Template

Module	Subarray
B	FULL

Dithers

#	Primary Dither Type	Primary Dithers	Subpixel Dither Type	Dither Size	Subpixel Positions
1	INTRAMODULEBOX	4	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	F115W	F277W	SHALLOW4	10	1	4	4	2104.407	
2	F150W	F356W	MEDIUM8	6	1	4	4	2490.931	
3	F200W	F444W	SHALLOW4	7	1	4	4	1460.201	

Special Requirements

Offset -25.0 arcsec, 35.0 arcsec