



# 1205 - Formation Histories and Stellar Masses of Very High-z Quasars

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	J134040.24+281328.1_ IFU	NIRSpec IFU Spectroscopy	(1) J134040.24+281328.1
	2	J134040.24+281328.1_ image	NIRCam Imaging	(1) J134040.24+281328.1
	3	2M13404517+2819069 _image	NIRCam Imaging	(2) 2M13404517+2819069
	4	J073103.12+445949.4_ IFU	NIRSpec IFU Spectroscopy	(3) J073103.12+445949.4
	5	J073103.12+445949.4_ image	NIRCam Imaging	(3) J073103.12+445949.4
	6	2M07312822+4505363 _image	NIRCam Imaging	(4) 2M07312822+4505363
	7	ULASJ112001.48+064 124.3_image	NIRCam Imaging	(5) ULASJ112001.48+064124.3
	8	2M11202226+0645117 _image	NIRCam Imaging	(6) 2M11202226+0645117

<i>Folder</i>	<i>Observation</i>	<i>Label</i>	<i>Observing Template</i>	<i>Science Target</i>
	9	SDSSJ1148+5251_image	NIRCam Imaging	(7) SDSSJ1148+5251
	10	2M11482526+5254161_image	NIRCam Imaging	(8) 2M11482526+5254161
	11	J2239+0207_IFU	NIRSpec IFU Spectroscopy	(9) J2239+0207
	12	J2239+0207_image	NIRCam Imaging	(9) J2239+0207
	13	2M22390990+0207329_image	NIRCam Imaging	(10) 2M22390990+0207329
	15	TGSSJ1530+1049_image	NIRCam Imaging	(11) TGSSJ1530+1049
	16	2M15300980+1050533_image	NIRCam Imaging	(12) 2M15300980+1050533

## ABSTRACT

Attempts to image the hosts of very high redshift quasars have been frustratingly difficult. What detections there have been made in the near infrared, i.e., rest frame ultraviolet. Hence, it is difficult to interpret the results: a small amount of very recent star formation could dominate the signals. Nonetheless, the limits have raised the question of whether the local Magorrian relation holds this early in galaxy evolution. Dynamical masses from the 157 micron [CII] line, indicate a roughly normal (i.e., Magorrian) ratio of total mass to black hole mass (but of course, with no measure of the relative mass in dark matter, stars, and gas). In this program (ID 1205), we will use a combination of IFU spectroscopy and NIRCam imaging to search much more deeply and definitively for host galaxies around five high redshift AGNs.

## OBSERVING DESCRIPTION

The goal of this program is to examine in detail the stellar content of AGN host galaxies at high redshift, to test whether the co-evolution of stars and black holes is in place by  $z = 5 - 7$ . We have selected five quasars to test a variety of ways to detect their host galaxies. J073103.12+445949.4 and J134015.03+392630.7 are at  $z \sim 5$ , which places their Balmer breaks (if they have them) optimally in the NIRSpec medium wavelength range. They also have very massive black holes and large dynamical masses. We will obtain both NIRCam images and very high signal to noise NIRSpec spectra of them, the latter to see if we can detect host galaxies even if they hide behind the quasar psf in the images. J2239+0207 is a sub-Eddington quasar with a massive black hole and large dynamical mass; our estimates are that the host galaxy might account for as much as 10% of the integrated light near 0.5 microns rest. We will search for it in both imaging and a prism NIRSpec spectrum (this strategy is dictated because it is too faint for higher spectral resolution at reasonable signal to noise). SDSS J1148+5251 and ULAS J112001.48+064124.3 are among the highest redshift quasars known, very thoroughly studied, and again with very massive black holes and high dynamical masses. We will obtain images of them but not spectra

## JWST Proposal 1205 (Created: Tuesday, June 25, 2019 at 8:00:13 AM Eastern Standard Time) - Overview

(since their Balmer breaks are not placed advantageously spectrally). In addition, we will image the  $z = 5.72$  radio galaxy TGSS J1530+1049 to test whether its continuum shows a Balmer break and if so to estimate its strength, and thus to determine to what extent it falls off the usual relation between luminous radio galaxies and the stellar masses of their host galaxies.

## Proposal 1205 - Targets - Formation Histories and Stellar Masses of Very High- $z$ Quasars

#	Name	Target Coordinates	Targ. Coord. Corrections	Miscellaneous
(1)	J134040.24+281328.1	RA: 13 40 40.2400 (205.1676667d) Dec: +28 13 28.10 (28.22447d) Equinox: J2000  <i>Comments:</i> <i>Category=Galaxy</i> <i>Description=[Active galactic nuclei, Quasars]</i> <i>Extended=NO</i>		
(2)	2M13404517+2819069	RA: 13 40 45.1719 (205.1882162d) Dec: +28 19 6.96 (28.31860d) Equinox: J2000	Proper Motion RA: -1.033 mas/yr Proper Motion Dec: -8.133 mas/yr Epoch of Position: 2000	
		<i>Comments:</i> <i>Category=Star</i> <i>Description=[G stars]</i> <i>Extended=NO</i>		
(3)	J073103.12+445949.4	RA: 07 31 3.1200 (112.7630000d) Dec: +44 59 49.40 (44.99706d) Equinox: J2000  <i>Comments:</i> <i>Category=Galaxy</i> <i>Description=[Active galactic nuclei, Quasars]</i> <i>Extended=NO</i>		
(4)	2M07312822+4505363	RA: 07 31 28.2253 (112.8676054d) Dec: +45 05 36.28 (45.09341d) Equinox: J2000	Proper Motion RA: 3.124 mas/yr Proper Motion Dec: -0.332 mas/yr Epoch of Position: 2000	
		<i>Comments: This object was generated by the targetselector and retrieved from the NED database.</i> <i>Category=Star</i> <i>Description=[F stars]</i> <i>Extended=NO</i>		
(5)	ULASJ112001.48+064124.3	RA: 11 20 1.4800 (170.0061667d) Dec: +06 41 24.30 (6.69008d) Equinox: J2000  <i>Comments:</i> <i>Category=Galaxy</i> <i>Description=[Active galactic nuclei, Quasars]</i> <i>Extended=NO</i>		
(6)	2M11202226+0645117	RA: 11 20 22.2608 (170.0927533d) Dec: +06 45 11.43 (6.75317d) Equinox: J2000	Proper Motion RA: -22.471 mas/yr Proper Motion Dec: -0.389 mas/yr Epoch of Position: 2000	
		<i>Comments:</i> <i>Category=Star</i> <i>Description=[G stars]</i> <i>Extended=NO</i>		
(7)	SDSSJ1148+5251	RA: 11 48 16.6400 (177.0693333d) Dec: +52 51 50.30 (52.86397d) Equinox: J2000  <i>Comments:</i> <i>Category=Galaxy</i> <i>Description=[Active galactic nuclei, Quasars]</i> <i>Extended=NO</i>		

## Proposal 1205 - Targets - Formation Histories and Stellar Masses of Very High-z Quasars

(8)	2M11482526+5254161	RA: 11 48 25.2699 (177.1052913d) Dec: +52 54 16.22 (52.90451d) Equinox: J2000	Proper Motion RA: 1.463 mas/yr Proper Motion Dec: -1.55 mas/yr Epoch of Position: 2000
<i>Comments:</i> <i>Category=Star</i> <i>Description=[F stars]</i>			
(9)	J2239+0207	RA: 22 39 47.4800 (339.9478333d) Dec: +02 07 47.40 (2.12983d) Equinox: J2000	
<i>Comments:</i> <i>Category=Galaxy</i> <i>Description=[Active galactic nuclei, Quasars]</i> <i>Extended=NO</i>			
(10)	2M22390990+0207329	RA: 22 39 9.9106 (339.7912942d) Dec: +02 07 32.99 (2.12583d) Equinox: J2000	Proper Motion RA: 2.654 mas/yr Proper Motion Dec: -2.866 mas/yr Epoch of Position: 2000
<i>Comments:</i> <i>Category=Star</i> <i>Description=[G stars]</i> <i>Extended=NO</i>			
(11)	TGSSJ1530+1049	RA: 15 30 49.9000 (232.7079167d) Dec: +10 49 31.10 (10.82531d) Equinox: J2000	
<i>Comments:</i> <i>Category=Galaxy</i> <i>Description=[Active galactic nuclei, Quasars]</i> <i>Extended=NO</i>			
(12)	2M15300980+1050533	RA: 15 30 9.8096 (232.5408733d) Dec: +10 50 53.38 (10.84816d) Equinox: J2000	Proper Motion RA: -7.467 mas/yr Proper Motion Dec: -12.764 mas/yr Epoch of Position: 2000
<i>Comments:</i> <i>Category=Star</i> <i>Description=[G stars]</i> <i>Extended=NO</i>			

# Proposal 1205 - Observation 1 - Formation Histories and Stellar Masses of Very High-z Quasars

Observation	Proposal 1205, Observation 1: J134040.24+281328.1_IFU										Tue Jun 25 13:00:13 GMT 2019	
	Diagnostic Status: Warning											
	Observing Template: NIRSpec IFU Spectroscopy											
	Comments: Depending on the final blind pointing accuracy of JWST, we may not need target acquisition for this source.											
Diagnostics	(Visit 1:1) Warning (Form): Overheads are provisional until the Visit Planner has been run.											
Fixed Targets	#	Name	Target Coordinates			Targ. Coord. Corrections			Miscellaneous			
	(1)	J134040.24+281328.1	RA: 13 40 40.2400 (205.1676667d)									
			Dec: +28 13 28.10 (28.22447d)									
			Equinox: J2000									
	Comments: Category=Galaxy Description=[Active galactic nuclei, Quasars] Extended=NO											
Acquisition	#	Target	TA Method	Subarray	Filter	Readout Pattern	Groups/Int	Integrations/Exp	Total Integrations	Total Exposure Time	ETC Wkbk.Calc ID	
	1	SAME	WATA	SUB2048	F110W	NRS	3	1	1	11.746	12587	
Dithers	#	Dither Type		Size		Starting Point		Number of Points		Points		
	1	4-POINT-NOD										
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	G235M/F170LP	NRSIRS2	25	1	false	true	NONE	4	4	7352.801	
Special Requirements	Sequence Observations 1, 2, 3, Non-interruptible											

# Proposal 1205 - Observation 2 - Formation Histories and Stellar Masses of Very High-z Quasars

Observation	Proposal 1205, Observation 2: J134040.24+281328.1_image										Tue Jun 25 13:00:13 GMT 2019
	Diagnostic Status: Warning										
Diagnostics	Observing Template: NIRCam Imaging										
	(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)	J134040.24+281328.1	RA: 13 40 40.2400 (205.1676667d) Dec: +28 13 28.10 (28.22447d) Equinox: J2000								
Template	Comments: Category=Galaxy Description=[Active galactic nuclei, Quasars] Extended=NO										
	Module					Subarray					
Dithers	B					SUB400P					
	#	Primary Dither Type		Primary Dithers		Subpixel Dither Type		Dither Size		Subpixel Positions	
Spectral Elements	1	INTRAMODULEBOX		4		STANDARD				4	
	#	Short Filter	Long Filter	Readout Pattern	Groups/Int	Integrations/Exp	Total Integrations	Total Dithers	Total Exposure Time	ETC Wkbk.Calc ID	
Special Requirements	1	F210M	F410M	BRIGHT1	5	1	16	16	265.326		
	2	F210M	F430M	BRIGHT1	7	1	16	16	371.325		
Special Requirements	Sequence Observations 1, 2, 3, Non-interruptible										

# Proposal 1205 - Observation 3 - Formation Histories and Stellar Masses of Very High-z Quasars

Observation	Proposal 1205, Observation 3: 2M13404517+2819069_image									Tue Jun 25 13:00:13 GMT 2019	
	Diagnostic Status: Warning										
	Observing Template: NIRCam 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			
	(2)	2M13404517+2819069	RA: 13 40 45.1719 (205.1882162d) Dec: +28 19 6.96 (28.31860d) Equinox: J2000			Proper Motion RA: -1.033 mas/yr Proper Motion Dec: -8.133 mas/yr Epoch of Position: 2000					
	Comments: Category=Star Description=[G stars] Extended=NO										
Template	Module					Subarray					
	B					SUB400P					
Dithers	#	Primary Dither Type		Primary Dithers		Subpixel Dither Type		Dither Size		Subpixel Positions	
	1	INTRAMODULEBOX		4		STANDARD				4	
Spectral Elements	#	Short Filter	Long Filter	Readout Pattern	Groups/Int	Integrations/Exp	Total Integrations	Total Dithers	Total Exposure Time	ETC Wkbk.Calc ID	
	1	F210M	F410M	BRIGHT1	5	1	16	16	265.326		
	2	F210M	F430M	BRIGHT1	5	1	16	16	265.326		
Special Requirements	Sequence Observations 1, 2, 3, Non-interruptible										



# Proposal 1205 - Observation 4 - Formation Histories and Stellar Masses of Very High-z Quasars

Observation	Proposal 1205, Observation 4: J073103.12+445949.4_IFU										Tue Jun 25 13:00:13 GMT 2019	
	Diagnostic Status: Warning											
	Observing Template: NIRSpec IFU Spectroscopy											
	Comments: Depending on the final blind pointing accuracy of JWST, we may not need target acquisition for this source.											
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			
	(3)	J073103.12+445949.4	RA: 07 31 3.1200 (112.7630000d)									
			Dec: +44 59 49.40 (44.99706d)									
			Equinox: J2000									
	Comments: Category=Galaxy Description=[Active galactic nuclei, Quasars] Extended=NO											
Acquisition	#	Target	TA Method	Subarray	Filter	Readout Pattern	Groups/Int	Integrations/Exp	Total Integrations	Total Exposure Time	ETC Wkbk.Calc ID	
	1	SAME	WATA	SUB2048	F110W	NRS	3	1	1	11.746	12587	
Dithers	#	Dither Type		Size		Starting Point		Number of Points		Points		
	1	4-POINT-NOD										
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	G235M/F170LP	NRSIRS2	20	1	false	true	NONE	4	4	5893.912	
Special Requirements	Sequence Observations 4, 5, 6, Non-interruptible											

# Proposal 1205 - Observation 5 - Formation Histories and Stellar Masses of Very High-z Quasars

Observation	Proposal 1205, Observation 5: J073103.12+445949.4_image										Tue Jun 25 13:00:13 GMT 2019
	Diagnostic Status: Warning										
Diagnostics	Observing Template: NIRCam Imaging										
	(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)	J073103.12+445949.4	RA: 07 31 3.1200 (112.7630000d) Dec: +44 59 49.40 (44.99706d) Equinox: J2000								
Template	Comments: Category=Galaxy Description=[Active galactic nuclei, Quasars] Extended=NO										
	Module					Subarray					
Dithers	B					SUB400P					
	#	Primary Dither Type		Primary Dithers		Subpixel Dither Type		Dither Size		Subpixel Positions	
Spectral Elements	1	INTRAMODULEBOX		4		STANDARD				4	
	#	Short Filter	Long Filter	Readout Pattern	Groups/Int	Integrations/Exp	Total Integrations	Total Dithers	Total Exposure Time	ETC Wkbk.Calc ID	
Special Requirements	1	F210M	F410M	BRIGHT1	5	1	16	16	265.326		
	2	F210M	F430M	BRIGHT1	7	1	16	16	371.325		
	Sequence Observations 4, 5, 6, Non-interruptible										

# Proposal 1205 - Observation 6 - Formation Histories and Stellar Masses of Very High-z Quasars

Observation	Proposal 1205, Observation 6: 2M07312822+4505363_image									Tue Jun 25 13:00:13 GMT 2019
	Diagnostic Status: Warning									
	Observing Template: NIRCam Imaging									
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)	2M07312822+4505363	RA: 07 31 28.2253 (112.8676054d)			Proper Motion RA: 3.124 mas/yr				
			Dec: +45 05 36.28 (45.09341d)			Proper Motion Dec: -0.332 mas/yr				
			Equinox: J2000			Epoch of Position: 2000				
	Comments: This object was generated by the targetselector and retrieved from the NED database. Category=Star Description=[F stars] Extended=NO									
Template	Module					Subarray				
	B					SUB400P				
Dithers	#	Primary Dither Type		Primary Dithers		Subpixel Dither Type		Dither Size		Subpixel Positions
	1	INTRAMODULEBOX		4		STANDARD				4
Spectral Elements	#	Short Filter	Long Filter	Readout Pattern	Groups/Int	Integrations/Exp	Total Integrations	Total Dithers	Total Exposure Time	ETC Wkbk.Calc ID
	1	F210M	F410M	BRIGHT1	5	1	16	16	265.326	
	2	F210M	F430M	BRIGHT1	5	1	16	16	265.326	
Special Requirements	Sequence Observations 4, 5, 6, Non-interruptible									

# Proposal 1205 - Observation 7 - Formation Histories and Stellar Masses of Very High-z Quasars

Observation	Proposal 1205, Observation 7: ULASJ112001.48+064124.3_image										Tue Jun 25 13:00:13 GMT 2019
	Diagnostic Status: Warning Observing Template: NIRCam Imaging										
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)	ULASJ112001.48+064124.3	RA: 11 20 1.4800 (170.0061667d) Dec: +06 41 24.30 (6.69008d) Equinox: J2000  <i>Comments:</i> <i>Category=Galaxy</i> <i>Description=[Active galactic nuclei, Quasars]</i> <i>Extended=NO</i>								
Template	Module					Subarray					
	B					SUB400P					
Dithers	#	Primary Dither Type		Primary Dithers		Subpixel Dither Type		Dither Size		Subpixel Positions	
	1	INTRAMODULEBOX		4		STANDARD				4	
Spectral Elements	#	Short Filter	Long Filter	Readout Pattern	Groups/Int	Integrations/Exp	Total Integrations	Total Dithers	Total Exposure Time	ETC Wkbk.Calc ID	
	1	F210M	F360M	BRIGHT1	10	1	16	16	530.324		
	2	F210M	F480M	BRIGHT1	7	2	32	16	742.651		
Special Requirements	Sequence Observations 7, 8, Non-interruptible										

# Proposal 1205 - Observation 8 - Formation Histories and Stellar Masses of Very High-z Quasars

Observation	Proposal 1205, Observation 8: 2M11202226+0645117_image										Tue Jun 25 13:00:13 GMT 2019
	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		
	(6)	2M11202226+0645117	RA: 11 20 22.2608 (170.0927533d)			Proper Motion RA: -22.471 mas/yr					
			Dec: +06 45 11.43 (6.75317d)			Proper Motion Dec: -0.389 mas/yr					
			Equinox: J2000			Epoch of Position: 2000					
	Comments: Category=Star Description=[G stars] Extended=NO										
Template	Module					Subarray					
	B					SUB400P					
Dithers	#	Primary Dither Type		Primary Dithers		Subpixel Dither Type		Dither Size		Subpixel Positions	
	1	INTRAMODULEBOX		4		STANDARD				4	
Spectral Elements	#	Short Filter	Long Filter	Readout Pattern	Groups/Int	Integrations/Exp	Total Integrations	Total Dithers	Total Exposure Time	ETC Wkbk.Calc ID	
	1	F210M	F360M	BRIGHT1	5	1	16	16	265.326		
	2	F210M	F480M	BRIGHT1	5	1	16	16	265.326		
Special Requirements	Sequence Observations 7, 8, Non-interruptible										

# Proposal 1205 - Observation 9 - Formation Histories and Stellar Masses of Very High-z Quasars

Observation	Proposal 1205, Observation 9: SDSSJ1148+5251_image									Tue Jun 25 13:00:13 GMT 2019	
	Diagnostic Status: Warning										
	Observing Template: NIRCam Imaging										
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		
	(7)	SDSSJ1148+5251	RA: 11 48 16.6400 (177.0693333d)								
			Dec: +52 51 50.30 (52.86397d)								
			Equinox: J2000								
	Comments: Category=Galaxy Description=[Active galactic nuclei, Quasars] Extended=NO										
Template	Module					Subarray					
	B					SUB400P					
Dithers	#	Primary Dither Type		Primary Dithers		Subpixel Dither Type		Dither Size		Subpixel Positions	
	1	INTRAMODULEBOX		4		STANDARD				4	
Spectral Elements	#	Short Filter	Long Filter	Readout Pattern	Groups/Int	Integrations/Exp	Total Integrations	Total Dithers	Total Exposure Time	ETC Wkbk.Calc ID	
	1	F210M	F360M	BRIGHT1	5	1	16	16	265.326		
	2	F210M	F410M	BRIGHT1	7	1	16	16	371.325		
Special Requirements	Sequence Observations 9, 10, Non-interruptible										

# Proposal 1205 - Observation 10 - Formation Histories and Stellar Masses of Very High-z Quasars

Observation	Proposal 1205, Observation 10: 2M11482526+5254161_image										Tue Jun 25 13:00:13 GMT 2019
	Diagnostic Status: Warning										
	Observing Template: NIRCam Imaging										
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		
	(8)	2M11482526+5254161	RA: 11 48 25.2699 (177.1052913d)			Proper Motion RA: 1.463 mas/yr					
			Dec: +52 54 16.22 (52.90451d)			Proper Motion Dec: -1.55 mas/yr					
			Equinox: J2000			Epoch of Position: 2000					
	Comments: Category=Star Description=[F stars]										
Template	Module					Subarray					
	B					SUB400P					
Dithers	#	Primary Dither Type		Primary Dithers		Subpixel Dither Type		Dither Size		Subpixel Positions	
	1	INTRAMODULEBOX		4		STANDARD				4	
Spectral Elements	#	Short Filter	Long Filter	Readout Pattern	Groups/Int	Integrations/Exp	Total Integrations	Total Dithers	Total Exposure Time	ETC Wkbk.Calc ID	
	1	F210M	F360M	BRIGHT1	5	1	16	16	265.326		
	2	F210M	F410M	BRIGHT1	5	1	16	16	265.326		
Special Requirements	Sequence Observations 9, 10, Non-interruptible										

# Proposal 1205 - Observation 11 - Formation Histories and Stellar Masses of Very High-z Quasars

Observation	Proposal 1205, Observation 11: J2239+0207_IFU										Tue Jun 25 13:00:13 GMT 2019	
	Diagnostic Status: Warning											
	Observing Template: NIRSpec IFU Spectroscopy											
	Comments: Depending on the final blind pointing accuracy of JWST, we may not need target acquisition for this source.											
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			
	(9)	J2239+0207	RA: 22 39 47.4800 (339.9478333d) Dec: +02 07 47.40 (2.12983d) Equinox: J2000									
	Comments: Category=Galaxy Description=[Active galactic nuclei, Quasars] Extended=NO											
Acquisition	#	Target	TA Method	Subarray	Filter	Readout Pattern	Groups/Int	Integrations/Exp	Total Integrations	Total Exposure Time	ETC Wkbk.Calc ID	
	1	SAME	WATA	SUB2048	F110W	NRS	3	1	1	11.746	25213	
Dithers	#	Dither Type		Size		Starting Point		Number of Points		Points		
	1	4-POINT-NOD										
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	NRSIRS2	15	1	false	true	NONE	4	4	4435.023	
	2	PRISM/CLEAR	NRSIRS2	15	1	false	true	NONE	4	4	4435.023	
Special Requirements	Sequence Observations 11, 12, 13, Non-interruptible											



# Proposal 1205 - Observation 12 - Formation Histories and Stellar Masses of Very High-z Quasars

Observation	Proposal 1205, Observation 12: J2239+0207_image										Tue Jun 25 13:00:13 GMT 2019
	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		
	(9)	J2239+0207	RA: 22 39 47.4800 (339.9478333d) Dec: +02 07 47.40 (2.12983d) Equinox: J2000								
	Comments: Category=Galaxy Description=[Active galactic nuclei, Quasars] Extended=NO										
Template	Module					Subarray					
	B					SUB400P					
Dithers	#	Primary Dither Type		Primary Dithers		Subpixel Dither Type		Dither Size		Subpixel Positions	
	1	INTRAMODULEBOX		4		STANDARD				4	
Spectral Elements	#	Short Filter	Long Filter	Readout Pattern	Groups/Int	Integrations/Exp	Total Integrations	Total Dithers	Total Exposure Time	ETC Wkbk.Calc ID	
	1	F210M	F360M	BRIGHT1	10	2	32	16	1060.649		
	2	F210M	F480M	BRIGHT1	10	2	32	16	1060.649		
Special Requirements	Sequence Observations 11, 12, 13, Non-interruptible										

# Proposal 1205 - Observation 13 - Formation Histories and Stellar Masses of Very High-z Quasars

Observation	Proposal 1205, Observation 13: 2M22390990+0207329_image										Tue Jun 25 13:00:13 GMT 2019
	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		
	(10)	2M22390990+0207329	RA: 22 39 9.9106 (339.7912942d)			Proper Motion RA: 2.654 mas/yr					
			Dec: +02 07 32.99 (2.12583d)			Proper Motion Dec: -2.866 mas/yr					
			Equinox: J2000			Epoch of Position: 2000					
	Comments: Category=Star Description=[G stars] Extended=NO										
Template	Module					Subarray					
	B					SUB400P					
Dithers	#	Primary Dither Type		Primary Dithers		Subpixel Dither Type		Dither Size		Subpixel Positions	
	1	INTRAMODULEBOX		4		STANDARD				4	
Spectral Elements	#	Short Filter	Long Filter	Readout Pattern	Groups/Int	Integrations/Exp	Total Integrations	Total Dithers	Total Exposure Time	ETC Wkbk.Calc ID	
	1	F210M	F360M	BRIGHT1	5	1	16	16	265.326		
	2	F210M	F480M	BRIGHT1	5	1	16	16	265.326		
Special Requirements	Sequence Observations 11, 12, 13, Non-interruptible										

# Proposal 1205 - Observation 15 - Formation Histories and Stellar Masses of Very High-z Quasars

Observation	Proposal 1205, Observation 15: TGSSJ1530+1049_image									Tue Jun 25 13:00:13 GMT 2019	
	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)	TGSSJ1530+1049	RA: 15 30 49.9000 (232.7079167d)								
			Dec: +10 49 31.10 (10.82531d)								
			Equinox: J2000								
	Comments: Category=Galaxy Description=[Active galactic nuclei, Quasars] Extended=NO										
Template	Module					Subarray					
	B					SUB400P					
Dithers	#	Primary Dither Type		Primary Dithers		Subpixel Dither Type		Dither Size		Subpixel Positions	
	1	INTRAMODULEBOX		4		STANDARD				4	
Spectral Elements	#	Short Filter	Long Filter	Readout Pattern	Groups/Int	Integrations/Exp	Total Integrations	Total Dithers	Total Exposure Time	ETC Wkbk.Calc ID	
	1	F210M	F300M	BRIGHT1	10	1	16	16	530.324		
	2	F210M	F430M	BRIGHT1	10	1	16	16	530.324		
Special Requirements	Sequence Observations 15, 16, Non-interruptible										

# Proposal 1205 - Observation 16 - Formation Histories and Stellar Masses of Very High-z Quasars

Observation	Proposal 1205, Observation 16: 2M15300980+1050533_image										Tue Jun 25 13:00:13 GMT 2019
	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		
	(12)	2M15300980+1050533	RA: 15 30 9.8096 (232.5408733d) Dec: +10 50 53.38 (10.84816d) Equinox: J2000			Proper Motion RA: -7.467 mas/yr Proper Motion Dec: -12.764 mas/yr Epoch of Position: 2000					
	Comments: Category=Star Description=[G stars] Extended=NO										
Template	Module					Subarray					
	B					SUB400P					
Dithers	#	Primary Dither Type		Primary Dithers		Subpixel Dither Type		Dither Size		Subpixel Positions	
	1	INTRAMODULEBOX		4		STANDARD				4	
Spectral Elements	#	Short Filter	Long Filter	Readout Pattern	Groups/Int	Integrations/Exp	Total Integrations	Total Dithers	Total Exposure Time	ETC Wkbk.Calc ID	
	1	F210M	F300M	BRIGHT1	5	1	16	16	265.326		
	2	F210M	F430M	BRIGHT1	5	1	16	16	265.326		
Special Requirements	Sequence Observations 15, 16, Non-interruptible										