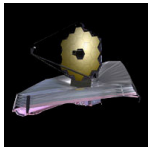

6116 - Testing Natal Heritage Among Comet Dynamical Families: A JWST Study of Parent Volatiles in Halley-Type Comets.

Cycle: 3, Proposal Category: GO

INVESTIGATORS

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OBSERVATIONS

Folder	*Observation*	*Label*	*Observing Template*	*Science Target*
12P NIRSpec				
	1	12P NIRSpec	NIRSpec IFU Spectroscopy	(3) 12P
	2	12P NIRSpec Background	NIRSpec IFU Spectroscopy	(4) 12PBACKGROUND
13P NIRSpec				
	3	13P NIRSpec	NIRSpec IFU Spectroscopy	(1) 13P
	4	13P NIRSpec Background	NIRSpec IFU Spectroscopy	(2) 13PBACKGROUND
P2001Q6 NIRSpec				
	5	Q6 NIRSpec	NIRSpec IFU Spectroscopy	(5) P2001Q6
	6	Q6 NIRSpec Background	NIRSpec IFU Spectroscopy	(6) P2001Q6Background

Folder	*Observation*	*Label*	*Observing Template*	*Science Target*
C2023S3 NIRSpec				
	7	S3 NIRSpec	NIRSpec IFU Spectroscopy	(7) C2023S3
	8	S3 NIRSpec Background	NIRSpec IFU Spectroscopy	(8) C2023S3Background
C2024A2 NIRSpec				
	9	A2 NIRSpec	NIRSpec IFU Spectroscopy	(9) C2024A2
	10	A2 NIRSpec Background	NIRSpec IFU Spectroscopy	(10) C2024A2Background
C2023E1				
	11	E1 NIRSpec	NIRSpec IFU Spectroscopy	(11) C2023E1
	12	E1 NIRSpec Background	NIRSpec IFU Spectroscopy	(12) C2023E1Background
C2023E1				
	111	E1 NIRSpec	NIRSpec IFU Spectroscopy	(11) C2023E1
	112	E1 NIRSpec Background	NIRSpec IFU Spectroscopy	(12) C2023E1Background

ABSTRACT

We propose to use the James Webb Space Telescope's (JWST) NIRSpec instrument to study the parent volatiles of six Halley-type comets (HTCs). Despite their importance in understanding the relationship between Oort cloud comets (OCCs) and Jupiter-family comets (JFCs), HTCs have been understudied due to their relatively long orbital periods. Our study will use NIRSpec IFU (G395H/F290LP) to examine the composition and spatial distribution of multiple parent volatiles in cometary coma, including H2O, CO, CO2, CH3OH, C2H6, CH4, and HCN. Our proposed observations aim to understand the heritage and evolutionary processing of volatiles incorporated into HTCs by analyzing the "hypervolatiles" CO, CH4, and CO2 along with other volatiles chemistry. We will compare our results with other comets from different dynamical classes. Our measurements will provide unprecedented details on the coma chemistry and volatile content of a suite of HTCs and will help to answer fundamental questions about evolutionary processes on the primordial properties of comets from different source regions as well as inform chemical models of the protosolar disk.

OBSERVING DESCRIPTION

The proposed observations will generate spectral and spatial infrared data spanning ~ 2.8–5.3 microns. These measurements will characterize the parent volatile (originally stored in the nucleus at the time of formation) compositions in six Halley type comets (a rarely studied dynamical class of comets). So far there are only two Halley type comets with parent volatiles measured (1P/Halley and 8P/Tuttle). NIRSPEC IFU (G395H/F290LP)

will be used to sample parent volatiles, including organic molecules (H2O, CO, CO2, CH4, C2H6, CH3OH, and HCN). Cometary comae are extended and emission features will likely fill the NIRSpec FOV, therefore an off-source observation of the background will be required. A four point dither will be used and there is no target acquisition requirement for our proposed observations. Our targets will have an angular motion within the JWST's tracking capabilities while maintaining the solar elongation of 85-135 degrees in the proposed windows.

Solar System Targets

#	Name	Level 1	Level 2	Level 3
(1)	13P	TYPE=COMET,Q=1.171554340031103,E=0.9297257198241416,I=44.62577272536363,O=85.84644157295183,W=64.55881292749255,T=30-JUN-2024:17:24:01,TTimeScale=TDB,EQUINOX=J2000,EPOCH=22-JUN-2020:00:00:00,EpochTimeScale=TDB,R0=2.808,DT=0.,A1=2.388107031584E-9,A2=5.911552906036E-10,A3=0.,ALN=0.1112620426,NM=2.15,NN=5.093,NK=4.6142,AMRAT=0.		
Comments: Extended=YES				
(2)	13PBACKGROUND	TYPE=COMET,Q=1.171554340031103,E=0.9297257198241416,I=44.62577272536363,O=85.84644157295183,W=64.55881292749255,T=30-JUN-2024:17:24:01,TTimeScale=TDB,EQUINOX=J2000,EPOCH=22-JUN-2020:00:00:00,EpochTimeScale=TDB,R0=2.808,DT=0.,A1=2.388107031584E-9,A2=5.911552906036E-10,A3=0.,ALN=0.1112620426,NM=2.15,NN=5.093,NK=4.6142,AMRAT=0.	TYPE=POS_ANGLE,RAD=180,ANG=90,REF=SUN	
Comments: Extended=YES				
(3)	12P	TYPE=COMET,Q=0.7808640906336556,E=0.9545609342744082,I=74.1908861196129,O=255.8552517461114,W=198.9879125515852,T=21-APR-2024:03:09:06,TTimeScale=TDB,EQUINOX=J2000,EPOCH=22-SEP-2023:00:00:00,EpochTimeScale=TDB		
Comments: Extended=YES				
(4)	12PBACKGROUND	TYPE=COMET,Q=0.7808640906336556,E=0.9545609342744082,I=74.1908861196129,O=255.8552517461114,W=198.9879125515852,T=21-APR-2024:03:09:06,TTimeScale=TDB,EQUINOX=J2000,EPOCH=22-SEP-2023:00:00:00,EpochTimeScale=TDB	TYPE=POS_ANGLE,RAD=180,ANG=90,REF=SUN	
Comments: Extended=Unknown				
(5)	P2001Q6	TYPE=COMET,Q=1.407115226154206,E=0.8224954438756285,I=56.94853830371601,O=22.18497813897631,W=43.10650071099184,T=04-NOV-2001:17:20:30,TTimeScale=TDB,EQUINOX=J2000,EPOCH=01-AUG-2008:00:00:00,EpochTimeScale=TDB,R0=2.808,DT=0.,A1=3.515032529831E-9,A2=3.410590589046E-9,A3=6.274964213371E-9,ALN=0.1112620426,NM=2.15,NN=5.093,NK=4.6142,AMRAT=0.		
Comments: Extended=YES				

(6)	P2001Q6Background	TYPE=COMET,Q=1.407115226154206,E=0.8224954438756285,I=56.94853830371601,O=22.18497813897631,W=43.10650071099184,T=04-NOV-2001:17:20:30,TTimeScale=TDB,EQUINOX=J2000,EPOCH=01-AUG-2008:00:00:00,EpochTimeScale=TDB,R0=2.808,DT=0.,A1=3.515032529831E-9,A2=3.410590589046E-9,A3=6.274964213371E-9,ALN=0.1112620426,NM=2.15,NN=5.093,NK=4.6142,AMRAT=0.	TYPE=POS_ANGLE,RAD=180,ANG=90,REF=SUN
Comments: Extended=Unknown			
(7)	C2023S3	TYPE=COMET,Q=0.8301569782002494,E=0.970840295154484,I=140.4980192826371,O=233.8335290858979,W=281.5713087013626,T=19-JAN-2024:14:58:00,TTimeScale=TDB,EQUINOX=J2000,EPOCH=22-DEC-2023:00:00:00,EpochTimeScale=TDB	
Comments: Extended=YES			
(8)	C2023S3Background	TYPE=COMET,Q=0.8301569782002494,E=0.970840295154484,I=140.4980192826371,O=233.8335290858979,W=281.5713087013626,T=19-JAN-2024:14:58:00,TTimeScale=TDB,EQUINOX=J2000,EPOCH=22-DEC-2023:00:00:00,EpochTimeScale=TDB	TYPE=POS_ANGLE,RAD=180,ANG=90,REF=SUN
Comments: Extended=Unknown			
(9)	C2024A2	TYPE=COMET,Q=1.881633424160658,E=0.9417900929869926,I=119.1111217801659,O=78.16706930149165,W=295.5767926760797,T=28-APR-2024:21:35:17,TTimeScale=TDB,EQUINOX=J2000,EPOCH=05-MAR-2024:00:00:00,EpochTimeScale=TDB	
Comments: Extended=YES			
(10)	C2024A2Background	TYPE=COMET,Q=1.881633424160658,E=0.9417900929869926,I=119.1111217801659,O=78.16706930149165,W=295.5767926760797,T=28-APR-2024:21:35:17,TTimeScale=TDB,EQUINOX=J2000,EPOCH=05-MAR-2024:00:00:00,EpochTimeScale=TDB	TYPE=POS_ANGLE,RAD=180,ANG=90,REF=SUN
Comments: Extended=Unknown			
(11)	C2023E1	TYPE=COMET,Q=1.026605063116829,E=0.9469027481696692,I=38.31298256859169,O=164.5742121655385,W=105.8946154935637,T=01-JUL-2023:02:34:44,TTimeScale=TDB,EQUINOX=J2000,EPOCH=02-JUL-2023:00:00:00,EpochTimeScale=TDB,R0=2.808,DT=0.,A1=3.398198485374E-9,A2=-2.955948933959E-10,A3=2.071892917156E-9,ALN=0.1112620426,NM=2.15,NN=5.093,NK=4.6142,AMRAT=0.	
Comments: Extended=YES			

	(12)	C2023E1Background	TYPE=COMET,Q=1.026605063116829,E=0.9469027481696692,I=38.31298256859169,O=164.5742121655385,W=105.8946154935637,T=01-JUL-2023:02:34:44,TTimeScale=TDB,EQUINOX=J2000,EPOCH=02-JUL-2023:00:00:00,EpochTimeScale=TDB,R0=2.808,DT=0.,A1=3.398198485374E-9,A2=-2.955948933959E-10,A3=2.071892917156E-9,ALN=0.1112620426,NM=2.15,NN=5.093,NK=4.6142,AMRAT=0.	TYPE=POS_ANGLE,RAD=180,ANG=90,REF=SUN
	Comments: Extended=Unknown			

Observation

Proposal 6116, Observation 1: 12P NIRSpec Tue Feb 25 20:00:30 GMT 2025

Diagnostic Status: Warning

Observing Template: NIRSpec IFU Spectroscopy

Background Observations:[12P NIRSpec Background (Obs 2)]

Diagnostics

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

(12P NIRSpec (Obs 1)) Informational (Form): The Visit Planner and Spike may produce different schedulability results.

Solar System Targets

#	Name	Level 1	Level 2	Level 3
(3)	12P	TYPE=COMET,Q=0.7808640906336556,E=0.9545609342744082,I=74.1908861196129,O=255.8552517461114,W=198.9879125515852,T=21-APR-2024:03:09:06,TTimeScale=TDB,EQUINOX=J2000,EPOCH=22-SEP-2023:00:00:00,EpochTimeScale=TDB		

Comments: Extended=YES

Template

TA Method	HFF Readout Mode
NONE	false

Dithers

#	Dither Type	Size	Starting Point	Number of Points	Points
1	4-POINT-DITHER				

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	3	1	false	true	NONE	4	4	233.422	

Special Requirements

Sequence Observations 1, 2, Non-interruptible

DEFAULT WINDOW: ANGULAR RATE 12P FROM JWST LESS THAN 0.075
DISTANCE 12P SUN LESS THAN 6

Observation

Proposal 6116, Observation 2: 12P NIRSpec Background Tue Feb 25 20:00:30 GMT 2025

Diagnostic Status: Warning

Observing Template: NIRSpec IFU Spectroscopy

Background Observation For: [12P NIRSpec (Obs 1)]

Diagnostics

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

(12P NIRSpec Background (Obs 2)) Informational (Form): The Visit Planner and Spike may produce different schedulability results.

Solar System Targets

#	Name	Level 1	Level 2	Level 3
(4)	12PBACKGROUND	TYPE=COMET,Q=0.7808640906336556,E=0.9545609342744082,I=74.1908861196129,O=255.8552517461114,W=198.9879125515852,T=21-APR-2024:03:09:06,TTimeScale=TDB,EQUINOX=J2000,EPOCH=22-SEP-2023:00:00:00,EpochTimeScale=TDB	TYPE=POS_ANGLE,RAD=180,ANG=90,REF=SUN	

Comments: Extended=Unknown

Template

TA Method	HFF Readout Mode
NONE	false

Dithers

#	Dither Type	Size	Starting Point	Number of Points	Points
1	4-POINT-DITHER				

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	3	1	false	true	NONE	4	4	233.422	

Special Requirements

Sequence Observations 1, 2, Non-interruptible

DEFAULT WINDOW: ANGULAR RATE 12PBACKGROUND FROM JWST LESS THAN 0.075

Observation

Proposal 6116, Observation 3: 13P NIRSpec Tue Feb 25 20:00:30 GMT 2025

Diagnostic Status: Warning

Observing Template: NIRSpec IFU Spectroscopy

Background Observations:[13P NIRSpec Background (Obs 4)]

Diagnostics

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

(13P NIRSpec (Obs 3)) Informational (Form): The Visit Planner and Spike may produce different schedulability results.

Solar System Targets

#	Name	Level 1	Level 2	Level 3
(1)	13P	TYPE=COMET,Q=1.171554340031103,E=0.9297257198241416,I=44.62577272536363,O=85.84644157295183,W=64.55881292749255,T=30-JUN-2024:17:24:01,TTimeScale=TDB,EQUINOX=J2000,EPOCH=22-JUN-2020:00:00:00,EpochTimeScale=TDB,R0=2.808,DT=0.,A1=2.388107031584E-9,A2=5.911552906036E-10,A3=0.,ALN=0.1112620426,NM=2.15,NN=5.093,NK=4.6142,AMRAT=0.		

Comments: Extended=YES

Template

TA Method	HFF Readout Mode
NONE	false

Dithers

#	Dither Type	Size	Starting Point	Number of Points	Points
1	4-POINT-DITHER				

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	2	2	false	true	NONE	4	8	350.133	

Special Requirements	
	Sequence Observations 3, 4, Non-interruptible DEFAULT WINDOW: ANGULAR RATE 13P FROM JWST LESS THAN 0.075 DISTANCE 13P SUN LESS THAN 6

Observation

Proposal 6116, Observation 4: 13P NIRSpec Background Tue Feb 25 20:00:30 GMT 2025

Diagnostic Status: Warning

Observing Template: NIRSpec IFU Spectroscopy

Background Observation For: [13P NIRSpec (Obs 3)]

Diagnostics

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

(13P NIRSpec Background (Obs 4)) Informational (Form): The Visit Planner and Spike may produce different schedulability results.

Solar System Targets

#	Name	Level 1	Level 2	Level 3
(2)	13PBACKGROUND	TYPE=COMET,Q=1.171554340031103,E=0.9297257198241416,I=44.62577272536363,O=85.84644157295183,W=64.55881292749255,T=30-JUN-2024:17:24:01,TTimeScale=TDB,EQUINOX=J2000,EPOCH=22-JUN-2020:00:00:00,EpochTimeScale=TDB,R0=2.808,DT=0.,A1=2.388107031584E-9,A2=5.911552906036E-10,A3=0.,ALN=0.1112620426,NM=2.15,NN=5.093,NK=4.6142,AMRAT=0.	TYPE=POS_ANGLE,RAD=180,ANG=90,REF=SUN	

Comments: Extended=YES

Template

TA Method	HFF Readout Mode
NONE	false

Dithers

#	Dither Type	Size	Starting Point	Number of Points	Points
1	4-POINT-DITHER				

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	2	2	false	true	NONE	4	8	350.133	

Special Requirements	
	Sequence Observations 3, 4, Non-interruptible DEFAULT WINDOW: ANGULAR RATE 13PBACKGROUND FROM JWST LESS THAN 0.075

Observation

Proposal 6116, Observation 5: Q6 NIRSpec Tue Feb 25 20:00:30 GMT 2025

Diagnostic Status: Warning

Observing Template: NIRSpec IFU Spectroscopy

Background Observations:[Q6 NIRSpec Background (Obs 6)]

Diagnostics

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

(Q6 NIRSpec (Obs 5)) Informational (Form): The Visit Planner and Spike may produce different schedulability results.

Solar System Targets

#	Name	Level 1	Level 2	Level 3
(5)	P2001Q6	TYPE=COMET,Q=1.407115226154206,E=0.8224954438756285,I=56.94853830371601,O=22.18497813897631,W=43.10650071099184,T=04-NOV-2001:17:20:30,TTimeScale=TDB,EQUINOX=J2000,EPOCH=01-AUG-2008:00:00:00,EpochTimeScale=TDB,R0=2.808,DT=0.,A1=3.515032529831E-9,A2=3.410590589046E-9,A3=6.274964213371E-9,ALN=0.1112620426,NM=2.15,NN=5.093,NK=4.6142,AMRAT=0.		

Comments: Extended=YES

Template

TA Method	HFF Readout Mode
NONE	false

Dithers

#	Dither Type	Size	Starting Point	Number of Points	Points
1	4-POINT-DITHER				

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	2	2	false	true	NONE	4	8	350.133	

Special Requirements	
	Sequence Observations 5, 6, Non-interruptible DEFAULT WINDOW: ANGULAR RATE P2001Q6 FROM JWST LESS THAN 0.075 DISTANCE P2001Q6 SUN LESS THAN 6

Observation

Proposal 6116, Observation 6: Q6 NIRSpec Background Tue Feb 25 20:00:30 GMT 2025

Diagnostic Status: Warning

Observing Template: NIRSpec IFU Spectroscopy

Background Observation For: [Q6 NIRSpec (Obs 5)]

Diagnostics

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

(Q6 NIRSpec Background (Obs 6)) Informational (Form): The Visit Planner and Spike may produce different schedulability results.

Solar System Targets

#	Name	Level 1	Level 2	Level 3
(6)	P2001Q6Background	TYPE=COMET,Q=1.407115226154206,E=0.8224954438756285,I=56.94853830371601,O=22.18497813897631,W=43.10650071099184,T=04-NOV-2001:17:20:30,TTimeScale=TDB,EQUINOX=J2000,EPOCH=01-AUG-2008:00:00:00,EpochTimeScale=TDB,R0=2.808,DT=0.,A1=3.515032529831E-9,A2=3.410590589046E-9,A3=6.274964213371E-9,ALN=0.1112620426,NM=2.15,NN=5.093,NK=4.6142,AMRAT=0.	TYPE=POS_ANGLE,RAD=180,ANG=90,REF=SUN	

Comments: Extended=Unknown

Template

TA Method	HFF Readout Mode
NONE	false

Dithers

#	Dither Type	Size	Starting Point	Number of Points	Points
1	4-POINT-DITHER				

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	2	2	false	true	NONE	4	8	350.133	

Special Requirements	
	Sequence Observations 5, 6, Non-interruptible DEFAULT WINDOW: ANGULAR RATE P2001Q6Background FROM JWST LESS THAN 0.075

Observation

Proposal 6116, Observation 7: S3 NIRSpec Tue Feb 25 20:00:30 GMT 2025

Diagnostic Status: Warning

Observing Template: NIRSpec IFU Spectroscopy

Background Observations:[S3 NIRSpec Background (Obs 8)]

Diagnostics

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

(S3 NIRSpec (Obs 7)) Informational (Form): The Visit Planner and Spike may produce different schedulability results.

Solar System Targets

#	Name	Level 1	Level 2	Level 3
(7)	C2023S3	TYPE=COMET,Q=0.8301569782002494,E=0.970840295154484,I=140.4980192826371,O=233.8335290858979,W=281.5713087013626,T=19-JAN-2024:14:58:00,TTimeScale=TDB,EQUINOX=J2000,EPOCH=22-DEC-2023:00:00:00,EpochTimeScale=TDB		

Comments: Extended=YES

Template

TA Method	HFF Readout Mode
NONE	false

Dithers

#	Dither Type	Size	Starting Point	Number of Points	Points
1	4-POINT-DITHER				

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	11	1	false	true	NONE	4	4	700.267	

Special Requirements

Sequence Observations 7, 8, Non-interruptible

DEFAULT WINDOW: ANGULAR RATE C2023S3 FROM JWST LESS THAN 0.075
DISTANCE C2023S3 SUN LESS THAN 6

Observation

Proposal 6116, Observation 8: S3 NIRSpec Background Tue Feb 25 20:00:30 GMT 2025

Diagnostic Status: Warning

Observing Template: NIRSpec IFU Spectroscopy

Background Observation For: [S3 NIRSpec (Obs 7)]

Diagnostics

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

(S3 NIRSpec Background (Obs 8)) Informational (Form): The Visit Planner and Spike may produce different schedulability results.

Solar System Targets

#	Name	Level 1	Level 2	Level 3
(8)	C2023S3Background	TYPE=COMET,Q=0.8301569782002494,E=0.970840295154484,I=140.4980192826371,O=233.8335290858979,W=281.5713087013626,T=19-JAN-2024:14:58:00,TTimeScale=TDB,EQUINOX=J2000,EPOCH=22-DEC-2023:00:00:00,EpochTimeScale=TDB	TYPE=POS_ANGLE,RAD=180,ANG=90,REF=SUN	

Comments: Extended=Unknown

Template

TA Method	HFF Readout Mode
NONE	false

Dithers

#	Dither Type	Size	Starting Point	Number of Points	Points
1	4-POINT-DITHER				

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	11	1	false	true	NONE	4	4	700.267	

Special Requirements

Sequence Observations 7, 8, Non-interruptible

DEFAULT WINDOW: ANGULAR RATE C2023S3Background FROM JWST LESS THAN 0.075

Observation

Proposal 6116, Observation 9: A2 NIRSpec Tue Feb 25 20:00:30 GMT 2025

Diagnostic Status: Warning

Observing Template: NIRSpec IFU Spectroscopy

Background Observations:[A2 NIRSpec Background (Obs 10)]

Diagnostics

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

(A2 NIRSpec (Obs 9)) Informational (Form): The Visit Planner and Spike may produce different schedulability results.

Solar System Targets

#	Name	Level 1	Level 2	Level 3
(9)	C2024A2	TYPE=COMET,Q=1.881633424160658,E=0.9417900929869926,I=119.1111217801659,O=78.16706930149165,W=295.5767926760797,T=28-APR-2024:21:35:17,TTimeScale=TDB,EQUINOX=J2000,EPOCH=05-MAR-2024:00:00:00,EpochTimeScale=TDB		

Comments: Extended=YES

Template

TA Method	HFF Readout Mode
NONE	false

Dithers

#	Dither Type	Size	Starting Point	Number of Points	Points
1	4-POINT-DITHER				

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	9	1	false	true	NONE	4	4	583.556	

Special Requirements

Sequence Observations 9, 10, Non-interruptible

DEFAULT WINDOW: ANGULAR RATE C2024A2 FROM JWST LESS THAN 0.075
DISTANCE C2024A2 SUN LESS THAN 6

Observation

Proposal 6116, Observation 10: A2 NIRSpec Background Tue Feb 25 20:00:30 GMT 2025

Diagnostic Status: Warning

Observing Template: NIRSpec IFU Spectroscopy

Background Observation For: [A2 NIRSpec (Obs 9)]

Diagnostics

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

(A2 NIRSpec Background (Obs 10)) Informational (Form): The Visit Planner and Spike may produce different schedulability results.

Solar System Targets

#	Name	Level 1	Level 2	Level 3
(10)	C2024A2Background	TYPE=COMET,Q=1.881633424160658,E=0.941790092986992 6,I=119.1111217801659 ,O=78.16706930149165,W=295.5767926760797,T=28 -APR-2024:21:35:17,TTimeScale=TDB,EQUINOX=J2000,EPOCH=05-MAR-2024:00:00:00,EpochTimeScale=TDB	TYPE=POS_ANGLE,RAD=180,ANG=90,REF=SUN	

Comments: Extended=Unknown

Template

TA Method	HFF Readout Mode
NONE	false

Dithers

#	Dither Type	Size	Starting Point	Number of Points	Points
1	4-POINT-DITHER				

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	9	1	false	true	NONE	4	4	583.556	

Special Requirements

Sequence Observations 9, 10, Non-interruptible

DEFAULT WINDOW: ANGULAR RATE C2024A2Background FROM JWST LESS THAN 0.075

Observation

Proposal 6116, Observation 11: E1 NIRSpec Tue Feb 25 20:00:30 GMT 2025

Diagnostic Status: Warning

Observing Template: NIRSpec IFU Spectroscopy

Background Observations:[E1 NIRSpec Background (Obs 12)]

Diagnostics

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

(E1 NIRSpec (Obs 11)) Informational (Form): The Visit Planner and Spike may produce different schedulability results.

Solar System Targets

#	Name	Level 1	Level 2	Level 3
(11)	C2023E1	TYPE=COMET,Q=1.026605063116829,E=0.9469027481696692,I=38.31298256859169,O=164.5742121655385,W=105.8946154935637,T=01-JUL-2023:02:34:44,TTimeScale=TDB,EQUINOX=J2000,EPOCH=02-JUL-2023:00:00:00,EpochTimeScale=TDB,R0=2.808,DT=0.,A1=3.398198485374E-9,A2=-2.955948933959E-10,A3=2.071892917156E-9,ALN=0.1112620426,NM=2.15,NN=5.093,NK=4.6142,AMRAT=0.		

Comments: Extended=YES

Template

TA Method	HFF Readout Mode
NONE	false

Dithers

#	Dither Type	Size	Starting Point	Number of Points	Points
1	4-POINT-DITHER				

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	11	1	false	true	NONE	4	4	700.267	

Special Requirements	
	Sequence Observations 11, 12, Non-interruptible DEFAULT WINDOW: ANGULAR RATE C2023E1 FROM JWST LESS THAN 0.075 DISTANCE C2023E1 SUN LESS THAN 6

Observation

Proposal 6116, Observation 12: E1 NIRSpec Background Tue Feb 25 20:00:30 GMT 2025

Diagnostic Status: Warning

Observing Template: NIRSpec IFU Spectroscopy

Background Observation For: [E1 NIRSpec (Obs 11)]

Diagnostics

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

(E1 NIRSpec Background (Obs 12)) Informational (Form): The Visit Planner and Spike may produce different schedulability results.

Solar System Targets

#	Name	Level 1	Level 2	Level 3
(12)	C2023E1Background	TYPE=COMET,Q=1.026605063116829,E=0.9469027481696692,I=38.31298256859169,O=164.5742121655385,W=105.8946154935637,T=01-JUL-2023:02:34:44,TTimeScale=TDB,EQUINOX=J2000,EPOCH=02-JUL-2023:00:00:00,EpochTimeScale=TDB,R0=2.808,DT=0.,A1=3.398198485374E-9,A2=-2.955948933959E-10,A3=2.071892917156E-9,ALN=0.1112620426,NM=2.15,NN=5.093,NK=4.6142,AMRAT=0.	TYPE=POS_ANGLE,RAD=180,ANG=90,REF=SUN	

Comments: Extended=Unknown

Template

TA Method	HFF Readout Mode
NONE	false

Dithers

#	Dither Type	Size	Starting Point	Number of Points	Points
1	4-POINT-DITHER				

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	11	1	false	true	NONE	4	4	700.267	

Special Requirements	
	Sequence Observations 11, 12, Non-interruptible DEFAULT WINDOW: ANGULAR RATE C2023E1Background FROM JWST LESS THAN 0.075

Observation

Proposal 6116, Observation 111: E1 NIRSpec Tue Feb 25 20:00:30 GMT 2025

Diagnostic Status: Warning

Observing Template: NIRSpec IFU Spectroscopy

Background Observations:[E1 NIRSpec Background (Obs 112)]

Diagnostics

(Visit 111:1) Warning (Form): Overheads are provisional until the Visit Planner has been run.

(E1 NIRSpec (Obs 111)) Informational (Form): The Visit Planner and Spike may produce different schedulability results.

Solar System Targets

#	Name	Level 1	Level 2	Level 3
(11)	C2023E1	TYPE=COMET,Q=1.026605063116829,E=0.9469027481696692,I=38.31298256859169,O=164.5742121655385,W=105.8946154935637,T=01-JUL-2023:02:34:44,TTimeScale=TDB,EQUINOX=J2000,EPOCH=02-JUL-2023:00:00:00,EpochTimeScale=TDB,R0=2.808,DT=0.,A1=3.398198485374E-9,A2=-2.955948933959E-10,A3=2.071892917156E-9,ALN=0.1112620426,NM=2.15,NN=5.093,NK=4.6142,AMRAT=0.		

Comments: Extended=YES

Template

TA Method	HFF Readout Mode
NONE	false

Dithers

#	Dither Type	Size	Starting Point	Number of Points	Points
1	4-POINT-DITHER				

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	11	1	false	true	NONE	4	4	700.267	

Special Requirements	
	Sequence Observations 111, 112, Non-interruptible DEFAULT WINDOW: ANGULAR RATE C2023E1 FROM JWST LESS THAN 0.075 DISTANCE C2023E1 SUN LESS THAN 7

Observation

Proposal 6116, Observation 112: E1 NIRSpec Background Tue Feb 25 20:00:30 GMT 2025

Diagnostic Status: Warning

Observing Template: NIRSpec IFU Spectroscopy

Background Observation For: [E1 NIRSpec (Obs 111)]

Diagnostics

(Visit 112:1) Warning (Form): Overheads are provisional until the Visit Planner has been run.

(E1 NIRSpec Background (Obs 112)) Informational (Form): The Visit Planner and Spike may produce different schedulability results.

Solar System Targets

#	Name	Level 1	Level 2	Level 3
(12)	C2023E1Background	TYPE=COMET,Q=1.026605063116829,E=0.9469027481696692,I=38.31298256859169,O=164.5742121655385,W=105.8946154935637,T=01-JUL-2023:02:34:44,TTimeScale=TDB,EQUINOX=J2000,EPOCH=02-JUL-2023:00:00:00,EpochTimeScale=TDB,R0=2.808,DT=0.,A1=3.398198485374E-9,A2=-2.955948933959E-10,A3=2.071892917156E-9,ALN=0.1112620426,NM=2.15,NN=5.093,NK=4.6142,AMRAT=0.	TYPE=POS_ANGLE,RAD=180,ANG=90,REF=SUN	

Comments: Extended=Unknown

Template

TA Method	HFF Readout Mode
NONE	false

Dithers

#	Dither Type	Size	Starting Point	Number of Points	Points
1	4-POINT-DITHER				

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	11	1	false	true	NONE	4	4	700.267	

Special Requirements	
	Sequence Observations 111, 112, Non-interruptible DEFAULT WINDOW: ANGULAR RATE C2023E1Background FROM JWST LESS THAN 0.075