



4198 - Multi-Cycle monitoring of the volatile evolution of a returning planetesimal as it approaches perihelion

Cycle: 2, Proposal Category: GO

INVESTIGATORS

<i>Name</i>	<i>Institution</i>
Dr. Bryce Bolin (PI)	Eureka Scientific Inc.
Dr. James M Bauer (CoI)	University of Maryland
Dr. Dennis Bodewits (CoI)	Auburn University
Dr. Michael E Brown (CoI)	California Institute of Technology
Dr. Christine Chen (CoI)	The Johns Hopkins University
Dr. Yanga Fernandez (CoI)	University of Central Florida Board of Trustees
Dr. Joel David Green (CoI)	Space Telescope Science Institute
Dr. Carey Michael Lisse (CoI)	The Johns Hopkins University Applied Physics Laboratory
Prof. Alessandro Morbidelli (CoI) (ESA Member)	Observatoire de la Cote d'Azur
Dr. Keith S. Noll (CoI)	NASA Goddard Space Flight Center
Dr. Mohammad Saki (CoI)	University of Missouri - Saint Louis

OBSERVATIONS

<i>Folder</i>	<i>Observation</i>	<i>Label</i>	<i>Observing Template</i>	<i>Science Target</i>
Observation Folder				
	1	NIRSpecIFU-UN271	NIRSpec IFU Spectroscopy	(1) C2014UN271-NEEDS-OFFSET
	2	NIRSpecIFU-UN271O FFSET	NIRSpec IFU Spectroscopy	(2) C2014UN271-OFFSET
	3	NIRCam-SW1/LW1-U N271	NIRCam Imaging	(3) C2014UN271-NO-OFFSET
	4	NIRSpecIFU-UN271	NIRSpec IFU Spectroscopy	(4) C2014UN271-NEEDS-OFFSET-TRY2

Folder	Observation	Label	Observing Template	Science Target
	5	NIRSpecIFU-UN271OFFSET	NIRSpec IFU Spectroscopy	(6) C2014UN271-OFFSET-TRY2
	6	NIRCam-SW1/LW1-UN271	NIRCam Imaging	(5) C2014UN271-NO-OFFSET-TRY2
	7	NIRSpecIFU-UN271	NIRSpec IFU Spectroscopy	(7) C2014UN271-NEEDS-OFFSET-TRY3
	8	NIRSpecIFU-UN271OFFSET	NIRSpec IFU Spectroscopy	(9) C2014UN271-OFFSET-TRY3
	9	NIRCam-SW1/LW1-UN271	NIRCam Imaging	(8) C2014UN271-NO-OFFSET-TRY3

ABSTRACT

The 140 km diameter Oort Cloud comet C/2014 UN271 is likely one of the original planetesimals that formed in the protoplanetary disk and will reach a perihelion distance of ~ 10 au in 2031. Recent NIRSpec observations of UN271 when it was 18.2 au from the Sun show that it produces considerable quantities of CO₂ and CO with icy grains. While CO can be active at ~ 18 au, the detection of CO₂, normally active inside 13 au, implies that the comet is hyperactive and may possess other cometary volatiles such as NH₃ and amorphous water ice which will become active or crystallize as the comet nears the Sun within the next couple of years. We propose a small multi-Cycle program of 24.66 h with JWST to take near-simultaneous observations of UN271 with NIRSpec and NIRCam to observe the evolution of its volatiles and ices over the next few years. The instruments will be complimentary with NIRSpec providing detailed spectral information the comets near-nucleus coma and NIRCam providing wide-field mapping of volatiles and ices. We will observe UN271 once per cycle with the first observation starting in June 2024 at the end of Cycle 2 when the comet is ~ 16.3 au from the Sun and ending in June 2026 during Cycle 4 when the comet is 14 au from the Sun. Combined with public NIRSpec data, our observations will provide coverage of the comet over a ~ 4 au range during which different cometary volatiles may become active such as NH₃ and water ice can crystallize. Observing the evolution of UN271 will provide groundbreaking and exciting constraints on the volatile contents and evolution of the original planetesimals and protoplanetary disk.

OBSERVING DESCRIPTION

Our science program will consist of three visits at a cadence of once per Cycle for the next three Cycles 2-4. The first visit will occur at the end of Cycle 2 in June 2024, the second visit will occur at the end of Cycle 3 in June 2025 and the third visit will occur at the end of Cycle 4 in June 2026. The total time of one of our combined NIRSpec, NIRSpec offset and NIRCam visits is 8.22. We will be observing our target for three visits, once per Cycle for the next three Cycles for a total request of 24.66 h. Our observations will not need the Background Limited special requirement as the difference between the SNR assuming a high background and the low background at the sky location of UN271 during our expected date of

observations is very small. We will request moving object support since our target is moving 10 arcsec/h, well below the rate of motion limit of JWST.

For our NIRSpec observations, we will use Prism/CLEAR mode and covers an area of 3 arcsec x 3 arcsec centered on the comet at a resolution of 0.1 arcseconds. We will observe using the NRS readout mode taking 21 groups/integrations, 1 integration per exposure with a 4-point dither with a total of 4 integrations for a total exposure time of ~3605 seconds. This will provide a spectrum in each spaxel that has SNR of at least >30 per spectral bin in our relevant wavelength region. The total duration of our observations is ~8,200 s or 2.3 h. We will not use a target acquisition method because the ephemeris uncertainty of the comet is less than 1 arcsecond so the comet's photocenter will fit comfortably within the 3 arcsec field of view of the NIRSpec IFU. We will observe our target with non-sidereal tracking. We will use offset observations for background removal and shadow observations if they become available.

For our NIRCам observations, we will use a single NIRCам module: Module B. We will use an offset of -55 arcsec, -35 arcsec to place our target in the center of NIRCам short wavelength detector B4. The angular size of short wavelength detector B4 is 64 arcsec x 64 arcsec. Thus our target, which is ~10 arcsec in size, will fit comfortably inside detector B4. We will use 6 dithers in INTRAMODULEX mode for flat field removal, PSF sampling, and avoidance of detector artifacts and bad pixels. The 6 INTRAMODULEX dithers will provide full coverage within a ~50 arcsec x 50 arcsec area that the comet will comfortably fit inside. The long wavelength channel will have perfect overlap within this region. Each NIRCам visit will consist of 8 sequences and 16 different filters. We will use the BRIGHT1 and RAPID readout modes.

Proposal 4198 - Targets - Multi-Cycle monitoring of the volatile evolution of a returning planetesimal as it approaches perihelion

Solar System Targets	#	Name	Level 1	Level 2	Level 3
	(1)	C2014UN271-NEEDS-OFFSET	TYPE=COMET,Q=10.93812036249581,E=0.9980426 37323584,I=95.53257687531479 ,O=190.0591064635889,W=326.3837156074493,T=28 -JAN- 2031:02:41:06,TTTimeScale=TDB,EQUINOX=J2000,E POCH=04-OCT-2018:00:00:00,EpochTimeScale=TDB		
	Comments: Extended=YES				
	(2)	C2014UN271-OFFSET	TYPE=COMET,Q=10.93812036249581,E=0.9980426 37323584,I=95.53257687531479 ,O=190.0591064635889,W=326.3837156074493,T=28 -JAN- 2031:02:41:06,TTTimeScale=TDB,EQUINOX=J2000,E POCH=04-OCT-2018:00:00:00,EpochTimeScale=TDB	TYPE=POS_ANGLE,RAD=480,ANG=90,REF=SUN	
	Comments: Extended=YES				
	(3)	C2014UN271-NO-OFFSET	TYPE=COMET,Q=10.93812036249581,E=0.9980426 37323584,I=95.53257687531479 ,O=190.0591064635889,W=326.3837156074493,T=28 -JAN- 2031:02:41:06,TTTimeScale=TDB,EQUINOX=J2000,E POCH=04-OCT-2018:00:00:00,EpochTimeScale=TDB		
	Comments: Extended=YES				
	(4)	C2014UN271-NEEDS-OFFSET-TRY2	TYPE=COMET,Q=10.93746791695995,E=0.9979942 271974012,I=95.52938895221959 ,O=190.0550365541271,W=326.3879696742385,T=28 -JAN- 2031:05:31:45,TTTimeScale=TDB,EQUINOX=J2000,E POCH=12-NOV- 2018:00:00:00,EpochTimeScale=TDB		
	Comments: Extended=YES				
	(5)	C2014UN271-NO-OFFSET-TRY2	TYPE=COMET,Q=10.93746791695995,E=0.9979942 271974012,I=95.52938895221959 ,O=190.0550365541271,W=326.3879696742385,T=28 -JAN- 2031:05:31:45,TTTimeScale=TDB,EQUINOX=J2000,E POCH=12-NOV- 2018:00:00:00,EpochTimeScale=TDB		
	Comments: Extended=YES				
	(6)	C2014UN271-OFFSET-TRY2	TYPE=COMET,Q=10.93746791695995,E=0.9979942 271974012,I=95.52938895221959 ,O=190.0550365541271,W=326.3879696742385,T=28 -JAN- 2031:05:31:45,TTTimeScale=TDB,EQUINOX=J2000,E POCH=12-NOV- 2018:00:00:00,EpochTimeScale=TDB	TYPE=POS_ANGLE,RAD=480,ANG=90,REF=SUN	
	Comments: Extended=YES				
	(7)	C2014UN271-NEEDS-OFFSET-TRY3	TYPE=COMET,Q=10.93072574849941,E=0.9975980 076691106,I=95.48170065193663 ,O=189.9884263817525,W=326.4275669349506,T=29 -JAN- 2031:05:26:07,TTTimeScale=TDB,EQUINOX=J2000,E POCH=12-APR-2020:00:00:00,EpochTimeScale=TDB		
	Comments: Extended=YES				

Proposal 4198 - Targets - Multi-Cycle monitoring of the volatile evolution of a returning planetesimal as it approaches perihelion

(8)	C2014UN271-NO-OFFSET-TRY3	TYPE=COMET,Q=10.93072574849941,E=0.9975980 076691106,I=95.48170065193663 ,O=189.9884263817525,W=326.4275669349506,T=29 -JAN- 2031:05:26:07,TTTimeScale=TDB,EQUINOX=J2000,E POCH=12-APR-2020:00:00:00,EpochTimeScale=TDB <i>Comments: Extended=YES</i>
(9)	C2014UN271-OFFSET-TRY3	TYPE=COMET,Q=10.93072574849941,E=0.9975980 TYPE=POS_ANGLE,RAD=480,ANG=90,REF=SUN 076691106,I=95.48170065193663 ,O=189.9884263817525,W=326.4275669349506,T=29 -JAN- 2031:05:26:07,TTTimeScale=TDB,EQUINOX=J2000,E POCH=12-APR-2020:00:00:00,EpochTimeScale=TDB <i>Comments: Extended=YES</i>

Proposal 4198 - Observation 1 - Multi-Cycle monitoring of the volatile evolution of a returning planetesimal as it approaches perihelion

Observation	Proposal 4198, Observation 1: NIRSpecIFU-UN271											Wed Sep 03 00:00:10 GMT 2025
	Diagnostic Status: Warning											
	Observing Template: NIRSpec IFU Spectroscopy											
	Background Observations:[NIRSpecIFU-UN271OFFSET (Obs 2)]											
Diagnostics	(Visit 1:1) Warning (Form): Overheads are provisional until the Visit Planner has been run.											
	(NIRSpecIFU-UN271 (Obs 1)) Informational (Form): The Visit Planner and Spike may produce different schedulability results.											
Solar System Targets	#	Name	Level 1				Level 2				Level 3	
	(1)	C2014UN271-NEEDS-OFFSET	TYPE=COMET,Q=10.93812036249581,E=0.9980426 37323584,I=95.53257687531479 ,O=190.0591064635889,W=326.3837156074493,T=28 -JAN- 2031:02:41:06,TTimeScale=TDB,EQUINOX=J2000,E POCH=04-OCT-2018:00:00:00,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	Optional ETC ID
	1	PRISM/CLEAR	NRS	20	1	false	true	NONE	4	4	3478.713	
Special Requirements	Between Dates 04-JUN-2024:00:00:00 and 31-JUL-2024:00:00:00											
	Sequence Observations 1, 2, 3, Non-interruptible											
	DEFAULT WINDOW: ANGULAR RATE C2014UN271-NEEDS-OFFSET FROM JWST LESS THAN 0.075											

Proposal 4198 - Observation 2 - Multi-Cycle monitoring of the volatile evolution of a returning planetesimal as it approaches perihelion

Observation	Proposal 4198, Observation 2: NIRSpecIFU-UN271OFFSET											Wed Sep 03 00:00:10 GMT 2025	
	Diagnostic Status: Warning												
	Observing Template: NIRSpec IFU Spectroscopy												
	Background Observation For: [NIRSpecIFU-UN271 (Obs 1)]												
Diagnostics	(Visit 2:1) Warning (Form): Overheads are provisional until the Visit Planner has been run.												
	(NIRSpecIFU-UN271OFFSET (Obs 2)) Informational (Form): The Visit Planner and Spike may produce different schedulability results.												
Solar System Targets	#	Name			Level 1			Level 2			Level 3		
	(2)	C2014UN271-OFFSET			TYPE=COMET,Q=10.93812036249581,E=0.9980426 37323584,I=95.53257687531479 ,O=190.0591064635889,W=326.3837156074493,T=28 -JAN- 2031:02:41:06,TTimeScale=TDB,EQUINOX=J2000,E POCH=04-OCT-2018:00:00:00,EpochTimeScale=TDB			TYPE=POS_ANGLE,RAD=480,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	Optional ETC ID
	1	PRISM/CLEAR		NRS	20	1	false	true	NONE	4	4	3478.713	
Special Requirements	Between Dates 04-JUN-2024:00:00:00 and 31-JUL-2024:00:00:00												
	Sequence Observations 1, 2, 3, Non-interruptible												
	DEFAULT WINDOW: ANGULAR RATE C2014UN271-OFFSET FROM JWST LESS THAN 0.075												

Proposal 4198 - Observation 3 - Multi-Cycle monitoring of the volatile evolution of a returning planetesimal as it approaches perihelion

Observation	Proposal 4198, Observation 3: NIRCam-SW1/LW1-UN271									Wed Sep 03 00:00:10 GMT 2025	
	Diagnostic Status: Warning Observing Template: NIRCam Imaging										
Diagnostics	(Visit 3:1) Warning (Form): Data Excess over lower threshold (Visit 3:1) Warning (Form): Overheads are provisional until the Visit Planner has been run. (NIRCam-SW1/LW1-UN271 (Obs 3)) Informational (Form): The Visit Planner and Spike may produce different schedulability results.										
Solar System Targets	#	Name	Level 1	Level 2			Level 3				
	(3)	C2014UN271-NO-OFFSET	TYPE=COMET,Q=10.93812036249581,E=0.9980426 37323584,I=95.53257687531479 ,O=190.0591064635889,W=326.3837156074493,T=28 -JAN- 2031:02:41:06,TTimeScale=TDB,EQUINOX=J2000,E POCH=04-OCT-2018:00:00:00,EpochTimeScale=TDB Comments: Extended=YES								
Template	Module				Subarray						
	B				FULL						
Dithers	#	Primary Dither Type		Primary Dithers		Subpixel Dither Type		Dither Size		Subpixel Positions	
	1	INTRAMODULEX		4		STANDARD				1	
Spectral Elements	#	Short Filter	Long Filter	Readout Pattern	Groups/Int	Integrations/Exp	Total Integrations	Total Dithers	Total Exposure Time	Optional ETC ID	
	1	F090W	F300M	BRIGHT1	6	4	16	4	2018.513	145685	
	2	F115W	F430M	BRIGHT1	6	4	16	4	2018.513	145685	
	3	F150W	F460M	BRIGHT1	6	4	16	4	2018.513	145685	
	4	F200W	F444W	BRIGHT1	6	4	16	4	2018.513	145685	
	5	F150W2	F322W2	RAPID	2	10	40	4	1245.465	145685	
Special Requirements	Between Dates 04-JUN-2024:00:00:00 and 31-JUL-2024:00:00:00 Offset 38.0 arcsec, 38.0 arcsec Sequence Observations 1, 2, 3, Non-interruptible DEFAULT WINDOW: ANGULAR RATE C2014UN271-NO-OFFSET FROM JWST LESS THAN 0.075										

Proposal 4198 - Observation 4 - Multi-Cycle monitoring of the volatile evolution of a returning planetesimal as it approaches perihelion

Observation	Proposal 4198, Observation 4: NIRSpecIFU-UN271											Wed Sep 03 00:00:10 GMT 2025	
	Diagnostic Status: Warning												
	Observing Template: NIRSpec IFU Spectroscopy												
	Background Observations:[NIRSpecIFU-UN271OFFSET (Obs 5)]												
Diagnostics	(Visit 4:1) Warning (Form): Overheads are provisional until the Visit Planner has been run.												
	(NIRSpecIFU-UN271 (Obs 4)) Informational (Form): The Visit Planner and Spike may produce different schedulability results.												
Solar System Targets	#	Name		Level 1			Level 2			Level 3			
	(4)	C2014UN271-NEEDS-OFFSET-TRY2		TYPE=COMET,Q=10.93746791695995,E=0.9979942 271974012,I=95.52938895221959 ,O=190.0550365541271,W=326.3879696742385,T=28 -JAN- 2031:05:31:45,TTimeScale=TDB,EQUINOX=J2000,E POCH=12-NOV- 2018:00:00:00,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	Optional ETC ID
	1	PRISM/CLEAR		NRS	20	1	false	true	NONE	4	4	3478.713	
Special Requirements	Between Dates 07-AUG-2024:00:00:00 and 09-DEC-2024:00:00:00												
	Sequence Observations 4, 5, 6, Non-interruptible												
	DEFAULT WINDOW: ANGULAR RATE C2014UN271-NEEDS-OFFSET-TRY2 FROM JWST LESS THAN 0.075												

Proposal 4198 - Observation 5 - Multi-Cycle monitoring of the volatile evolution of a returning planetesimal as it approaches perihelion

Observation	Proposal 4198, Observation 5: NIRSpecIFU-UN271OFFSET											Wed Sep 03 00:00:10 GMT 2025
	Diagnostic Status: Warning											
	Observing Template: NIRSpec IFU Spectroscopy											
	Background Observation For: [NIRSpecIFU-UN271 (Obs 4)]											
Diagnostics	(Visit 5:1) Warning (Form): Overheads are provisional until the Visit Planner has been run.											
	(NIRSpecIFU-UN271OFFSET (Obs 5)) Informational (Form): The Visit Planner and Spike may produce different schedulability results.											
Solar System Targets	#	Name	Level 1				Level 2				Level 3	
	(6)	C2014UN271-OFFSET-TRY2	TYPE=COMET,Q=10.93746791695995,E=0.9979942 271974012,I=95.52938895221959 ,O=190.0550365541271,W=326.3879696742385,T=28 -JAN- 2031:05:31:45,TTimeScale=TDB,EQUINOX=J2000,E POCH=12-NOV- 2018:00:00:00,EpochTimeScale=TDB				TYPE=POS_ANGLE,RAD=480,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	Optional ETC ID
	1	PRISM/CLEAR	NRS	20	1	false	true	NONE	4	4	3478.713	
Special Requirements	Between Dates 07-AUG-2024:00:00:00 and 09-DEC-2024:00:00:00											
	Sequence Observations 4, 5, 6, Non-interruptible											
	DEFAULT WINDOW: ANGULAR RATE C2014UN271-OFFSET-TRY2 FROM JWST LESS THAN 0.075											

Proposal 4198 - Observation 6 - Multi-Cycle monitoring of the volatile evolution of a returning planetesimal as it approaches perihelion

Observation	Proposal 4198, Observation 6: NIRCam-SW1/LW1-UN271										Wed Sep 03 00:00:10 GMT 2025
	Diagnostic Status: Warning										
	Observing Template: NIRCam Imaging										
Diagnostics	(Visit 6:1) Warning (Form): Data Excess over lower threshold										
	(Visit 6:1) Warning (Form): Overheads are provisional until the Visit Planner has been run.										
	(NIRCam-SW1/LW1-UN271 (Obs 6)) Informational (Form): The Visit Planner and Spike may produce different schedulability results.										
Solar System Targets	#	Name	Level 1			Level 2			Level 3		
	(5)	C2014UN271-NO-OFFSET-TRY2	TYPE=COMET,Q=10.93746791695995,E=0.9979942 271974012,I=95.52938895221959 ,O=190.0550365541271,W=326.3879696742385,T=28 -JAN- 2031:05:31:45,TTimeScale=TDB,EQUINOX=J2000,E POCH=12-NOV- 2018:00:00:00,EpochTimeScale=TDB								
	Comments: Extended=YES										
Template	Module					Subarray					
	B					FULL					
Dithers	#	Primary Dither Type		Primary Dithers		Subpixel Dither Type		Dither Size		Subpixel Positions	
	1	INTRAMODULEX		4		STANDARD				1	
Spectral Elements	#	Short Filter	Long Filter	Readout Pattern	Groups/Int	Integrations/Exp	Total Integrations	Total Dithers	Total Exposure Time	Optional ETC ID	
	1	F090W	F300M	BRIGHT1	6	4	16	4	2018.513	145685	
	2	F115W	F430M	BRIGHT1	6	4	16	4	2018.513	145685	
	3	F150W	F460M	BRIGHT1	6	4	16	4	2018.513	145685	
	4	F200W	F444W	BRIGHT1	6	4	16	4	2018.513	145685	
	5	F150W2	F322W2	RAPID	2	10	40	4	1245.465	145685	
Special Requirements	Between Dates 07-AUG-2024:00:00:00 and 09-DEC-2024:00:00:00										
	Offset 38.0 arcsec, 38.0 arcsec										
	Sequence Observations 4, 5, 6, Non-interruptible										
	DEFAULT WINDOW: ANGULAR RATE C2014UN271-NO-OFFSET-TRY2 FROM JWST LESS THAN 0.075										

Proposal 4198 - Observation 7 - Multi-Cycle monitoring of the volatile evolution of a returning planetesimal as it approaches perihelion

Observation	Proposal 4198, Observation 7: NIRSpecIFU-UN271												Wed Sep 03 00:00:10 GMT 2025
	Diagnostic Status: Warning												
	Observing Template: NIRSpec IFU Spectroscopy												
	Background Observations:[NIRSpecIFU-UN271OFFSET (Obs 8)]												
Diagnostics	(Visit 7:1) Warning (Form): Overheads are provisional until the Visit Planner has been run.												
	(NIRSpecIFU-UN271 (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)	C2014UN271-NEEDS-OFFSET-TRY3	TYPE=COMET,Q=10.93072574849941,E=0.9975980 076691106,I=95.48170065193663 ,O=189.9884263817525,W=326.4275669349506,T=29 -JAN- 2031:05:26:07,TTimeScale=TDB,EQUINOX=J2000,E POCH=12-APR-2020:00:00:00,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	Optional ETC ID	
	1	G395H/F290LP	NRSIRS2RAPID	85	1	false	true	NONE	4	4	5018.578		
	2	G395M/F290LP	NRSIRS2RAPID	40	1	false	true	NONE	4	4	2392.578		
	3	G235M/F170LP	NRSIRS2RAPID	10	1	false	true	NONE	4	4	641.911		
	4	G140M/F100LP	NRSIRS2RAPID	10	1	false	true	NONE	4	4	641.911		
Special Requirements	Between Dates 25-JUL-2025:00:00:00 and 13-NOV-2025:00:00:00												
	Sequence Observations 7, 8, 9, Non-interruptible												
	DEFAULT WINDOW: ANGULAR RATE C2014UN271-NEEDS-OFFSET-TRY3 FROM JWST LESS THAN 0.075												

Proposal 4198 - Observation 8 - Multi-Cycle monitoring of the volatile evolution of a returning planetesimal as it approaches perihelion

Observation	Proposal 4198, Observation 8: NIRSpecIFU-UN271OFFSET											Wed Sep 03 00:00:10 GMT 2025
	Diagnostic Status: Warning											
	Observing Template: NIRSpec IFU Spectroscopy											
	Background Observation For: [NIRSpecIFU-UN271 (Obs 7)]											
Diagnostics	(Visit 8:1) Warning (Form): Overheads are provisional until the Visit Planner has been run.											
	(NIRSpecIFU-UN271OFFSET (Obs 8)) Informational (Form): The Visit Planner and Spike may produce different schedulability results.											
Solar System Targets	#	Name	Level 1				Level 2				Level 3	
	(9)	C2014UN271-OFFSET-TRY3	TYPE=COMET,Q=10.93072574849941,E=0.9975980 076691106,I=95.48170065193663 ,O=189.9884263817525,W=326.4275669349506,T=29 -JAN- 2031:05:26:07,TTimeScale=TDB,EQUINOX=J2000,E POCH=12-APR-2020:00:00:00,EpochTimeScale=TDB				TYPE=POS_ANGLE,RAD=480,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	2-POINT-NOD										
Spectral Elements	#	Grating/Filter	Readout Pattern	Groups/Int	Integrations/Exp	Leakcal	Dither	Autocal	Total Dithers	Total Integrations	Total Exposure Time	Optional ETC ID
	1	G395H/F290LP	NRSIRS2RAPID	85	1	false	true	NONE	2	2	2509.289	
	2	G395M/F290LP	NRSIRS2RAPID	40	1	false	true	NONE	2	2	1196.289	
	3	G235M/F170LP	NRSIRS2RAPID	10	1	false	true	NONE	2	2	320.956	
	4	G140M/F100LP	NRSIRS2RAPID	10	1	false	true	NONE	2	2	320.956	
Special Requirements	Between Dates 25-JUL-2025:00:00:00 and 13-NOV-2025:00:00:00											
	Sequence Observations 7, 8, 9, Non-interruptible											
	DEFAULT WINDOW: ANGULAR RATE C2014UN271-OFFSET-TRY3 FROM JWST LESS THAN 0.075											

Proposal 4198 - Observation 9 - Multi-Cycle monitoring of the volatile evolution of a returning planetesimal as it approaches perihelion

Observation	Proposal 4198, Observation 9: NIRCam-SW1/LW1-UN271										Wed Sep 03 00:00:10 GMT 2025
	Diagnostic Status: Warning Observing Template: NIRCam Imaging										
Diagnostics	(Visit 9:1) Warning (Form): Overheads are provisional until the Visit Planner has been run. (NIRCam-SW1/LW1-UN271 (Obs 9)) Informational (Form): The Visit Planner and Spike may produce different schedulability results.										
Solar System Targets	#	Name	Level 1			Level 2			Level 3		
	(8)	C2014UN271-NO-OFFSET-TRY3	TYPE=COMET,Q=10.93072574849941,E=0.9975980 076691106,I=95.48170065193663 ,O=189.9884263817525,W=326.4275669349506,T=29 -JAN- 2031:05:26:07,TTimeScale=TDB,EQUINOX=J2000,E POCH=12-APR-2020:00:00:00,EpochTimeScale=TDB Comments: Extended=YES								
Template	Module					Subarray					
	B					FULL					
Dithers	#	Primary Dither Type		Primary Dithers		Subpixel Dither Type		Dither Size		Subpixel Positions	
	1	INTRAMODULEX		4		STANDARD				1	
Spectral Elements	#	Short Filter	Long Filter	Readout Pattern	Groups/Int	Integrations/Exp	Total Integrations	Total Dithers	Total Exposure Time	Optional ETC ID	
	1	F212N	F460M	RAPID	10	1	4	4	429.471	145685	
	2	F164N+F150W2	F430M	RAPID	10	1	4	4	429.471	145685	
	3	F187N	F335M	RAPID	10	1	4	4	429.471	145685	
	4	F070W	F360M	RAPID	5	1	4	4	214.735	145685	
Special Requirements	Between Dates 25-JUL-2025:00:00:00 and 13-NOV-2025:00:00:00 Offset 38.0 arcsec, 38.0 arcsec Sequence Observations 7, 8, 9, Non-interruptible DEFAULT WINDOW: ANGULAR RATE C2014UN271-NO-OFFSET-TRY3 FROM JWST LESS THAN 0.075										