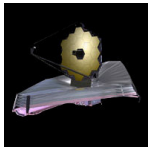

1373 - ERS observations of the Jovian System as a demonstration of JWST capabilities for Solar System science

Cycle: 1, Proposal Category: ERS

INVESTIGATORS

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Michael H. Wong (CoI) (Contact)	University of California - Berkeley
Prof. Katherine de Kleer (CoI)	California Institute of Technology

OBSERVATIONS

Folder	*Observation*	*Label*	*Observing Template*	*Science Target*
Jupiter - South Pole				
	2	Jupiter South Pole 1 - MIRI MRS	MIRI Medium Resolution Spectroscopy	(23) JUPITER-FIXED-68S

Folder	*Observation*	*Label*	*Observing Template*	*Science Target*
	3	Jupiter South Pole - NIRSpec IFU High Res G395H	NIRSpec IFU Spectroscopy	(32) JUPITER-FIXED-66S
	4	Jupiter South Pole 2 - MIRI MRS	MIRI Medium Resolution Spectroscopy	(23) JUPITER-FIXED-68S
	25	Jupiter South Pole - NIRSpec IFU High Res G235H	NIRSpec IFU Spectroscopy	(33) JUPITER-FIXED-62S
	26	Jupiter South Pole 3 - MIRI MRS	MIRI Medium Resolution Spectroscopy	(23) JUPITER-FIXED-68S
Jupiter - GRS				
	5	Jupiter GRS - NIRSpec IFU High Res	NIRSpec IFU Spectroscopy	(4) JUPITER-GRS
	6	Jupiter 1 - NIRCAM SUB640	NIRCam Imaging	(6) JUPITER
	7	Jupiter 2 - NIRCAM SUB640	NIRCam Imaging	(6) JUPITER
	8	Jupiter 1 - NIRCAM Full	NIRCam Imaging	(6) JUPITER
	9	Jupiter 2 - NIRCAM Full	NIRCam Imaging	(6) JUPITER
Ring System - NIRCAM				
	10	Ring System Leading 1 - NIRCAM Full	NIRCam Imaging	(6) JUPITER
	11	Main Ring Ansa - NIRCAM SUB400P	NIRCam Imaging	(30) JUPITER-MAINRING-WEST
	33	Main Ring Ansa - NIRCAM SUB400P	NIRCam Imaging	(35) JUPITER-MAINRING-EAST
	12	Ring System Leading 2 - NIRCAM Full	NIRCam Imaging	(6) JUPITER
	13	Ring System Trailing 1 - NIRCAM Full	NIRCam Imaging	(6) JUPITER
	14	Ring System Trailing 2 - NIRCAM Full	NIRCam Imaging	(6) JUPITER
Io - MIRI, NIRSpec				
	15	Io Leading Hemisphere - MIRI MRS	MIRI Medium Resolution Spectroscopy	(7) IO

Folder	*Observation*	*Label*	*Observing Template*	*Science Target*
	31	Io Leading Hemisphere - MIRI MRS	MIRI Medium Resolution Spectroscopy	(7) IO
	16	Io Eclipse - NIRSpec IFU Short	NIRSpec IFU Spectroscopy	(7) IO
	34	Io Eclipse - NIRSpec IFU Short	NIRSpec IFU Spectroscopy	(7) IO
	36	Io Eclipse - NIRSpec IFU Short	NIRSpec IFU Spectroscopy	(7) IO
	24	Io Eclipse - NIRSpec IFU Long	NIRSpec IFU Spectroscopy	(7) IO
	35	Io Eclipse - NIRSpec IFU Long	NIRSpec IFU Spectroscopy	(7) IO
Io - NIRISS AMI				
	17	Io disk - NIRISS SUB80	NIRISS Aperture Masking Interferometry	(7) IO
Ganymede - MIRI, NIRSpec				
	18	Ganymede Leading Hemisphere - MIRI MRS	MIRI Medium Resolution Spectroscopy	(1) GANYMEDE
	19	Ganymede Leading Hemisphere - NIRSpec IFU High Res	NIRSpec IFU Spectroscopy	(1) GANYMEDE
	27	Ganymede Trailing Hemisphere - MIRI MRS	MIRI Medium Resolution Spectroscopy	(1) GANYMEDE
	28	Ganymede Trailing Hemisphere - NIRSpec IFU High Res	NIRSpec IFU Spectroscopy	(1) GANYMEDE
	20	Ganymede Eclipse - NIRSpec IFU Low Res	NIRSpec IFU Spectroscopy	(1) GANYMEDE
Calibrations				
	1	MIRI Background - Jupiter 5x16	MIRI Medium Resolution Spectroscopy	(3) BACKGROUND+90N
	22	MIRI Background - Ganymede Leading 5x44	MIRI Medium Resolution Spectroscopy	(31) BG-GANYMEDE+20N
	32	MIRI Background - Io Leading 5x16	MIRI Medium Resolution Spectroscopy	(36) BG-IO+SXSW
	29	MIRI Background - Ganymede Trailing 5x44	MIRI Medium Resolution Spectroscopy	(31) BG-GANYMEDE+20N

Folder	*Observation*	*Label*	*Observing Template*	*Science Target*
	30	MIRI Background - Ganymede Trailing 5x44	MIRI Medium Resolution Spectroscopy	(31) BG-GANYMEDE+20N
	23	NIRISS PSF - AMI	NIRISS Aperture Masking Interferometry	(29) PSFCAL.2022A-HD2236-K6

ABSTRACT

We have brought together a large and diverse community in the US and Europe to observe the jovian system, with the following scientific goals:

- characterize Jupiter's cloud layers, winds, composition, auroral activity, and temperature structure;

- produce maps of the atmosphere and surface of volcanically-active Io and icy satellite Ganymede to constrain their thermal and atmospheric structure, and search for plumes;

- characterize the ring structure, and its sources, sinks and evolution.

Our program will thus demonstrate the capabilities of JWST's instruments on one of the largest and brightest sources in the Solar System and on very faint targets next to it. We will also observe weak emission/absorption bands on strong continua, and with NIRIS/AMI we will maximize the Strehl ratio on unresolved features, such as Io's volcanoes.

We will deliver a number of science enabling products that will facilitate community science, including, e.g.: i) characterizing Jupiter's scattered light in the context of scientific observations, ii) resolve point sources with AMI in a crowded field (Io's volcanoes), and compare this to classical observations, iii) develop tools to mosaic/visualize spectral datacubes using MIRI and NIRSpec on Jupiter.
Finally, our program will also set a first temporal benchmark to study time variations in the jovian system and any interconnectivity (e.g., through its magnetic field) during JWST's lifetime.

OBSERVING DESCRIPTION

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SUMMARY OF OBSERVATIONS

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Jupiter - MIRI

(2-4) Jupiter South Pole - MIRI MRS 4.9–28.5 micron

Timing/constraints: Avoid moons or their shadows blocking the target. Maintain fixed pointing at 75 deg south as the planet rotates, to build up longitude coverage (three separate MIRI exposures). Do sky background scan up to 5 hours before science observation. Sequence with NIRSpec to observe south polar region within a single Jupiter rotation. Central Meridian Longitude (CML) constraint: First MIRI observation starts with CML in (-80, -12), so that final NIRSpec observation will finish with CML in (+63, +129).

Jupiter - NIRSpec

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(5) Jupiter GRS - NIRSpec IFU High Res 1.7-5.3 micron (G395H, G235H)

Timing/constraints: Mosaic (2x3) is centered on planetographic target JUPITER-GRS, which tracks the estimated position of the Great Red Spot. Target must remain inside 6" of Jupiter's limb during the observation, so within 41-46 deg of the CML. We will work with schedulers at STScI to make sure observation will occur close in time to GTO observations of the GRS with MIRI.

(25) Jupiter South Pole - NIRSpec IFU High Res 2.9-5.3 micron (G395H)
(26) Jupiter South Pole - NIRSpec IFU High Res 1.7-3.2 micron (G235H)

Timing/constraints: Observations sequence immediately after MIRI South Pole spectra, giving estimated CMLs (+22, +103) for the long wavelengths (including start time uncertainty) and (+63, +129) for the short wavelengths. Mosaic size is 2x3 for long wavelengths, 1x3 for short wavelengths. Mosaics will track a point (at +75 W) on the southern auroral oval as it rotates. Avoid moons or their shadows blocking the target.

Jupiter - NIRCAM

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(6) Jupiter 1 - NIRCAM SUB640 (F164N / F360M)
(7) Jupiter 2 - NIRCAM SUB640 (F164N / F405N)
(8) Jupiter 1 - NIRCAM Full Module B (F212N / F335M)
(9) Jupiter 2 - NIRCAM Full Module B (F212N / F335M)

Timing/constraints: Jupiter 2 (SUB640 + FULL) follows Jupiter within three Jupiter rotations for to observe temporal evolution of storm systems. For Obs. 6, use a "PHASE" special timing requirement to ensure the GRS is on the face of the planet, but track planet center with JWST. Calculation of the PHASE constraint is described in Obs. 6 comments. Obs. 7-9 have no specific constraint to position the GRS, relying only on the SEQUENCE and AFTER constraints. SUB640 observations use a 4-point INTRAMODULEBOX dither to cover detector gap. FULL observations offset from Bs aperture to B3 aperture avoid detector edge gaps. B1, B2, or B4 apertures are just as good, so we could switch if observatory verification finds one of these apertures to be better for imaging. Restrict V3 to 241-250 deg to ensure mosaic axis is aligned with planet spin axis for the 2022A epoch (JWST-leading). Avoid moons or their shadows blocking the disk.

Rings - NIRCAM (F212N / F150W2 / F250M / F322W2)
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(10) Ring System Leading 1 - NIRCAM Full Module B
(11) Main Ring Ansa - NIRCAM SUB400P
(12) Ring System Leading 2 - NIRCAM Full Module B
(13) Ring System Trailing 1 - NIRCAM Full Module B
(14) Ring System Trailing 2 - NIRCAM Full Module B

Timing/constraints: Ring System Portraits are in pairs, separated by 1-3 hrs or 5-7 hrs, to avoid orbital longitude aliasing by the moons Adrestea and Metis (whose periods are 8 hrs). Pairs also have 10 +/- 1 deg roll angle separations to enable scattered light background subtraction. Separation between epochs (Leading and Trailing JWST around the Sun) is ideal for detecting spiral density waves. Major moons are required to be outside the ring area. Solar System Target Windows are set to exclude the smaller moons from the SUB400P FOV area, using orbital longitude constraints.

Io - MIRI, NIRSpec

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(15) Io Leading Hemisphere - MIRI MRS 4.9–28.5 micron
(16) Io in Eclipse - NIRSpec IFU High Res 0.97–1.89 micron (G140H/F100LP)
(24) Io in Eclipse - NIRSpec IFU High Res 1.66–5.3 micron (G235H/F170LP, G395H/F290LP)

Timing/constraints: For MIRI, use Central Meridian Longitude constraint to ensure leading hemisphere is observed, and ensure separation from planet is large. We use a 2-point dither to nod the target on-detector, rather than acquiring a separate background frame. Group these observations with other Io and Jupiter observations to save on major slew overheads. NIRSpec eclipse observations must happen while Io is in full umbral eclipse; this happens only 24 times per epoch, so we did not try to bundle the eclipse observation with other jovian system observations. Due to the limited duration of Io eclipse events, break the NIRSpec spectrum into separate short-wavelength and long-wavelength observations, to be conducted during separate eclipses.

Io - NIRISS AMI

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(17) Io near elongation from Jupiter - NIRISS NRM/F430M (AMI)

Timing/constraints: Use Central Meridian Longitude constraint to ensure leading hemisphere is observed by NIRISS, and ensure separation from planet is large. Do NIRISS PSF calibrator observation within 5 hours of science observation. Group these observations with other Io and Jupiter observations to save on major slew overheads. PSF calibrator star is chosen to be close to target in the 2022A timeframe; use alternate calibration star if timing changes again due to additional launch delay(s).

Ganymede - MIRI, NIRSpec

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(18) Ganymede Leading Hemisphere - MIRI MRS 4.9–28.5 micron
(19) Ganymede Leading Hemisphere - NIRSpec IFU High Res 2.9–5.3 micron (F395H/F290LP)
(20) Ganymede in Eclipse - NIRSpec IFU Low Res 0.6–5.3 micron (PRISM)

Timing/constraints: Use Central Meridian Longitude constraint to ensure leading hemisphere is observed by NIRSpec and MIRI and ensure separation from planet is large. Do MIRI background observation within 5 hours of science observation. Group non-eclipse observations with other Jupiter and rings observations to save on major slew overheads. NIRSpec eclipse observation must happen while Ganymede is in full umbral eclipse; this happens only 7 times per epoch.

Calibrations

(1,22) MIRI Backgrounds

Test of MIRI sky background standard procedure, using parameters for bright objects. Backgrounds used for Jupiter and Ganymede observations. Same background target used (90 arcsec N of Jupiter). Jupiter observations use 4 group/int just like GTO program; so GTO and ERS can be done around the same time, one program may eliminate a background.

(23) NIRISS PSF

Not known until post-launch whether PSF stability requires these extra calibration PSF observations. But we are prepared. PSF star is far from Io so another 1800-sec slew overhead is charged.

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Miscellaneous
(29)	PSFCAL.2022A-HD2236-K6	RA: 00 26 12.0759 (6.5503163d) Dec: +01 09 51.32 (1.16426d) Equinox: J2000	Proper Motion RA: -14.779 mas/yr Proper Motion Dec: -8.580 mas/yr Parallax: 0.0033333" Epoch of Position: 2015.5	

Comments: This object was found using the SearchCal tool (http://www.jmmc.fr/searchcal_page.htm) with PM/parallax values confirmed in Simbad (http://simbad.u-strasbg.fr/simbad)

NIRISS AMI PSF calibrator 2022A

K0III C / K=6.302
Category=Calibration
Description=[Point spread function]

Solar System Targets

#	Name	Level 1	Level 2	Level 3
(1)	GANYMEDE	STD=JUPITER	STD=GANYMEDE	
Comments: Extended=YES				
(3)	BACKGROUND+90N	STD=JUPITER	TYPE=POS_ANGLE,RAD=90,ANG=0,REF=NORTH	
Comments: MIRI MRS background should be 90 deg N of Jupiter for JWST-leading orientation (e.g., Jupiter in 2022-Jun-23 to 2022-Aug-1 range). Switch background to 90 deg S of Jupiter for JWST-trailing orientation (this keeps Jupiter off of the MIRI imager apertures). Extended=YES				
(4)	JUPITER-GRS	STD=JUPITER	TYPE=PGRAPHIC,LONG=265.6,LAT=-20.7,R_LONG=0.319,R_LAT=0,EPOCH=30-APR-2022:12:00:00,EpochTimeScale=UTC	
Comments: updated 2022-05-30 by Ricardo Hueso including recent amateur data updated 2021-09-17 by Mike Wong using data from HST/OPAL, Jupos, and Chris Go available in Sept. 2021 updated 2020-02-27 by Pat Fry using 5 years of HST OPAL data updated 2019-06-03 using JuposDriftCharts-2019-04-26 Extended=YES				
(6)	JUPITER	STD=JUPITER		
Comments: Extended=YES				
(7)	IO	STD=JUPITER	STD=IO	
Comments: Extended=YES				
(23)	JUPITER-FIXED-68S	STD=JUPITER	TYPE=TORUS,LONG=0,LAT=-68,RAD=67451,POLE_LONG=0,POLE_LAT=+90,O_LONG=0,O_LAT=0,O_RAD=0	
Comments: FIXED (non-rotating) southern hemisphere target, for MIRI rotationally-dithered mosaic. Updated to 68 deg S planetocentric (70.6 deg S planetographic), Fletcher 2022-07-06. Extended=YES				
(30)	JUPITER-MAINRING-WEST	STD=JUPITER	TYPE=TORUS,LONG=90,LAT=0,RAD=120000,POLE_LONG=0,POLE_LAT=+90,O_LONG=0,O_LAT=0,O_RAD=0	
Comments: Used only if observation 11 falls in JWST-leading field of regard ("A" semesters) Extended=YES				
(31)	BG-GANYMEDE+20N	STD=JUPITER	STD=GANYMEDE	TYPE=POS_ANGLE,RAD=20,ANG=0,REF=NORTH
Comments: MIRI MRS background for Ganymede should be 20 arcsec N of Ganymede, to make sure it is off the MIRI FOV but keeps Jupiter at approximately the same relative sky position. Extended=YES				
(32)	JUPITER-FIXED-66S	STD=JUPITER	TYPE=TORUS,LONG=3,LAT=-66,RAD=67559.4,POLE_LONG=0,POLE_LAT=+90,O_LONG=0,O_LAT=0,O_RAD=0	
Comments: FIXED (non-rotating) southern hemisphere target, for NIRSPEC mosaic tracking disk center (no rotation). Extended=YES				
(33)	JUPITER-FIXED-62S	STD=JUPITER	TYPE=TORUS,LONG=3,LAT=-62,RAD=67798.7,POLE_LONG=0,POLE_LAT=+90,O_LONG=0,O_LAT=0,O_RAD=0	
Comments: FIXED (non-rotating) southern hemisphere target, for NIRSPEC mosaic tracking disk center (no rotation). Extended=YES				
(35)	JUPITER-MAINRING-EAST	STD=JUPITER	TYPE=TORUS,LONG=270,LAT=0,RAD=120000,POLE_LONG=0,POLE_LAT=+90,O_LONG=0,O_LAT=0,O_RAD=0	
Comments: Used only if observation 33 falls in JWST-trailing field of regard ("B" semesters) Extended=YES				

	(36)	BG-IO+SXSW	STD=JUPITER	STD=IO	TYPE=POS_ANGLE,RAD=132.9,ANG=187.04,REF=NORTH
	Comments: Revised MIRI MRS background target for Io, changed to reduce amount of Io scattered light in the background frame (based on lessons learned from Ganymede MIRI background). Position is south-southwest of Io, at approximately the same distance from Jupiter as the Io MIRI observation itself. Extended=YES				

Observation

Proposal 1373, Observation 2: Jupiter South Pole 1 - MIRI MRS Mon Aug 14 20:00:35 GMT 2023

Diagnostic Status: Warning

Observing Template: MIRI Medium Resolution Spectroscopy

Comments: APT 2020.1.2 math:
CML should be in the 60-80 W range at some point during the ~80-min span of science exposures. Science exposure starts ~2500 sec (~25 deg of rotation) after observation start. So requirement should be CML between -10 to 80 W.

APT 25.4.2 math:
CML should be in the 60-80 W range at some point during the 79-min observation (est. duration of science integration + instrument overheads - startup overheads of GS Acq and Targ Acq). Jupiter rotates ~48 deg in 79 min, so the requirement becomes CML between 12-128 W.

Initial math:
CML should be in the 60-80 W range at some point during the 52-min observation (est. duration of science integration + instrument overheads - startup overheads of GS Acq and Targ Acq). Jupiter rotates ~30 deg in 52 min, so the requirement becomes CML between 30-110 W.

Diagnostics

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

(Jupiter South Pole 1 - MIRI MRS (Obs 2)) Informational (Form): The Visit Planner and Spike may produce different schedulability results.

Solar System Targets

#	Name	Level 1	Level 2	Level 3
(23)	JUPITER-FIXED-68S	STD=JUPITER	TYPE=TORUS,LONG=0,LAT=-68,RAD=67451,POLE_LONG=0,POLE_LAT=+90,O_LONG=0,O_LAT=0,O_RAD=0	

Comments: FIXED (non-rotating) southern hemisphere target, for MIRI rotationally-dithered mosaic.
Updated to 68 deg S planetocentric (70.6 deg S planetographic), Fletcher 2022-07-06.
Extended=YES

Acquisition

#	Target
1	NONE

Template

AcqFilter	Primary Channel	Simultaneous Imaging	Imager Subarray	Grating Wheel Direction
F1000W	ALL	NO	FULL	NEUTRAL

Dithers

#	Dither Type	Optimized For	Direction
1	2-Point	EXTENDED SOURCE	NEGATIVE

Spectral Elements

#	Wavelength Range	Detector	Filter	Readout Pattern	Groups/Int	Integrations/Exp	Exposures/Dith	Dither	Total Dithers	Total Integrations	Total Exposure Time	ETC Wkbk.Calc ID
1	LONG(C)	MRSLONG		FASTR1	5	16	1	Dither 1	2	32	527.258	
1	LONG(C)	MRSSHORT		FASTR1	5	16	1	Dither 1	2	32	527.258	
2	MEDIUM(B)	MRSLONG		FASTR1	5	16	1	Dither 1	2	32	527.258	
2	MEDIUM(B)	MRSSHORT		FASTR1	5	16	1	Dither 1	2	32	527.258	
3	SHORT(A)	MRSLONG		FASTR1	5	16	1	Dither 1	2	32	527.258	
3	SHORT(A)	MRSSHORT		FASTR1	5	16	1	Dither 1	2	32	527.258	

Special Requirements

Between Dates 06-NOV-2022:00:00:00 and 27-DEC-2022:00:00:00
No Parallel Attachments

Sequence Observations 1, 2 within 5 Hours
Sequence Observations 2, 3, 4, 25, 26, Non-interruptible

DEFAULT WINDOW: ANGULAR RATE JUPITER-FIXED-68S FROM JWST LESS THAN 0.03
CENTRAL MERIDIAN LONGITUDE OF JUPITER FROM JWST BETWEEN -54 18
DEFAULT WINDOW: NOT ECLIPSE PENUMBRAL PARTIAL OF JUPITER-FIXED-68S BY IO FROM JWST
DEFAULT WINDOW: NOT ECLIPSE PENUMBRAL PARTIAL OF JUPITER-FIXED-68S BY EUROPA FROM JWST
DEFAULT WINDOW: NOT ECLIPSE PENUMBRAL PARTIAL OF JUPITER-FIXED-68S BY GANYMEDE FROM JWST
DEFAULT WINDOW: NOT ECLIPSE PENUMBRAL PARTIAL OF JUPITER-FIXED-68S BY CALLISTO FROM JWST
DEFAULT WINDOW: SEPARATION OF JUPITER-FIXED-68S IO FROM JWST GREATER THAN 8"
DEFAULT WINDOW: SEPARATION OF JUPITER-FIXED-68S EUROPA FROM JWST GREATER THAN 8"
DEFAULT WINDOW: SEPARATION OF JUPITER-FIXED-68S GANYMEDE FROM JWST GREATER THAN 8"
DEFAULT WINDOW: SEPARATION OF JUPITER-FIXED-68S CALLISTO FROM JWST GREATER THAN 8"

Observation

Proposal 1373, Observation 3: Jupiter South Pole - NIRSpec IFU High Res G395H Mon Aug 14 20:00:35 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.

(Jupiter South Pole - NIRSpec IFU High Res G395H (Obs 3)) Informational (Form): The Visit Planner and Spike may produce different schedulability results.

Solar System Targets

#	Name	Level 1	Level 2	Level 3
(32)	JUPITER-FIXED-66S	STD=JUPITER	TYPE=TORUS,LONG=3,LAT=-66,RAD=67559.4,POLE_LONG=0,POLE_LAT=+90,O_LONG=0,O_LAT=0,O_RAD=0	

Comments: FIXED (non-rotating) southern hemisphere target, for NIRSPEC mosaic tracking disk center (no rotation). Extended=YES

Template

TA Method
NONE

Mosaic

Rows	Columns	Row Overlap %	Column Overlap %	Row shift (deg)	Column shift (deg)	Tile Order
3	2	10.0	10.0	41.8	0.0	DEFAULT

Dithers

#	Dither Type	Size	Starting Point	Number of Points	Points
1	CYCLING	LARGE	4	2	

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	NRSRAPID	2	1	false	true	NONE	2	2	64.421	33311

Special Requirements	Sequence Observations 2, 3, 4, 25, 26, Non-interruptible DEFAULT WINDOW: NOT ECLIPSE PENUMBRAL PARTIAL OF JUPITER-FIXED-66S BY IO FROM JWST DEFAULT WINDOW: NOT ECLIPSE PENUMBRAL PARTIAL OF JUPITER-FIXED-66S BY EUROPA FROM JWST DEFAULT WINDOW: NOT ECLIPSE PENUMBRAL PARTIAL OF JUPITER-FIXED-66S BY GANYMEDE FROM JWST DEFAULT WINDOW: NOT ECLIPSE PENUMBRAL PARTIAL OF JUPITER-FIXED-66S BY CALLISTO FROM JWST DEFAULT WINDOW: SEPARATION OF JUPITER-FIXED-66S IO FROM JWST GREATER THAN 10" DEFAULT WINDOW: SEPARATION OF JUPITER-FIXED-66S EUROPA FROM JWST GREATER THAN 10" DEFAULT WINDOW: SEPARATION OF JUPITER-FIXED-66S GANYMEDE FROM JWST GREATER THAN 10" DEFAULT WINDOW: SEPARATION OF JUPITER-FIXED-66S CALLISTO FROM JWST GREATER THAN 10" DEFAULT WINDOW: ANGULAR RATE JUPITER-FIXED-66S FROM JWST LESS THAN 0.03

Observation

Proposal 1373, Observation 4: Jupiter South Pole 2 - MIRI MRS Mon Aug 14 20:00:35 GMT 2023

Diagnostic Status: Warning

Observing Template: MIRI Medium Resolution Spectroscopy

Comments: APT 2020.1.2 math:
CML should be in the 60-80 W range at some point during the ~80-min span of science exposures. Science exposure starts ~2500 sec (~25 deg of rotation) after observation start. So requirement should be CML between -10 to 80 W.

APT 25.4.2 math:
CML should be in the 60-80 W range at some point during the 79-min observation (est. duration of science integration + instrument overheads - startup overheads of GS Acq and Targ Acq). Jupiter rotates ~48 deg in 79 min, so the requirement becomes CML between 12-128 W.

Initial math:
CML should be in the 60-80 W range at some point during the 52-min observation (est. duration of science integration + instrument overheads - startup overheads of GS Acq and Targ Acq). Jupiter rotates ~30 deg in 52 min, so the requirement becomes CML between 30-110 W.

Diagnostics

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

(Jupiter South Pole 2 - MIRI MRS (Obs 4)) Informational (Form): The Visit Planner and Spike may produce different schedulability results.

Solar System Targets

#	Name	Level 1	Level 2	Level 3
(23)	JUPITER-FIXED-68S	STD=JUPITER	TYPE=TORUS,LONG=0,LAT=-68,RAD=67451,POLE_LONG=0,POLE_LAT=+90,O_LONG=0,O_LAT=0,O_RAD=0	

Comments: FIXED (non-rotating) southern hemisphere target, for MIRI rotationally-dithered mosaic.
Updated to 68 deg S planetocentric (70.6 deg S planetographic), Fletcher 2022-07-06.
Extended=YES

Acquisition

#	Target
1	NONE

Template

AcqFilter	Primary Channel	Simultaneous Imaging	Imager Subarray	Grating Wheel Direction
F1000W	ALL	NO	FULL	NEUTRAL

Dithers

#	Dither Type	Optimized For	Direction
1	2-Point	EXTENDED SOURCE	NEGATIVE

Spectral Elements

#	Wavelength Range	Detector	Filter	Readout Pattern	Groups/Int	Integrations/Exp	Exposures/Dith	Dither	Total Dithers	Total Integrations	Total Exposure Time	ETC Wkbk.Calc ID
1	LONG(C)	MRSLONG		FASTR1	5	16	1	Dither 1	2	32	527.258	
1	LONG(C)	MRSSHORT		FASTR1	5	16	1	Dither 1	2	32	527.258	
2	MEDIUM(B)	MRSLONG		FASTR1	5	16	1	Dither 1	2	32	527.258	
2	MEDIUM(B)	MRSSHORT		FASTR1	5	16	1	Dither 1	2	32	527.258	
3	SHORT(A)	MRSLONG		FASTR1	5	16	1	Dither 1	2	32	527.258	
3	SHORT(A)	MRSSHORT		FASTR1	5	16	1	Dither 1	2	32	527.258	

Special Requirements

No Parallel Attachments

Sequence Observations 2, 3, 4, 25, 26, Non-interruptible

DEFAULT WINDOW: NOT ECLIPSE PENUMBRAL PARTIAL OF JUPITER-FIXED-68S BY IO FROM JWST
DEFAULT WINDOW: NOT ECLIPSE PENUMBRAL PARTIAL OF JUPITER-FIXED-68S BY EUROPA FROM JWST
DEFAULT WINDOW: NOT ECLIPSE PENUMBRAL PARTIAL OF JUPITER-FIXED-68S BY GANYMEDE FROM JWST
DEFAULT WINDOW: NOT ECLIPSE PENUMBRAL PARTIAL OF JUPITER-FIXED-68S BY CALLISTO FROM JWST
DEFAULT WINDOW: SEPARATION OF JUPITER-FIXED-68S IO FROM JWST GREATER THAN 8"
DEFAULT WINDOW: SEPARATION OF JUPITER-FIXED-68S EUROPA FROM JWST GREATER THAN 8"
DEFAULT WINDOW: SEPARATION OF JUPITER-FIXED-68S GANYMEDE FROM JWST GREATER THAN 8"
DEFAULT WINDOW: SEPARATION OF JUPITER-FIXED-68S CALLISTO FROM JWST GREATER THAN 8"
DEFAULT WINDOW: ANGULAR RATE JUPITER-FIXED-68S FROM JWST LESS THAN 0.03

Observation

Proposal 1373, Observation 25: Jupiter South Pole - NIRSpec IFU High Res G235H Mon Aug 14 20:00:35 GMT 2023

Diagnostic Status: Warning

Observing Template: NIRSpec IFU Spectroscopy

Diagnostics

(Visit 25:1) Warning (Form): Overheads are provisional until the Visit Planner has been run.

(Jupiter South Pole - NIRSpec IFU High Res G235H (Obs 25)) Informational (Form): The Visit Planner and Spike may produce different schedulability results.

Solar System Targets

#	Name	Level 1	Level 2	Level 3
(33)	JUPITER-FIXED-62S	STD=JUPITER	TYPE=TORUS,LONG=3,LAT=-62,RAD=67798.7,POLE_LONG=0,POLE_LAT=+90,O_LONG=0,O_LAT=0,O_RAD=0	

Comments: FIXED (non-rotating) southern hemisphere target, for NIRSPEC mosaic tracking disk center (no rotation). Extended=YES

Template

TA Method
NONE

Mosaic

Rows	Columns	Row Overlap %	Column Overlap %	Row shift (deg)	Column shift (deg)	Tile Order
3	1	10.0	10.0	41.8	0.0	DEFAULT

Dithers

#	Dither Type	Size	Starting Point	Number of Points	Points
1	CYCLING	MEDIUM	4	2	

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	G235H/F170LP	NRSRAPID	2	1	false	true	NONE	2	2	64.421	33311

Special Requirements	Sequence Observations 2, 3, 4, 25, 26, Non-interruptible DEFAULT WINDOW: NOT OCCULTATION OF JUPITER-FIXED-62S BY JUPITER FROM JWST DEFAULT WINDOW: NOT ECLIPSE PENUMBRAL PARTIAL OF JUPITER-FIXED-62S BY IO FROM JWST DEFAULT WINDOW: NOT ECLIPSE PENUMBRAL PARTIAL OF JUPITER-FIXED-62S BY EUROPA FROM JWST DEFAULT WINDOW: NOT ECLIPSE PENUMBRAL PARTIAL OF JUPITER-FIXED-62S BY GANYMEDE FROM JWST DEFAULT WINDOW: NOT ECLIPSE PENUMBRAL PARTIAL OF JUPITER-FIXED-62S BY CALLISTO FROM JWST DEFAULT WINDOW: SEPARATION OF JUPITER-FIXED-62S IO FROM JWST GREATER THAN 10" DEFAULT WINDOW: SEPARATION OF JUPITER-FIXED-62S EUROPA FROM JWST GREATER THAN 10" DEFAULT WINDOW: SEPARATION OF JUPITER-FIXED-62S GANYMEDE FROM JWST GREATER THAN 10" DEFAULT WINDOW: SEPARATION OF JUPITER-FIXED-62S CALLISTO FROM JWST GREATER THAN 10" DEFAULT WINDOW: ANGULAR RATE JUPITER-FIXED-62S FROM JWST LESS THAN 0.03

Observation

Proposal 1373, Observation 26: Jupiter South Pole 3 - MIRI MRS Mon Aug 14 20:00:35 GMT 2023

Diagnostic Status: Warning

Observing Template: MIRI Medium Resolution Spectroscopy

Comments: APT 2020.1.2 math:
CML should be in the 60-80 W range at some point during the ~80-min span of science exposures. Science exposure starts ~2500 sec (~25 deg of rotation) after observation start. So requirement should be CML between -10 to 80 W.

APT 25.4.2 math:
CML should be in the 60-80 W range at some point during the 79-min observation (est. duration of science integration + instrument overheads - startup overheads of GS Acq and Targ Acq). Jupiter rotates ~48 deg in 79 min, so the requirement becomes CML between 12-128 W.

Initial math:
CML should be in the 60-80 W range at some point during the 52-min observation (est. duration of science integration + instrument overheads - startup overheads of GS Acq and Targ Acq). Jupiter rotates ~30 deg in 52 min, so the requirement becomes CML between 30-110 W.

Diagnostics

(Visit 26:1) Warning (Form): Overheads are provisional until the Visit Planner has been run.

(Jupiter South Pole 3 - MIRI MRS (Obs 26)) Informational (Form): The Visit Planner and Spike may produce different schedulability results.

Solar System Targets

#	Name	Level 1	Level 2	Level 3
(23)	JUPITER-FIXED-68S	STD=JUPITER	TYPE=TORUS,LONG=0,LAT=-68,RAD=67451,POLE_LONG=0,POLE_LAT=+90,O_LONG=0,O_LAT=0,O_RAD=0	

Comments: FIXED (non-rotating) southern hemisphere target, for MIRI rotationally-dithered mosaic.
Updated to 68 deg S planetocentric (70.6 deg S planetographic), Fletcher 2022-07-06.
Extended=YES

Acquisition

#	Target
1	NONE

Template

AcqFilter	Primary Channel	Simultaneous Imaging	Imager Subarray	Grating Wheel Direction
F1000W	ALL	NO	FULL	NEUTRAL

Dithers

#	Dither Type	Optimized For	Direction
1	2-Point	EXTENDED SOURCE	NEGATIVE

Spectral Elements

#	Wavelength Range	Detector	Filter	Readout Pattern	Groups/Int	Integrations/Exp	Exposures/Dith	Dither	Total Dithers	Total Integrations	Total Exposure Time	ETC Wkbk.Calc ID
1	LONG(C)	MRSLONG		FASTR1	5	16	1	Dither 1	2	32	527.258	
1	LONG(C)	MRSSHORT		FASTR1	5	16	1	Dither 1	2	32	527.258	
2	MEDIUM(B)	MRSLONG		FASTR1	5	16	1	Dither 1	2	32	527.258	
2	MEDIUM(B)	MRSSHORT		FASTR1	5	16	1	Dither 1	2	32	527.258	
3	SHORT(A)	MRSLONG		FASTR1	5	16	1	Dither 1	2	32	527.258	
3	SHORT(A)	MRSSHORT		FASTR1	5	16	1	Dither 1	2	32	527.258	

Special Requirements

No Parallel Attachments

Sequence Observations 2, 3, 4, 25, 26, Non-interruptible

DEFAULT WINDOW: NOT ECLIPSE PENUMBRAL PARTIAL OF JUPITER-FIXED-68S BY IO FROM JWST
DEFAULT WINDOW: NOT ECLIPSE PENUMBRAL PARTIAL OF JUPITER-FIXED-68S BY EUROPA FROM JWST
DEFAULT WINDOW: NOT ECLIPSE PENUMBRAL PARTIAL OF JUPITER-FIXED-68S BY GANYMEDE FROM JWST
DEFAULT WINDOW: NOT ECLIPSE PENUMBRAL PARTIAL OF JUPITER-FIXED-68S BY CALLISTO FROM JWST
DEFAULT WINDOW: SEPARATION OF JUPITER-FIXED-68S IO FROM JWST GREATER THAN 8"
DEFAULT WINDOW: SEPARATION OF JUPITER-FIXED-68S EUROPA FROM JWST GREATER THAN 8"
DEFAULT WINDOW: SEPARATION OF JUPITER-FIXED-68S GANYMEDE FROM JWST GREATER THAN 8"
DEFAULT WINDOW: SEPARATION OF JUPITER-FIXED-68S CALLISTO FROM JWST GREATER THAN 8"
DEFAULT WINDOW: ANGULAR RATE JUPITER-FIXED-68S FROM JWST LESS THAN 0.03

Observation

Proposal 1373, Observation 5: Jupiter GRS - NIRSpec IFU High Res Mon Aug 14 20:00:35 GMT 2023

Diagnostic Status: Warning

Observing Template: NIRSpec IFU Spectroscopy

Comments: Need additional solar system target window for this observation:
SEPARATION BETWEEN (4 JUPITER-GRS) AND JUPITER FROM JWST LESS THAN -5.7"

This constraint was formerly OK but does not compute in APT 25.4.2. Justification: Observations should be done with the target (GRS) not just visible, but also close enough to disk center. Tony Roman helped us determine this SEPARATION constraint would make sure the GRS is at a low emission angle when observed.

Diagnostics

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

(Jupiter GRS - NIRSpec IFU High Res (Obs 5)) Informational (Form): The Visit Planner and Spike may produce different schedulability results.

Solar System Targets

#	Name	Level 1	Level 2	Level 3
(4)	JUPITER-GRS	STD=JUPITER	TYPE=PGRAPHIC,LONG=265.6,LAT=-20.7,R_LONG=0.319,R_LAT=0,EPOCH=30-APR-2022:12:00:00,EpochTimeScale=UTC	

Comments: updated 2022-05-30 by Ricardo Hueso including recent amateur data
updated 2021-09-17 by Mike Wong using data from HST/OPAL, Jupos, and Chris Go available in Sept. 2021
updated 2020-02-27 by Pat Fry using 5 years of HST OPAL data
updated 2019-06-03 using JuposDriftCharts-2019-04-26
Extended=YES

Template

TA Method
NONE

Mosaic

Rows	Columns	Row Overlap %	Column Overlap %	Row shift (deg)	Column shift (deg)	Tile Order
3	2	10.0	10.0	16.8	0.0	DEFAULT

Dithers

#	Dither Type	Size	Starting Point	Number of Points	Points
1	NONE				

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	G235H/F170LP	NRSRAPID	2	1	false	false	NONE	1	1	32.21	33311
2	G395H/F290LP	NRSRAPID	30	1	false	false	NONE	1	1	332.84	33311

Special Requirements	
	Between Dates 23-JUN-2022:00:00:00 and 16-AUG-2022:00:00:00 Phase -0.111 to 0.011 with period 9.928558049 Hours and zero-phase 2459699.778 HJD Aperture PA Range 19.892975 to 28.892975 Degrees (V3 240.92044082 to 249.92044082) DEFAULT WINDOW: NOT OCCULTATION OF JUPITER-GRS BY JUPITER FROM JWST DEFAULT WINDOW: NOT ECLIPSE PENUMBRAL PARTIAL OF JUPITER-GRS BY IO FROM JWST DEFAULT WINDOW: NOT ECLIPSE PENUMBRAL PARTIAL OF JUPITER-GRS BY EUROPA FROM JWST DEFAULT WINDOW: NOT ECLIPSE PENUMBRAL PARTIAL OF JUPITER-GRS BY GANYMEDE FROM JWST DEFAULT WINDOW: NOT ECLIPSE PENUMBRAL PARTIAL OF JUPITER-GRS BY CALLISTO FROM JWST DEFAULT WINDOW: SEPARATION OF JUPITER-GRS IO FROM JWST GREATER THAN 3" DEFAULT WINDOW: SEPARATION OF JUPITER-GRS EUROPA FROM JWST GREATER THAN 3" DEFAULT WINDOW: SEPARATION OF JUPITER-GRS GANYMEDE FROM JWST GREATER THAN 3" DEFAULT WINDOW: SEPARATION OF JUPITER-GRS CALLISTO FROM JWST GREATER THAN 3" DEFAULT WINDOW: ANGULAR RATE JUPITER-GRS FROM JWST LESS THAN 0.03

Observation

Proposal 1373, Observation 6: Jupiter 1 - NIRCAM SUB640 Mon Aug 14 20:00:35 GMT 2023

Diagnostic Status: Warning

Observing Template: NIRCam Imaging

Diagnostics

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

(Jupiter 1 - NIRCAM SUB640 (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)	JUPITER	STD=JUPITER		

Comments: Extended=YES

Template

Module	Subarray	Target Placement
B	SUB640	Module Gap

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	F164N+F150W2	F360M	RAPID	3	3	12	4	201.166	33269

Special Requirements	
	Phase -0.111 to 0.097 with period 9.928558049 Hours and zero-phase 2459699.778 HJD Aperture PA Range 240.98253766 to 249.98253766 Degrees (V3 240.9604058 to 249.9604058) 7 After 6 by 9.5 Hours to 10.51 Hours Sequence Observations 6, 8, Non-interruptible DEFAULT WINDOW: ANGULAR RATE JUPITER FROM JWST LESS THAN 0.03 DEFAULT WINDOW: NOT ECLIPSE PENUMBRAL PARTIAL OF JUPITER BY IO FROM JWST DEFAULT WINDOW: NOT ECLIPSE PENUMBRAL PARTIAL OF JUPITER BY EUROPA FROM JWST DEFAULT WINDOW: NOT ECLIPSE PENUMBRAL PARTIAL OF JUPITER BY GANYMEDE FROM JWST DEFAULT WINDOW: NOT ECLIPSE PENUMBRAL PARTIAL OF JUPITER BY CALLISTO FROM JWST DEFAULT WINDOW: SEPARATION OF JUPITER IO FROM JWST GREATER THAN 10" DEFAULT WINDOW: SEPARATION OF JUPITER EUROPA FROM JWST GREATER THAN 10" DEFAULT WINDOW: SEPARATION OF JUPITER GANYMEDE FROM JWST GREATER THAN 10" DEFAULT WINDOW: SEPARATION OF JUPITER CALLISTO FROM JWST GREATER THAN 10"

Observation

Proposal 1373, Observation 7: Jupiter 2 - NIRCAM SUB640 Mon Aug 14 20:00:35 GMT 2023

Diagnostic Status: Warning

Observing Template: NIRCam Imaging

Diagnostics

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

(Jupiter 2 - NIRCAM SUB640 (Obs 7)) Informational (Form): The Visit Planner and Spike may produce different schedulability results.

Solar System Targets

#	Name	Level 1	Level 2	Level 3
(6)	JUPITER	STD=JUPITER		

Comments: Extended=YES

Template

Module	Subarray	Target Placement
B	SUB640	Module Gap

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	F164N+F150W2	F405N+F444W	RAPID	3	3	12	4	201.166	33269

Special Requirements

7 After 6 by 9.5 Hours to 10.51 Hours
Sequence Observations 7, 9, Non-interruptible

DEFAULT WINDOW: ANGULAR RATE JUPITER FROM JWST LESS THAN 0.03
DEFAULT WINDOW: NOT ECLIPSE PENUMBRAL PARTIAL OF JUPITER BY IO FROM JWST
DEFAULT WINDOW: NOT ECLIPSE PENUMBRAL PARTIAL OF JUPITER BY EUROPA FROM JWST
DEFAULT WINDOW: NOT ECLIPSE PENUMBRAL PARTIAL OF JUPITER BY GANYMEDE FROM JWST
DEFAULT WINDOW: NOT ECLIPSE PENUMBRAL PARTIAL OF JUPITER BY CALLISTO FROM JWST
DEFAULT WINDOW: SEPARATION OF JUPITER IO FROM JWST GREATER THAN 10"
DEFAULT WINDOW: SEPARATION OF JUPITER EUROPA FROM JWST GREATER THAN 10"
DEFAULT WINDOW: SEPARATION OF JUPITER GANYMEDE FROM JWST GREATER THAN 10"
DEFAULT WINDOW: SEPARATION OF JUPITER CALLISTO FROM JWST GREATER THAN 10"

Observation

Proposal 1373, Observation 8: Jupiter 1 - NIRCAM Full Mon Aug 14 20:00:35 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.

(Jupiter 1 - NIRCAM Full (Obs 8)) Informational (Form): The Visit Planner and Spike may produce different schedulability results.

Solar System Targets

#	Name	Level 1	Level 2	Level 3
(6)	JUPITER	STD=JUPITER		

Comments: Extended=YES

Template

Module	Subarray	Target Placement
B	FULL	Module Gap

Dithers

#	Primary Dither Type	Primary Dithers	Subpixel Dither Type	Dither Size	Subpixel Positions
1	NONE		SMALL-GRID-DITHER		3

Spectral Elements

#	Short Filter	Long Filter	Readout Pattern	Groups/Int	Integrations/Exp	Total Integrations	Total Dithers	Total Exposure Time	ETC Wkbk.Calc ID
1	F212N	F335M	RAPID	5	1	3	3	161.052	33269

Special Requirements

Offset -29.2 arcsec, 38.4 arcsec

Sequence Observations 6, 8, Non-interruptible

DEFAULT WINDOW: ANGULAR RATE JUPITER FROM JWST LESS THAN 0.03
DEFAULT WINDOW: NOT ECLIPSE PENUMBRAL PARTIAL OF JUPITER BY IO FROM JWST
DEFAULT WINDOW: NOT ECLIPSE PENUMBRAL PARTIAL OF JUPITER BY EUROPA FROM JWST
DEFAULT WINDOW: NOT ECLIPSE PENUMBRAL PARTIAL OF JUPITER BY GANYMEDE FROM JWST
DEFAULT WINDOW: NOT ECLIPSE PENUMBRAL PARTIAL OF JUPITER BY CALLISTO FROM JWST
DEFAULT WINDOW: SEPARATION OF JUPITER IO FROM JWST GREATER THAN 10"
DEFAULT WINDOW: SEPARATION OF JUPITER EUROPA FROM JWST GREATER THAN 10"
DEFAULT WINDOW: SEPARATION OF JUPITER GANYMEDE FROM JWST GREATER THAN 10"
DEFAULT WINDOW: SEPARATION OF JUPITER CALLISTO FROM JWST GREATER THAN 10"

Observation

Proposal 1373, Observation 9: Jupiter 2 - NIRCAM Full Mon Aug 14 20:00:35 GMT 2023

Diagnostic Status: Warning

Observing Template: NIRCam Imaging

Diagnostics

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

(Jupiter 2 - NIRCAM Full (Obs 9)) Informational (Form): The Visit Planner and Spike may produce different schedulability results.

Solar System Targets

#	Name	Level 1	Level 2	Level 3
(6)	JUPITER	STD=JUPITER		

Comments: Extended=YES

Template

Module	Subarray	Target Placement
B	FULL	Module Gap

Dithers

#	Primary Dither Type	Primary Dithers	Subpixel Dither Type	Dither Size	Subpixel Positions
1	NONE		STANDARD		3

Spectral Elements

#	Short Filter	Long Filter	Readout Pattern	Groups/Int	Integrations/Exp	Total Integrations	Total Dithers	Total Exposure Time	ETC Wkbk.Calc ID
1	F212N	F335M	RAPID	5	1	3	3	161.052	33269

Special Requirements

Offset -29.2 arcsec, 38.4 arcsec

Sequence Observations 7, 9, Non-interruptible

DEFAULT WINDOW: ANGULAR RATE JUPITER FROM JWST LESS THAN 0.03
DEFAULT WINDOW: NOT ECLIPSE PENUMBRAL PARTIAL OF JUPITER BY IO FROM JWST
DEFAULT WINDOW: NOT ECLIPSE PENUMBRAL PARTIAL OF JUPITER BY EUROPA FROM JWST
DEFAULT WINDOW: NOT ECLIPSE PENUMBRAL PARTIAL OF JUPITER BY GANYMEDE FROM JWST
DEFAULT WINDOW: NOT ECLIPSE PENUMBRAL PARTIAL OF JUPITER BY CALLISTO FROM JWST
DEFAULT WINDOW: SEPARATION OF JUPITER IO FROM JWST GREATER THAN 10"
DEFAULT WINDOW: SEPARATION OF JUPITER EUROPA FROM JWST GREATER THAN 10"
DEFAULT WINDOW: SEPARATION OF JUPITER GANYMEDE FROM JWST GREATER THAN 10"
DEFAULT WINDOW: SEPARATION OF JUPITER CALLISTO FROM JWST GREATER THAN 10"

Observation

Proposal 1373, Observation 10: Ring System Leading 1 - NIRCAM Full Mon Aug 14 20:00:35 GMT 2023

Diagnostic Status: Error

Observing Template: NIRCam Imaging

Comments: AFTER: 2019B Portraits 1 and 2 should be separated by 1-3 hours or 5-7 hours. Sequence 11,12,13 sets this up implicitly. The time separation is needed to make sure Adrastea and Metis do not block the same part of the image in both portraits.

PA OFFSET: 2019B Portraits 1 and 2 could be separated by +10+/-1 deg, or -10+/-1 deg. We can only list one requirement, so we just picked -11 to -9 deg for the APT file. The PA offset is needed to make sure that diffraction spikes or other fixed straylight artifacts do not block the same part of the image in both portraits.

Diagnostics

(Ring System Leading 1 - NIRCAM Full (Obs 10)) Error (Form): Permission has not been granted for this program to use Special Requirement 'Guide Star ID NB32000129'.

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

(Ring System Leading 1 - NIRCAM Full (Obs 10)) Informational (Form): The Visit Planner and Spike may produce different schedulability results.

Solar System Targets

#	Name	Level 1	Level 2	Level 3
(6)	JUPITER	STD=JUPITER		

Comments: Extended=YES

Template

Module	Subarray	Target Placement
B	FULL	Module Gap

Dithers

#	Primary Dither Type	Primary Dithers	Subpixel Dither Type	Dither Size	Subpixel Positions
1	NONE		STANDARD		3

Spectral Elements

#	Short Filter	Long Filter	Readout Pattern	Groups/Int	Integrations/Exp	Total Integrations	Total Dithers	Total Exposure Time	ETC Wkbk.Calc ID
1	F212N	F250M	RAPID	2	2	6	3	161.052	
2	F150W2	F322W2	BRIGHT1	2	10	30	3	1256.202	

Special Requirements	
	Between Dates 23-JUN-2022:00:00:00 and 16-AUG-2022:00:00:00 Aperture PA Range 241.67583529 to 243.85583529 Degrees (V3 241.62 to 243.8) Offset -15.0 arcsec, -7.5 arcsec Guide Star ID NB32000129 12 After 10 by 2 Hours to 10 Hours V3 PA Offset 12 from 10 by 8 to 12 Degrees (Same offsets in Aperture) SEPARATION OF IO JUPITER FROM JWST GREATER THAN 60" SEPARATION OF EUROPA JUPITER FROM JWST GREATER THAN 70" SEPARATION OF GANYMEDE JUPITER FROM JWST GREATER THAN 70" SEPARATION OF CALLISTO JUPITER FROM JWST GREATER THAN 70" DEFAULT WINDOW: ANGULAR RATE JUPITER FROM JWST LESS THAN 0.03

Observation

Proposal 1373, Observation 11: Main Ring Ansa - NIRCAM SUB400P Mon Aug 14 20:00:35 GMT 2023

Diagnostic Status: Warning

Observing Template: NIRCam Imaging

Comments: Target and OLG-constraints depend on whether observations fall when Jupiter is leading or trailing JWST.
Values below should be double-checked with Mark Showalter.

Jupiter trailing JWST:
TARGET (12) = Main Ring East
2021B (Oct-01 to Nov-21):
NOT ORBITAL LONGITUDE OF METIS FROM JWST BETWEEN 46 134
NOT ORBITAL LONGITUDE OF ADRASTEA FROM JWST BETWEEN 46 134
NOT ORBITAL LONGITUDE OF AMALTHEA FROM JWST BETWEEN 27 60
NOT ORBITAL LONGITUDE OF AMALTHEA FROM JWST BETWEEN 120 153
NOT ORBITAL LONGITUDE OF THEBE FROM JWST BETWEEN 25 42
NOT ORBITAL LONGITUDE OF THEBE FROM JWST BETWEEN 138 155
NOT ORBITAL LONGITUDE OF IO FROM JWST BETWEEN 6 28
NOT ORBITAL LONGITUDE OF IO FROM JWST BETWEEN 152 174
NOT ORBITAL LONGITUDE OF EUROPA FROM JWST BETWEEN 4 17
NOT ORBITAL LONGITUDE OF EUROPA FROM JWST BETWEEN 163 176
NOT ORBITAL LONGITUDE OF GANYMEDE FROM JWST BETWEEN 2 10
NOT ORBITAL LONGITUDE OF GANYMEDE FROM JWST BETWEEN 170 178
NOT ORBITAL LONGITUDE OF CALLISTO FROM JWST BETWEEN 1 6
NOT ORBITAL LONGITUDE OF CALLISTO FROM JWST BETWEEN 174 179

Jupiter leading JWST:
TARGET (11) = Main Ring West
2022A (Jun-23 to Aug-15):
NOT ORBITAL LONGITUDE OF METIS FROM JWST BETWEEN 226 314
NOT ORBITAL LONGITUDE OF ADRASTEA FROM JWST BETWEEN 226 314
NOT ORBITAL LONGITUDE OF AMALTHEA FROM JWST BETWEEN 207 240
NOT ORBITAL LONGITUDE OF AMALTHEA FROM JWST BETWEEN 300 333
NOT ORBITAL LONGITUDE OF THEBE FROM JWST BETWEEN 205 222
NOT ORBITAL LONGITUDE OF THEBE FROM JWST BETWEEN 318 335
NOT ORBITAL LONGITUDE OF IO FROM JWST BETWEEN 186 208
NOT ORBITAL LONGITUDE OF IO FROM JWST BETWEEN 332 354
NOT ORBITAL LONGITUDE OF EUROPA FROM JWST BETWEEN 184 197
NOT ORBITAL LONGITUDE OF EUROPA FROM JWST BETWEEN 343 356
NOT ORBITAL LONGITUDE OF GANYMEDE FROM JWST BETWEEN 182 190
NOT ORBITAL LONGITUDE OF GANYMEDE FROM JWST BETWEEN 350 358
NOT ORBITAL LONGITUDE OF CALLISTO FROM JWST BETWEEN 181 186
NOT ORBITAL LONGITUDE OF CALLISTO FROM JWST BETWEEN 354 359

Diagnostics

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

(Main Ring Ansa - NIRCAM SUB400P (Obs 11)) Informational (Form): The Visit Planner and Spike may produce different schedulability results.

Solar System Targets

#	Name	Level 1	Level 2	Level 3
(30)	JUPITER-MAINRING-WEST	STD=JUPITER	TYPE=TORUS,LONG=90,LAT=0,RAD=120000,POLE_LONG=0,POLE_LAT=+90,O_LONG=0,O_LAT=0,O_RAD=0	

Comments: Used only if observation 11 falls in JWST-leading field of regard ("A" semesters)
Extended=YES

Template

Module	Subarray	Target Placement
B	SUB400P	Module Gap

Dithers

#	Primary Dither Type	Primary Dithers	Subpixel Dither Type	Dither Size	Subpixel Positions
1	NONE		SMALL-GRID-DITHER		3

Spectral Elements

#	Short Filter	Long Filter	Readout Pattern	Groups/Int	Integrations/Exp	Total Integrations	Total Dithers	Total Exposure Time	ETC Wkbk.Calc ID
1	F212N	F250M	BRIGHT1	2	2	6	3	39.873	
2	F150W2	F322W2	BRIGHT1	2	10	30	3	199.363	

Special Requirements

Between Dates 23-JUN-2022:00:00:00 and 16-AUG-2022:00:00:00

NOT ORBITAL LONGITUDE OF AMALTHEA FROM JWST BETWEEN 207 240
NOT ORBITAL LONGITUDE OF AMALTHEA FROM JWST BETWEEN 300 333
NOT ORBITAL LONGITUDE OF THEBE FROM JWST BETWEEN 205 222
NOT ORBITAL LONGITUDE OF THEBE FROM JWST BETWEEN 318 335
NOT ORBITAL LONGITUDE OF IO FROM JWST BETWEEN 186 208
NOT ORBITAL LONGITUDE OF IO FROM JWST BETWEEN 332 354
NOT ORBITAL LONGITUDE OF EUROPA FROM JWST BETWEEN 184 197
NOT ORBITAL LONGITUDE OF EUROPA FROM JWST BETWEEN 343 356
NOT ORBITAL LONGITUDE OF GANYMEDE FROM JWST BETWEEN 182 190
NOT ORBITAL LONGITUDE OF GANYMEDE FROM JWST BETWEEN 350 358
DEFAULT WINDOW: NOT OCCULTATION OF JUPITER-MAINRING-WEST BY JUPITER FROM JWST
DEFAULT WINDOW: ANGULAR RATE JUPITER-MAINRING-WEST FROM JWST LESS THAN 0.03

Observation

Proposal 1373, Observation 33: Main Ring Ansa - NIRCAM SUB400P Mon Aug 14 20:00:35 GMT 2023

Diagnostic Status: Warning

Observing Template: NIRCam Imaging

MOSS Planning Start: 02-SEP-2022:00:00:00

MOSS Planning End: 01-APR-2023:00:00:00

Comments: This is a replacement for Obs. 11 that failed. There is not enough time to schedule the replacement observation in the 2022A window, so it is designed for the 2022B window (Nov-Dec 2022, JWST-trailing, sky-east ring ansa).

NOT ORBITAL LONGITUDE OF METIS FROM JWST BETWEEN 46 134
NOT ORBITAL LONGITUDE OF ADRASTEA FROM JWST BETWEEN 46 134
NOT ORBITAL LONGITUDE OF AMALTHEA FROM JWST BETWEEN 27 60
NOT ORBITAL LONGITUDE OF AMALTHEA FROM JWST BETWEEN 120 153
NOT ORBITAL LONGITUDE OF THEBE FROM JWST BETWEEN 25 42
NOT ORBITAL LONGITUDE OF THEBE FROM JWST BETWEEN 138 155
NOT ORBITAL LONGITUDE OF IO FROM JWST BETWEEN 6 28
NOT ORBITAL LONGITUDE OF IO FROM JWST BETWEEN 152 174
NOT ORBITAL LONGITUDE OF EUROPA FROM JWST BETWEEN 4 17
NOT ORBITAL LONGITUDE OF EUROPA FROM JWST BETWEEN 163 176
NOT ORBITAL LONGITUDE OF GANYMEDE FROM JWST BETWEEN 2 10
NOT ORBITAL LONGITUDE OF GANYMEDE FROM JWST BETWEEN 170 178
NOT ORBITAL LONGITUDE OF CALLISTO FROM JWST BETWEEN 1 6
NOT ORBITAL LONGITUDE OF CALLISTO FROM JWST BETWEEN 174 179

Diagnostics

(Visit 33:1) Warning (Form): Overheads are provisional until the Visit Planner has been run.

(Main Ring Ansa - NIRCAM SUB400P (Obs 33)) Informational (Form): The Visit Planner and Spike may produce different schedulability results.

Solar System Targets

#	Name	Level 1	Level 2	Level 3
(35)	JUPITER-MAINRING-EAST	STD=JUPITER	TYPE=TORUS,LONG=270,LAT=0,RAD=120000,POLE_LONG=0,POLE_LAT=+90,O_LONG=0,O_LAT=0,O_RAD=0	

Comments: Used only if observation 33 falls in JWST-trailing field of regard ("B" semesters)
Extended=YES

Template

Module	Subarray	Target Placement
B	SUB400P	Module Gap

Dithers

#	Primary Dither Type	Primary Dithers	Subpixel Dither Type	Dither Size	Subpixel Positions
1	NONE		SMALL-GRID-DITHER		3

Spectral Elements

#	Short Filter	Long Filter	Readout Pattern	Groups/Int	Integrations/Exp	Total Integrations	Total Dithers	Total Exposure Time	ETC Wkbk.Calc ID
1	F212N	F300M	BRIGHT1	2	2	6	3	39.873	
2	F150W2	F322W2	BRIGHT1	2	10	30	3	199.363	

Special Requirements

Between Dates 06-NOV-2022:00:00:00 and 27-DEC-2022:00:00:00

NOT ORBITAL LONGITUDE OF AMALTHEA FROM JWST BETWEEN 27 60
NOT ORBITAL LONGITUDE OF AMALTHEA FROM JWST BETWEEN 120 153
NOT ORBITAL LONGITUDE OF IO FROM JWST BETWEEN 6 28
NOT ORBITAL LONGITUDE OF IO FROM JWST BETWEEN 152 174
NOT ORBITAL LONGITUDE OF EUROPA FROM JWST BETWEEN 4 17
NOT ORBITAL LONGITUDE OF EUROPA FROM JWST BETWEEN 163 176
NOT ORBITAL LONGITUDE OF GANYMEDE FROM JWST BETWEEN 2 10
NOT ORBITAL LONGITUDE OF GANYMEDE FROM JWST BETWEEN 170 178
NOT ORBITAL LONGITUDE OF CALLISTO FROM JWST BETWEEN 1 6
NOT ORBITAL LONGITUDE OF CALLISTO FROM JWST BETWEEN 174 179
DEFAULT WINDOW: NOT OCCULTATION OF JUPITER-MAINRING-EAST BY JUPITER FROM JWST
DEFAULT WINDOW: NOT ECLIPSE PENUMBRAL PARTIAL OF JUPITER-MAINRING-EAST BY IO FROM JWST
DEFAULT WINDOW: NOT ECLIPSE PENUMBRAL PARTIAL OF JUPITER-MAINRING-EAST BY EUROPA FROM JWST
DEFAULT WINDOW: NOT ECLIPSE PENUMBRAL PARTIAL OF JUPITER-MAINRING-EAST BY GANYMEDE FROM JWST
DEFAULT WINDOW: NOT ECLIPSE PENUMBRAL PARTIAL OF JUPITER-MAINRING-EAST BY CALLISTO FROM JWST
DEFAULT WINDOW: SEPARATION OF JUPITER-MAINRING-EAST IO FROM JWST GREATER THAN 10"
DEFAULT WINDOW: SEPARATION OF JUPITER-MAINRING-EAST EUROPA FROM JWST GREATER THAN 10"
DEFAULT WINDOW: SEPARATION OF JUPITER-MAINRING-EAST GANYMEDE FROM JWST GREATER THAN 10"
DEFAULT WINDOW: SEPARATION OF JUPITER-MAINRING-EAST CALLISTO FROM JWST GREATER THAN 10"
DEFAULT WINDOW: ANGULAR RATE JUPITER-MAINRING-EAST FROM JWST LESS THAN 0.03

Observation

Proposal 1373, Observation 12: Ring System Leading 2 - NIRCAM Full Mon Aug 14 20:00:35 GMT 2023

Diagnostic Status: Error

Observing Template: NIRCam Imaging

Comments: AFTER: 2019B Portraits 1 and 2 should be separated by 1-3 hours or 5-7 hours. Sequence 11,12,13 sets this up implicitly. The time separation is needed to make sure Adrastea and Metis do not block the same part of the image in both portraits.

PA OFFSET: 2019B Portraits 1 and 2 could be separated by +10+/-1 deg, or -10+/-1 deg. We can only list one requirement, so we just picked -11 to -9 deg for the APT file. The PA offset is needed to make sure that diffraction spikes or other fixed straylight artifacts do not block the same part of the image in both portraits.

Diagnostics

(Ring System Leading 2 - NIRCAM Full (Obs 12)) Error (Form): Permission has not been granted for this program to use Special Requirement 'Guide Star ID NB32001736'.

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

(Ring System Leading 2 - NIRCAM Full (Obs 12)) Informational (Form): The Visit Planner and Spike may produce different schedulability results.

Solar System Targets

#	Name	Level 1	Level 2	Level 3
(6)	JUPITER	STD=JUPITER		

Comments: Extended=YES

Template

Module	Subarray	Target Placement
B	FULL	Module Gap

Dithers

#	Primary Dither Type	Primary Dithers	Subpixel Dither Type	Dither Size	Subpixel Positions
1	NONE		STANDARD		3

Spectral Elements

#	Short Filter	Long Filter	Readout Pattern	Groups/Int	Integrations/Exp	Total Integrations	Total Dithers	Total Exposure Time	ETC Wkbk.Calc ID
1	F212N	F250M	RAPID	2	2	6	3	161.052	
2	F150W2	F322W2	BRIGHT1	2	10	30	3	1256.202	

Special Requirements	
	Aperture PA Range 250.67583529 to 252.85583529 Degrees (V3 250.62 to 252.8) Offset -15.0 arcsec, -7.5 arcsec Guide Star ID NB32001736 12 After 10 by 2 Hours to 10 Hours V3 PA Offset 12 from 10 by 8 to 12 Degrees (Same offsets in Aperture) DEFAULT WINDOW: ANGULAR RATE JUPITER FROM JWST LESS THAN 0.03 SEPARATION OF IO JUPITER FROM JWST GREATER THAN 60" SEPARATION OF EUROPA JUPITER FROM JWST GREATER THAN 70" SEPARATION OF GANYMEDE JUPITER FROM JWST GREATER THAN 70" SEPARATION OF CALLISTO JUPITER FROM JWST GREATER THAN 70"

Observation

Proposal 1373, Observation 13: Ring System Trailing 1 - NIRCAM Full Mon Aug 14 20:00:35 GMT 2023

Diagnostic Status: Error

Observing Template: NIRCam Imaging

Comments: AFTER: 2019A Portraits 1 and 2 could be separated by 1-3 hours or 5-7 hours. We can only list one requirement, so we just picked 5-7 hours for the APT file. The time separation is needed to make sure Adrastea and Metis do not block the same part of the image in both portraits.

PA OFFSET: 2019A Portraits 1 and 2 could be separated by +10+/-1 deg, or -10+/-1 deg. We can only list one requirement, so we just picked 9-11 deg for the APT file. The PA offset is needed to make sure that diffraction spikes or other fixed straylight artifacts do not block the same part of the image in both portraits.

Diagnostics

(Ring System Trailing 1 - NIRCAM Full (Obs 13)) Error (Form): Permission has not been granted for this program to use Special Requirement 'Guide Star ID SB2L003036'.

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

(Ring System Trailing 1 - NIRCAM Full (Obs 13)) Informational (Form): The Visit Planner and Spike may produce different schedulability results.

Solar System Targets

#	Name	Level 1	Level 2	Level 3
(6)	JUPITER	STD=JUPITER		

Comments: Extended=YES

Template

Module	Subarray	Target Placement
B	FULL	Module Gap

Dithers

#	Primary Dither Type	Primary Dithers	Subpixel Dither Type	Dither Size	Subpixel Positions
1	NONE		STANDARD		3

Spectral Elements

#	Short Filter	Long Filter	Readout Pattern	Groups/Int	Integrations/Exp	Total Integrations	Total Dithers	Total Exposure Time	ETC Wkbk.Calc ID
1	F212N	F300M	RAPID	2	2	6	3	161.052	
2	F212N	F300M	BRIGHT1	2	2	6	3	225.472	
3	F150W2	F322W2	BRIGHT1	2	10	30	3	1256.202	

Special Requirements	
	Between Dates 06-NOV-2022:00:00:00 and 26-DEC-2022:00:00:00 Aperture PA Range 58.02984889 to 60.05583529 Degrees (V3 57.9740136 to 60.0) Offset -15.0 arcsec, -7.5 arcsec Guide Star ID SB2L003036 14 After 13 by 1 Hours to 3 Hours Aperture PA Offset 14 from 13 by 9 to 11 Degrees (Same offsets in V3) SEPARATION OF IO JUPITER FROM JWST GREATER THAN 60" SEPARATION OF EUROPA JUPITER FROM JWST GREATER THAN 70" SEPARATION OF GANYMEDE JUPITER FROM JWST GREATER THAN 70" SEPARATION OF CALLISTO JUPITER FROM JWST GREATER THAN 70" DEFAULT WINDOW: ANGULAR RATE JUPITER FROM JWST LESS THAN 0.03

Observation

Proposal 1373, Observation 14: Ring System Trailing 2 - NIRCAM Full Mon Aug 14 20:00:35 GMT 2023

Diagnostic Status: Error

Observing Template: NIRCam Imaging

Comments: AFTER: 2019A Portraits 1 and 2 could be separated by 1-3 hours or 5-7 hours. We can only list one requirement, so we just picked 5-7 hours for the APT file. The time separation is needed to make sure Adrastea and Metis do not block the same part of the image in both portraits.

PA OFFSET: 2019A Portraits 1 and 2 could be separated by +10+/-1 deg, or -10+/-1 deg. We can only list one requirement, so we just picked 9-11 deg for the APT file. The PA offset is needed to make sure that diffraction spikes or other fixed straylight artifacts do not block the same part of the image in both portraits.

Diagnostics

(Ring System Trailing 2 - NIRCAM Full (Obs 14)) Error (Form): Permission has not been granted for this program to use Special Requirement 'Guide Star ID SB2L003019'.

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

(Ring System Trailing 2 - NIRCAM Full (Obs 14)) Informational (Form): The Visit Planner and Spike may produce different schedulability results.

Solar System Targets

#	Name	Level 1	Level 2	Level 3
(6)	JUPITER	STD=JUPITER		

Comments: Extended=YES

Template

Module	Subarray	Target Placement
B	FULL	Module Gap

Dithers

#	Primary Dither Type	Primary Dithers	Subpixel Dither Type	Dither Size	Subpixel Positions
1	NONE		STANDARD		3

Spectral Elements

#	Short Filter	Long Filter	Readout Pattern	Groups/Int	Integrations/Exp	Total Integrations	Total Dithers	Total Exposure Time	ETC Wkbk.Calc ID
1	F212N	F300M	RAPID	2	2	6	3	161.052	
2	F150W2	F322W2	BRIGHT1	2	10	30	3	1256.202	

Special Requirements	
	Aperture PA Range 69.05583529 to 72.02984889 Degrees (V3 69.0 to 71.9740136) Offset -15.0 arcsec, -7.5 arcsec Guide Star ID SB2L003019 14 After 13 by 1 Hours to 3 Hours Aperture PA Offset 14 from 13 by 9 to 11 Degrees (Same offsets in V3) DEFAULT WINDOW: ANGULAR RATE JUPITER FROM JWST LESS THAN 0.03 SEPARATION OF IO JUPITER FROM JWST GREATER THAN 60" SEPARATION OF EUROPA JUPITER FROM JWST GREATER THAN 70" SEPARATION OF GANYMEDE JUPITER FROM JWST GREATER THAN 70" SEPARATION OF CALLISTO JUPITER FROM JWST GREATER THAN 70"

Observation

Proposal 1373, Observation 15: Io Leading Hemisphere - MIRI MRS Mon Aug 14 20:00:35 GMT 2023

Diagnostic Status: Warning

Observing Template: MIRI Medium Resolution Spectroscopy

Comments: For MIRI we wish to be near maximum elongation

Diagnostics

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

(Io Leading Hemisphere - MIRI MRS (Obs 15)) Informational (Form): The Visit Planner and Spike may produce different schedulability results.

Solar System Targets

#	Name	Level 1	Level 2	Level 3
(7)	IO	STD=JUPITER	STD=IO	

Comments: Extended=YES

Acquisition

#	Target
1	NONE

Template

AcqFilter	Primary Channel	Simultaneous Imaging	Imager Subarray	Grating Wheel Direction
F560W	CHANNEL1	NO	FULL	NEUTRAL

Dithers

#	Dither Type	Optimized For	Direction
1	4-Point	EXTENDED SOURCE	NEGATIVE

Spectral Elements

#	Wavelength Range	Detector	Filter	Readout Pattern	Groups/Int	Integrations/Exp	Exposures/Dith	Dither	Total Dithers	Total Integrations	Total Exposure Time	ETC Wkbk.Calc ID
1	SHORT(A)	MRSLONG		FASTR1	5	16	1	None	1	16	263.629	
1	SHORT(A)	MRSSHORT		FASTR1	5	16	1	None	1	16	263.629	
2	MEDIUM(B)	MRSLONG		FASTR1	5	16	1	None	1	16	263.629	
2	MEDIUM(B)	MRSSHORT		FASTR1	5	16	1	None	1	16	263.629	
3	LONG(C)	MRSLONG		FASTR1	5	16	1	None	1	16	263.629	
3	LONG(C)	MRSSHORT		FASTR1	5	16	1	None	1	16	263.629	

Special Requirements	
	Group Observations 15, 22 within 5 Hours Group Observations 15, 18, 19, 22, Non-interruptible DEFAULT WINDOW: ANGULAR RATE IO FROM JWST LESS THAN 0.03 CENTRAL MERIDIAN LONGITUDE OF IO FROM JWST BETWEEN 45 135 DEFAULT WINDOW: NOT OCCULTATION OF IO BY JUPITER FROM JWST DEFAULT WINDOW: SEPARATION OF IO EUROPA FROM JWST GREATER THAN 8" DEFAULT WINDOW: SEPARATION OF IO GANYMEDE FROM JWST GREATER THAN 8" DEFAULT WINDOW: SEPARATION OF IO CALLISTO FROM JWST GREATER THAN 8"

Observation

Proposal 1373, Observation 31: Io Leading Hemisphere - MIRI MRS Mon Aug 14 20:00:35 GMT 2023

Diagnostic Status: Warning

Observing Template: MIRI Medium Resolution Spectroscopy

Comments: COPY of Obs. 15 which was skipped by the observatory. Obs 31 will run in the Nov/Dec visibility season. Some edits were made to improve background correction based on Ganymede MIRI observations already completed.

Diagnostics

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

(Io Leading Hemisphere - MIRI MRS (Obs 31)) Informational (Form): The Visit Planner and Spike may produce different schedulability results.

Solar System Targets

#	Name	Level 1	Level 2	Level 3
(7)	IO	STD=JUPITER	STD=IO	

Comments: Extended=YES

Acquisition

#	Target
1	NONE

Template

AcqFilter	Primary Channel	Simultaneous Imaging	Imager Subarray	Grating Wheel Direction
F560W	CHANNEL1	NO	FULL	NEUTRAL

Dithers

#	Dither Type	Optimized For	Direction
1	4-Point	EXTENDED SOURCE	NEGATIVE

Spectral Elements

#	Wavelength Range	Detector	Filter	Readout Pattern	Groups/Int	Integrations/Exp	Exposures/Dith	Dither	Total Dithers	Total Integrations	Total Exposure Time	ETC Wkbk.Calc ID
1	LONG(C)	MRSLONG		FASTR1	5	16	1	None	1	16	263.629	
1	LONG(C)	MRSSHORT		FASTR1	5	16	1	None	1	16	263.629	
2	MEDIUM(B)	MRSLONG		FASTR1	5	16	1	None	1	16	263.629	
2	MEDIUM(B)	MRSSHORT		FASTR1	5	16	1	None	1	16	263.629	
3	SHORT(A)	MRSLONG		FASTR1	5	16	1	None	1	16	263.629	
3	SHORT(A)	MRSSHORT		FASTR1	5	16	1	None	1	16	263.629	

Special Requirements	
	Group Observations 31, 32, Non-interruptible DEFAULT WINDOW: ANGULAR RATE IO FROM JWST LESS THAN 0.03 CENTRAL MERIDIAN LONGITUDE OF IO FROM JWST BETWEEN 60 120 DEFAULT WINDOW: NOT OCCULTATION OF IO BY JUPITER FROM JWST DEFAULT WINDOW: SEPARATION OF IO EUROPA FROM JWST GREATER THAN 40" DEFAULT WINDOW: SEPARATION OF IO GANYMEDE FROM JWST GREATER THAN 40" DEFAULT WINDOW: SEPARATION OF IO CALLISTO FROM JWST GREATER THAN 40"

Observation

Proposal 1373, Observation 16: Io Eclipse - NIRSpec IFU Short Mon Aug 14 20:00:35 GMT 2023

Diagnostic Status: Warning

Observing Template: NIRSpec IFU Spectroscopy

Comments: Short wavelength observations (Obs 16) do not schedule in 2022 according to APT Visit Planner. But JWST schedulers can find possibilities in the Nov/Dec visibility season by setting the MOSS calculation to a finer timestep. If possible, please schedule Obs 16 and 24 on consecutive eclipses (about 1.8 days apart), or at least within about 7 Io orbits (within about 14 days) of each other.

Diagnostics

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

(Io Eclipse - NIRSpec IFU Short (Obs 16)) Informational (Form): The Visit Planner and Spike may produce different schedulability results.

Solar System Targets

#	Name	Level 1	Level 2	Level 3
(7)	IO	STD=JUPITER	STD=IO	

Comments: Extended=YES

Template

TA Method
NONE

Dithers

#	Dither Type	Size	Starting Point	Number of Points	Points
1	SPARSE-CYCLING	SMALL			1,2,3,4

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	G140H/F100LP	NRSIRS2RAPID	11	4	false	true	NONE	4	16	2801.067	

Special Requirements

Between Dates 06-NOV-2022:00:00:00 and 27-DEC-2022:00:00:00

DEFAULT WINDOW: ANGULAR RATE IO FROM JWST LESS THAN 0.03
DEFAULT WINDOW: NOT OCCULTATION OF IO BY JUPITER FROM JWST
ECLIPSE UMBRAL FULL OF IO BY JUPITER FROM JWST

Observation

Proposal 1373, Observation 34: Io Eclipse - NIRSpec IFU Short Mon Aug 14 20:00:35 GMT 2023

Diagnostic Status: Warning

Observing Template: NIRSpec IFU Spectroscopy

Comments: Short wavelength observations (Obs 16) do not schedule in 2022 according to APT Visit Planner. But JWST schedulers can find possibilities in the Nov/Dec visibility season by setting the MOSS calculation to a finer timestep. If possible, please schedule Obs 34 and 35 on consecutive eclipses (about 1.8 days apart), or at least within about 7 Io orbits (within about 14 days) of each other.

WOPR repeat of obs 16:1.

Diagnostics

(Visit 34:1) Warning (Form): Overheads are provisional until the Visit Planner has been run.

(Io Eclipse - NIRSpec IFU Short (Obs 34)) Informational (Form): The Visit Planner and Spike may produce different schedulability results.

Solar System Targets

#	Name	Level 1	Level 2	Level 3
(7)	IO	STD=JUPITER	STD=IO	

Comments: Extended=YES

Template

TA Method
NONE

Dithers

#	Dither Type	Size	Starting Point	Number of Points	Points
1	SPARSE-CYCLING	SMALL			1,2,3,4

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	G140H/F100LP	NRSIRS2RAPID	10	4	false	true	NONE	4	16	2567.645	

Special Requirements

Between Dates 01-AUG-2023:00:00:00 and 14-AUG-2023:00:00:00

DEFAULT WINDOW: ANGULAR RATE IO FROM JWST LESS THAN 0.03
DEFAULT WINDOW: NOT OCCULTATION OF IO BY JUPITER FROM JWST
ECLIPSE UMBRAL FULL OF IO BY JUPITER FROM JWST

Observation

Proposal 1373, Observation 36: Io Eclipse - NIRSpec IFU Short Mon Aug 14 20:00:35 GMT 2023

Diagnostic Status: Warning

Observing Template: NIRSpec IFU Spectroscopy

Comments: Short wavelength observations (Obs 16) do not schedule in 2022 according to APT Visit Planner. But JWST schedulers can find possibilities in the Nov/Dec visibility season by setting the MOSS calculation to a finer timestep. If possible, please schedule Obs 34 and 35 on consecutive eclipses (about 1.8 days apart), or at least within about 7 Io orbits (within about 14 days) of each other.

WOPR repeat of obs 34:1

Diagnostics

(Visit 36:1) Warning (Form): Overheads are provisional until the Visit Planner has been run.

(Io Eclipse - NIRSpec IFU Short (Obs 36)) Informational (Form): The Visit Planner and Spike may produce different schedulability results.

(Visit 36:1) Informational (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.

Solar System Targets

#	Name	Level 1	Level 2	Level 3
(7)	IO	STD=JUPITER	STD=IO	

Comments: Extended=YES

Template

TA Method
NONE

Dithers

#	Dither Type	Size	Starting Point	Number of Points	Points
1	SPARSE-CYCLING	SMALL			1,2,3,4

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	G140H/F100LP	NRSIRS2RAPID	10	4	false	true	NONE	4	16	2567.645	

Special Requirements

DEFAULT WINDOW: ANGULAR RATE IO FROM JWST LESS THAN 0.03
DEFAULT WINDOW: NOT OCCULTATION OF IO BY JUPITER FROM JWST
ECLIPSE UMBRAL FULL OF IO BY JUPITER FROM JWST

Observation

Proposal 1373, Observation 24: Io Eclipse - NIRSpec IFU Long Mon Aug 14 20:00:35 GMT 2023

Diagnostic Status: Warning

Observing Template: NIRSpec IFU Spectroscopy

Comments: If possible, please schedule Obs 16 and 24 on consecutive eclipses (about 1.8 days apart), or at least within about 7 Io orbits (within about 14 days) of each other.

Diagnostics

(Visit 24:1) Warning (Form): Overheads are provisional until the Visit Planner has been run.

(Io Eclipse - NIRSpec IFU Long (Obs 24)) Informational (Form): The Visit Planner and Spike may produce different schedulability results.

Solar System Targets

#	Name	Level 1	Level 2	Level 3
(7)	IO	STD=JUPITER	STD=IO	

Comments: Extended=YES

Template

TA Method
NONE

Dithers

#	Dither Type	Size	Starting Point	Number of Points	Points
1	SPARSE-CYCLING	SMALL			1,2,3,4

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	NRSRAPID	2	2	false	true	NONE	4	8	257.682	
2	G235H/F170LP	NRSRAPID	2	4	false	true	NONE	4	16	515.365	

Special Requirements

Between Dates 06-NOV-2022:00:00:00 and 27-DEC-2022:00:00:00

DEFAULT WINDOW: ANGULAR RATE IO FROM JWST LESS THAN 0.03
DEFAULT WINDOW: NOT OCCULTATION OF IO BY JUPITER FROM JWST
ECLIPSE UMBRAL FULL OF IO BY JUPITER FROM JWST

Observation

Proposal 1373, Observation 35: Io Eclipse - NIRSpec IFU Long Mon Aug 14 20:00:35 GMT 2023

Diagnostic Status: Warning

Observing Template: NIRSpec IFU Spectroscopy

Comments: If possible, please schedule Obs 34 and 35 on consecutive eclipses (about 1.8 days apart), or at least within about 7 Io orbits (within about 14 days) of each other.

WOPR repeat of observation 24.

Diagnostics

(Visit 35:1) Warning (Form): Overheads are provisional until the Visit Planner has been run.

(Io Eclipse - NIRSpec IFU Long (Obs 35)) Informational (Form): The Visit Planner and Spike may produce different schedulability results.

Solar System Targets

#	Name	Level 1	Level 2	Level 3
(7)	IO	STD=JUPITER	STD=IO	

Comments: Extended=YES

Template

TA Method
NONE

Dithers

#	Dither Type	Size	Starting Point	Number of Points	Points
1	SPARSE-CYCLING	SMALL			1,2,3,4

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	NRSRAPID	2	2	false	true	NONE	4	8	257.682	
2	G235H/F170LP	NRSRAPID	2	4	false	true	NONE	4	16	515.365	

Special Requirements

Between Dates 01-AUG-2023:00:00:00 and 14-AUG-2023:00:00:00

DEFAULT WINDOW: ANGULAR RATE IO FROM JWST LESS THAN 0.03
DEFAULT WINDOW: NOT OCCULTATION OF IO BY JUPITER FROM JWST
ECLIPSE UMBRAL FULL OF IO BY JUPITER FROM JWST

Observation

Proposal 1373, Observation 17: Io disk - NIRISS SUB80 Mon Aug 14 20:00:35 GMT 2023

Diagnostic Status: Warning

Observing Template: NIRISS Aperture Masking Interferometry

Diagnostics

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

(Io disk - NIRISS SUB80 (Obs 17)) Informational (Form): The Visit Planner and Spike may produce different schedulability results.

Solar System Targets

#	Name	Level 1	Level 2	Level 3
(7)	IO	STD=JUPITER	STD=IO	

Comments: Extended=YES

Acquisition

#	Target	Acquisition Mode	Filter	Readout Pattern	Groups/Int	Integrations/Exp	Total Integrations	Total Exposure Time	ETC Wkbk.Calc ID
1	SAME	AMIBRIGHT	F480M	NISRAPID	9	1	1	0.475	1

Template

Subarray	Direct Image
SUB80	false

Dithers

#	Primary Dithers	Subpixel Positions
1	NONE	5

Spectral Elements

#	Filter	Readout Pattern	Groups/Int	Integrations/Exp	Total Dithers	Total Integrations	Total Exposure Time	ETC Wkbk.Calc ID
1	F430M	NISRAPID	45	100	5	500	1745.36	24939

PSF References	NIRISS PSF - AMI (Obs 23) (PSF Reference; Filters [F430M]) Additional Justification: false
Special Requirements	No Parallel Attachments Group Observations 17, 23, Non-interruptible DEFAULT WINDOW: ANGULAR RATE IO FROM JWST LESS THAN 0.03 DEFAULT WINDOW: NOT OCCULTATION OF IO BY JUPITER FROM JWST CENTRAL MERIDIAN LONGITUDE OF IO FROM JWST BETWEEN 45 135

Observation

Proposal 1373, Observation 18: Ganymede Leading Hemisphere - MIRI MRS Mon Aug 14 20:00:35 GMT 2023

Diagnostic Status: Warning

Observing Template: MIRI Medium Resolution Spectroscopy

Diagnostics

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

(Ganymede Leading Hemisphere - MIRI MRS (Obs 18)) Informational (Form): The Visit Planner and Spike may produce different schedulability results.

Solar System Targets

#	Name	Level 1	Level 2	Level 3
(1)	GANYMEDE	STD=JUPITER	STD=GANYMEDE	

Comments: Extended=YES

Acquisition

#	Target
1	NONE

Template

AcqFilter	Primary Channel	Simultaneous Imaging	Imager Subarray	Grating Wheel Direction
F560W	CHANNEL1	NO	FULL	NEUTRAL

Dithers

#	Dither Type	Optimized For	Direction
1	4-Point	EXTENDED SOURCE	NEGATIVE

Spectral Elements

#	Wavelength Range	Detector	Filter	Readout Pattern	Groups/Int	Integrations/Exp	Exposures/Dith	Dither	Total Dithers	Total Integrations	Total Exposure Time	ETC Wkbk.Calc ID
1	SHORT(A)	MRSLONG		FASTR1	5	44	1	Dither 1	4	176	2919.342	
1	SHORT(A)	MRSSHORT		FASTR1	5	44	1	Dither 1	4	176	2919.342	
2	MEDIUM(B)	MRSLONG		FASTR1	5	44	1	Dither 1	4	176	2919.342	
2	MEDIUM(B)	MRSSHORT		FASTR1	5	44	1	Dither 1	4	176	2919.342	
3	LONG(C)	MRSLONG		FASTR1	5	44	1	Dither 1	4	176	2919.342	
3	LONG(C)	MRSSHORT		FASTR1	5	44	1	Dither 1	4	176	2919.342	

Special Requirements	
	Group Observations 15, 18, 19, 22, Non-interruptible DEFAULT WINDOW: ANGULAR RATE GANYMEDE FROM JWST LESS THAN 0.03 CENTRAL MERIDIAN LONGITUDE OF GANYMEDE FROM JWST BETWEEN 60 120 DEFAULT WINDOW: NOT OCCULTATION OF GANYMEDE BY JUPITER FROM JWST DEFAULT WINDOW: SEPARATION OF GANYMEDE IO FROM JWST GREATER THAN 8" DEFAULT WINDOW: SEPARATION OF GANYMEDE EUROPA FROM JWST GREATER THAN 8" DEFAULT WINDOW: SEPARATION OF GANYMEDE CALLISTO FROM JWST GREATER THAN 8"

Observation

Proposal 1373, Observation 19: Ganymede Leading Hemisphere - NIRSpec IFU High Res Mon Aug 14 20:00:35 GMT 2023

Diagnostic Status: Warning

Observing Template: NIRSpec IFU Spectroscopy

Diagnostics

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

(Ganymede Leading Hemisphere - NIRSpec IFU High Res (Obs 19)) Informational (Form): The Visit Planner and Spike may produce different schedulability results.

Solar System Targets

#	Name	Level 1	Level 2	Level 3
(1)	GANYMEDE	STD=JUPITER	STD=GANYMEDE	

Comments: Extended=YES

Template

TA Method
NONE

Dithers

#	Dither Type	Size	Starting Point	Number of Points	Points
1	CYCLING	SMALL	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	NRSRAPID	10	4	false	true	NONE	4	16	1889.672	

Special Requirements

Group Observations 15, 18, 19, 22, Non-interruptible

DEFAULT WINDOW: ANGULAR RATE GANYMEDE FROM JWST LESS THAN 0.03
CENTRAL MERIDIAN LONGITUDE OF GANYMEDE FROM JWST BETWEEN 60 120
DEFAULT WINDOW: NOT OCCULTATION OF GANYMEDE BY JUPITER FROM JWST
SEPARATION OF GANYMEDE IO FROM JWST GREATER THAN 8"
SEPARATION OF GANYMEDE EUROPA FROM JWST GREATER THAN 8"
SEPARATION OF GANYMEDE CALLISTO FROM JWST GREATER THAN 8"

Observation

Proposal 1373, Observation 27: Ganymede Trailing Hemisphere - MIRI MRS Mon Aug 14 20:00:35 GMT 2023

Diagnostic Status: Warning

Observing Template: MIRI Medium Resolution Spectroscopy

Diagnostics

(Visit 27:1) Warning (Form): Overheads are provisional until the Visit Planner has been run.

(Ganymede Trailing Hemisphere - MIRI MRS (Obs 27)) Informational (Form): The Visit Planner and Spike may produce different schedulability results.

Solar System Targets

#	Name	Level 1	Level 2	Level 3
(1)	GANYMEDE	STD=JUPITER	STD=GANYMEDE	

Comments: Extended=YES

Acquisition

#	Target
1	NONE

Template

AcqFilter	Primary Channel	Simultaneous Imaging	Imager Subarray	Grating Wheel Direction
F560W	CHANNEL1	NO	FULL	NEUTRAL

Dithers

#	Dither Type	Optimized For	Direction
1	4-Point	EXTENDED SOURCE	NEGATIVE

Spectral Elements

#	Wavelength Range	Detector	Filter	Readout Pattern	Groups/Int	Integrations/Exp	Exposures/Dith	Dither	Total Dithers	Total Integrations	Total Exposure Time	ETC Wkbk.Calc ID
1	SHORT(A)	MRSLONG		FASTR1	5	44	1	Dither 1	4	176	2919.342	
1	SHORT(A)	MRSSHORT		FASTR1	5	44	1	Dither 1	4	176	2919.342	
2	MEDIUM(B)	MRSLONG		FASTR1	5	44	1	Dither 1	4	176	2919.342	
2	MEDIUM(B)	MRSSHORT		FASTR1	5	44	1	Dither 1	4	176	2919.342	
3	LONG(C)	MRSLONG		FASTR1	5	44	1	Dither 1	4	176	2919.342	
3	LONG(C)	MRSSHORT		FASTR1	5	44	1	Dither 1	4	176	2919.342	

Special Requirements	
	Group Observations 27, 28, 30, Non-interruptible DEFAULT WINDOW: ANGULAR RATE GANYMEDE FROM JWST LESS THAN 0.03 CENTRAL MERIDIAN LONGITUDE OF GANYMEDE FROM JWST BETWEEN 240 300 DEFAULT WINDOW: NOT OCCULTATION OF GANYMEDE BY JUPITER FROM JWST DEFAULT WINDOW: SEPARATION OF GANYMEDE IO FROM JWST GREATER THAN 8" DEFAULT WINDOW: SEPARATION OF GANYMEDE EUROPA FROM JWST GREATER THAN 8" DEFAULT WINDOW: SEPARATION OF GANYMEDE CALLISTO FROM JWST GREATER THAN 8"

Observation

Proposal 1373, Observation 28: Ganymede Trailing Hemisphere - NIRSpec IFU High Res Mon Aug 14 20:00:35 GMT 2023

Diagnostic Status: Warning

Observing Template: NIRSpec IFU Spectroscopy

Diagnostics

(Visit 28:1) Warning (Form): Overheads are provisional until the Visit Planner has been run.

(Ganymede Trailing Hemisphere - NIRSpec IFU High Res (Obs 28)) Informational (Form): The Visit Planner and Spike may produce different schedulability results.

Solar System Targets

#	Name	Level 1	Level 2	Level 3
(1)	GANYMEDE	STD=JUPITER	STD=GANYMEDE	

Comments: Extended=YES

Template

TA Method
NONE

Dithers

#	Dither Type	Size	Starting Point	Number of Points	Points
1	CYCLING	SMALL	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	NRSRAPID	10	4	false	true	NONE	4	16	1889.672	

Special Requirements

Group Observations 27, 28, 30, Non-interruptible

DEFAULT WINDOW: ANGULAR RATE GANYMEDE FROM JWST LESS THAN 0.03
CENTRAL MERIDIAN LONGITUDE OF GANYMEDE FROM JWST BETWEEN 240 300
DEFAULT WINDOW: NOT OCCULTATION OF GANYMEDE BY JUPITER FROM JWST
SEPARATION OF GANYMEDE IO FROM JWST GREATER THAN 8"
SEPARATION OF GANYMEDE EUROPA FROM JWST GREATER THAN 8"
SEPARATION OF GANYMEDE CALLISTO FROM JWST GREATER THAN 8"

Observation

Proposal 1373, Observation 20: Ganymede Eclipse - NIRSpec IFU Low Res Mon Aug 14 20:00:35 GMT 2023

Diagnostic Status: Warning

Observing Template: NIRSpec IFU Spectroscopy

Diagnostics

(Visit 20:1) Warning (Form): Overheads are provisional until the Visit Planner has been run.

(Ganymede Eclipse - NIRSpec IFU Low Res (Obs 20)) Informational (Form): The Visit Planner and Spike may produce different schedulability results.

Solar System Targets

#	Name	Level 1	Level 2	Level 3
(1)	GANYMEDE	STD=JUPITER	STD=GANYMEDE	

Comments: Extended=YES

Template

TA Method
NONE

Dithers

#	Dither Type	Size	Starting Point	Number of Points	Points
1	CYCLING	SMALL	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	PRISM/CLEAR	NRSIRS2RAPID	14	2	false	true	NONE	4	8	1750.667	

Special Requirements

Between Dates 23-JUN-2022:00:00:00 and 16-AUG-2022:00:00:00

DEFAULT WINDOW: ANGULAR RATE GANYMEDE FROM JWST LESS THAN 0.03
ECLIPSE UMBRAL FULL OF GANYMEDE BY JUPITER FROM JWST
DEFAULT WINDOW: NOT OCCULTATION OF GANYMEDE BY JUPITER FROM JWST

Observation

Proposal 1373, Observation 1: MIRI Background - Jupiter 5x16 Mon Aug 14 20:00:35 GMT 2023

Diagnostic Status: Warning

Observing Template: MIRI Medium Resolution Spectroscopy

Diagnostics

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

(MIRI Background - Jupiter 5x16 (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)	BACKGROUND+90N	STD=JUPITER	TYPE=POS_ANGLE,RAD=90,ANG=0,REF=NORTH	

Comments: MIRI MRS background should be 90 deg N of Jupiter for JWST-leading orientation (e.g., Jupiter in 2022-Jun-23 to 2022-Aug-1 range).
Switch background to 90 deg S of Jupiter for JWST-trailing orientation (this keeps Jupiter off of the MIRI imager apertures).
Extended=YES

Acquisition

#	Target
1	NONE

Template

AcqFilter	Primary Channel	Simultaneous Imaging	Imager Subarray	Grating Wheel Direction
F1000W	ALL	NO	FULL	NEUTRAL

Spectral Elements

#	Wavelength Range	Detector	Filter	Readout Pattern	Groups/Int	Integrations/Exp	Exposures/Dith	Dither	Total Dithers	Total Integrations	Total Exposure Time	ETC Wkbk.Calc ID
1	LONG(C)	MRSLONG		FASTR1	5	16	1	None	1	16	263.629	
1	LONG(C)	MRSSHORT		FASTR1	5	16	1	None	1	16	263.629	
2	MEDIUM(B)	MRSLONG		FASTR1	5	16	1	None	1	16	263.629	
2	MEDIUM(B)	MRSSHORT		FASTR1	5	16	1	None	1	16	263.629	
3	SHORT(A)	MRSLONG		FASTR1	5	16	1	None	1	16	263.629	
3	SHORT(A)	MRSSHORT		FASTR1	5	16	1	None	1	16	263.629	

Special Requirements	Sequence Observations 1, 2 within 5 Hours DEFAULT WINDOW: ANGULAR RATE BACKGROUND+90N FROM JWST LESS THAN 0.03 DEFAULT WINDOW: NOT OCCULTATION OF BACKGROUND+90N BY JUPITER FROM JWST DEFAULT WINDOW: SEPARATION OF BACKGROUND+90N IO FROM JWST GREATER THAN 10" DEFAULT WINDOW: SEPARATION OF BACKGROUND+90N EUROPA FROM JWST GREATER THAN 10" DEFAULT WINDOW: SEPARATION OF BACKGROUND+90N GANYMEDE FROM JWST GREATER THAN 10" DEFAULT WINDOW: SEPARATION OF BACKGROUND+90N CALLISTO FROM JWST GREATER THAN 10"

Observation

Proposal 1373, Observation 22: MIRI Background - Ganymede Leading 5x44 Mon Aug 14 20:00:35 GMT 2023

Diagnostic Status: Warning

Observing Template: MIRI Medium Resolution Spectroscopy

Diagnostics

(Visit 22:1) Warning (Form): Overheads are provisional until the Visit Planner has been run.

(MIRI Background - Ganymede Leading 5x44 (Obs 22)) Informational (Form): The Visit Planner and Spike may produce different schedulability results.

Solar System Targets

#	Name	Level 1	Level 2	Level 3
(31)	BG-GANYMEDE+20N	STD=JUPITER	STD=GANYMEDE	TYPE=POS_ANGLE,RAD=20,ANG=0,REF=NORTH

Comments: MIRI MRS background for Ganymede should be 20 arcsec N of Ganymede, to make sure it is off the MIRI FOV but keeps Jupiter at approximately the same relative sky position.
Extended=YES

Acquisition

#	Target
1	NONE

Template

AcqFilter	Primary Channel	Simultaneous Imaging	Imager Subarray	Grating Wheel Direction
F1000W	ALL	NO	FULL	NEUTRAL

Spectral Elements

#	Wavelength Range	Detector	Filter	Readout Pattern	Groups/Int	Integrations/Exp	Exposures/Dith	Dither	Total Dithers	Total Integrations	Total Exposure Time	ETC Wkbk.Calc ID
1	SHORT(A)	MRSLONG		FASTR1	5	44	1	None	1	44	729.836	
1	SHORT(A)	MRSSHORT		FASTR1	5	44	1	None	1	44	729.836	
2	MEDIUM(B)	MRSLONG		FASTR1	5	44	1	None	1	44	729.836	
2	MEDIUM(B)	MRSSHORT		FASTR1	5	44	1	None	1	44	729.836	
3	LONG(C)	MRSLONG		FASTR1	5	44	1	None	1	44	729.836	
3	LONG(C)	MRSSHORT		FASTR1	5	44	1	None	1	44	729.836	

Special Requirements	
	Group Observations 15, 22 within 5 Hours Group Observations 15, 18, 19, 22, Non-interruptible DEFAULT WINDOW: NOT OCCULTATION OF BG-GANYMEDE+20N BY JUPITER FROM JWST DEFAULT WINDOW: SEPARATION OF BG-GANYMEDE+20N IO FROM JWST GREATER THAN 10" DEFAULT WINDOW: SEPARATION OF BG-GANYMEDE+20N EUROPA FROM JWST GREATER THAN 10" DEFAULT WINDOW: SEPARATION OF BG-GANYMEDE+20N CALLISTO FROM JWST GREATER THAN 10" DEFAULT WINDOW: ANGULAR RATE BG-GANYMEDE+20N FROM JWST LESS THAN 0.03

Observation

Proposal 1373, Observation 32: MIRI Background - Io Leading 5x16 Mon Aug 14 20:00:35 GMT 2023

Diagnostic Status: Warning

Observing Template: MIRI Medium Resolution Spectroscopy

Comments: Revised MIRI MRS background for Io, changed to reduce amount of Io scattered light in the background frame (based on lessons learned from Ganymede MIRI background). Position is south-southwest of Io, at approximately the same distance from Jupiter as the Io MIRI observation itself.

Diagnostics

(Visit 32:1) Warning (Form): Overheads are provisional until the Visit Planner has been run.

(MIRI Background - Io Leading 5x16 (Obs 32)) Informational (Form): The Visit Planner and Spike may produce different schedulability results.

Solar System Targets

#	Name	Level 1	Level 2	Level 3
(36)	BG-IO+SXSW	STD=JUPITER	STD=IO	TYPE=POS_ANGLE,RAD=132.9,ANG=187.04,REF=NORTH

Comments: Revised MIRI MRS background target for Io, changed to reduce amount of Io scattered light in the background frame (based on lessons learned from Ganymede MIRI background). Position is south-southwest of Io, at approximately the same distance from Jupiter as the Io MIRI observation itself. Extended=YES

Acquisition

#	Target
1	NONE

Template

AcqFilter	Primary Channel	Simultaneous Imaging	Imager Subarray	Grating Wheel Direction
F1000W	ALL	NO	FULL	NEUTRAL

Spectral Elements

#	Wavelength Range	Detector	Filter	Readout Pattern	Groups/Int	Integrations/Exp	Exposures/Dith	Dither	Total Dithers	Total Integrations	Total Exposure Time	ETC Wkbk.Calc ID
1	LONG(C)	MRSLONG		FASTR1	5	16	1	None	1	16	263.629	
1	LONG(C)	MRSSHORT		FASTR1	5	16	1	None	1	16	263.629	
2	MEDIUM(B)	MRSLONG		FASTR1	5	16	1	None	1	16	263.629	
2	MEDIUM(B)	MRSSHORT		FASTR1	5	16	1	None	1	16	263.629	
3	SHORT(A)	MRSLONG		FASTR1	5	16	1	None	1	16	263.629	
3	SHORT(A)	MRSSHORT		FASTR1	5	16	1	None	1	16	263.629	

Special Requirements	
	Group Observations 31, 32, Non-interruptible DEFAULT WINDOW: NOT OCCULTATION OF BG-IO+SXSW BY JUPITER FROM JWST DEFAULT WINDOW: SEPARATION OF BG-IO+SXSW EUROPA FROM JWST GREATER THAN 40" DEFAULT WINDOW: SEPARATION OF BG-IO+SXSW GANYMEDE FROM JWST GREATER THAN 40" DEFAULT WINDOW: SEPARATION OF BG-IO+SXSW CALLISTO FROM JWST GREATER THAN 40" DEFAULT WINDOW: ANGULAR RATE BG-IO+SXSW FROM JWST LESS THAN 0.075

Observation

Proposal 1373, Observation 29: MIRI Background - Ganymede Trailing 5x44 Mon Aug 14 20:00:35 GMT 2023

Diagnostic Status: Warning

Observing Template: MIRI Medium Resolution Spectroscopy

Diagnostics

(Visit 29:1) Warning (Form): Overheads are provisional until the Visit Planner has been run.

(MIRI Background - Ganymede Trailing 5x44 (Obs 29)) Informational (Form): The Visit Planner and Spike may produce different schedulability results.

Solar System Targets

#	Name	Level 1	Level 2	Level 3
(31)	BG-GANYMEDE+20N	STD=JUPITER	STD=GANYMEDE	TYPE=POS_ANGLE,RAD=20,ANG=0,REF=NORTH

Comments: MIRI MRS background for Ganymede should be 20 arcsec N of Ganymede, to make sure it is off the MIRI FOV but keeps Jupiter at approximately the same relative sky position.
Extended=YES

Acquisition

#	Target
1	NONE

Template

AcqFilter	Primary Channel	Simultaneous Imaging	Imager Subarray	Grating Wheel Direction
F1000W	ALL	NO	FULL	NEUTRAL

Spectral Elements

#	Wavelength Range	Detector	Filter	Readout Pattern	Groups/Int	Integrations/Exp	Exposures/Dith	Dither	Total Dithers	Total Integrations	Total Exposure Time	ETC Wkbk.Calc ID
1	SHORT(A)	MRSLONG		FASTR1	5	44	1	None	1	44	729.836	
1	SHORT(A)	MRSSHORT		FASTR1	5	44	1	None	1	44	729.836	
2	MEDIUM(B)	MRSLONG		FASTR1	5	44	1	None	1	44	729.836	
2	MEDIUM(B)	MRSSHORT		FASTR1	5	44	1	None	1	44	729.836	
3	LONG(C)	MRSLONG		FASTR1	5	44	1	None	1	44	729.836	
3	LONG(C)	MRSSHORT		FASTR1	5	44	1	None	1	44	729.836	

Special Requirements	
	DEFAULT WINDOW: NOT OCCULTATION OF BG-GANYMEDE+20N BY JUPITER FROM JWST DEFAULT WINDOW: SEPARATION OF BG-GANYMEDE+20N IO FROM JWST GREATER THAN 10" DEFAULT WINDOW: SEPARATION OF BG-GANYMEDE+20N EUROPA FROM JWST GREATER THAN 10" DEFAULT WINDOW: SEPARATION OF BG-GANYMEDE+20N CALLISTO FROM JWST GREATER THAN 10" DEFAULT WINDOW: ANGULAR RATE BG-GANYMEDE+20N FROM JWST LESS THAN 0.03

Observation

Proposal 1373, Observation 30: MIRI Background - Ganymede Trailing 5x44 Mon Aug 14 20:00:35 GMT 2023

Diagnostic Status: Warning

Observing Template: MIRI Medium Resolution Spectroscopy

Diagnostics

(Visit 30:1) Warning (Form): Overheads are provisional until the Visit Planner has been run.

(MIRI Background - Ganymede Trailing 5x44 (Obs 30)) Informational (Form): The Visit Planner and Spike may produce different schedulability results.

Solar System Targets

#	Name	Level 1	Level 2	Level 3
(31)	BG-GANYMEDE+20N	STD=JUPITER	STD=GANYMEDE	TYPE=POS_ANGLE,RAD=20,ANG=0,REF=NORTH

Comments: MIRI MRS background for Ganymede should be 20 arcsec N of Ganymede, to make sure it is off the MIRI FOV but keeps Jupiter at approximately the same relative sky position.
Extended=YES

Acquisition

#	Target
1	NONE

Template

AcqFilter	Primary Channel	Simultaneous Imaging	Imager Subarray	Grating Wheel Direction
F1000W	ALL	NO	FULL	NEUTRAL

Spectral Elements

#	Wavelength Range	Detector	Filter	Readout Pattern	Groups/Int	Integrations/Exp	Exposures/Dith	Dither	Total Dithers	Total Integrations	Total Exposure Time	ETC Wkbk.Calc ID
1	SHORT(A)	MRSLONG		FASTR1	5	44	1	None	1	44	729.836	
1	SHORT(A)	MRSSHORT		FASTR1	5	44	1	None	1	44	729.836	
2	MEDIUM(B)	MRSLONG		FASTR1	5	44	1	None	1	44	729.836	
2	MEDIUM(B)	MRSSHORT		FASTR1	5	44	1	None	1	44	729.836	
3	LONG(C)	MRSLONG		FASTR1	5	44	1	None	1	44	729.836	
3	LONG(C)	MRSSHORT		FASTR1	5	44	1	None	1	44	729.836	

Special Requirements	Group Observations 27, 28, 30, Non-interruptible DEFAULT WINDOW: NOT OCCULTATION OF BG-GANYMEDE+20N BY JUPITER FROM JWST DEFAULT WINDOW: SEPARATION OF BG-GANYMEDE+20N IO FROM JWST GREATER THAN 10" DEFAULT WINDOW: SEPARATION OF BG-GANYMEDE+20N EUROPA FROM JWST GREATER THAN 10" DEFAULT WINDOW: SEPARATION OF BG-GANYMEDE+20N CALLISTO FROM JWST GREATER THAN 10" DEFAULT WINDOW: ANGULAR RATE BG-GANYMEDE+20N FROM JWST LESS THAN 0.03

Observation

Proposal 1373, Observation 23: NIRISS PSF - AMI Mon Aug 14 20:00:35 GMT 2023

Diagnostic Status: Warning

Observing Template: NIRISS Aperture Masking Interferometry

Comments: PSF-cal target is for 2021B epoch... change target if epoch of observation changes.

Diagnostics

(Visit 23:1) Warning (Form): Overheads are provisional until the Visit Planner has been run.

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Miscellaneous
(29)	PSFCAL.2022A-HD2236-K6	RA: 00 26 12.0759 (6.5503163d) Dec: +01 09 51.32 (1.16426d) Equinox: J2000	Proper Motion RA: -14.779 mas/yr Proper Motion Dec: -8.580 mas/yr Parallax: 0.0033333" Epoch of Position: 2015.5	

Comments: This object was found using the SearchCal tool (http://www.jmmc.fr/searchcal_page.htm) with PM/parallax values confirmed in Simbad (http://simbad.u-strasbg.fr/simbad)

NIRISS AMI PSF calibrator 2022A

K0III C / K=6.302
Category=Calibration
Description=[Point spread function]

Acquisition

#	Target	Acquisition Mode	Filter	Readout Pattern	Groups/Int	Integrations/Exp	Total Integrations	Total Exposure Time	ETC Wkbk.Calc ID
1	SAME	AMIBRIGHT	F480M	NISRAPID	9	1	1	0.475	90872.8

Template

Subarray	Direct Image
SUB80	false

Dithers

#	Primary Dithers	Subpixel Positions
1	4	NONE

Spectral Elements

#	Filter	Readout Pattern	Groups/Int	Integrations/Exp	Total Dithers	Total Integrations	Total Exposure Time	ETC Wkbk.Calc ID
1	F430M	NISRAPID	12	8	4	32	32.038	90872.9

PSF References	PSF Reference: true
Special Requirements	No Parallel Attachments Group Observations 17, 23, Non-interruptible