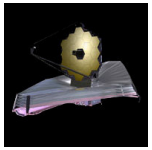

1246 - Jupiter's Great Red Spot

Cycle: 1, Proposal Category: GTO

INVESTIGATORS

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OBSERVATIONS

Folder	*Observation*	*Label*	*Observing Template*	*Science Target*
Jupiter - MIRI				
	2	Great Red Spot	MIRI Medium Resolution Spectroscopy	(1) JUPITER-GRS
	3	Great Red Spot West	MIRI Medium Resolution Spectroscopy	(3) JUPITER-GRSWEST
	1	Great Red Spot East	MIRI Medium Resolution Spectroscopy	(4) JUPITER-GRSEAST
	4	MIRI Background	MIRI Medium Resolution Spectroscopy	(2) BACKGROUND
Jupiter - MIRI				
	52	Great Red Spot	MIRI Medium Resolution Spectroscopy	(1) JUPITER-GRS
	53	Great Red Spot West	MIRI Medium Resolution Spectroscopy	(3) JUPITER-GRSWEST
	51	Great Red Spot East	MIRI Medium Resolution Spectroscopy	(4) JUPITER-GRSEAST
	54	MIRI Background	MIRI Medium Resolution Spectroscopy	(2) BACKGROUND

ABSTRACT

Jupiter’s extended disk and significant brightness present an extreme test for JWST capabilities. We will use MIRI/MRS spatio-spectral imaging to create a 3-point mosaic of the Great Red Spot (GRS) and its environs in the 6-11 m range to determine the 3-dimensional temperature, composition, and aerosol distribution. We will explore moist convective activity surrounding the GRS via the ammonia, phosphine, and condensed ices detectable in this spectral range. We will also search spectra for chemical products that may be unique to the GRS region as a by-product of the production of the poorly-understood red chromophores. We will use methane emission to study stratospheric effects of the underlying GRS and moist-convective

plumes.

OBSERVING DESCRIPTION

Three-point mosaic of Jupiter's Great Red Spot and its environs in 5-11 μm (longer wavelengths will saturate).

Jupiter's angular size varies from 37-43" during FoR windows.

1. MOSAIC OF ROTATING TARGET: Given the difficulties of specifying a true MIRI mosaic of a rotating target, we have specified three seperate pointings (one for the GRS centre, one for the region to the east, and one for the west). These should be executed consecutively, or as close together in time as possible. Note that the GRS moves in longitude, so the precise longitudes of these three footprints can only be specified in the weeks prior to execution. The longitudes currently provided should be considered as dummy variables.

2. DITHER: A 4-point dither has been assumed to optimise imaging quality across Channels 1-2, but as we hope to optimise over the full field of view, only small dither steps are required (large 1" dither steps would not work, as this would render only a small area of the FOV optimised). If the 2-point dither pattern turns out to be more suitable, we request to be able to make this change as it would increase the exposure time on target (reducing overheads).

3. GROUPS: As some regions of the spectrum (particularly those beyond 11 μm) are likely to saturate in the second group, we have set ngroups=4 and used sufficient iterations to build up our signal-to-noise. For the brightest regions, this will allow us to subsample the exposure time to create sharper images (Jupiter's rotation will cause blur during the science exposures).

4. BACKGROUND: A single background frame (an offset to sky, 90" away from Jupiter) should be acquired to chararacterise any anomalous slopes or contributions. This should be executed as near as possible to the science frames.

5. SCHEDULING: We require the Great Red Spot (and the other longitudes of interest) to be near the central meridian of the planet during the observation. We attempted to use a Central Meridian target window constraint, but this prevented the visit planner from running correctly.

Outstanding Issues:

* Consider change from 4 groups to 5 groups.

* Update pointing information for GRS.

* Link GRS observations to background.

Proposal 1246 - Targets - Jupiter's Great Red Spot

Solar System Targets

#	Name	Level 1	Level 2	Level 3
(1)	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 Using amateur observations updated 2021-09-04 using OPAL data and JUPOS drift rate data 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				
(2)	BACKGROUND	STD=JUPITER	TYPE=POS_ANGLE,RAD=90,ANG=0,REF=NORTH	
Comments: Extended=YES				
(3)	JUPITER-GRSWEST	STD=JUPITER	TYPE=PGRAPHIC,LONG=275.6,LAT=-20.7,R_LONG=0.319,R_LAT=0,EPOCH=30-APR-2022:12:00:00,EpochTimeScale=UTC	
Comments: Extended=YES				
(4)	JUPITER-GRSEAST	STD=JUPITER	TYPE=PGRAPHIC,LONG=255.6,LAT=-20.7,R_LONG=0.319,R_LAT=0,EPOCH=30-APR-2022:12:00:00,EpochTimeScale=UTC	
Comments: Extended=YES				

Observation

Proposal 1246, Observation 2: Great Red Spot Wed Aug 03 17:00:46 GMT 2022

Diagnostic Status: Warning

Observing Template: MIRI Medium Resolution Spectroscopy

Comments: To ensure that the MIRI observation takes place when the longitude is close to the central meridian, we have specified a 'Target Window' ±17 degrees either side of the longitude of interest.

However, the precise central longitude will not be known until ~2 months ahead of the observations.

Diagnostics

(Great Red Spot (Obs 2)) Warning (Form): Groups/Int cannot be 1, Groups/Int = 2 requires permission and Groups/Int of 3-4 is allowed but not recommended.
(Great Red Spot (Obs 2)) Warning (Form): Groups/Int cannot be 1, Groups/Int = 2 requires permission and Groups/Int of 3-4 is allowed but not recommended.
(Great Red Spot (Obs 2)) Warning (Form): Groups/Int cannot be 1, Groups/Int = 2 requires permission and Groups/Int of 3-4 is allowed but not recommended.
(Great Red Spot (Obs 2)) Warning (Form): Groups/Int cannot be 1, Groups/Int = 2 requires permission and Groups/Int of 3-4 is allowed but not recommended.
(Great Red Spot (Obs 2)) Warning (Form): Groups/Int cannot be 1, Groups/Int = 2 requires permission and Groups/Int of 3-4 is allowed but not recommended.
(Great Red Spot (Obs 2)) Warning (Form): Groups/Int cannot be 1, Groups/Int = 2 requires permission and Groups/Int of 3-4 is allowed but not recommended.
(Visit 2:1) Warning (Form): Overheads are provisional until the Visit Planner has been run.

Solar System Targets

#	Name	Level 1	Level 2	Level 3
(1)	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 Using amateur observations
updated 2021-09-04 using OPAL data and JUPOS drift rate data
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

Acquisition

#	Target
1	NONE

Template

AcqFilter	Primary Channel	Simultaneous Imaging	Imager Subarray
F1000W	ALL	NO	FULL

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	4	8	1	Dither 1	4	32	432.906	
1	SHORT(A)	MRSSHORT		FASTR1	4	8	1	Dither 1	4	32	432.906	
2	MEDIUM(B)	MRSLONG		FASTR1	4	8	1	Dither 1	4	32	432.906	
2	MEDIUM(B)	MRSSHORT		FASTR1	4	8	1	Dither 1	4	32	432.906	
3	LONG(C)	MRSLONG		FASTR1	4	8	1	Dither 1	4	32	432.906	
3	LONG(C)	MRSSHORT		FASTR1	4	8	1	Dither 1	4	32	432.906	

Special Requirements	
	Sequence Observations 1, 2, 3, 4, Non-interruptible DEFAULT WINDOW: ANGULAR RATE JUPITER-GRS FROM JWST LESS THAN 0.03 SEPARATION OF JUPITER-GRS JUPITER FROM JWST LESS THAN -4.5" 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 10" DEFAULT WINDOW: SEPARATION OF JUPITER-GRS EUROPA FROM JWST GREATER THAN 10" DEFAULT WINDOW: SEPARATION OF JUPITER-GRS GANYMEDE FROM JWST GREATER THAN 10" DEFAULT WINDOW: SEPARATION OF JUPITER-GRS CALLISTO FROM JWST GREATER THAN 10"

Observation

Proposal 1246, Observation 3: Great Red Spot West Wed Aug 03 17:00:46 GMT 2022

Diagnostic Status: Warning

Observing Template: MIRI Medium Resolution Spectroscopy

Comments: To ensure that the MIRI observation takes place when the longitude is close to the central meridian, we have specified a 'Target Window' ±17 degrees either side of the longitude of interest.

However, the precise central longitude will not be known until ~2 months ahead of the observations.

Diagnostics

(Great Red Spot West (Obs 3)) Warning (Form): Groups/Int cannot be 1, Groups/Int = 2 requires permission and Groups/Int of 3-4 is allowed but not recommended.
(Great Red Spot West (Obs 3)) Warning (Form): Groups/Int cannot be 1, Groups/Int = 2 requires permission and Groups/Int of 3-4 is allowed but not recommended.
(Great Red Spot West (Obs 3)) Warning (Form): Groups/Int cannot be 1, Groups/Int = 2 requires permission and Groups/Int of 3-4 is allowed but not recommended.
(Great Red Spot West (Obs 3)) Warning (Form): Groups/Int cannot be 1, Groups/Int = 2 requires permission and Groups/Int of 3-4 is allowed but not recommended.
(Great Red Spot West (Obs 3)) Warning (Form): Groups/Int cannot be 1, Groups/Int = 2 requires permission and Groups/Int of 3-4 is allowed but not recommended.
(Great Red Spot West (Obs 3)) Warning (Form): Groups/Int cannot be 1, Groups/Int = 2 requires permission and Groups/Int of 3-4 is allowed but not recommended.
(Visit 3:1) Warning (Form): Overheads are provisional until the Visit Planner has been run.

Solar System Targets

#	Name	Level 1	Level 2	Level 3
(3)	JUPITER-GRSWEST	STD=JUPITER	TYPE=PGRAPHIC,LONG=275.6,LAT=-20.7,R_LONG=0.319,R_LAT=0,EPOCH=30-APR-2022:12:00:00,EpochTimeScale=UTC	

Comments: Extended=YES

Acquisition

#	Target
1	NONE

Template

AcqFilter	Primary Channel	Simultaneous Imaging	Imager Subarray
F1000W	ALL	NO	FULL

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	4	8	1	Dither 1	4	32	432.906	
1	SHORT(A)	MRSSHORT		FASTR1	4	8	1	Dither 1	4	32	432.906	
2	MEDIUM(B)	MRSLONG		FASTR1	4	8	1	Dither 1	4	32	432.906	
2	MEDIUM(B)	MRSSHORT		FASTR1	4	8	1	Dither 1	4	32	432.906	
3	LONG(C)	MRSLONG		FASTR1	4	8	1	Dither 1	4	32	432.906	
3	LONG(C)	MRSSHORT		FASTR1	4	8	1	Dither 1	4	32	432.906	

Special Requirements	
	Sequence Observations 1, 2, 3, 4, Non-interruptible DEFAULT WINDOW: ANGULAR RATE JUPITER-GRSWEST FROM JWST LESS THAN 0.03 SEPARATION OF JUPITER-GRSWEST JUPITER FROM JWST LESS THAN -4.5" DEFAULT WINDOW: NOT OCCULTATION OF JUPITER-GRSWEST BY JUPITER FROM JWST DEFAULT WINDOW: NOT ECLIPSE PENUMBRAL PARTIAL OF JUPITER-GRSWEST BY IO FROM JWST DEFAULT WINDOW: NOT ECLIPSE PENUMBRAL PARTIAL OF JUPITER-GRSWEST BY EUROPA FROM JWST DEFAULT WINDOW: NOT ECLIPSE PENUMBRAL PARTIAL OF JUPITER-GRSWEST BY GANYMEDE FROM JWST DEFAULT WINDOW: NOT ECLIPSE PENUMBRAL PARTIAL OF JUPITER-GRSWEST BY CALLISTO FROM JWST DEFAULT WINDOW: SEPARATION OF JUPITER-GRSWEST IO FROM JWST GREATER THAN 10" DEFAULT WINDOW: SEPARATION OF JUPITER-GRSWEST EUROPA FROM JWST GREATER THAN 10" DEFAULT WINDOW: SEPARATION OF JUPITER-GRSWEST GANYMEDE FROM JWST GREATER THAN 10" DEFAULT WINDOW: SEPARATION OF JUPITER-GRSWEST CALLISTO FROM JWST GREATER THAN 10"

Observation

Proposal 1246, Observation 1: Great Red Spot East

Wed Aug 03 17:00:46 GMT 2022

Diagnostic Status: Warning

Observing Template: MIRI Medium Resolution Spectroscopy

Comments: To ensure that the MIRI observation takes place when the longitude is close to the central meridian, we have specified a 'Target Window' ±17 degrees either side of the longitude of interest.

However, the precise central longitude will not be known until ~2 months ahead of the observations.

Diagnostics

(Great Red Spot East (Obs 1)) Warning (Form): Groups/Int cannot be 1, Groups/Int = 2 requires permission and Groups/Int of 3-4 is allowed but not recommended.
(Great Red Spot East (Obs 1)) Warning (Form): Groups/Int cannot be 1, Groups/Int = 2 requires permission and Groups/Int of 3-4 is allowed but not recommended.
(Great Red Spot East (Obs 1)) Warning (Form): Groups/Int cannot be 1, Groups/Int = 2 requires permission and Groups/Int of 3-4 is allowed but not recommended.
(Great Red Spot East (Obs 1)) Warning (Form): Groups/Int cannot be 1, Groups/Int = 2 requires permission and Groups/Int of 3-4 is allowed but not recommended.
(Great Red Spot East (Obs 1)) Warning (Form): Groups/Int cannot be 1, Groups/Int = 2 requires permission and Groups/Int of 3-4 is allowed but not recommended.
(Great Red Spot East (Obs 1)) Warning (Form): Groups/Int cannot be 1, Groups/Int = 2 requires permission and Groups/Int of 3-4 is allowed but not recommended.
(Visit 1:1) Warning (Form): Overheads are provisional until the Visit Planner has been run.

Solar System Targets

#	Name	Level 1	Level 2	Level 3
(4)	JUPITER-GRSEAST	STD=JUPITER	TYPE=PGRAPHIC,LONG=255.6,LAT=-20.7,R_LONG=0.319,R_LAT=0,EPOCH=30-APR-2022:12:00:00,EpochTimeScale=UTC	

Comments: Extended=YES

Acquisition

#	Target
1	NONE

Template

AcqFilter	Primary Channel	Simultaneous Imaging	Imager Subarray
F1000W	ALL	NO	FULL

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	4	8	1	Dither 1	4	32	432.906	
1	SHORT(A)	MRSSHORT		FASTR1	4	8	1	Dither 1	4	32	432.906	
2	MEDIUM(B)	MRSLONG		FASTR1	4	8	1	Dither 1	4	32	432.906	
2	MEDIUM(B)	MRSSHORT		FASTR1	4	8	1	Dither 1	4	32	432.906	
3	LONG(C)	MRSLONG		FASTR1	4	8	1	Dither 1	4	32	432.906	
3	LONG(C)	MRSSHORT		FASTR1	4	8	1	Dither 1	4	32	432.906	

Special Requirements	
	Sequence Observations 1, 2, 3, 4, Non-interruptible DEFAULT WINDOW: ANGULAR RATE JUPITER-GRSEAST FROM JWST LESS THAN 0.03 SEPARATION OF JUPITER-GRSEAST JUPITER FROM JWST LESS THAN -4.5" DEFAULT WINDOW: NOT OCCULTATION OF JUPITER-GRSEAST BY JUPITER FROM JWST DEFAULT WINDOW: NOT ECLIPSE PENUMBRAL PARTIAL OF JUPITER-GRSEAST BY IO FROM JWST DEFAULT WINDOW: NOT ECLIPSE PENUMBRAL PARTIAL OF JUPITER-GRSEAST BY EUROPA FROM JWST DEFAULT WINDOW: NOT ECLIPSE PENUMBRAL PARTIAL OF JUPITER-GRSEAST BY GANYMEDE FROM JWST DEFAULT WINDOW: NOT ECLIPSE PENUMBRAL PARTIAL OF JUPITER-GRSEAST BY CALLISTO FROM JWST DEFAULT WINDOW: SEPARATION OF JUPITER-GRSEAST IO FROM JWST GREATER THAN 10" DEFAULT WINDOW: SEPARATION OF JUPITER-GRSEAST EUROPA FROM JWST GREATER THAN 10" DEFAULT WINDOW: SEPARATION OF JUPITER-GRSEAST GANYMEDE FROM JWST GREATER THAN 10" DEFAULT WINDOW: SEPARATION OF JUPITER-GRSEAST CALLISTO FROM JWST GREATER THAN 10"

Observation

Proposal 1246, Observation 4: MIRI Background

Wed Aug 03 17:00:46 GMT 2022

Diagnostic Status: Warning

Observing Template: MIRI Medium Resolution Spectroscopy

Diagnostics

(MIRI Background (Obs 4)) Warning (Form): Groups/Int cannot be 1, Groups/Int = 2 requires permission and Groups/Int of 3-4 is allowed but not recommended.
(MIRI Background (Obs 4)) Warning (Form): Groups/Int cannot be 1, Groups/Int = 2 requires permission and Groups/Int of 3-4 is allowed but not recommended.
(MIRI Background (Obs 4)) Warning (Form): Groups/Int cannot be 1, Groups/Int = 2 requires permission and Groups/Int of 3-4 is allowed but not recommended.
(MIRI Background (Obs 4)) Warning (Form): Groups/Int cannot be 1, Groups/Int = 2 requires permission and Groups/Int of 3-4 is allowed but not recommended.
(MIRI Background (Obs 4)) Warning (Form): Groups/Int cannot be 1, Groups/Int = 2 requires permission and Groups/Int of 3-4 is allowed but not recommended.
(MIRI Background (Obs 4)) Warning (Form): Groups/Int cannot be 1, Groups/Int = 2 requires permission and Groups/Int of 3-4 is allowed but not recommended.
(Visit 4:1) Warning (Form): Overheads are provisional until the Visit Planner has been run.

Solar System Targets

#	Name	Level 1	Level 2	Level 3
(2)	BACKGROUND	STD=JUPITER	TYPE=POS_ANGLE,RAD=90,ANG=0,REF=NORTH	

Comments: Extended=YES

Acquisition

#	Target
1	NONE

Template

AcqFilter	Primary Channel	Simultaneous Imaging	Imager Subarray
	ALL	NO	FULL

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	4	8	1	None	1	8	108.227	
1	SHORT(A)	MRSSHORT		FASTR1	4	8	1	None	1	8	108.227	
2	MEDIUM(B)	MRSLONG		FASTR1	4	8	1	None	1	8	108.227	
2	MEDIUM(B)	MRSSHORT		FASTR1	4	8	1	None	1	8	108.227	
3	LONG(C)	MRSLONG		FASTR1	4	8	1	None	1	8	108.227	
3	LONG(C)	MRSSHORT		FASTR1	4	8	1	None	1	8	108.227	

Special Requirements	
	Sequence Observations 1, 2, 3, 4, Non-interruptible DEFAULT WINDOW: ANGULAR RATE BACKGROUND FROM JWST LESS THAN 0.03 DEFAULT WINDOW: NOT OCCULTATION OF BACKGROUND BY JUPITER FROM JWST DEFAULT WINDOW: NOT ECLIPSE PENUMBRAL PARTIAL OF BACKGROUND BY IO FROM JWST DEFAULT WINDOW: NOT ECLIPSE PENUMBRAL PARTIAL OF BACKGROUND BY EUROPA FROM JWST DEFAULT WINDOW: NOT ECLIPSE PENUMBRAL PARTIAL OF BACKGROUND BY GANYMEDE FROM JWST DEFAULT WINDOW: NOT ECLIPSE PENUMBRAL PARTIAL OF BACKGROUND BY CALLISTO FROM JWST DEFAULT WINDOW: SEPARATION OF BACKGROUND IO FROM JWST GREATER THAN 10" DEFAULT WINDOW: SEPARATION OF BACKGROUND EUROPA FROM JWST GREATER THAN 10" DEFAULT WINDOW: SEPARATION OF BACKGROUND GANYMEDE FROM JWST GREATER THAN 10" DEFAULT WINDOW: SEPARATION OF BACKGROUND CALLISTO FROM JWST GREATER THAN 10"

Observation

Proposal 1246, Observation 52: Great Red Spot Wed Aug 03 17:00:46 GMT 2022

Diagnostic Status: Warning

Observing Template: MIRI Medium Resolution Spectroscopy

Comments: To ensure that the MIRI observation takes place when the longitude is close to the central meridian, we have specified a 'Target Window' ±17 degrees either side of the longitude of interest.

However, the precise central longitude will not be known until ~2 months ahead of the observations.

Diagnostics

(Great Red Spot (Obs 52)) Warning (Form): Groups/Int cannot be 1, Groups/Int = 2 requires permission and Groups/Int of 3-4 is allowed but not recommended.
(Great Red Spot (Obs 52)) Warning (Form): Groups/Int cannot be 1, Groups/Int = 2 requires permission and Groups/Int of 3-4 is allowed but not recommended.
(Great Red Spot (Obs 52)) Warning (Form): Groups/Int cannot be 1, Groups/Int = 2 requires permission and Groups/Int of 3-4 is allowed but not recommended.
(Great Red Spot (Obs 52)) Warning (Form): Groups/Int cannot be 1, Groups/Int = 2 requires permission and Groups/Int of 3-4 is allowed but not recommended.
(Great Red Spot (Obs 52)) Warning (Form): Groups/Int cannot be 1, Groups/Int = 2 requires permission and Groups/Int of 3-4 is allowed but not recommended.
(Great Red Spot (Obs 52)) Warning (Form): Groups/Int cannot be 1, Groups/Int = 2 requires permission and Groups/Int of 3-4 is allowed but not recommended.
(Visit 52:1) Warning (Form): Overheads are provisional until the Visit Planner has been run.

Solar System Targets

#	Name	Level 1	Level 2	Level 3
(1)	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 Using amateur observations
updated 2021-09-04 using OPAL data and JUPOS drift rate data
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

Acquisition

#	Target
1	NONE

Template

AcqFilter	Primary Channel	Simultaneous Imaging	Imager Subarray
F1000W	ALL	NO	FULL

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	4	8	1	Dither 1	4	32	432.906	
1	SHORT(A)	MRSSHORT		FASTR1	4	8	1	Dither 1	4	32	432.906	
2	MEDIUM(B)	MRSLONG		FASTR1	4	8	1	Dither 1	4	32	432.906	
2	MEDIUM(B)	MRSSHORT		FASTR1	4	8	1	Dither 1	4	32	432.906	
3	LONG(C)	MRSLONG		FASTR1	4	8	1	Dither 1	4	32	432.906	
3	LONG(C)	MRSSHORT		FASTR1	4	8	1	Dither 1	4	32	432.906	

Special Requirements	
	Sequence Observations 52, 53, Non-interruptible DEFAULT WINDOW: ANGULAR RATE JUPITER-GRS FROM JWST LESS THAN 0.03 SEPARATION OF JUPITER-GRS JUPITER FROM JWST LESS THAN -4.5" 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 10" DEFAULT WINDOW: SEPARATION OF JUPITER-GRS EUROPA FROM JWST GREATER THAN 10" DEFAULT WINDOW: SEPARATION OF JUPITER-GRS GANYMEDE FROM JWST GREATER THAN 10" DEFAULT WINDOW: SEPARATION OF JUPITER-GRS CALLISTO FROM JWST GREATER THAN 10"

Observation

Proposal 1246, Observation 53: Great Red Spot West

Wed Aug 03 17:00:46 GMT 2022

Diagnostic Status: Warning

Observing Template: MIRI Medium Resolution Spectroscopy

Comments: To ensure that the MIRI observation takes place when the longitude is close to the central meridian, we have specified a 'Target Window' ±17 degrees either side of the longitude of interest.

However, the precise central longitude will not be known until ~2 months ahead of the observations.

Diagnostics

(Great Red Spot West (Obs 53)) Warning (Form): Groups/Int cannot be 1, Groups/Int = 2 requires permission and Groups/Int of 3-4 is allowed but not recommended.
(Great Red Spot West (Obs 53)) Warning (Form): Groups/Int cannot be 1, Groups/Int = 2 requires permission and Groups/Int of 3-4 is allowed but not recommended.
(Great Red Spot West (Obs 53)) Warning (Form): Groups/Int cannot be 1, Groups/Int = 2 requires permission and Groups/Int of 3-4 is allowed but not recommended.
(Great Red Spot West (Obs 53)) Warning (Form): Groups/Int cannot be 1, Groups/Int = 2 requires permission and Groups/Int of 3-4 is allowed but not recommended.
(Great Red Spot West (Obs 53)) Warning (Form): Groups/Int cannot be 1, Groups/Int = 2 requires permission and Groups/Int of 3-4 is allowed but not recommended.
(Great Red Spot West (Obs 53)) Warning (Form): Groups/Int cannot be 1, Groups/Int = 2 requires permission and Groups/Int of 3-4 is allowed but not recommended.
(Visit 53:1) Warning (Form): Overheads are provisional until the Visit Planner has been run.

Solar System Targets

#	Name	Level 1	Level 2	Level 3
(3)	JUPITER-GRSWEST	STD=JUPITER	TYPE=PGRAPHIC,LONG=275.6,LAT=-20.7,R_LONG=0.319,R_LAT=0,EPOCH=30-APR-2022:12:00:00,EpochTimeScale=UTC	

Comments: Extended=YES

Acquisition

#	Target
1	NONE

Template

AcqFilter	Primary Channel	Simultaneous Imaging	Imager Subarray
F1000W	ALL	NO	FULL

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	4	8	1	Dither 1	4	32	432.906	
1	SHORT(A)	MRSSHORT		FASTR1	4	8	1	Dither 1	4	32	432.906	
2	MEDIUM(B)	MRSLONG		FASTR1	4	8	1	Dither 1	4	32	432.906	
2	MEDIUM(B)	MRSSHORT		FASTR1	4	8	1	Dither 1	4	32	432.906	
3	LONG(C)	MRSLONG		FASTR1	4	8	1	Dither 1	4	32	432.906	
3	LONG(C)	MRSSHORT		FASTR1	4	8	1	Dither 1	4	32	432.906	

Special Requirements	
	Sequence Observations 52, 53, Non-interruptible DEFAULT WINDOW: ANGULAR RATE JUPITER-GRSWEST FROM JWST LESS THAN 0.03 SEPARATION OF JUPITER-GRSWEST JUPITER FROM JWST LESS THAN -4.5" DEFAULT WINDOW: NOT OCCULTATION OF JUPITER-GRSWEST BY JUPITER FROM JWST DEFAULT WINDOW: NOT ECLIPSE PENUMBRAL PARTIAL OF JUPITER-GRSWEST BY IO FROM JWST DEFAULT WINDOW: NOT ECLIPSE PENUMBRAL PARTIAL OF JUPITER-GRSWEST BY EUROPA FROM JWST DEFAULT WINDOW: NOT ECLIPSE PENUMBRAL PARTIAL OF JUPITER-GRSWEST BY GANYMEDE FROM JWST DEFAULT WINDOW: NOT ECLIPSE PENUMBRAL PARTIAL OF JUPITER-GRSWEST BY CALLISTO FROM JWST DEFAULT WINDOW: SEPARATION OF JUPITER-GRSWEST IO FROM JWST GREATER THAN 10" DEFAULT WINDOW: SEPARATION OF JUPITER-GRSWEST EUROPA FROM JWST GREATER THAN 10" DEFAULT WINDOW: SEPARATION OF JUPITER-GRSWEST GANYMEDE FROM JWST GREATER THAN 10" DEFAULT WINDOW: SEPARATION OF JUPITER-GRSWEST CALLISTO FROM JWST GREATER THAN 10"

Observation

Proposal 1246, Observation 51: Great Red Spot East Wed Aug 03 17:00:46 GMT 2022

Diagnostic Status: Warning

Observing Template: MIRI Medium Resolution Spectroscopy

Comments: To ensure that the MIRI observation takes place when the longitude is close to the central meridian, we have specified a 'Target Window' ±17 degrees either side of the longitude of interest.

However, the precise central longitude will not be known until ~2 months ahead of the observations.

Diagnostics

(Great Red Spot East (Obs 51)) Warning (Form): Groups/Int cannot be 1, Groups/Int = 2 requires permission and Groups/Int of 3-4 is allowed but not recommended.
(Great Red Spot East (Obs 51)) Warning (Form): Groups/Int cannot be 1, Groups/Int = 2 requires permission and Groups/Int of 3-4 is allowed but not recommended.
(Great Red Spot East (Obs 51)) Warning (Form): Groups/Int cannot be 1, Groups/Int = 2 requires permission and Groups/Int of 3-4 is allowed but not recommended.
(Great Red Spot East (Obs 51)) Warning (Form): Groups/Int cannot be 1, Groups/Int = 2 requires permission and Groups/Int of 3-4 is allowed but not recommended.
(Great Red Spot East (Obs 51)) Warning (Form): Groups/Int cannot be 1, Groups/Int = 2 requires permission and Groups/Int of 3-4 is allowed but not recommended.
(Great Red Spot East (Obs 51)) Warning (Form): Groups/Int cannot be 1, Groups/Int = 2 requires permission and Groups/Int of 3-4 is allowed but not recommended.
(Visit 51:1) Warning (Form): Overheads are provisional until the Visit Planner has been run.

Solar System Targets

#	Name	Level 1	Level 2	Level 3
(4)	JUPITER-GRSEAST	STD=JUPITER	TYPE=PGRAPHIC,LONG=255.6,LAT=-20.7,R_LONG=0.319,R_LAT=0,EPOCH=30-APR-2022:12:00:00,EpochTimeScale=UTC	

Comments: Extended=YES

Acquisition

#	Target
1	NONE

Template

AcqFilter	Primary Channel	Simultaneous Imaging	Imager Subarray
F1000W	ALL	NO	FULL

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	4	8	1	Dither 1	4	32	432.906	
1	SHORT(A)	MRSSHORT		FASTR1	4	8	1	Dither 1	4	32	432.906	
2	MEDIUM(B)	MRSLONG		FASTR1	4	8	1	Dither 1	4	32	432.906	
2	MEDIUM(B)	MRSSHORT		FASTR1	4	8	1	Dither 1	4	32	432.906	
3	LONG(C)	MRSLONG		FASTR1	4	8	1	Dither 1	4	32	432.906	
3	LONG(C)	MRSSHORT		FASTR1	4	8	1	Dither 1	4	32	432.906	

Special Requirements	
	DEFAULT WINDOW: ANGULAR RATE JUPITER-GRSEAST FROM JWST LESS THAN 0.03 SEPARATION OF JUPITER-GRSEAST JUPITER FROM JWST LESS THAN -4.5" DEFAULT WINDOW: NOT OCCULTATION OF JUPITER-GRSEAST BY JUPITER FROM JWST DEFAULT WINDOW: NOT ECLIPSE PENUMBRAL PARTIAL OF JUPITER-GRSEAST BY IO FROM JWST DEFAULT WINDOW: NOT ECLIPSE PENUMBRAL PARTIAL OF JUPITER-GRSEAST BY EUROPA FROM JWST DEFAULT WINDOW: NOT ECLIPSE PENUMBRAL PARTIAL OF JUPITER-GRSEAST BY GANYMEDE FROM JWST DEFAULT WINDOW: NOT ECLIPSE PENUMBRAL PARTIAL OF JUPITER-GRSEAST BY CALLISTO FROM JWST DEFAULT WINDOW: SEPARATION OF JUPITER-GRSEAST IO FROM JWST GREATER THAN 10" DEFAULT WINDOW: SEPARATION OF JUPITER-GRSEAST EUROPA FROM JWST GREATER THAN 10" DEFAULT WINDOW: SEPARATION OF JUPITER-GRSEAST GANYMEDE FROM JWST GREATER THAN 10" DEFAULT WINDOW: SEPARATION OF JUPITER-GRSEAST CALLISTO FROM JWST GREATER THAN 10"

Observation

Proposal 1246, Observation 54: MIRI Background

Wed Aug 03 17:00:46 GMT 2022

Diagnostic Status: Warning

Observing Template: MIRI Medium Resolution Spectroscopy

Diagnostics

(MIRI Background (Obs 54)) Warning (Form): Groups/Int cannot be 1, Groups/Int = 2 requires permission and Groups/Int of 3-4 is allowed but not recommended.
(MIRI Background (Obs 54)) Warning (Form): Groups/Int cannot be 1, Groups/Int = 2 requires permission and Groups/Int of 3-4 is allowed but not recommended.
(MIRI Background (Obs 54)) Warning (Form): Groups/Int cannot be 1, Groups/Int = 2 requires permission and Groups/Int of 3-4 is allowed but not recommended.
(MIRI Background (Obs 54)) Warning (Form): Groups/Int cannot be 1, Groups/Int = 2 requires permission and Groups/Int of 3-4 is allowed but not recommended.
(MIRI Background (Obs 54)) Warning (Form): Groups/Int cannot be 1, Groups/Int = 2 requires permission and Groups/Int of 3-4 is allowed but not recommended.
(MIRI Background (Obs 54)) Warning (Form): Groups/Int cannot be 1, Groups/Int = 2 requires permission and Groups/Int of 3-4 is allowed but not recommended.
(Visit 54:1) Warning (Form): Overheads are provisional until the Visit Planner has been run.

Solar System Targets

#	Name	Level 1	Level 2	Level 3
(2)	BACKGROUND	STD=JUPITER	TYPE=POS_ANGLE,RAD=90,ANG=0,REF=NORTH	

Comments: Extended=YES

Acquisition

#	Target
1	NONE

Template

AcqFilter	Primary Channel	Simultaneous Imaging	Imager Subarray
	ALL	NO	FULL

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	4	8	1	None	1	8	108.227	
1	SHORT(A)	MRSSHORT		FASTR1	4	8	1	None	1	8	108.227	
2	MEDIUM(B)	MRSLONG		FASTR1	4	8	1	None	1	8	108.227	
2	MEDIUM(B)	MRSSHORT		FASTR1	4	8	1	None	1	8	108.227	
3	LONG(C)	MRSLONG		FASTR1	4	8	1	None	1	8	108.227	
3	LONG(C)	MRSSHORT		FASTR1	4	8	1	None	1	8	108.227	

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