



15425 - Eclipse Observations of Europa's Water Plumes

Cycle: 25, Proposal Category: GO

(Availability Mode: SUPPORTED)

INVESTIGATORS

<i>Name</i>	<i>Institution</i>	<i>E-Mail</i>
Dr. Katherine de Kleer (PI) (Contact)	California Institute of Technology	deklee@caltech.edu
Dr. Michael E Brown (CoI)	California Institute of Technology	mbrown@caltech.edu

VISITS

<i>Visit</i>	<i>Targets used in Visit</i>	<i>Configurations used in Visit</i>	<i>Orbits Used</i>	<i>Last Orbit Planner Run</i>	<i>OP Current with Visit?</i>
01	(1) EUROPA (2) IO	STIS/CCD	1	26-Jun-2018 14:27:06.0	yes
02	(1) EUROPA (2) IO	STIS/CCD	1	26-Jun-2018 14:27:08.0	yes
03	(1) EUROPA (2) IO	STIS/CCD	1	26-Jun-2018 14:27:10.0	yes
04	(1) EUROPA (2) IO	STIS/CCD	1	26-Jun-2018 14:27:12.0	yes
05	(1) EUROPA (2) IO	STIS/CCD	1	26-Jun-2018 14:27:13.0	yes
06	(1) EUROPA (3) GANYMEDE	STIS/CCD	1	26-Jun-2018 14:27:15.0	yes
07	(1) EUROPA (2) IO	STIS/CCD	1	26-Jun-2018 14:27:16.0	yes
08	(1) EUROPA (3) GANYMEDE	STIS/CCD	1	26-Jun-2018 14:27:18.0	yes

<i>Visit</i>	<i>Targets used in Visit</i>	<i>Configurations used in Visit</i>	<i>Orbits Used</i>	<i>Last Orbit Planner Run</i>	<i>OP Current with Visit?</i>
09	(1) EUROPA (3) GANYMEDE	STIS/CCD	1	26-Jun-2018 14:27:19.0	yes
10	(1) EUROPA (3) GANYMEDE	STIS/CCD	1	26-Jun-2018 14:27:22.0	yes

10 Total Orbits Used

ABSTRACT

Europa's sub-surface ocean is one of the most potentially-habitable environments in our Solar System. The existence of water plumes on Europa would provide a powerful tool for studying the ocean composition and level of ongoing geological activity, providing insight into the question of habitability. However, while recent observing programs have found tentative detections of plume activity, a robust confirmation of the plumes' composition and even existence remains elusive. We propose a new approach to detecting Europa's water plumes in the visible, where strong lines and lower noise (compared to the UV) provide a greater sensitivity to tracers of water than methods used to date, allowing a robust characterization and mapping of Europa's water plumes.

OBSERVING DESCRIPTION

Our observations target Europa in eclipse by Jupiter to observe and spatially-resolve visible-wavelength emissions from atomic species excited by electron impact dissociative excitation of parent molecules. In-eclipse observations remove contamination from reflected sunlight off of Europa's disk, which would swamp line emission if observations were made in sunlight. The wavelengths targeted are chosen to cover specific species we expect to be present in Europa's atmosphere, and in particular if there is plume activity present. We will observe during ten eclipses to assess time-variability of emissions and auroral morphology, and maximize the chances for plume detection.

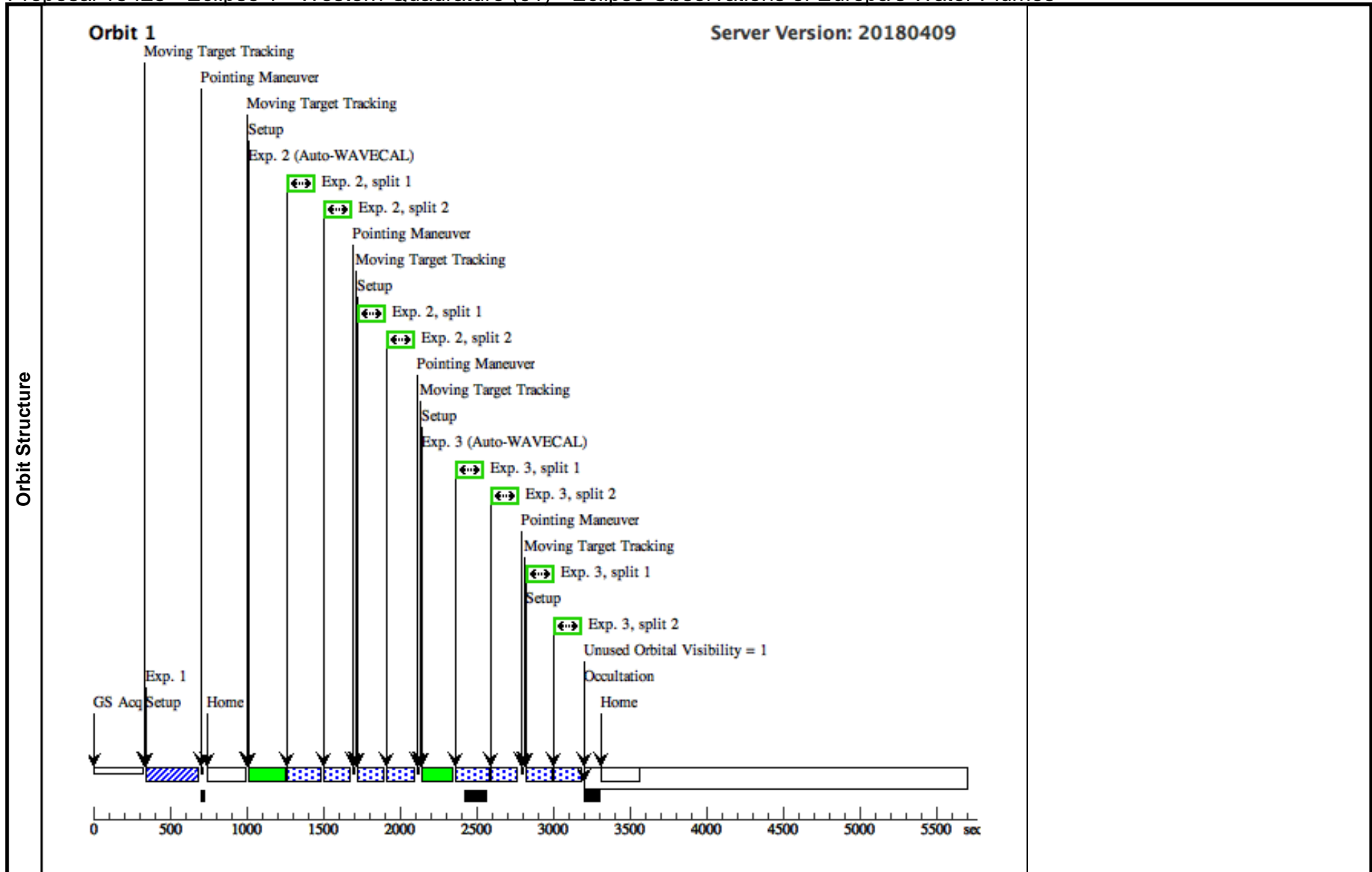
Proposal 15425 - Eclipse 1 - Western Quadrature (01) - Eclipse Observations of Europa's Water Plumes

Tue Jun 26 18:27:23 GMT 2018

Visit	Proposal 15425, Eclipse 1 - Western Quadrature (01), completed Diagnostic Status: No Diagnostics Scientific Instruments: STIS/CCD Special Requirements: BETWEEN 28-JAN-2018:00:00:00 AND 01-MAY-2018:00:00:00						
	Patterns	#	Primary Pattern		Secondary Pattern	Exposures	
	(1)	Pattern Type=STIS-ALONG-SLIT Purpose=DITHER Number Of Points=2 Point Spacing=1.5 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=90.0 Angle Between Sides= Center Pattern=false		(2), (3)		
Solar System Targets	#	Name	Level 1	Level 2	Level 3	Window	Ephem Center
	(1)	EUROPA	STD=JUPITER	STD=EUROPA		NOT OCC OF EUROPA BY JUPITER FROM EARTH, SEP OF EUROPA JUPITER FROM EARTH GT 5", SEP OF EUROPA CALLISTO FROM EARTH GT 5", SEP OF EUROPA IO FROM EARTH GT 5", SEP OF EUROPA GANYMEDE FROM EARTH GT 5", ECL U FULL OF EUROPA BY JUPITER FROM EARTH	EARTH
	Comments: V-mag estimated for Europa in eclipse, at specific wavelengths where emission is present. No continuum emission is expected, and scattered light from Jupiter will be brighter than Europa's emission at most wavelengths. Description=Europa (JII) Extended=YES						
(2)	IO	STD=JUPITER	STD=IO			NOT OCC OF IO BY JUPITER FROM EARTH, SEP OF IO JUPITER FROM EARTH GT 10", SEP OF IO CALLISTO FROM EARTH GT 5", SEP OF IO EUROPA FROM EARTH GT 5", SEP OF IO GANYMEDE FROM EARTH GT 5", NOT ECL U FULL OF IO BY JUPITER FROM EARTH	EARTH
Comments: Description=Io (Acquisition) Extended=YES							

Proposal 15425 - Eclipse 1 - Western Quadrature (01) - Eclipse Observations of Europa's Water Plumes

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit	
Exposures	1	(2) IO	STIS/CCD, ACQ, F28X50LP	MIRROR	ACQTYPE=DIFFUSE; CHECKBOX=19; DIFFUSE-CENTER=GEOMETRIC-CENTER	GS ACQ SCENARIO BASE1B3		0.2 Secs (0.2 Secs) [==>]	[1]	
	<p><i>Comments: Checkbox size given for Io in Feb 2018. For a different acquisition satellite, or for a different date, checkbox size will need to be changed accordingly. Acquisition satellite should be positioned on the slit so that Jupiter does not fall on slit.</i></p>									
	2	(1) EUROPA	STIS/CCD, ACCUM, 52X2	G750M 6581 A	CR-SPLIT=2	POS TARG null,-24; GS ACQ SCENARIO BASE1B3	Pattern 1, Exps 2-2 in Eclipse 1 - Western Quadrature (01) (1)	284 Secs (568 Secs) [==>(Pattern 1, Split 1)] [==>(Pattern 1, Split 2)] [==>(Pattern 2, Split 1)] [==>(Pattern 2, Split 2)]	[1]	
3	(1) EUROPA	STIS/CCD, ACCUM, 52X2	G750M 6094 A	CR-SPLIT=2	POS TARG null,-24	Pattern 1, Exps 3-3 in Eclipse 1 - Western Quadrature (01) (1)	284 Secs (568 Secs) [==>(Pattern 1, Split 1)] [==>(Pattern 1, Split 2)] [==>(Pattern 2, Split 1)] [==>(Pattern 2, Split 2)]	[1]		



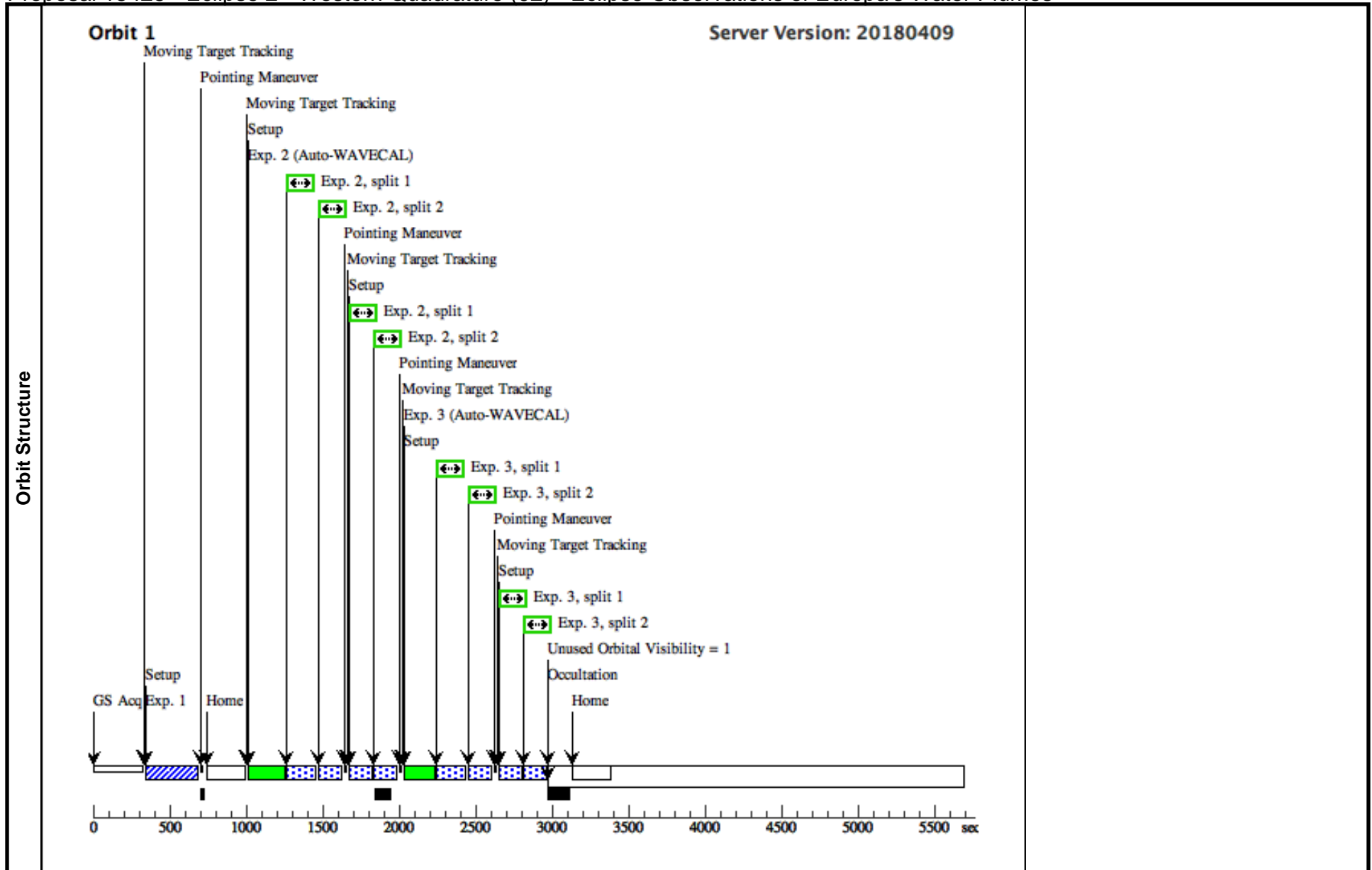
Proposal 15425 - Eclipse 2 - Western Quadrature (02) - Eclipse Observations of Europa's Water Plumes

Tue Jun 26 18:27:24 GMT 2018

Visit	Proposal 15425, Eclipse 2 - Western Quadrature (02), completed Diagnostic Status: No Diagnostics Scientific Instruments: STIS/CCD Special Requirements: SCHED 100%; BETWEEN 28-JAN-2018:00:00:00 AND 01-MAY-2018:00:00:00						
	Patterns	#	Primary Pattern	Secondary Pattern	Exposures		
		(1)	Pattern Type=STIS-ALONG-SLIT Purpose=DITHER Number Of Points=2 Point Spacing=1.5 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=90.0 Angle Between Sides= Center Pattern=false		(2), (3)	
Solar System Targets	#	Name	Level 1	Level 2	Level 3	Window	Ephem Center
	(1)	EUROPA	STD=JUPITER	STD=EUROPA		NOT OCC OF EUROPA BY JUPITER FROM EARTH, SEP OF EUROPA JUPITER FROM EARTH GT 5", SEP OF EUROPA CALLISTO FROM EARTH GT 5", SEP OF EUROPA IO FROM EARTH GT 5", SEP OF EUROPA GANYMEDE FROM EARTH GT 5", ECL U FULL OF EUROPA BY JUPITER FROM EARTH	EARTH
	<i>Comments: V-mag estimated for Europa in eclipse, at specific wavelengths where emission is present. No continuum emission is expected, and scattered light from Jupiter will be brighter than Europa's emission at most wavelengths.</i> Description=Europa (JII) Extended=YES						
	(2)	IO	STD=JUPITER	STD=IO		NOT OCC OF IO BY JUPITER FROM EARTH, SEP OF IO JUPITER FROM EARTH GT 10", SEP OF IO CALLISTO FROM EARTH GT 5", SEP OF IO EUROPA FROM EARTH GT 5", SEP OF IO GANYMEDE FROM EARTH GT 5", NOT ECL U FULL OF IO BY JUPITER FROM EARTH	EARTH
<i>Comments: Description=Io (Acquisition)</i> Extended=YES							

Proposal 15425 - Eclipse 2 - Western Quadrature (02) - Eclipse Observations of Europa's Water Plumes

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit	
Exposures	1	(2) IO	STIS/CCD, ACQ, F28X50LP	MIRROR	ACQTYPE=DIFFUSE; CHECKBOX=19; DIFFUSE-CENTER=GEOMETRIC-CENTER	GS ACQ SCENARIO BASE1B3		0.2 Secs (0.2 Secs) [==>]	[1]	
	<i>Comments: Checkbox size given for Io in Feb 2018. For a different acquisition satellite, or for a different date, checkbox size will need to be changed accordingly. Acquisition satellite should be positioned on the slit so that Jupiter does not fall on slit.</i>									
	2	(1) EUROPA	STIS/CCD, ACCUM, 52X2	G750M 6581 A	CR-SPLIT=2	POS TARG null,-24; GS ACQ SCENARIO BASE1B3	Pattern 1, Exps 2-2 in Eclipse 2 - Western Quadrature (02) (1)	228 Secs (456 Secs) [==>(Pattern 1, Split 1)] [==>(Pattern 1, Split 2)] [==>(Pattern 2, Split 1)] [==>(Pattern 2, Split 2)]	[1]	
3	(1) EUROPA	STIS/CCD, ACCUM, 52X2	G750M 6094 A	CR-SPLIT=2	POS TARG null,-24	Pattern 1, Exps 3-3 in Eclipse 2 - Western Quadrature (02) (1)	228 Secs (456 Secs) [==>(Pattern 1, Split 1)] [==>(Pattern 1, Split 2)] [==>(Pattern 2, Split 1)] [==>(Pattern 2, Split 2)]	[1]		



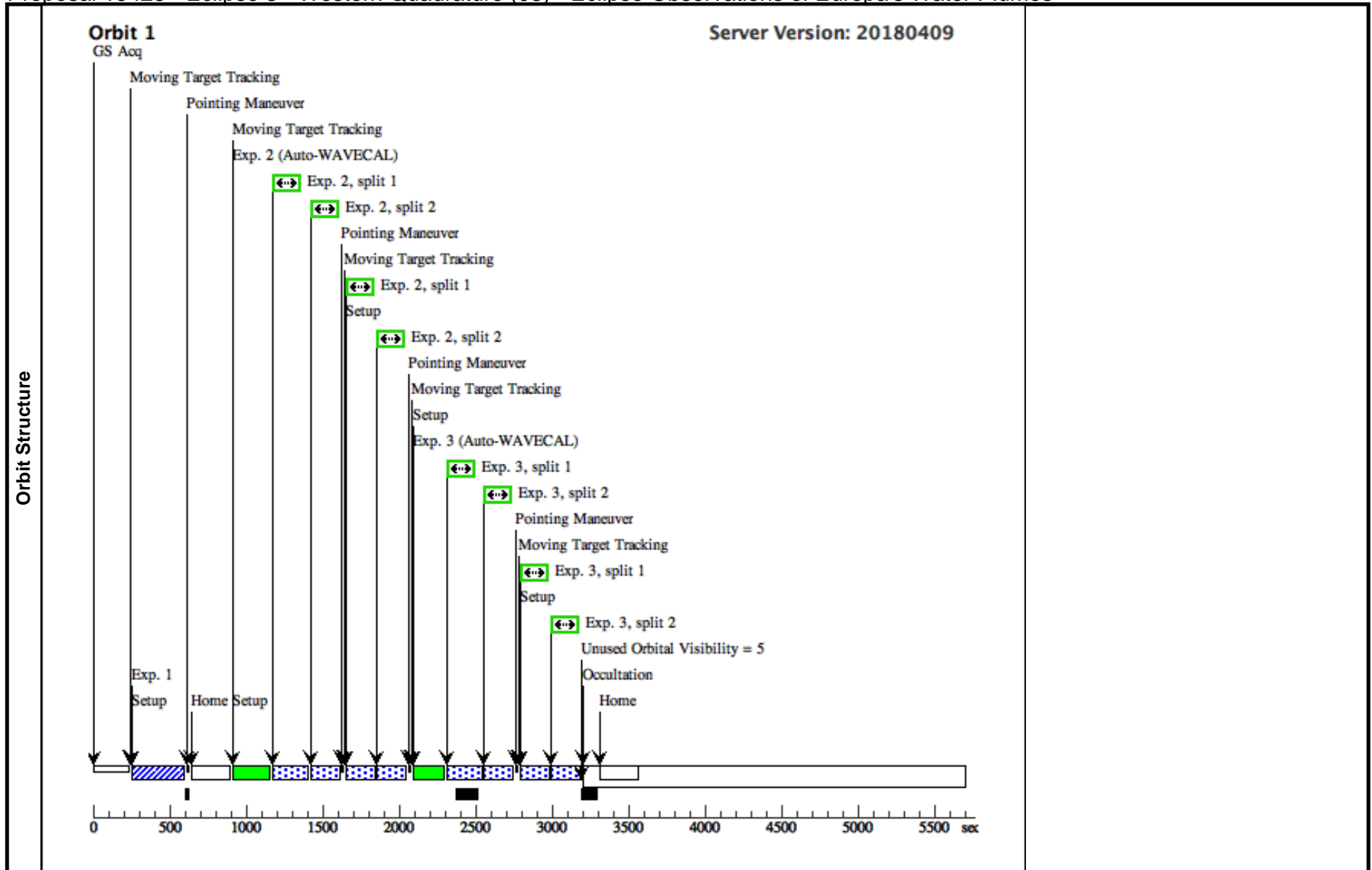
Proposal 15425 - Eclipse 3 - Western Quadrature (03) - Eclipse Observations of Europa's Water Plumes

Tue Jun 26 18:27:24 GMT 2018

Visit	Proposal 15425, Eclipse 3 - Western Quadrature (03), completed Diagnostic Status: No Diagnostics Scientific Instruments: STIS/CCD Special Requirements: BETWEEN 28-JAN-2018:00:00:00 AND 01-MAY-2018:00:00:00						
	Patterns	#	Primary Pattern	Secondary Pattern	Exposures		
		(1)	Pattern Type=STIS-ALONG-SLIT Purpose=DITHER Number Of Points=2 Point Spacing=1.5 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=90.0 Angle Between Sides= Center Pattern=false		(2), (3)	
Solar System Targets	#	Name	Level 1	Level 2	Level 3	Window	Ephem Center
	(1)	EUROPA	STD=JUPITER	STD=EUROPA		NOT OCC OF EUROPA BY JUPITER FROM EARTH, SEP OF EUROPA JUPITER FROM EARTH GT 5", SEP OF EUROPA CALLISTO FROM EARTH GT 5", SEP OF EUROPA IO FROM EARTH GT 5", SEP OF EUROPA GANYMEDE FROM EARTH GT 5", ECL U FULL OF EUROPA BY JUPITER FROM EARTH	EARTH
	<i>Comments: V-mag estimated for Europa in eclipse, at specific wavelengths where emission is present. No continuum emission is expected, and scattered light from Jupiter will be brighter than Europa's emission at most wavelengths.</i> Description=Europa (JII) Extended=YES						
	(2)	IO	STD=JUPITER	STD=IO		NOT OCC OF IO BY JUPITER FROM EARTH, SEP OF IO JUPITER FROM EARTH GT 10", SEP OF IO CALLISTO FROM EARTH GT 5", SEP OF IO EUROPA FROM EARTH GT 5", SEP OF IO GANYMEDE FROM EARTH GT 5", NOT ECL U FULL OF IO BY JUPITER FROM EARTH	EARTH
<i>Comments: Description=Io (Acquisition)</i> Extended=YES							

Proposal 15425 - Eclipse 3 - Western Quadrature (03) - Eclipse Observations of Europa's Water Plumes

Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit	
	1		(2) IO	STIS/CCD, ACQ, F28X50LP	MIRROR	ACQTYPE=DIFFUSE; CHECKBOX=19; DIFFUSE-CENTER=GEOMETRIC-CENTER	GS ACQ SCENARIO SINGLE		0.2 Secs (0.2 Secs) [==>]	[1]	
	<i>Comments: Checkbox size given for Io in Feb 2018. For a different acquisition satellite, or for a different date, checkbox size will need to be changed accordingly. Acquisition satellite should be positioned on the slit so that Jupiter does not fall on slit.</i>										
	2		(1) EUROPA	STIS/CCD, ACCUM, 52X2	G750M 6581 A	CR-SPLIT=2	POS TARG null,-24; GS ACQ SCENARIO SINGLE	Pattern 1, Exps 2-2 in Eclipse 3 - Western Quadrature (03) (1)	306 Secs (612 Secs) [==>(Pattern 1, Split 1)] [==>(Pattern 1, Split 2)] [==>(Pattern 2, Split 1)] [==>(Pattern 2, Split 2)]	[1]	
3		(1) EUROPA	STIS/CCD, ACCUM, 52X2	G750M 6094 A	CR-SPLIT=2	POS TARG null,-24	Pattern 1, Exps 3-3 in Eclipse 3 - Western Quadrature (03) (1)	306 Secs (612 Secs) [==>(Pattern 1, Split 1)] [==>(Pattern 1, Split 2)] [==>(Pattern 2, Split 1)] [==>(Pattern 2, Split 2)]	[1]		



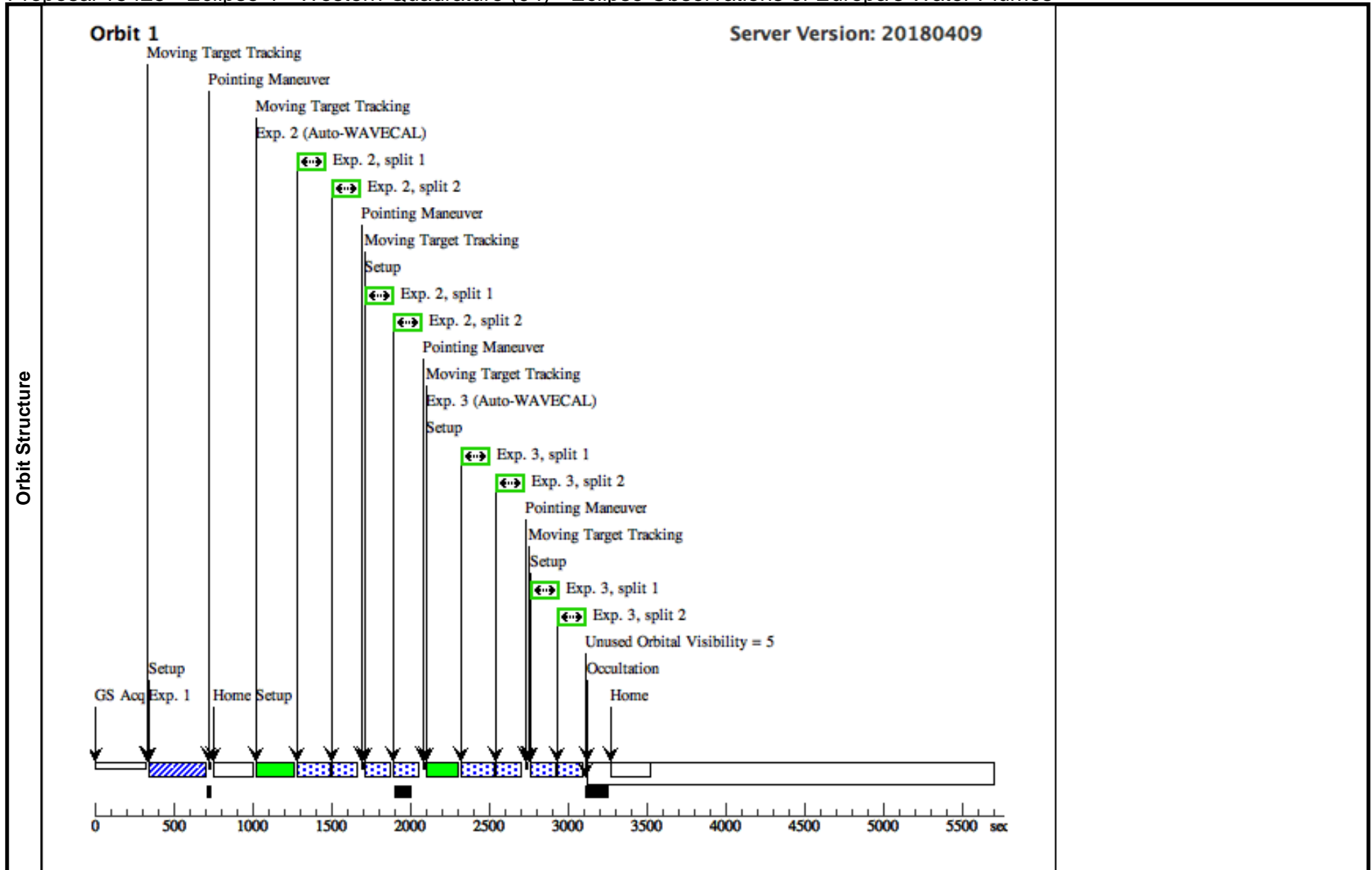
Proposal 15425 - Eclipse 4 - Western Quadrature (04) - Eclipse Observations of Europa's Water Plumes

Tue Jun 26 18:27:24 GMT 2018

Visit	Proposal 15425, Eclipse 4 - Western Quadrature (04), completed Diagnostic Status: No Diagnostics Scientific Instruments: STIS/CCD Special Requirements: SCHED 60%: BETWEEN 28-JAN-2018:00:00:00 AND 01-MAY-2018:00:00:00						
	Patterns	#	Primary Pattern		Secondary Pattern	Exposures	
		(1)	Pattern Type=STIS-ALONG-SLIT Purpose=DITHER Number Of Points=2 Point Spacing=1.5 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=90.0 Angle Between Sides= Center Pattern=false		(2), (3)	
Solar System Targets	#	Name	Level 1	Level 2	Level 3	Window	Ephem Center
	(1)	EUROPA	STD=JUPITER	STD=EUROPA		NOT OCC OF EUROPA BY JUPITER FROM EARTH, SEP OF EUROPA JUPITER FROM EARTH GT 5", SEP OF EUROPA CALLISTO FROM EARTH GT 5", SEP OF EUROPA IO FROM EARTH GT 5", SEP OF EUROPA GANYMEDE FROM EARTH GT 5", ECL U FULL OF EUROPA BY JUPITER FROM EARTH	EARTH
	<i>Comments: V-mag estimated for Europa in eclipse, at specific wavelengths where emission is present. No continuum emission is expected, and scattered light from Jupiter will be brighter than Europa's emission at most wavelengths.</i> Description=Europa (JII) Extended=YES						
	(2)	IO	STD=JUPITER	STD=IO		NOT OCC OF IO BY JUPITER FROM EARTH, SEP OF IO JUPITER FROM EARTH GT 10", SEP OF IO CALLISTO FROM EARTH GT 5", SEP OF IO EUROPA FROM EARTH GT 5", SEP OF IO GANYMEDE FROM EARTH GT 5", NOT ECL U FULL OF IO BY JUPITER FROM EARTH	EARTH
<i>Comments: Description=Io (Acquisition)</i> Extended=YES							

Proposal 15425 - Eclipse 4 - Western Quadrature (04) - Eclipse Observations of Europa's Water Plumes

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit	
Exposures	1	(2) IO	STIS/CCD, ACQ, F28X50LP	MIRROR	ACQTYPE=DIFFUSE; CHECKBOX=21; DIFFUSE-CENTER=GEOMETRIC-CENTER	GS ACQ SCENARIO BASE1B3		0.2 Secs (0.2 Secs) [==>]	[1]	
	<i>Comments: Checkbox size given for Io in Mar 2018. For a different acquisition satellite, or for a different date, checkbox size will need to be changed accordingly. Acquisition satellite should be positioned on the slit so that Jupiter does not fall on slit.</i>									
	2	(1) EUROPA	STIS/CCD, ACCUM, 52X2	G750M 6581 A	CR-SPLIT=2	POS TARG null,-24; GS ACQ SCENARIO BASE1B3	Pattern 1, Exps 2-2 in Eclipse 4 - Western Quadrature (04) (1)	258 Secs (516 Secs) [==>(Pattern 1, Split 1)] [==>(Pattern 1, Split 2)] [==>(Pattern 2, Split 1)] [==>(Pattern 2, Split 2)]	[1]	
3	(1) EUROPA	STIS/CCD, ACCUM, 52X2	G750M 6094 A	CR-SPLIT=2	POS TARG null,-24	Pattern 1, Exps 3-3 in Eclipse 4 - Western Quadrature (04) (1)	258 Secs (516 Secs) [==>(Pattern 1, Split 1)] [==>(Pattern 1, Split 2)] [==>(Pattern 2, Split 1)] [==>(Pattern 2, Split 2)]	[1]		



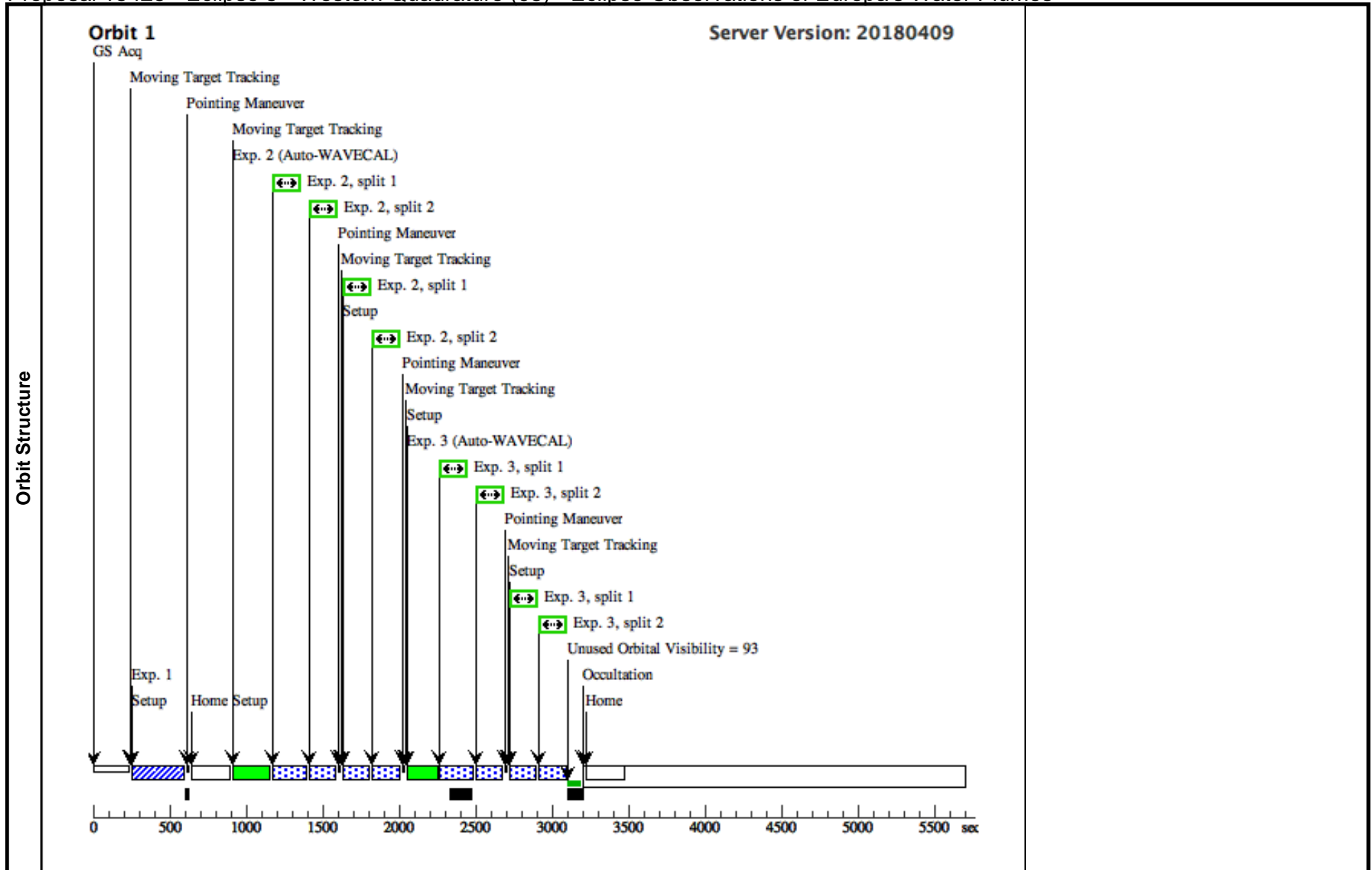
Proposal 15425 - Eclipse 5 - Western Quadrature (05) - Eclipse Observations of Europa's Water Plumes

Tue Jun 26 18:27:24 GMT 2018

Visit	Proposal 15425, Eclipse 5 - Western Quadrature (05), completed Diagnostic Status: No Diagnostics Scientific Instruments: STIS/CCD Special Requirements: BETWEEN 28-JAN-2018:00:00:00 AND 01-MAY-2018:00:00:00						
	Patterns	#	Primary Pattern	Secondary Pattern	Exposures		
	(1)	Pattern Type=STIS-ALONG-SLIT Purpose=DITHER Number Of Points=2 Point Spacing=1.5 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=90.0 Angle Between Sides= Center Pattern=false		(2), (3)		
Solar System Targets	#	Name	Level 1	Level 2	Level 3	Window	Ephem Center
	(1)	EUROPA	STD=JUPITER	STD=EUROPA		NOT OCC OF EUROPA BY JUPITER FROM EARTH, SEP OF EUROPA JUPITER FROM EARTH GT 5", SEP OF EUROPA CALLISTO FROM EARTH GT 5", SEP OF EUROPA IO FROM EARTH GT 5", SEP OF EUROPA GANYMEDE FROM EARTH GT 5", ECL U FULL OF EUROPA BY JUPITER FROM EARTH	EARTH
	<i>Comments: V-mag estimated for Europa in eclipse, at specific wavelengths where emission is present. No continuum emission is expected, and scattered light from Jupiter will be brighter than Europa's emission at most wavelengths.</i> Description=Europa (JII) Extended=YES						
	(2)	IO	STD=JUPITER	STD=IO		NOT OCC OF IO BY JUPITER FROM EARTH, SEP OF IO JUPITER FROM EARTH GT 10", SEP OF IO CALLISTO FROM EARTH GT 5", SEP OF IO EUROPA FROM EARTH GT 5", SEP OF IO GANYMEDE FROM EARTH GT 5", NOT ECL U FULL OF IO BY JUPITER FROM EARTH	EARTH
<i>Comments: Description=Io (Acquisition)</i> Extended=YES							

Proposal 15425 - Eclipse 5 - Western Quadrature (05) - Eclipse Observations of Europa's Water Plumes

Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit	
	1		(2) IO	STIS/CCD, ACQ, F28X50LP	MIRROR	ACQTYPE=DIFFUSE; CHECKBOX=19; DIFFUSE-CENTER=GEOMETRIC-CENTER	GS ACQ SCENARIO SINGLE		0.2 Secs (0.2 Secs) [==>]	[1]	
	<i>Comments: Checkbox size given for Io in Feb 2018. For a different acquisition satellite, or for a different date, checkbox size will need to be changed accordingly. Acquisition satellite should be positioned on the slit so that Jupiter does not fall on slit.</i>										
	2		(1) EUROPA	STIS/CCD, ACCUM, 52X2	G750M 6581 A	CR-SPLIT=2	POS TARG null,-24; GS ACQ SCENARIO SINGLE	Pattern 1, Exps 2-2 in Eclipse 5 - Western Quadrature (05) (1)	284 Secs (568 Secs) [==>(Pattern 1, Split 1)] [==>(Pattern 1, Split 2)] [==>(Pattern 2, Split 1)] [==>(Pattern 2, Split 2)]	[1]	
3		(1) EUROPA	STIS/CCD, ACCUM, 52X2	G750M 6094 A	CR-SPLIT=2	POS TARG null,-24	Pattern 1, Exps 3-3 in Eclipse 5 - Western Quadrature (05) (1)	284 Secs (568 Secs) [==>(Pattern 1, Split 1)] [==>(Pattern 1, Split 2)] [==>(Pattern 2, Split 1)] [==>(Pattern 2, Split 2)]	[1]		



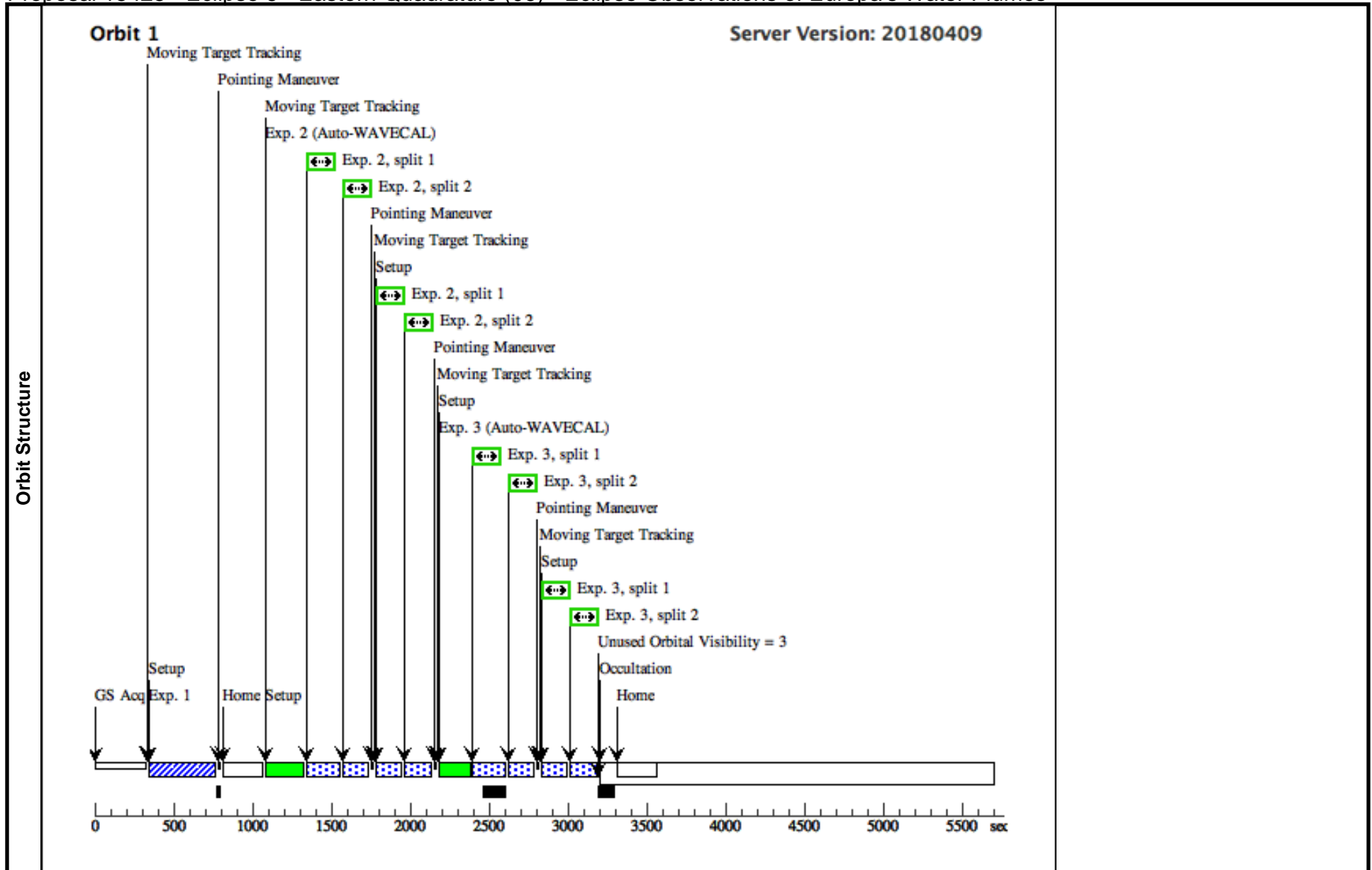
Proposal 15425 - Eclipse 6 - Eastern Quadrature (06) - Eclipse Observations of Europa's Water Plumes

Tue Jun 26 18:27:24 GMT 2018

Visit	Proposal 15425, Eclipse 6 - Eastern Quadrature (06), implementation Diagnostic Status: No Diagnostics Scientific Instruments: STIS/CCD Special Requirements: BETWEEN 10-JUL-2018:00:00:00 AND 23-AUG-2018:00:00:00						
	Patterns	#	Primary Pattern	Secondary Pattern	Exposures		
		(1)	Pattern Type=STIS-ALONG-SLIT Purpose=DITHER Number Of Points=2 Point Spacing=1.5 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=90.0 Angle Between Sides= Center Pattern=false		(2), (3)	
Solar System Targets	#	Name	Level 1	Level 2	Level 3	Window	Ephem Center
	(1)	EUROPA	STD=JUPITER	STD=EUROPA		NOT OCC OF EUROPA BY JUPITER FROM EARTH, SEP OF EUROPA JUPITER FROM EARTH GT 5", SEP OF EUROPA CALLISTO FROM EARTH GT 5", SEP OF EUROPA IO FROM EARTH GT 5", SEP OF EUROPA GANYMEDE FROM EARTH GT 5", ECL U FULL OF EUROPA BY JUPITER FROM EARTH	EARTH
	<i>Comments: V-mag estimated for Europa in eclipse, at specific wavelengths where emission is present. No continuum emission is expected, and scattered light from Jupiter will be brighter than Europa's emission at most wavelengths.</i> Description=Europa (JII) Extended=YES						
	(3)	GANYMEDE	STD=JUPITER	STD=GANYMEDE		NOT OCC OF GANYMEDE BY JUPITER FROM EARTH, SEP OF GANYMEDE JUPITER FROM EARTH GT 10", SEP OF GANYMEDE CALLISTO FROM EARTH GT 5", SEP OF GANYMEDE IO FROM EARTH GT 5", SEP OF GANYMEDE EUROPA FROM EARTH GT 5", NOT ECL U FULL OF GANYMEDE BY JUPITER FROM EARTH	EARTH
<i>Comments: Description=Ganymede (Acquisition)</i> Extended=YES							

Proposal 15425 - Eclipse 6 - Eastern Quadrature (06) - Eclipse Observations of Europa's Water Plumes

Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit	
	1		(3) GANYMEDE	STIS/CCD, ACQ, F28X50LP	MIRROR	ACQTYPE=DIFFUSE; SE;	CHECKBOX=27; DIFFUSE-CENTER=GEOMETRIC-CENTER			0.2 Secs (0.2 Secs) [==>]	[1]
	<i>Comments: Checkbox size given for Ganymede in Feb 2018. For a different acquisition satellite, or for a different date, checkbox size will need to be changed accordingly. Acquisition satellite should be positioned on the slit so that Jupiter does not fall on slit.</i>										
	2		(1) EUROPA	STIS/CCD, ACCUM, 52X2	G750M 6094 A	CR-SPLIT=2; GAIN=4	POS TARG null,-24	Pattern 1, Exps 2-2 in Eclipse 6 - Eastern Quadrature (06) (1)		264 Secs (528 Secs) [==>(Pattern 1, Split 1)] [==>(Pattern 1, Split 2)] [==>(Pattern 2, Split 1)] [==>(Pattern 2, Split 2)]	[1]
3		(1) EUROPA	STIS/CCD, ACCUM, 52X2	G750M 6581 A	CR-SPLIT=2; GAIN=4	POS TARG null,-24	Pattern 1, Exps 3-3 in Eclipse 6 - Eastern Quadrature (06) (1)		264 Secs (528 Secs) [==>(Pattern 1, Split 1)] [==>(Pattern 1, Split 2)] [==>(Pattern 2, Split 1)] [==>(Pattern 2, Split 2)]	[1]	

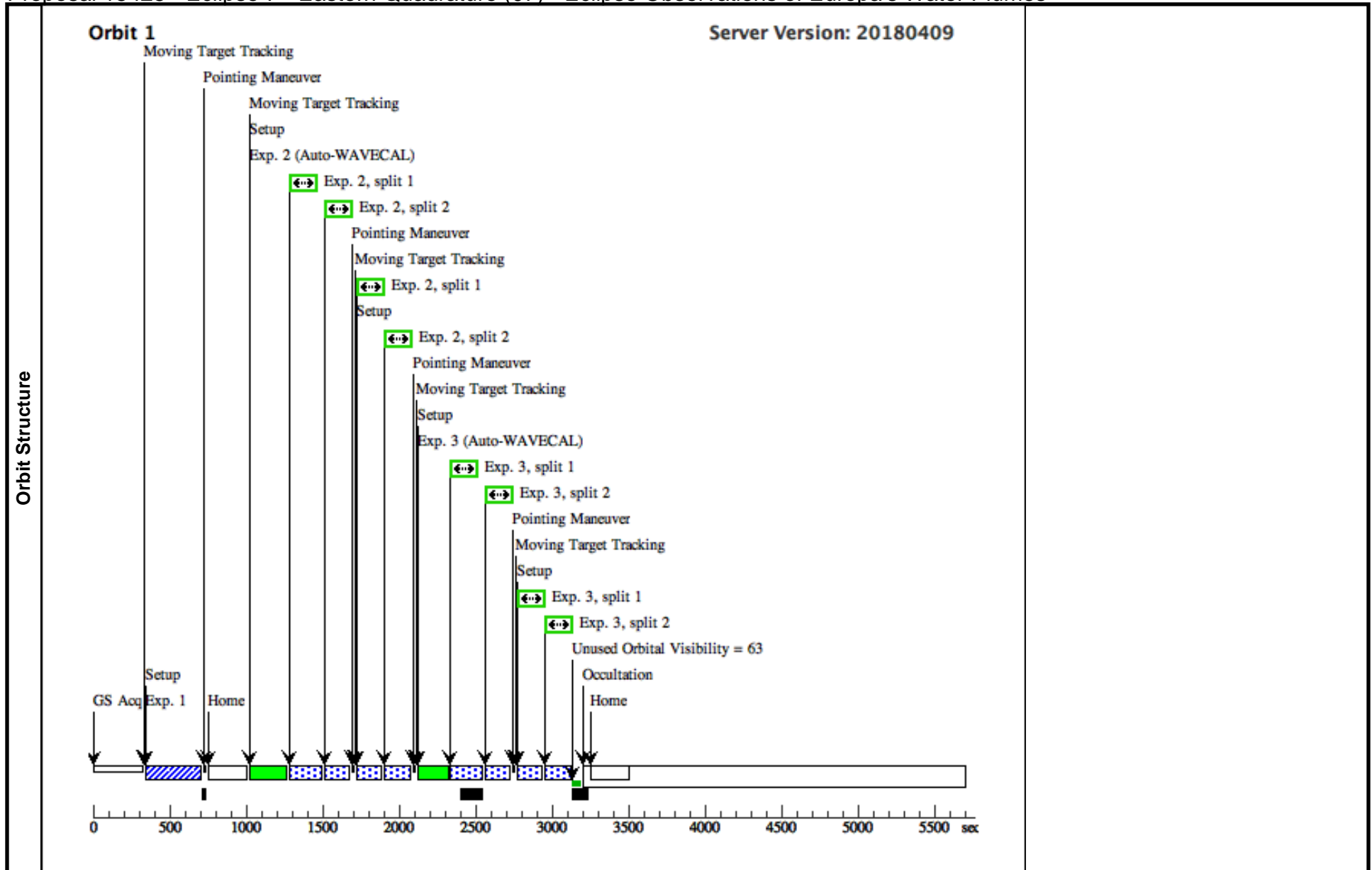


Proposal 15425 - Eclipse 7 - Eastern Quadrature (07) - Eclipse Observations of Europa's Water Plumes

Visit	Proposal 15425, Eclipse 7 - Eastern Quadrature (07), implementation Tue Jun 26 18:27:24 GMT 2018 Diagnostic Status: No Diagnostics Scientific Instruments: STIS/CCD Special Requirements: BETWEEN 10-JUL-2018:00:00:00 AND 23-AUG-2018:00:00:00						
	Patterns	#	Primary Pattern		Secondary Pattern		Exposures
(1)		Pattern Type=STIS-ALONG-SLIT Purpose=DITHER Number Of Points=2 Point Spacing=1.5 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=90.0 Angle Between Sides= Center Pattern=false			(2), (3)	
Solar System Targets	#	Name	Level 1	Level 2	Level 3	Window	Ephem Center
	(1)	EUROPA	STD=JUPITER	STD=EUROPA		NOT OCC OF EUROPA BY JUPITER FROM EARTH, SEP OF EUROPA JUPITER FROM EARTH GT 5", SEP OF EUROPA CALLISTO FROM EARTH GT 5", SEP OF EUROPA IO FROM EARTH GT 5", SEP OF EUROPA GANYMEDE FROM EARTH GT 5", ECL U FULL OF EUROPA BY JUPITER FROM EARTH	EARTH
	Comments: V-mag estimated for Europa in eclipse, at specific wavelengths where emission is present. No continuum emission is expected, and scattered light from Jupiter will be brighter than Europa's emission at most wavelengths. Description=Europa (JII) Extended=YES						
(2)	IO	STD=JUPITER	STD=IO			NOT OCC OF IO BY JUPITER FROM EARTH, SEP OF IO JUPITER FROM EARTH GT 10", SEP OF IO CALLISTO FROM EARTH GT 5", SEP OF IO EUROPA FROM EARTH GT 5", SEP OF IO GANYMEDE FROM EARTH GT 5", NOT ECL U FULL OF IO BY JUPITER FROM EARTH	EARTH
Comments: Description=Io (Acquisition) Extended=YES							

Proposal 15425 - Eclipse 7 - Eastern Quadrature (07) - Eclipse Observations of Europa's Water Plumes

Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit	
	1		(2) IO	STIS/CCD, ACQ, F28X50LP	MIRROR	ACQTYPE=DIFFUSE; CHECKBOX=21; DIFFUSE-CENTER=GEOMETRIC-CENTER	GS ACQ SCENARIO BASE1B3		0.2 Secs (0.2 Secs) [==>]	[1]	
	<i>Comments: Checkbox size given for Io in July 2018. For a different acquisition satellite, or for a different date, checkbox size will need to be changed accordingly. Acquisition satellite should be positioned on the slit so that Jupiter does not fall on slit.</i>										
	2		(1) EUROPA	STIS/CCD, ACCUM, 52X2	G750M 6094 A	CR-SPLIT=2; GAIN=4	POS TARG null,-24; GS ACQ SCENARIO BASE1B3	Pattern 1, Exps 2-2 in Eclipse 7 - Eastern Quadrature (07) (1)	264 Secs (528 Secs) [==>(Pattern 1, Split 1)] [==>(Pattern 1, Split 2)] [==>(Pattern 2, Split 1)] [==>(Pattern 2, Split 2)]	[1]	
3		(1) EUROPA	STIS/CCD, ACCUM, 52X2	G750M 6581 A	CR-SPLIT=2; GAIN=4	POS TARG null,-24	Pattern 1, Exps 3-3 in Eclipse 7 - Eastern Quadrature (07) (1)	264 Secs (528 Secs) [==>(Pattern 1, Split 1)] [==>(Pattern 1, Split 2)] [==>(Pattern 2, Split 1)] [==>(Pattern 2, Split 2)]	[1]		



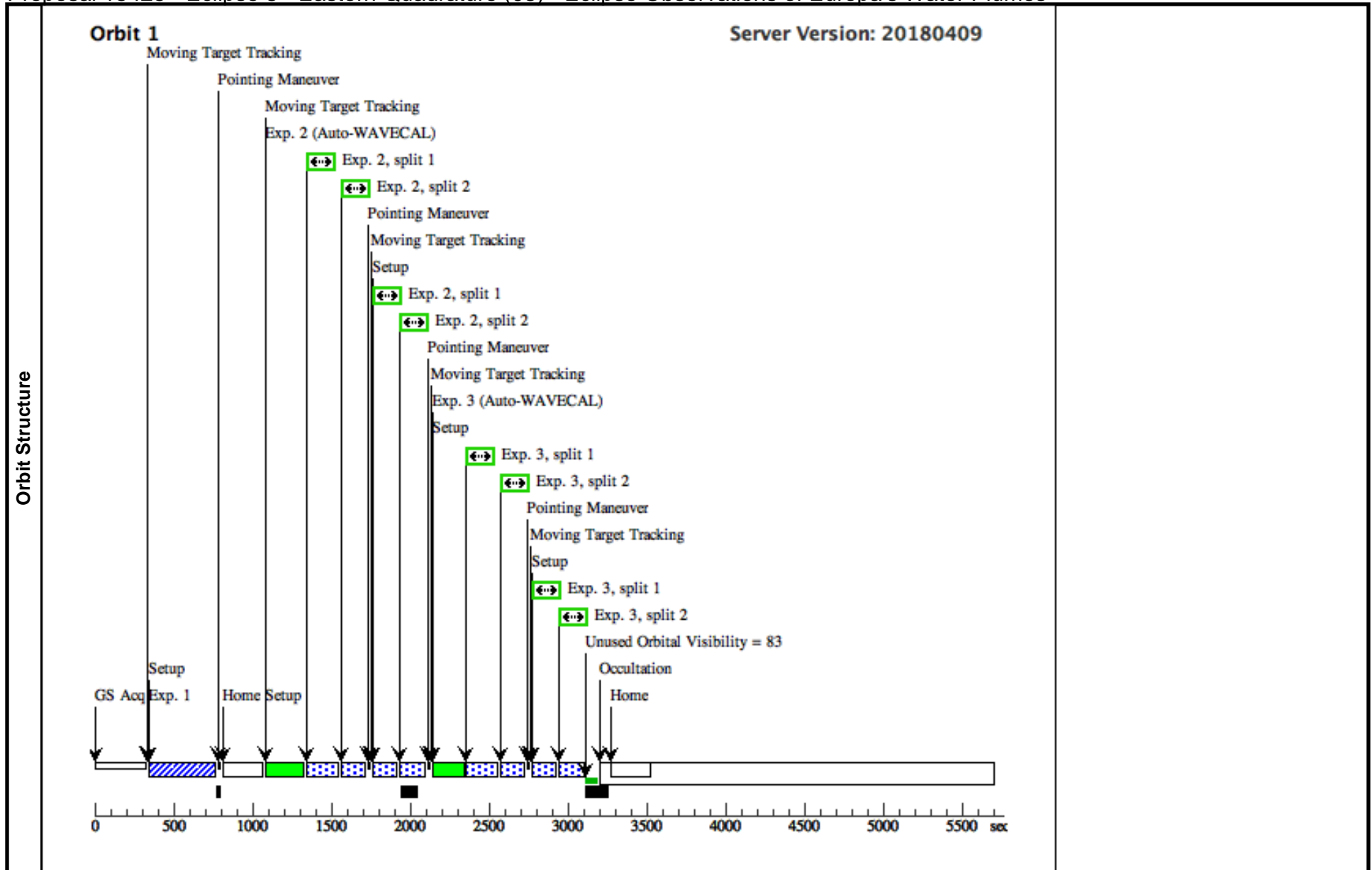
Proposal 15425 - Eclipse 8 - Eastern Quadrature (08) - Eclipse Observations of Europa's Water Plumes

Tue Jun 26 18:27:24 GMT 2018

Visit	Proposal 15425, Eclipse 8 - Eastern Quadrature (08), implementation Diagnostic Status: No Diagnostics Scientific Instruments: STIS/CCD Special Requirements: BETWEEN 10-JUL-2018:00:00:00 AND 23-AUG-2018:00:00:00						
	Patterns	#	Primary Pattern	Secondary Pattern	Exposures		
		(1)	Pattern Type=STIS-ALONG-SLIT Purpose=DITHER Number Of Points=2 Point Spacing=1.5 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=90.0 Angle Between Sides= Center Pattern=false		(2), (3)	
Solar System Targets	#	Name	Level 1	Level 2	Level 3	Window	Ephem Center
	(1)	EUROPA	STD=JUPITER	STD=EUROPA		NOT OCC OF EUROPA BY JUPITER FROM EARTH, SEP OF EUROPA JUPITER FROM EARTH GT 5", SEP OF EUROPA CALLISTO FROM EARTH GT 5", SEP OF EUROPA IO FROM EARTH GT 5", SEP OF EUROPA GANYMEDE FROM EARTH GT 5", ECL U FULL OF EUROPA BY JUPITER FROM EARTH	EARTH
	<i>Comments: V-mag estimated for Europa in eclipse, at specific wavelengths where emission is present. No continuum emission is expected, and scattered light from Jupiter will be brighter than Europa's emission at most wavelengths.</i> Description=Europa (JII) Extended=YES						
	(3)	GANYMEDE	STD=JUPITER	STD=GANYMEDE		NOT OCC OF GANYMEDE BY JUPITER FROM EARTH, SEP OF GANYMEDE JUPITER FROM EARTH GT 10", SEP OF GANYMEDE CALLISTO FROM EARTH GT 5", SEP OF GANYMEDE IO FROM EARTH GT 5", SEP OF GANYMEDE EUROPA FROM EARTH GT 5", NOT ECL U FULL OF GANYMEDE BY JUPITER FROM EARTH	EARTH
<i>Comments: Description=Ganymede (Acquisition)</i> Extended=YES							

Proposal 15425 - Eclipse 8 - Eastern Quadrature (08) - Eclipse Observations of Europa's Water Plumes

Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit	
	1		(3) GANYMEDE	STIS/CCD, ACQ, F28X50LP	MIRROR	ACQTYPE=DIFFUSE; CHECKBOX=27; DIFFUSE-CENTER=GEOMETRIC-CENTER	GS ACQ SCENARIO BASE1B3		0.2 Secs (0.2 Secs) [==>]	[1]	
	<i>Comments: Checkbox size given for Ganymede in Feb 2018. For a different acquisition satellite, or for a different date, checkbox size will need to be changed accordingly. Acquisition satellite should be positioned on the slit so that Jupiter does not fall on slit.</i>										
	2		(1) EUROPA	STIS/CCD, ACCUM, 52X2	G750M 6094 A	CR-SPLIT=2; GAIN=4	POS TARG null,-24; GS ACQ SCENARIO BASE1B3	Pattern 1, Exps 2-2 in Eclipse 8 - Eastern Quadrature (08) (1)	244 Secs (488 Secs) [==>(Pattern 1, Split 1)] [==>(Pattern 1, Split 2)] [==>(Pattern 2, Split 1)] [==>(Pattern 2, Split 2)]	[1]	
3		(1) EUROPA	STIS/CCD, ACCUM, 52X2	G750M 6581 A	CR-SPLIT=2; GAIN=4	POS TARG null,-24	Pattern 1, Exps 3-3 in Eclipse 8 - Eastern Quadrature (08) (1)	244 Secs (488 Secs) [==>(Pattern 1, Split 1)] [==>(Pattern 1, Split 2)] [==>(Pattern 2, Split 1)] [==>(Pattern 2, Split 2)]	[1]		



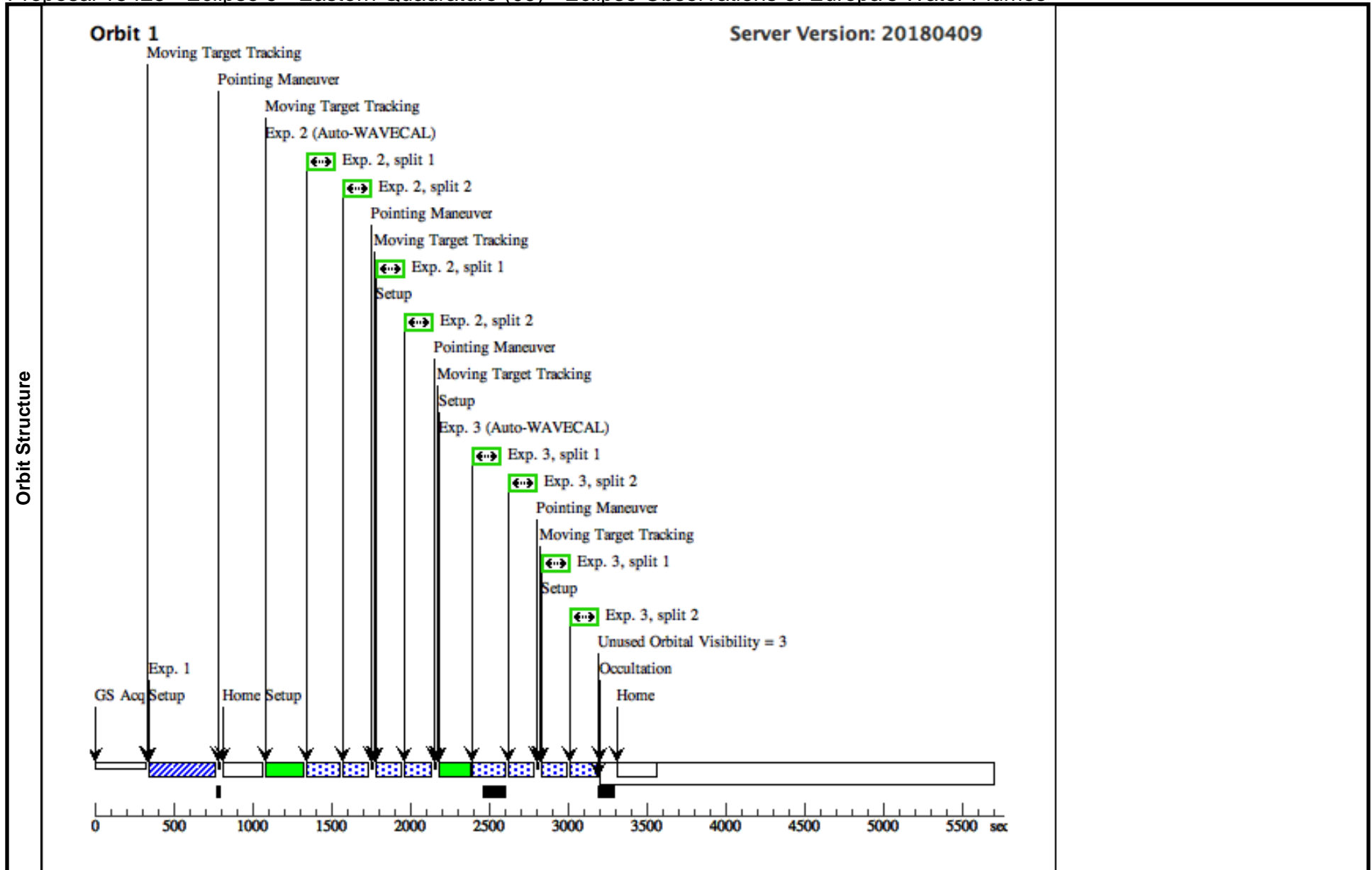
Proposal 15425 - Eclipse 9 - Eastern Quadrature (09) - Eclipse Observations of Europa's Water Plumes

Tue Jun 26 18:27:24 GMT 2018

Visit	Proposal 15425, Eclipse 9 - Eastern Quadrature (09), implementation Diagnostic Status: No Diagnostics Scientific Instruments: STIS/CCD Special Requirements: BETWEEN 10-JUL-2018:00:00:00 AND 23-AUG-2018:00:00:00						
	Patterns	#	Primary Pattern	Secondary Pattern	Exposures		
	(1)	Pattern Type=STIS-ALONG-SLIT Purpose=DITHER Number Of Points=2 Point Spacing=1.5 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=90.0 Angle Between Sides= Center Pattern=false		(2), (3)		
Solar System Targets	#	Name	Level 1	Level 2	Level 3	Window	Ephem Center
	(1)	EUROPA	STD=JUPITER	STD=EUROPA		NOT OCC OF EUROPA BY JUPITER FROM EARTH, SEP OF EUROPA JUPITER FROM EARTH GT 5", SEP OF EUROPA CALLISTO FROM EARTH GT 5", SEP OF EUROPA IO FROM EARTH GT 5", SEP OF EUROPA GANYMEDE FROM EARTH GT 5", ECL U FULL OF EUROPA BY JUPITER FROM EARTH	EARTH
	<i>Comments: V-mag estimated for Europa in eclipse, at specific wavelengths where emission is present. No continuum emission is expected, and scattered light from Jupiter will be brighter than Europa's emission at most wavelengths.</i> Description=Europa (JII) Extended=YES						
	(3)	GANYMEDE	STD=JUPITER	STD=GANYMEDE		NOT OCC OF GANYMEDE BY JUPITER FROM EARTH, SEP OF GANYMEDE JUPITER FROM EARTH GT 10", SEP OF GANYMEDE CALLISTO FROM EARTH GT 5", SEP OF GANYMEDE IO FROM EARTH GT 5", SEP OF GANYMEDE EUROPA FROM EARTH GT 5", NOT ECL U FULL OF GANYMEDE BY JUPITER FROM EARTH	EARTH
<i>Comments: Description=Ganymede (Acquisition)</i> Extended=YES							

Proposal 15425 - Eclipse 9 - Eastern Quadrature (09) - Eclipse Observations of Europa's Water Plumes

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit	
Exposures	1	(3) GANYMEDE	STIS/CCD, ACQ, F28X50LP	MIRROR	ACQTYPE=DIFFUSE; CHECKBOX=27; DIFFUSE-CENTER=GEOMETRIC-CENTER	GS ACQ SCENARIO BASE1B3		0.2 Secs (0.2 Secs) [==>]	[1]	
	<i>Comments: Checkbox size given for Ganymede in Feb 2018. For a different acquisition satellite, or for a different date, checkbox size will need to be changed accordingly. Acquisition satellite should be positioned on the slit so that Jupiter does not fall on slit.</i>									
	2	(1) EUROPA	STIS/CCD, ACCUM, 52X2	G750M 6094 A	CR-SPLIT=2; GAIN=4	POS TARG null,-24; GS ACQ SCENARIO BASE1B3	Pattern 1, Exps 2-2 in Eclipse 9 - Eastern Quadrature (09) (1)	264 Secs (528 Secs) [==>(Pattern 1, Split 1)] [==>(Pattern 1, Split 2)] [==>(Pattern 2, Split 1)] [==>(Pattern 2, Split 2)]	[1]	
3	(1) EUROPA	STIS/CCD, ACCUM, 52X2	G750M 6581 A	CR-SPLIT=2; GAIN=4	POS TARG null,-24	Pattern 1, Exps 3-3 in Eclipse 9 - Eastern Quadrature (09) (1)	264 Secs (528 Secs) [==>(Pattern 1, Split 1)] [==>(Pattern 1, Split 2)] [==>(Pattern 2, Split 1)] [==>(Pattern 2, Split 2)]	[1]		



Proposal 15425 - Eclipse 10 - Eastern Quadrature (10) - Eclipse Observations of Europa's Water Plumes

Tue Jun 26 18:27:24 GMT 2018

Visit	Proposal 15425, Eclipse 10 - Eastern Quadrature (10), implementation Diagnostic Status: No Diagnostics Scientific Instruments: STIS/CCD Special Requirements: BETWEEN 10-JUL-2018:00:00:00 AND 23-AUG-2018:00:00:00						
	Patterns	#	Primary Pattern		Secondary Pattern	Exposures	
		(1)	Pattern Type=STIS-ALONG-SLIT Purpose=DITHER Number Of Points=2 Point Spacing=1.5 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=90.0 Angle Between Sides= Center Pattern=false		(2), (3)	
Solar System Targets	#	Name	Level 1	Level 2	Level 3	Window	Ephem Center
	(1)	EUROPA	STD=JUPITER	STD=EUROPA		NOT OCC OF EUROPA BY JUPITER FROM EARTH, SEP OF EUROPA JUPITER FROM EARTH GT 5", SEP OF EUROPA CALLISTO FROM EARTH GT 5", SEP OF EUROPA IO FROM EARTH GT 5", SEP OF EUROPA GANYMEDE FROM EARTH GT 5", ECL U FULL OF EUROPA BY JUPITER FROM EARTH	EARTH
	<i>Comments: V-mag estimated for Europa in eclipse, at specific wavelengths where emission is present. No continuum emission is expected, and scattered light from Jupiter will be brighter than Europa's emission at most wavelengths.</i> Description=Europa (JII) Extended=YES						
	(3)	GANYMEDE	STD=JUPITER	STD=GANYMEDE		NOT OCC OF GANYMEDE BY JUPITER FROM EARTH, SEP OF GANYMEDE JUPITER FROM EARTH GT 10", SEP OF GANYMEDE CALLISTO FROM EARTH GT 5", SEP OF GANYMEDE IO FROM EARTH GT 5", SEP OF GANYMEDE EUROPA FROM EARTH GT 5", NOT ECL U FULL OF GANYMEDE BY JUPITER FROM EARTH	EARTH
<i>Comments: Description=Ganymede (Acquisition)</i> Extended=YES							

Proposal 15425 - Eclipse 10 - Eastern Quadrature (10) - Eclipse Observations of Europa's Water Plumes

Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit	
	1		(3) GANYMEDE	STIS/CCD, ACQ, F28X50LP	MIRROR	ACQTYPE=DIFFUSE; CHECKBOX=27; DIFFUSE-CENTER=GEOMETRIC-CENTER	GS ACQ SCENARIO BASE1B3		0.2 Secs (0.2 Secs) [==>]	[1]	
	<i>Comments: Checkbox size given for Ganymede in Feb 2018. For a different acquisition satellite, or for a different date, checkbox size will need to be changed accordingly. Acquisition satellite should be positioned on the slit so that Jupiter does not fall on slit.</i>										
	2		(1) EUROPA	STIS/CCD, ACCUM, 52X2	G750M 6094 A	CR-SPLIT=2; GAIN=4	POS TARG null,-24; GS ACQ SCENARIO BASE1B3	Pattern 1, Exps 2-2 in Eclipse 10 - Eastern Quadrature (10) (1)	264 Secs (528 Secs) [==>(Pattern 1, Split 1)] [==>(Pattern 1, Split 2)] [==>(Pattern 2, Split 1)] [==>(Pattern 2, Split 2)]	[1]	
3		(1) EUROPA	STIS/CCD, ACCUM, 52X2	G750M 6581 A	CR-SPLIT=2; GAIN=4	POS TARG null,-24	Pattern 1, Exps 3-3 in Eclipse 10 - Eastern Quadrature (10) (1)	264 Secs (528 Secs) [==>(Pattern 1, Split 1)] [==>(Pattern 1, Split 2)] [==>(Pattern 2, Split 1)] [==>(Pattern 2, Split 2)]	[1]		

