

12883 - Unraveling electron acceleration mechanisms in Ganymede's space environment through N-S conjugate imagery of Jupiter's aurora

Cycle: 20, Proposal Category: GO (Availability Mode: SUPPORTED)

INVESTIGATORS

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VISITS

Visit	Targets used in Visit	Configurations used in Visit	Orbits Used		OP Current with Visit?
	 (1) JUP-S-1 (2) JUP-N-1 (3) JUP-S-2 	STIS/FUV-MAMA	1	08-Nov-2013 21:01:29.0	yes
	(13) JUP-S-1-VISIT2(14) JUP-N-1-VISIT2(15) JUP-S-2-VISIT2	STIS/FUV-MAMA	1	08-Nov-2013 21:01:40.0	yes

Visit	Targets used in Visit	Configurations used in Visit	Orbits Used	Last Orbit Planner Run	OP Current with Visit?
03	(16) JUP-S-1-VISIT3 (17) JUP-N-1-VISIT3 (18) JUP-S-2-VISIT3	STIS/FUV-MAMA	1	08-Nov-2013 21:01:49.0	yes
04	(9) JUP-S-1-VISIT4 (10) JUP-N-1-VISIT4 (11) JUP-S-2-VISIT4	STIS/FUV-MAMA	1	08-Nov-2013 21:01:58.0	yes
05	(19) JUP-S-1-VISIT5 (20) JUP-N-1-VISIT5 (21) JUP-S-2-VISIT5	STIS/FUV-MAMA	1	08-Nov-2013 21:02:06.0	yes
06	(6) JUP-S-1-VISIT6 (7) JUP-N-1-VISIT6	STIS/FUV-MAMA	1	08-Nov-2013 21:02:13.0	yes
07	(22) JUP-S-1-VISIT7 (23) JUP-N-1-VISIT7	STIS/FUV-MAMA	1	08-Nov-2013 21:02:20.0	yes
08	(5) JUP-N-SPECTRO-VISIT8	STIS/FUV-MAMA	1	08-Nov-2013 21:02:29.0	yes
09	(12) JUP-N-SPECTRO-VISIT9	STIS/FUV-MAMA	1	08-Nov-2013 21:02:38.0	yes

Proposal 12883 (STScI Edit Number: 17, Created: Friday, November 8, 2013 9:02:48 PM EST) - Overview

9 Total Orbits Used

ABSTRACT

There is strong scientific interest in Ganymede (Jupiter's third Galilean moon) and its surrounding environment, which stems from the likely presence of a liquid water ocean underneath its icy crust and from its internally driven magnetic field. The interaction of the latter with Jupiter's magnetospheric plasma and its magnetic field gives rise to a unique situation in our solar system implying a mini-magnetosphere embedded within a giant-magnetosphere. This interaction generates Ganymede's ultraviolet auroral footprint in Jupiter's atmosphere. We propose to investigate the strong auroral connection between Jupiter and Ganymede and the variable characteristics of Ganymede's magnetosphere with an innovative approach, taking advantage of the large scale north-south asymmetries of Jupiter's magnetic field. The results obtained for Ganymede will be compared with the case of small injected hot plasma bubbles observed by the Galileo spacecraft and whose size and location are similar to those of Ganymede's magnetosphere. HST is currently the sole instrument capable of obtaining this information which pins down the proposed mechanisms linking the source and sink regions of auroral particles in the giant planets' magnetospheres.

OBSERVING DESCRIPTION

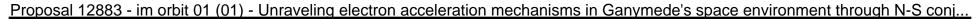
We use 9 HST orbits to observe Jupiter's northern and southern auroral UV emissions with the time tag mode of the STIS UV-MAMA Ly-alpha free (F25SRF2 filter). The visibility of Ganymede's footprint principally depends on its orbital phase angle. Accordingly, the proposed scheduling will ensure that GFP is always visible from HST for each orbit.

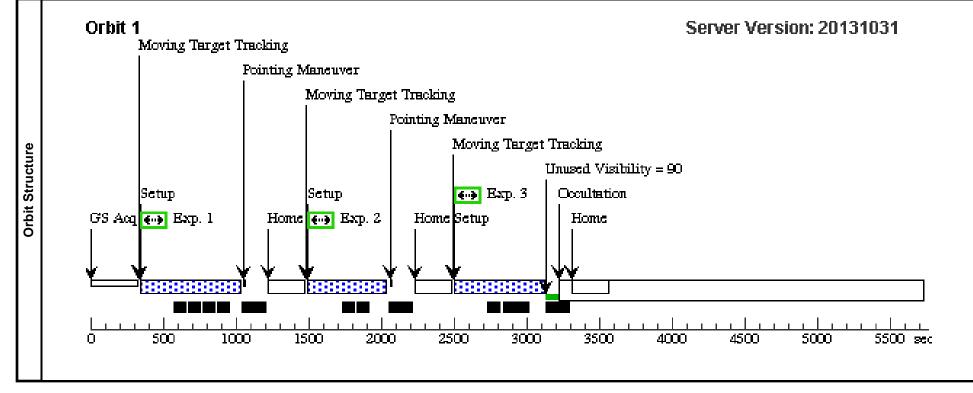
Each individual orbit is designed as follows: a first uninterrupted time tagged image (\sim 700s) of the southern hemisphere followed by a time tag image (\sim 700s) of the north; this set is then repeated once in order to get a S-N-S-N sequence during a single orbit. The first image is obtained when the CML is lowest, which favors viewing of the southern hemisphere, while at the end of the orbit the larger CML will favor the northern hemisphere. This orbit design is executed 9 times at least two Jovian rotations apart (2*10hrs, \sim 1 day) in order to sample different magnetospheric conditions and increase the chances to observe injection signatures. As a result, the 9 orbits may be considered independent orbits.

Short Time-tag sequences with the F25SRF2 filter have been acquired several times in previous programs without any risk for the FUV MAMA detector. In several sequences, gaps occurred as a consequence of buffer overflows. These only occur when too large a fraction of the Jovian disk appears on the image. However, past experience (GO-11649) shows that the count rate is lowered down to less than 16,000 counts per second (cps) using appropriate pointing such that only the polar region is in the field of view. Since the count rate can be kept below 20,000 cps, sequences as long as 2700s can be acquired without data gaps while we request sequences of ~700s.

^{>} ro	pos	al 12883	<u>3 - im orbit</u>	01 (01) - Unraveling ele	ectron acceler	ation mechanis	<u>ms in Ganyme</u>	ede's space	environment through	<u>N-S conj</u>			
	Prop	osal 12883, ii	n orbit 01 (01),	completed					Sat Nov 09 02:0	02:49 GMT 2013			
	Diag	nostic Status	: No Diagnostics										
ä	Scier	tific Instrume	ents: STIS/FUV-M	MAMA									
Visit	Speci	al Requireme	nts: BETWEEN	01-OCT-2012:00:00:00 AND 01-FEB-	2013:00:00:00; BETW	EEN 28-AUG-2013:00:0	00:00 AND 30-SEP-20	13:00:00:00					
-	Com	nents: Each o	orbit may be cons	idered independently. Ideally, each orb	it should be executed a	ıt least 1 day apart.							
	For 1	Timing Requir	ements, the 1-Oc	t-2012 1-Feb-2013 window is more fav	orable than the 28-Au	g-2013 30-Sep-2013 wind	low.						
	#	Name	Le	evel 1	Level 2	Level 3		Window	v Eph	em Center			
	(1)	JUP-S-1	ST		TYPE=POS_ANGLE,F 70,REF=NORTH	RAD=28,ANG=		BETWE	F JUPITER FROM EARTH EAR EEN 80 110, F GANYMEDE BETWEEN	CTH			
	Com	nents: Constr	aints on CML an	d OLG may be relaxed by +/-10°									
	POS	ANGLE RAL	and ANG are do	ute and ROLL dependent. Current value	es are suitable for 1-Di	EC-2012 +/- 1 month.							
jets	Ideally, STIS repel wire should be ~parallel to the equator in order to prevent it from masking the auroral region of interest.												
Store Ideally, STIS repel wire should be ~parallel to the equator in order to prevent it from masking the auroral region of interest. (2) JUP-N-1 STD=JUPITER TYPE=POS_ANGLE,RAD=26,ANG= CML OF JUPITER FROM EARTH BETWEEN 80 120, OLG OF GANYMEDE BETWEEN 110 210 comments: Comments: Constraints on CML and OLG may be relaxed by +/-10° CML of JUPITER FROM EARTH PLANTER FROM EARTH BETWEEN 110 210													
/ste	Com	nents: Constr	aints on CML an	d OLG may be relaxed by +/-10°									
Sy.	POS_ANGLE RAD and ANG are date and ROLL dependent. Current values are suitable for 1-DEC-2012 +/- 1 month.												
Solar	Ideally, STIS repel wire should be ~parallel to the equator in order to prevent it from masking the auroral region of interest.												
š	(3)	JUP-S-2		D=JUPITER	TYPE=POS_ANGLE,RAD=28,ANG=				F JUPITER FROM EARTH EAR	TH			
				1	70,REF=NORTH				EEN 80 130, F GANYMEDE BETWEEN				
	Com	nents: Constr	aints on CML an	d OLG may be relaxed by +/-10°									
	POS	ANGLE RAL	and ANG are do	ute and ROLL dependent. Current value	es are suitable for 1-Di	EC-2012 +/- 1 month.							
	Ideally, STIS repel wire should be ~parallel to the equator in order to prevent it from masking the auroral region of interest.												
	#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Du	r.] Orbit			
	1	S1	(1) JUP-S-1	STIS/FUV-MAMA, TIME-TAG	G, MIRROR	BUFFER-TIME=99	GS ACQ SCENARI		540 Secs (540 Secs)				
s		(STIS.im.41 4797)		F25SRF2			O BASE1B3		[==>]	[1]			
Ire	Com	nents: ETC es	stimated from GC	0 11649									
ารต	2	N1	(2) JUP-N-1	STIS/FUV-MAMA, TIME-TAG	G, MIRROR	BUFFER-TIME=99	GS ACQ SCENARI		600 Secs (391 Secs)				
Exposure		(STIS.im.41 4797)		F25SRF2			O BASE1B3		[==>391.0 Secs]	[1]			
ш	Com	nents: ETC es	stimated from GC	0 11649									
	3	S2	(3) JUP-S-2	STIS/FUV-MAMA, TIME-TAG	G, MIRROR	BUFFER-TIME=99	GS ACQ SCENARI		470 Secs (470 Secs)				
		(STIS.im.41 4797)		F25SRF2			O BASE1B3		[==>]	[1]			
	Com	nents: ETC es	stimated from GC	0 11649									

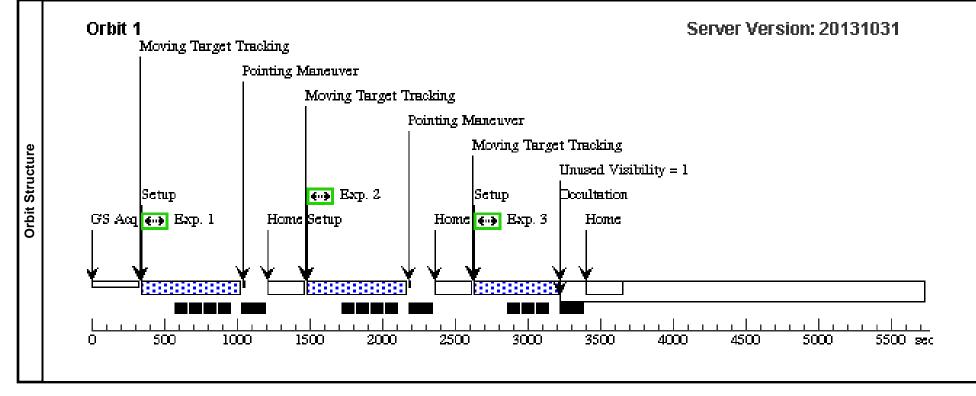
4



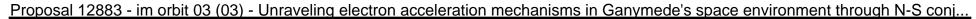


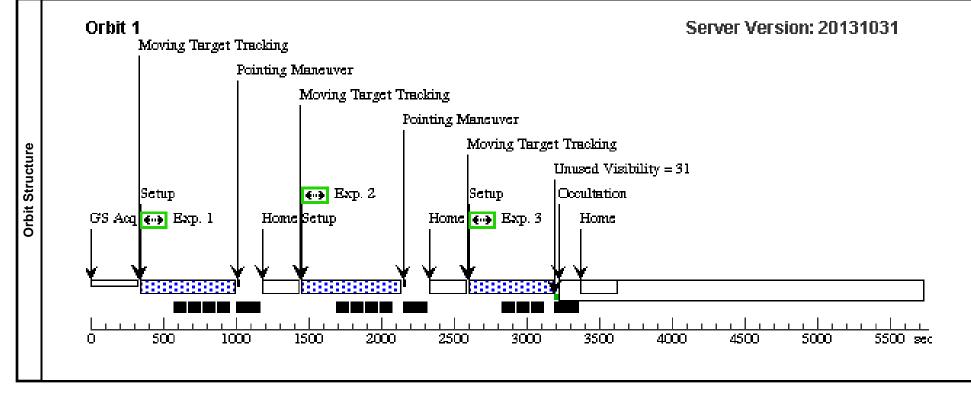
Prop	<u>osal 12883</u>	<u>3 - im orbit 0</u>	<u>2 (02) - Unraveling e</u>	electron acceler	ation mechanis	ms in Ganyme	ede's spac	<u>e environment throu</u>	ugh N-S	conj			
Р	roposal 12883, ir	n orbit 02 (02), con	npleted					Sat Nov	09 02:02:51	GMT 2013			
	iagnostic Status:	No Diagnostics											
Visit S	cientific Instrume	nts: STIS/FUV-MA	MA										
S S	pecial Requireme	nts: BETWEEN 01-	JAN-2013:00:00:00 AND 01-MA	AR-2013:00:00:00; BETV	WEEN 28-AUG-2013:00	:00:00 AND 30-SEP-20	013:00:00:00						
С	omments: Each o	rbit may be conside	red independently. Ideally, each o	orbit should be executed of	at least 1 day apart.								
F	or Timing Requir	ements, the 1-Oct-2	012 1-Feb-2013 window is more j	favorable than the 28-Au	g-2013 30-Sep-2013 wind	low.							
#	Name	Level	1	Level 2	Level 3	}	Windo)W	Ephem Ce	enter			
(1	JUP-S-1	-VISIT2 STD=	JUPITER	TYPE=POS_ANGLE, G=171,REF=NORTH	RAD=20.7,AN		BETW	DF JUPITER FROM EARTH TEEN 80 110, DF GANYMEDE BETWEEN 0	EARTH				
, C	omments: Constru	aints on CML and C	DLG may be relaxed by +/-10°										
S.			and ROLL dependent. Current va	-									
C C	14) JUP-N-1	-VISIT2 STD=	JUPITER	TYPE=POS_ANGLE, G=6,REF=NORTH	RAD=20.0,AN				EARTH				
IS C	omments: Constru	aints on CML and C	DLG may be relaxed by +/-10°										
	OS_ANGLE RAD	and ANG are date	and ROLL dependent. Current va	lues are suitable for 1-D	EC-2012 +/- 1 month.								
Solar	Ideally, STIS repel wire should be ~parallel to the equator in order to prevent it from masking the auroral region of interest.												
S 10	15) JUP-S-2		JUPITER	TYPE=POS_ANGLE,		51.			EARTH				
(1	(5) JOI-5-2	- 15112 51D-	JUTTER	G=171,REF=NORTH	(AD-20.7,AI)				LARIII				
С	Comments: Constraints on CML and OLG may be relaxed by +/-10°												
Р	OS ANGLE RAD	and ANG are date	and ROLL dependent. Current va	lues are suitable for 1-D	EC-2012 +/- 1 month.								
	_		*	0									
1a #		wire should be ~pai Target	rallel to the equator in order to pa Config,Mode,Aperture	spectral Els.	e auroral region of intere Opt. Params.	Special Regs.	Groups	Exp. Time (Total)/[Actu	al Dur 1	Orbit			
#	(ETC Run)	Target	Comig, Mode, Aperture	Spectral Els.	Opt. Faranis.	special keys.	Groups	Exp. Time (Total)/[Act		Orbit			
1	S1		T STIS/FUV-MAMA, TIME-T	AG, MIRROR	BUFFER-TIME=99			600 Secs (530 Secs)					
	(STIS.im.41 4797)	2	F25SRF2			O BASE1B3		[==>530.0 Secs]		[1]			
Se C		stimated from GO 1	1649										
	N1	v	T STIS/FUV-MAMA, TIME-T	AG, MIRROR	BUFFER-TIME=99	GS ACQ SCENARI		600 Secs (530 Secs)					
	(STIS.im.41 4797)	2	F25SRF2	-, -		O BASE1B3		[==>530.0 Secs]		[1]			
ш <u>с</u>	omments: ETC es	stimated from GO 1	1649										
3	S2	(15) JUP-S-2-VISI	T STIS/FUV-MAMA, TIME-T	AG, MIRROR	BUFFER-TIME=99	GS ACQ SCENARI		500 Secs (430 Secs)					
	(STIS.im.41 4797)	2	F25SRF2		O BASE1B3		[==>430.0 Secs]		[1]				
		stimated from GO 1	1640										

Proposal 12883 - im orbit 02 (02) - Unraveling electron acceleration mechanisms in Ganymede's space environment through N-S conj...

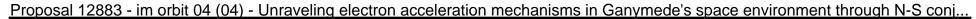


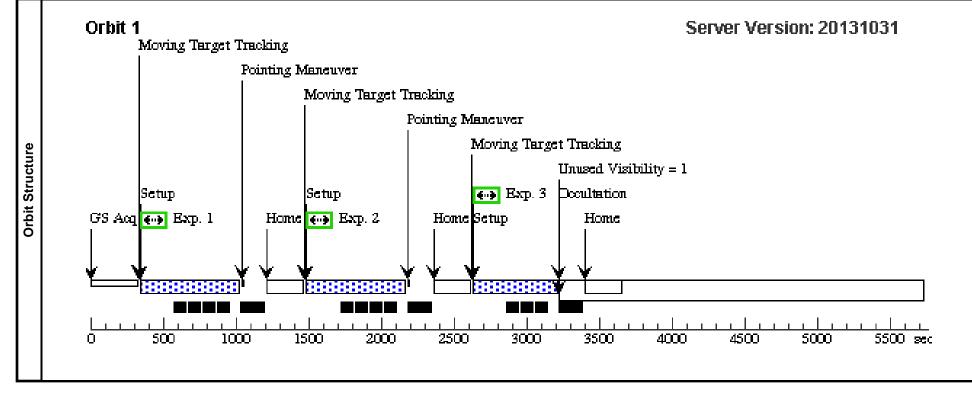
Pro	po	<u>sal 12883 - im o</u>	rbit 03 (03) - Unraveling el	ectron acceler	ation mechanis	ms in Ganyme	ede's sp	pace environment thro	ugh N-S	s conj		
	Pro	posal 12883, im orbit 03 ((03), complet	ted					Sat Nov	09 02:02:52	GMT 2013		
	Dia	gnostic Status: No Diagno	ostics										
Visit	Scie	entific Instruments: STIS/F	UV-MAMA										
Ś	Spe	cial Requirements: BETW	EEN 01-JAN	-2013:00:00:00 AND 01-MAH	R-2013:00:00:00; BETV	WEEN 28-AUG-2013:00	:00:00 AND 30-SEP-20	013:00:00:00	0				
	Con	nments: Each orbit may be	considered i	ndependently. Ideally, each or	bit should be executed o	at least 1 day apart.							
	For	Timing Requirements, the	1-Oct-2012	1-Feb-2013 window is more fa	vorable than the 28-Au	g-2013 30-Sep-2013 wind	łow.						
	#	Name	Level 1		Level 2	Level 3	5	V	Vindow	Ephem Co	enter		
	(16)	JUP-S-1-VISIT3	STD=JUP		TYPE=POS_ANGLE, G=171,REF=NORTH	RAD=20.7,AN		B O	CML OF JUPITER FROM EARTH BETWEEN 80 110, DLG OF GANYMEDE BETWEEN 10 200	EARTH			
S	Con	nments: Constraints on CM	IL and OLG	may be relaxed by +/-10°									
Targets	POS	S_ANGLE RAD and ANG a	are date and l	ROLL dependent. Current valu	ues are suitable for 1-D	EC-2012 +/- 1 month.							
Ta													
System .	(17) JUP-N-1-VISIT3 STD=JUPITER TYPE=POS_ANGLE,RAD=20.0,AN EARTH G=6,REF=NORTH EARTH												
yst	Con	nments: Constraints on CM	IL and OLG	may be relaxed by +/-10°									
	POS	S_ANGLE RAD and ANG a	are date and l	ROLL dependent. Current valu	ues are suitable for 1-D	EC-2012 +/- 1 month.							
Solar	Ideally, STIS repel wire should be ~parallel to the equator in order to prevent it from masking the auroral region of interest.												
S	(18) JUP-S-2-VISIT3 STD=JUPITER TYPE=POS_ANGLE,RAD=20.7,AN G=171,REF=NORTH									EARTH			
	Comments: Constraints on CML and OLG may be relaxed by +/-10°												
	POS	S_ANGLE RAD and ANG a	are date and	ROLL dependent. Current valu	ues are suitable for 1-D	EC-2012 +/- 1 month.							
				l to the equator in order to pre	vent it from masking th	e auroral region of intere	est.						
	#	Label Target (ETC Run)	(Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Act	ual Dur.]	Orbit		
	1			STIS/FUV-MAMA, TIME-TA	G, MIRROR	BUFFER-TIME=99			500 Secs (500 Secs)				
		(STIS.im.41 3 4797)	I	F25SRF2			O BASE1B3		[==>]		[1]		
Ires	Con	nments: ETC estimated fro	m GO 11649										
nsc	2	N1 (17) JUP-N		STIS/FUV-MAMA, TIME-TA	G, MIRROR	BUFFER-TIME=99	GS ACQ SCENARI		600 Secs (530 Secs)		ļ!		
Exposures		(STIS.im.41 3 4797)	1	F25SRF2			O BASE1B3		[==>530.0 Secs]		[1]		
ш	Con	nments: ETC estimated fro	m GO 11649										
	3	S2 (18) JUP-S		TIS/FUV-MAMA, TIME-TA	G, MIRROR	BUFFER-TIME=99	GS ACQ SCENARI		500 Secs (430 Secs)		ļ		
		(STIS.im.41 3 4797)	1	F25SRF2			O BASE1B3		[==>430.0 Secs]		[1]		
	Con	nments: ETC estimated fro	m GO 11649										





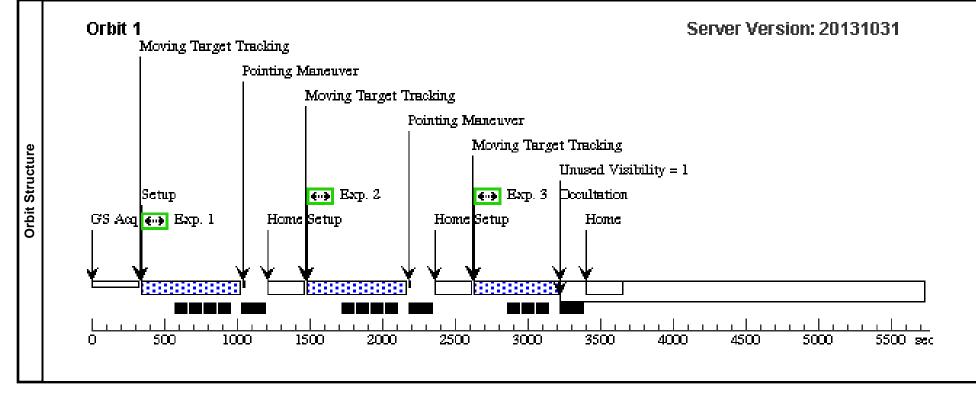
Prc	pog	<u>sal 12883 - im o</u>	<u>rbit 04 (04) - L</u>	Inraveling elect	ron accelera	ation mechanis	ms in Ganyme	ede's spa	ace environment throu	<u>igh N-S</u>	conj		
	Prop	posal 12883, im orbit 04 (04), completed						Sat Nov 0	9 02:02:53 0	GMT 2013		
	Diag	gnostic Status: No Diagno	ostics										
Visit	Scie	ntific Instruments: STIS/F	UV-MAMA										
Ë	Spec	cial Requirements: BETW	EEN 01-OCT-2012:00:	00:00 AND 01-FEB-201	3:00:00; BETW	EEN 28-AUG-2013:00:0	00:00 AND 30-SEP-20	13:00:00:00					
	Com	ments: Each orbit may be	considered independer	ntly. Ideally, each orbit sl	hould be executed a	t least 1 day apart.							
	For	Timing Requirements, the	1-Oct-2012 1-Feb-201	3 window is more favora	ble than the 28-Aug	-2013 30-Sep-2013 wind	low.						
	#	Name	Level 1	Leve	el 2	Level 3		Wi	ndow	Ephem Ce	nter		
	(9)	JUP-S-1-VISIT4	STD=JUPITER		E=POS_ANGLE,R 71,REF=NORTH	AD=20.7,AN		BE OL	IL OF JUPITER FROM EARTH TWEEN 80 110, G OF GANYMEDE BETWEEN 200	EARTH			
s	Comments: Constraints on CML and OLG may be relaxed by +/-10° POS ANGLE RAD and ANG are date and ROLL dependent. Current values are suitable for 1-DEC-2012 +/- 1 month.												
Targets	POS	ANGLE RAD and ANG a	re date and ROLL dep	endent. Current values a	re suitable for 1-DE	EC-2012 +/- 1 month.							
Ца Ц	Ideally, STIS repel wire should be ~parallel to the equator in order to prevent it from masking the auroral region of interest.												
System													
/st	Com	ments: Constraints on CM	L and OLG may be rel	axed by $+/-10^{\circ}$									
Ś	POS_ANGLE RAD and ANG are date and ROLL dependent. Current values are suitable for 1-DEC-2012 +/- 1 month.												
POS_ANGLE RAD and ANG are date and ROLL dependent. Current values are suitable for 1-DEC-2012 +/- 1 month. Ideally, STIS repel wire should be ~parallel to the equator in order to prevent it from masking the auroral region of interest.													
Ň	(11) JUP-S-2-VISIT4 STD=JUPITER TYPE=POS_ANGLE,RAD=20.7,AN G=171,REF=NORTH												
	G=1/1,REF=NORTH Comments: Constraints on CML and OLG may be relaxed by +/-10°												
	POS	_ANGLE RAD and ANG a	re date and ROLL dep	endent. Current values a	re suitable for 1-DE	EC-2012 +/- 1 month.							
	Idea	lly, STIS repel wire should	l be ~parallel to the equ	uator in order to prevent	it from masking the	auroral region of intere	st.						
	#	Label Target (ETC Run)	Config,Mo	ode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actu	al Dur.]	Orbit		
	1	S1 (9) JUP-S-		-MAMA, TIME-TAG,	MIRROR	BUFFER-TIME=99	GS ACQ SCENARI		600 Secs (530 Secs)				
_		(STIS.im.41 4797)	F25SRF2				O BASE1B3		[==>530.0 Secs]		[1]		
š	Com	ments: ETC estimated from	n GO 11649										
nsu	2	N1 (10) JUP-N	N-1-VISIT STIS/FUV	-MAMA, TIME-TAG,	MIRROR	BUFFER-TIME=99			600 Secs (530 Secs)				
Exposures		(STIS.im.41 4 4797)	F25SRF2				O BASE1B3		[==>530.0 Secs]		[1]		
ш	Com	ments: ETC estimated from	n GO 11649										
	3	S2 (11) JUP-S	-2-VISIT STIS/FUV	-MAMA, TIME-TAG,	MIRROR	BUFFER-TIME=99	GS ACQ SCENARI		500 Secs (430 Secs)				
		(STIS.im.41 4 4797)	F25SRF2				O BASE1B3		[==>430.0 Secs]		[1]		
	Com	ments: ETC estimated from	n GO 11649										





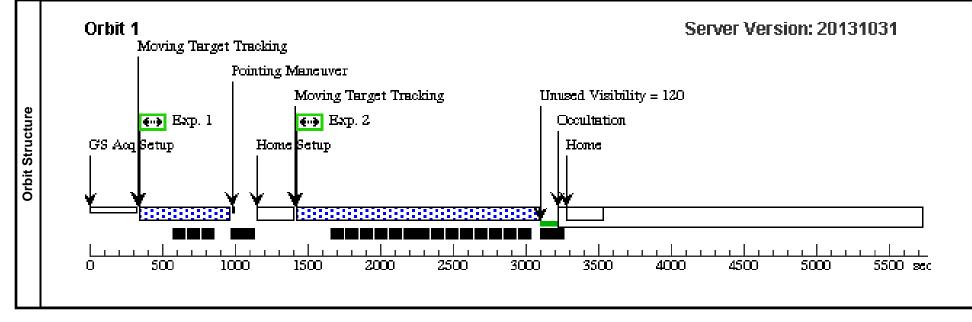
Pro	opo	<u>sal 12883 - im o</u>	<u>rbit 05 (05</u>	5) - Unraveling ele	ectron acceler	ation mechanis	ms in Ganyme	ede's si	pace environment thro	ugh N-S	conj	
	Pro	posal 12883, im orbit 05 ((05), completed	l					Sat Nov	09 02:02:54	GMT 2013	
	Dia	gnostic Status: No Diagno	ostics									
Visit	Scie	entific Instruments: STIS/F	UV-MAMA									
Š	Spe	cial Requirements: BETW	EEN 01-OCT-2	012:00:00:00 AND 01-APR	-2013:00:00:00; BETW	EEN 28-AUG-2013:00:	00:00 AND 30-SEP-20	13:00:00:00)			
	Con	nments: Each orbit may be	considered ind	ependently. Ideally, each orb	oit should be executed a	t least 1 day apart.						
	For	Timing Requirements, the	1-Oct-2012 1-F	Feb-2013 window is more fav	orable than the 28-Aug	g-2013 30-Sep-2013 wind	low.					
	#	Name	Level 1]	Level 2	Level 3	5	V	Vindow	Ephem Co	enter	
	(19)) JUP-S-1-VISIT5	STD=JUPIT		FYPE=POS_ANGLE,F G=171,REF=NORTH	AD=20.7,AN		B	CML OF JUPITER FROM EARTH BETWEEN 80 110, DLG OF GANYMEDE BETWEEN 10 200	EARTH		
S	Con	nments: Constraints on CM	1L and OLG ma	ty be relaxed by +/-10°								
Targets	POS	S_ANGLE RAD and ANG a	are date and RO	DLL dependent. Current value	es are suitable for 1-DI	EC-2012 +/- 1 month.						
Tai	Ideally, STIS repel wire should be ~parallel to the equator in order to prevent it from masking the auroral region of interest.											
System	Con	nments: Constraints on CM	IL and OLG ma	y be relaxed by +/-10°								
ar S	POS	S_ANGLE RAD and ANG a	are date and RO	OLL dependent. Current value	es are suitable for 1-DI	EC-2012 +/- 1 month.						
Solar	Idea	ally, STIS repel wire should	l be ~parallel to	o the equator in order to prev	ent it from masking the	e auroral region of intere	st.					
ŝ	(21)	JUP-S-2-VISIT5	STD=JUPIT		ГҮРЕ=POS_ANGLE,F G=171,REF=NORTH	RAD=20.7,AN			EARTH			
	Con	nments: Constraints on CM	IL and OLG ma	y be relaxed by +/-10°								
	POS	S_ANGLE RAD and ANG a	are date and RO	OLL dependent. Current value	es are suitable for 1-DI	EC-2012 +/- 1 month.						
	Idea	ally, STIS repel wire should	l be ~parallel to	o the equator in order to prev	ent it from masking the	e auroral region of intere	st.					
	#	Label Target (ETC Run)	Co	nfig,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Act	ual Dur.]	Orbit	
	1			IS/FUV-MAMA, TIME-TAG	G, MIRROR	BUFFER-TIME=99			600 Secs (530 Secs)			
6		(STIS.im.41 5 4797)	F25	5SRF2			O BASE1B3		[==>530.0 Secs]		[1]	
l ä	Con	nments: ETC estimated from	m GO 11649									
Su Su	2	N1 (20) JUP-N		IS/FUV-MAMA, TIME-TAG	G, MIRROR	BUFFER-TIME=99	GS ACQ SCENARI		600 Secs (530 Secs)			
Exposures		(STIS.im.41 5 4797)	F25	5SRF2			O BASE1B3		[==>530.0 Secs]		[1]	
ш	Con	nments: ETC estimated from	m GO 11649									
	3	S2 (21) JUP-S		IS/FUV-MAMA, TIME-TAG	G, MIRROR	BUFFER-TIME=99	GS ACQ SCENARI		500 Secs (430 Secs)			
		(STIS.im.41 5 4797)	F25	5SRF2			O BASE1B3		[==>430.0 Secs]		[1]	
	Con	nments: ETC estimated from	m GO 11649									

Proposal 12883 - im orbit 05 (05) - Unraveling electron acceleration mechanisms in Ganymede's space environment through N-S conj...



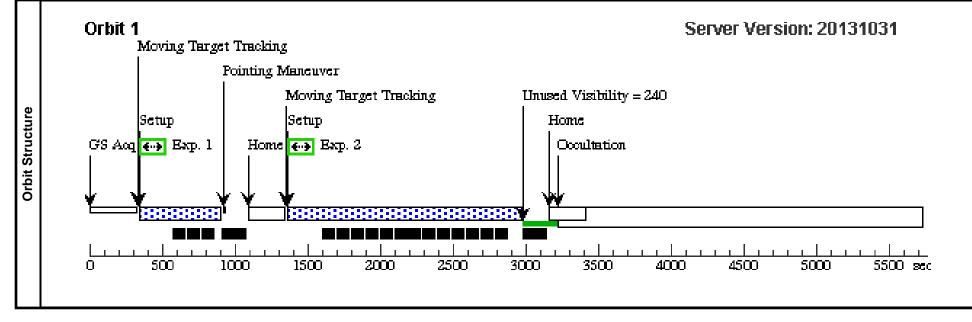
Proposal 12883 - im orbit 06 (06) - Unraveling electron acceleration mechanisms in Ganymede's space environment th Proposal 12883, im orbit 06 (06), implementation Diagnostic Status: No Diagnostics Scientific Instruments: STIS/FUV-MAMA													
ž	Scier	ntific Instrumer	ts: STIS/FUV-MAM	IA									
Visit	Spec	al Requiremen	ts: BETWEEN 01-D	EC-2013:00:00:00 AND 28-FEB-2	014:00:00:00								
	Com	ments: Each or	bit may be considered	d independently. Ideally, each orbit	should be executed a	t least 1 day apart.							
	E an '	For Timing Requirements, the 1-Oct-2012 1-Feb-2013 window is more favorable than the 28-Aug-2013 30-Sep-2013 window.											
	ror. #	Name	Level 1		evel 2	<u>Level 3-2015 Wind</u>		Window		Ephem Ce	enter		
Targets	(6)	JUP-S-1-		UPITER T	YPE=POS_ANGLE,R 00,REF=NORTH			CML OF BETWEE	JUPITER FROM EARTH EN 100 130, GANYMEDE BETWEEN	EARTH			
-		ments: Constra											
stem	POS	POS_ANGLE RAD and ANG are date and ROLL dependent. Current values are suitable for 1-DEC-2012 +/- 1 month.											
)st	Ideal	lly, STIS repel v	vire should be ~para	llel to the equator in order to preve	nt it from masking the	auroral region of intere	est.						
ar Sy	(7) JUP-N-1-VISIT6 STD=JUPITER TYPE=POS_ANGLE,RAD=24,ANG=												
Solar	Com	ments: Constra	ints on CML and OL	G may be relaxed by +/-10°									
	POS	ANGLE RAD	and ANG are date an	nd ROLL dependent. Current values	are suitable for 1-DE	C-2012 +/- 1 month.							
				-									
	Ideal 1			llel to the equator in order to preve				Carrows	E T: (T-4-1)/[A-4-	nal David	Orbit		
	#	(ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Act	uai Dur.j	Orbit		
ູ	1		(6) JUP-S-1-VISIT6	STIS/FUV-MAMA, TIME-TAG,	MIRROR	BUFFER-TIME=99			600 Secs (470 Secs)				
Exposures		(STIS.im.41 4797)		F25SRF2			O BASE1B3		[==>470.0 Secs]		[1]		
ö	Com	ments: ETC est	imated from GO 116	49									
X	2	N1	(7) JUP-N-1-VISIT6	STIS/FUV-MAMA, TIME-TAG,	MIRROR	BUFFER-TIME=99	GS ACQ SCENARI		600 Secs (1516 Secs)				
		(STIS.im.41 4797)		F25SRF2			O BASE1B3		[==>1516.0 Secs]		[1]		
	6	,	imated from GO 116	40					L				

Proposal 12883 - im orbit 06 (06) - Unraveling electron acceleration mechanisms in Ganymede's space environment through N-S conj...



	Prop Diag Scier	posal 12883, ir gnostic Status: ntific Instrume	n orbit 07 (07), impl : No Diagnostics nts: STIS/FUV-MAM		environment throu Sat Nov	09 02:02:55								
>	1	1		DEC-2013:00:00:00 AND 28-FEB-2 ed independently. Ideally, each orbi		t least 1 day apart								
			ements, the 1-Oct-201											
	#	Name	Level 1		evel 2	Level 3		Window		Ephem Co	enter			
Targets	(22)	JUP-S-1	-VISIT7 STD=J		YPE=POS_ANGLE,R 90,REF=NORTH	AD=26,ANG=		BETWE	JUPITER FROM EARTH EN 100 130, GANYMEDE BETWEEN	EARTH				
Comments: Constraints on CML and OLG may be relaxed by +/-10°														
	POS_ANGLE RAD and ANG are date and ROLL dependent. Current values are suitable for 1-DEC-2012 +/- 1 month.													
stem	Ideally, STIS repel wire should be \sim parallel to the equator in order to prevent it from masking the auroral region of interest.													
ŝ	(23) JUP-N-1-VISIT7 STD=JUPITER TYPE=POS_ANGLE,RAD=24,ANG=													
Solar	Com	Comments: Constraints on CML and OLG may be relaxed by +/-10°												
	POS	_ANGLE RAD	and ANG are date a	nd ROLL dependent. Current values	s are suitable for 1-DE	EC-2012 +/- 1 month.								
	Idea	lly, STIS repel	wire should be ~para	llel to the equator in order to preve	ent it from masking the	auroral region of intere	est.							
	#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Act	ual Dur.]	Orbit			
ŝ	1	S1		STIS/FUV-MAMA, TIME-TAG	, MIRROR	BUFFER-TIME=99			600 Secs (410 Secs)					
Exposures		(STIS.im.41 4797)	/	F25SRF2			O BASE1B3		[==>410.0 Secs]		[1]			
ŝ	Com	ments: ETC es	timated from GO 116	549										
X	2	N1		STIS/FUV-MAMA, TIME-TAG	, MIRROR	BUFFER-TIME=99	GS ACQ SCENARI		600 Secs (1456 Secs)					
		(STIS.im.41 4797)	7	F25SRF2			O BASE1B3		[==>1456.0 Secs]		[1]			
	Com	ments: ETC es	timated from GO 116	549										

Proposal 12883 - im orbit 07 (07) - Unraveling electron acceleration mechanisms in Ganymede's space environment through N-S conj...



Proposal 12883 - sp orbit 01 (08) - Unraveling electron acceleration mechanisms in Ganymede's space environment through N-S conj...

	Proposal 12883, sp orbit 01 (08), completed					Sat Nov 09	02:02:56 GMT 2013
	Diagnostic Status: Warning						
Visit	Scientific Instruments: STIS/FUV-MAMA						
Ë	Special Requirements: BETWEEN 01-OCT-2012:00:00:00 AND 01-F	EB-2013:00:00:00; BETW	EEN 28-AUG-2013:00:0	00:00 AND 30-SEP-20	13:00:00:00		
	Comments: Each orbit may be considered independently. Ideally, each One of the two G140L "sp orbits" should preferentially appear at the b For Timing Requirements, the 1-Oct-2012 1-Feb-2013 window is more	eginning of the program.	• •	low.			
cs	(sp orbit 01 (08)) Warning (Form): A target acquisition should probably	be performed before doin	g				
Diagnostics	spectroscopy or coronography with STIS or COS.						
lğ							
jaç							
	<i>щ</i>	1.10			****		
Ĕ	# Name Level 1 (5) JUP-N-SPECTRO- STD=JUPITER	Level 2	Level 3)	Window		Ephem Center EARTH
arg	(5) JUP-N-SPECTRO- STD=JUPITER VISIT8	TYPE=POS_ANGLE,R -20,REF=NORTH,R_R	AD=-		BETWEEN	120 180,	EAKIN
Ē		410.0,R_ANG=1709.0,I JAN-	EPOCH=16-		OLG OF G 100 240	ANYMEDE BETWEEN	
E I		2013:14:05:00,EpochTi	meScale=UTC				
System Targets	Comments: Constraints on CML and OLG may be relaxed by $+/-10^{\circ}$						
S S	POS_ANGLE RAD, ANG and R_RAD are date and ROLL dependent.	Current values are suitable	for 1-DEC-2012 +/- 1 m	10nth.			
Solar	Ideally, STIS spectral slit should be almost parallel (+/-30°) to the equ	atorial plane					
Exposures	# Label Target Config,Mode,Aperture (ETC Run)	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actua	l Dur.] Orbit
nso	1 SPECTRO1 (5) JUP-N-SPECTR STIS/FUV-MAMA, TIME-	TAG, G140L	BUFFER-TIME=99	GS ACQ SCENARI		2528 Secs (2528 Secs)	
١Ğ	(STIS.im.41 O-VISIT8 52X0.5 4797)	1425 A		O BASE1B3		[==>]	[1]
ш	Comments: ETC estimated from GO 11649						
	Orbit 1				Server V	ersion: 2013103	31
	Exp. 1 (Auto-WAVECAL)		C	locultation			
	Moving Target Tracking		Ľ	Inused Visibility	= 0		
ē	€••• Exp. 1			Exp. 1 (Auto	WAVECAL)		
ictu	GS Acq Setup			Home			
Orbit Structure							
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	0 500 1000 1500	2000 250	D 3000	3500 4	000 4500	5000 5	500 æd
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Proposal 12883 - sp orbit 02 (09) - Unraveling electron acceleration mechanisms in Ganymede's space environment through N-S conj...

	Proposal 12883, sp orbit 02 (09), completed					Sat Nov 0	9 02:02:57 0	GMT 2013
	Diagnostic Status: Warning							
Visit	Scientific Instruments: STIS/FUV-MAMA							
Ϊ	Special Requirements: BETWEEN 01-OCT-2012:00:00:00 AND 01-FE			00:00 AND 30-SEP-201	3:00:00:00			
	Comments: Each orbit may be considered independently. Ideally, each of One of the two G140L "sp orbits" should preferentially appear at the be For Timing Requirements, the 1-Oct-2012 1-Feb-2013 window is more p	ginning of the program.		łow.				
cs	(sp orbit 02 (09)) Warning (Form): A target acquisition should probably	be performed before doing						
Diagnostics	spectroscopy or coronography with STIS or COS.							
ğ								
Jia								
	# Name Level 1	Level 2	Level 3	3	Window		Ephem Ce	nter
get	(12) JUP-N-SPECTRO- STD=JUPITER	TYPE=POS_ANGLE,RA			CML OF J	UPITER FROM EARTH	EARTH	
Targets	VISIT9	G=-20,REF=NORTH,R_ 400.0,R_ANG=1709.0,E			BETWEEN OLG OF G	V 120 180, ANYMEDE BETWEEN		
Έ		024:10:32:00,EpochTime			100 240			
stem	Comments: Constraints on CML and OLG may be relaxed by $+/-10^{\circ}$							
S I	POS_ANGLE RAD, ANG and R_RAD are date and ROLL dependent. C	urrent values are suitable f	or 1-DEC-2012 +/- 1 n	10nth.				
Solar	Ideally, STIS spectral slit should be almost parallel (+/-30°) to the equa	torial plane						
ŝ								
Exposures	# Label Target Config,Mode,Aperture (ETC Run)	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actu	al Dur.]	Orbit
nso	1 SPECTRO1 (12) JUP-N-SPECT STIS/FUV-MAMA, TIME-T	AG, G140L	BUFFER-TIME=99	GS ACQ SCENARI		2528 Secs (2528 Secs)		
ğ	(STIS.im.41 RO-VISIT9 52X0.5 4797)	1425 A		O BASE1B3		[==>]		[1]
ш	Comments: ETC estimated from GO 11649							
	Orbit 1					ersion: 201310	31	
	Exp. 1 (Auto-WAVECAL)		Ľ	Inused Visibility	=0			
	Moving Target Tracking		F	Decultation				
စ	Setup			Exp. 1 (Auto-	WAVECAL)			
ctu	GS Acq 💽 Exp. 1			Home				
Orbit Structure								
it S								
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ľ								
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		2000 2500	<u> </u>	3500 4	<u> </u>) 5000 ;	<u> </u>	_
	5 555 1665 1566					, ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	JULU 851	-