



16088 - Tracking the Outbound Motion of Interstellar Comet 2I/Borisov.

Cycle: 27, Proposal Category: GO

(Availability Mode: SUPPORTED)

INVESTIGATORS

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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) I2-BOROSOV	WFC3/UVIS	1	03-Sep-2020 12:00:16.0	yes
02	(1) I2-BOROSOV	WFC3/UVIS	1	03-Sep-2020 12:00:17.0	yes
03	(1) I2-BOROSOV	WFC3/UVIS	1	03-Sep-2020 12:00:18.0	yes
04	(1) I2-BOROSOV	WFC3/UVIS	1	03-Sep-2020 12:00:19.0	yes
05	(1) I2-BOROSOV	WFC3/UVIS	1	03-Sep-2020 12:00:19.0	yes
06	(1) I2-BOROSOV	WFC3/UVIS	1	03-Sep-2020 12:00:20.0	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>
07	(1) I2-BOROSOV	WFC3/UVIS	1	03-Sep-2020 12:00:21.0	yes
08	(1) I2-BOROSOV	WFC3/UVIS	1	03-Sep-2020 12:00:21.0	yes
09	(1) I2-BOROSOV	WFC3/UVIS	1	03-Sep-2020 12:00:22.0	yes
10	(1) I2-BOROSOV	WFC3/UVIS	1	03-Sep-2020 12:00:23.0	yes
11	(1) I2-BOROSOV	WFC3/UVIS	1	03-Sep-2020 12:00:23.0	yes

11 Total Orbits Used

ABSTRACT

We are requesting 10 orbits to (1) perform high precision astrometry on the outbound orbit to model the non-gravitational acceleration and model the activity drivers; (2) confirm the rotation period detected in the previous HST program 16043, but with better contrast to get the nucleus axis ratio; (3) use the jets detected in the HST data to constrain the rotation pole; and (4) to observe the Earth's orbit plane crossing to analyze the activity profile of the large dust grains. For these observations we will use WFC3/UVIS imaging with F350LP passband. This request is to obtain data during 2020 March-September and the only way to secure this time is through a mid-cycle request.

OBSERVING DESCRIPTION

We want these to be approximately monthly, time constraint can be quite loose (~1-2 week window per visit). Thus one orbit in April, May, June, July, early Sep and late Sep, as close to 9/30 as possible or early October.

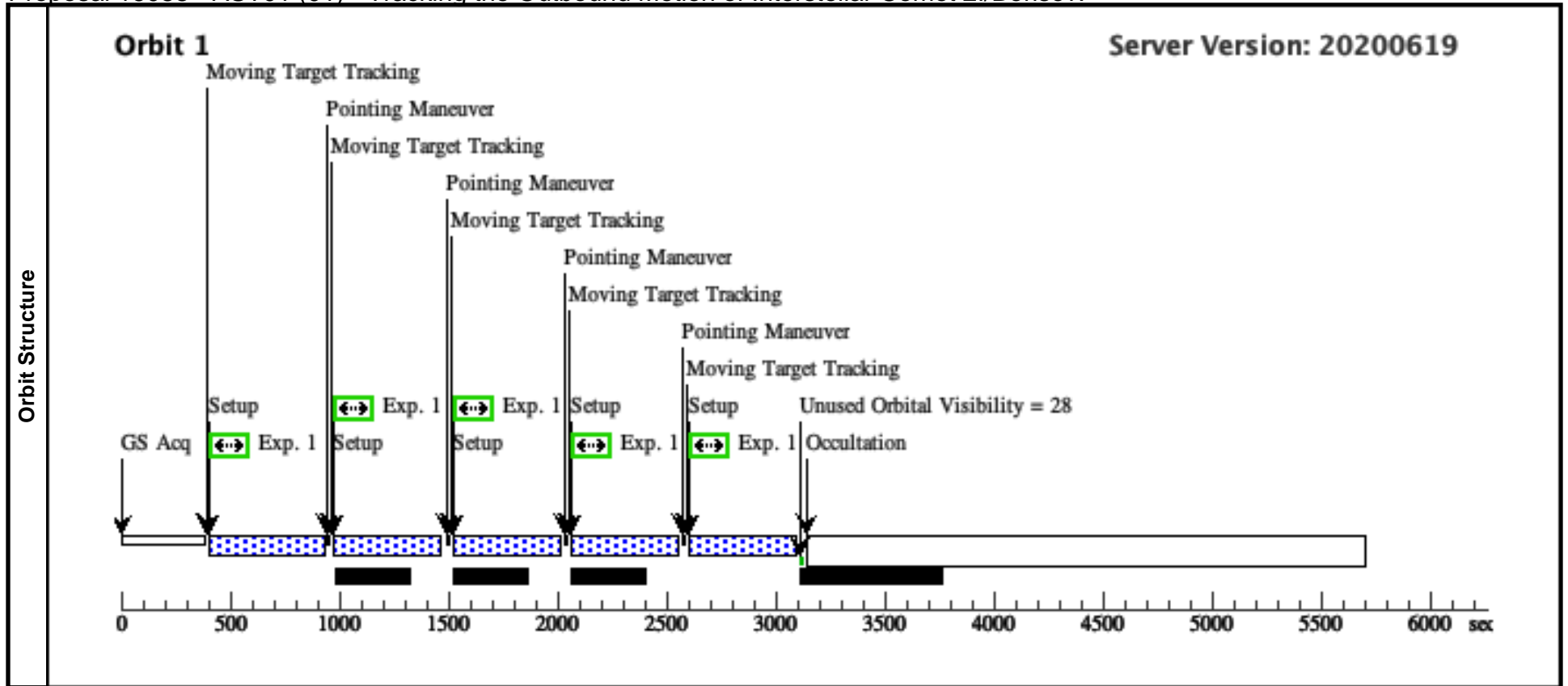
For the August Visit - we want 4 orbits within +/- 5 days of August 1, the orbit plane crossing date. Randomly spread is fine in that period.

All data are full UVIS field images to ensure sufficient astrometric reference stars to get precise positional measurements on the comet.

Proposal 16088 - AST01 (01) - Tracking the Outbound Motion of Interstellar Comet 2I/Borisov.

Thu Sep 03 16:00:24 GMT 2020

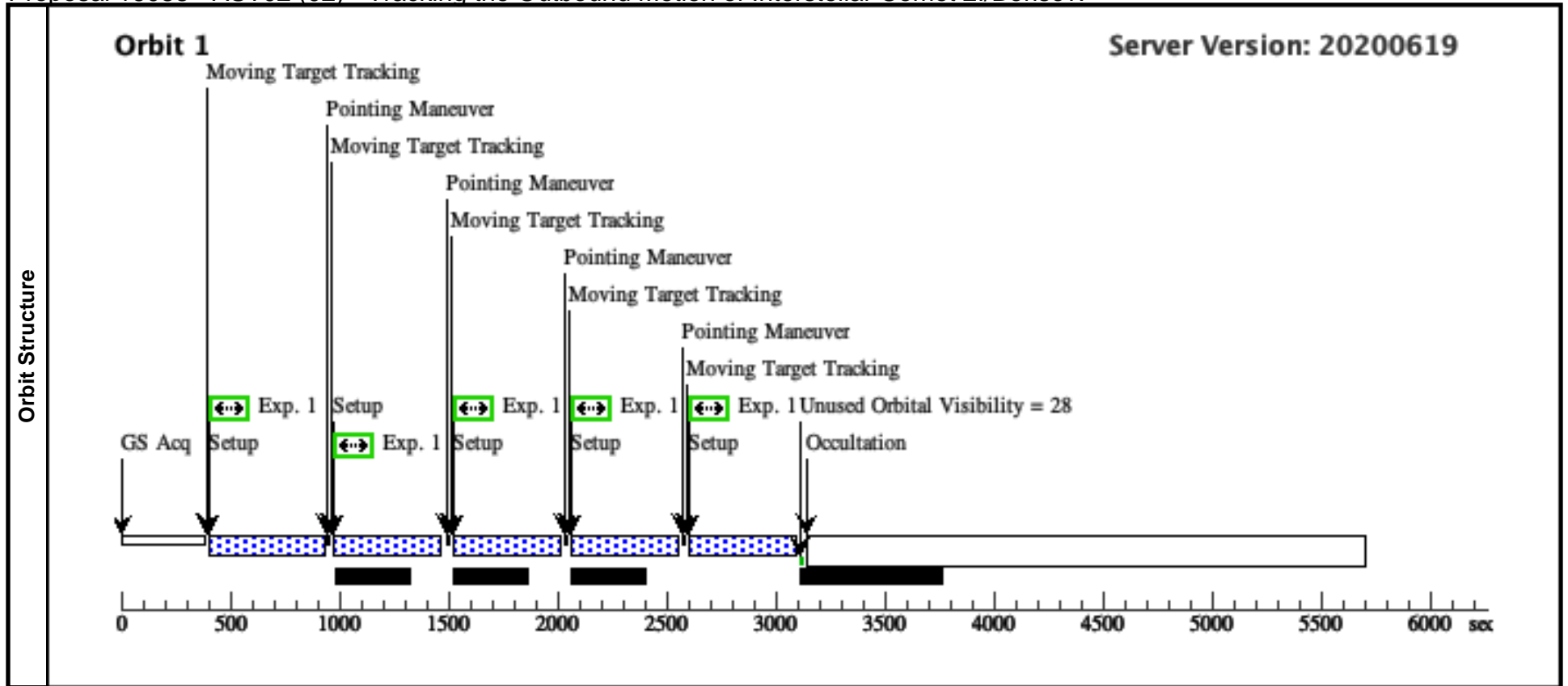
Visit	Proposal 16088, AST01 (01), completed Diagnostic Status: Warning Scientific Instruments: WFC3/UVIS Special Requirements: BETWEEN 01-APR-2020:00:00:00 AND 10-APR-2020:00:00:00 <i>Comments: The five long, dithered exposures are intended to fill a single visibility window to get the relative timing we need. This is a stand-alone visit with a window provided to give a time constraint that is loose but holds it in roughly the right timeframe for the overall temporal sequence needed for the astrometry. Successful observations require a minimum number of suitable Gaia DR2 sources in the full field of UVIS. As the observations are scheduled, the proposal team needs to check potential windows for suitable guide stars and provide guidance on which windows will work best. If the fields are sparse enough, we may need to provide adjusted POSTARG values to ensure there are enough stars.</i>										
	(Exposure 1 (Pattern 1, Exps 1-1 in Sequence 1-1 Non-Int in AST01 (01)) special requirements) Warning (Form): Be very careful mixing POS TARG and Center_Pattern = Yes										
Diagnosics											
Patterns	#	Primary Pattern				Secondary Pattern				Exposures	
	(1)	Pattern Type=LINE Purpose=OTHER Number Of Points=5 Point Spacing=0.03 Line Spacing=		Coordinate Frame=CELESTIAL Pattern Orientation=0 Angle Between Sides= Center Pattern=true						(1)	
Solar System Targets	#	Name	Level 1	Level 2	Level 3	Window	Ephem Center				
	(1)	I2-BOROSOV	TYPE=COMET,Q=2.0066240085872 65,E=3.356191268153205,I=44.05262 620283894 .O=308.1489154698829,W=209.12460 56235187,T=08-DEC- 2019:13:04:38,TTIMEscale=TDB,EQ UINOX=J2000,EPOCH=31-JUL- 2020:00:00:00,EpochTimeScale=TDB, R0=2.808 .DT=0. .A1=7.312064170837E-8,A2=- 3.252092599869E-8,A3=0. .ALN=0.1112620426,NM=2.15,NN=5. 093,NK=4.6142,AMRAT=0.					EARTH			
<i>Comments: Description=Interstellar Object</i>											
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]		Orbit
	1		(1) I2-BOROSOV	WFC3/UVIS, ACCUM, UVIS	F350LP		POS TARG 0,0	Sequence 1-1 Non-Int in AST01 (01) Pattern 1, Exps 1-1 in Sequence 1-1 Non-Int in AST01 (01) (1)	380 Secs (1900 Secs) [=>(Pattern 1)] [=>(Pattern 2)] [=>(Pattern 3)] [=>(Pattern 4)] [=>(Pattern 5)]		[1]



Proposal 16088 - AST02 (02) - Tracking the Outbound Motion of Interstellar Comet 2I/Borisov.

Thu Sep 03 16:00:24 GMT 2020

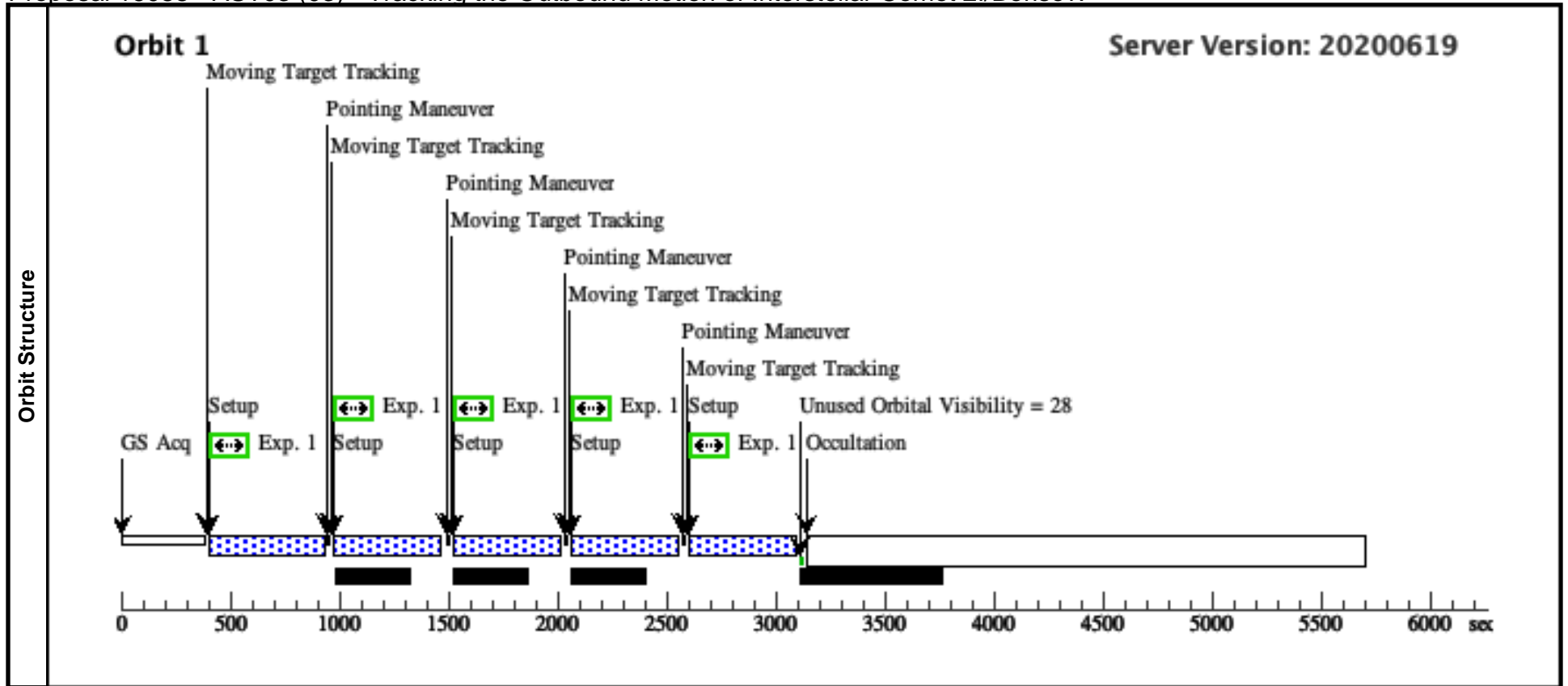
Visit	Proposal 16088, AST02 (02), completed Diagnostic Status: Warning Scientific Instruments: WFC3/UVIS Special Requirements: BETWEEN 01-MAY-2020:00:00:00 AND 10-MAY-2020:00:00:00 <i>Comments: The five long, dithered exposures are intended to fill a single visibility window to get the relative timing we need. This is a stand-alone visit with a window provided to give a time constraint that is loose but holds it in roughly the right timeframe for the overall temporal sequence needed for the astrometry. Successful observations require a minimum number of suitable Gaia DR2 sources in the full field of UVIS. As the observations are scheduled, the proposal team needs to check potential windows for suitable guide stars and provide guidance on which windows will work best. If the fields are sparse enough, we may need to provide adjusted POSTARG values to ensure there are enough stars.</i>										
	(Exposure 1 (Pattern 1, Exps 1-1 in Sequence 1-1 Non-Int in AST02 (02)) special requirements) Warning (Form): Be very careful mixing POS TARG and Center_Pattern = Yes										
Diagnosics											
Patterns	#	Primary Pattern				Secondary Pattern				Exposures	
	(1)	Pattern Type=LINE		Coordinate Frame=CELESTIAL						(1)	
		Purpose=OTHER		Pattern Orientation=0							
		Number Of Points=5		Angle Between Sides=							
		Point Spacing=0.03		Center Pattern=true							
		Line Spacing=									
Solar System Targets	#	Name	Level 1	Level 2	Level 3	Window	Ephem Center				
	(1)	I2-BOROSOV	TYPE=COMET,Q=2.0066240085872 65,E=3.356191268153205,I=44.05262 620283894 .O=308.1489154698829,W=209.12460 56235187,T=08-DEC- 2019:13:04:38,TTIMEscale=TDB,EQ UINOX=J2000,EPOCH=31-JUL- 2020:00:00:00,EpochTimeScale=TDB, R0=2.808 .DT=0. .A1=7.312064170837E-8,A2=- 3.252092599869E-8,A3=0. .ALN=0.1112620426,NM=2.15,NN=5. 093,NK=4.6142,AMRAT=0.					EARTH			
<i>Comments: Description=Interstellar Object</i>											
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]		Orbit
	1		(1) I2-BOROSOV	WFC3/UVIS, ACCUM, UVIS	F350LP		POS TARG 0,0	Sequence 1-1 Non-Int in AST02 (02) Pattern 1, Exps 1-1 in Sequence 1-1 Non-Int in AST02 (02) (1)	380 Secs (1900 Secs) [=>(Pattern 1)] [=>(Pattern 2)] [=>(Pattern 3)] [=>(Pattern 4)] [=>(Pattern 5)]		[1]



Proposal 16088 - AST03 (03) - Tracking the Outbound Motion of Interstellar Comet 2I/Borisov.

Thu Sep 03 16:00:24 GMT 2020

Visit	Proposal 16088, AST03 (03), completed Diagnostic Status: Warning Scientific Instruments: WFC3/UVIS Special Requirements: BETWEEN 29-MAY-2020:00:00:00 AND 10-JUN-2020:00:00:00 <i>Comments: The five long, dithered exposures are intended to fill a single visibility window to get the relative timing we need. This is a stand-alone visit with a window provided to give a time constraint that is loose but holds it in roughly the right timeframe for the overall temporal sequence needed for the astrometry. Successful observations require a minimum number of suitable Gaia DR2 sources in the full field of UVIS. As the observations are scheduled, the proposal team needs to check potential windows for suitable guide stars and provide guidance on which windows will work best. If the fields are sparse enough, we may need to provide adjusted POSTARG values to ensure there are enough stars.</i>										
	(Exposure 1 (Pattern 1, Exps 1-1 in Sequence 1-1 Non-Int in AST03 (03)) special requirements) Warning (Form): Be very careful mixing POS TARG and Center_Pattern = Yes										
Diagnosics											
Patterns	#	Primary Pattern				Secondary Pattern				Exposures	
	(1)	Pattern Type=LINE		Coordinate Frame=CELESTIAL						(1)	
		Purpose=OTHER		Pattern Orientation=0							
		Number Of Points=5		Angle Between Sides=							
		Point Spacing=0.03		Center Pattern=true							
		Line Spacing=									
Solar System Targets	#	Name	Level 1	Level 2	Level 3	Window	Ephem Center				
	(1)	I2-BOROSOV	TYPE=COMET,Q=2.0066240085872 65,E=3.356191268153205,I=44.05262 620283894 .O=308.1489154698829,W=209.12460 56235187,T=08-DEC- 2019:13:04:38,TimeScale=TDB,EQ UINOX=J2000,EPOCH=31-JUL- 2020:00:00:00,EpochTimeScale=TDB, R0=2.808 .DT=0. .A1=7.312064170837E-8,A2=- 3.252092599869E-8,A3=0. .ALN=0.1112620426,NM=2.15,NN=5. 093,NK=4.6142,AMRAT=0.					EARTH			
	<i>Comments: Description=Interstellar Object</i>										
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]		Orbit
	1		(1) I2-BOROSOV	WFC3/UVIS, ACCUM, UVIS	F350LP		POS TARG 0,0	Sequence 1-1 Non-Int in AST03 (03) Pattern 1, Exps 1-1 in Sequence 1-1 Non-Int in AST03 (03) (1)	380 Secs (1900 Secs) [=>(Pattern 1)] [=>(Pattern 2)] [=>(Pattern 3)] [=>(Pattern 4)] [=>(Pattern 5)]		[1]



Proposal 16088 - AST04 (04) - Tracking the Outbound Motion of Interstellar Comet 2I/Borisov.

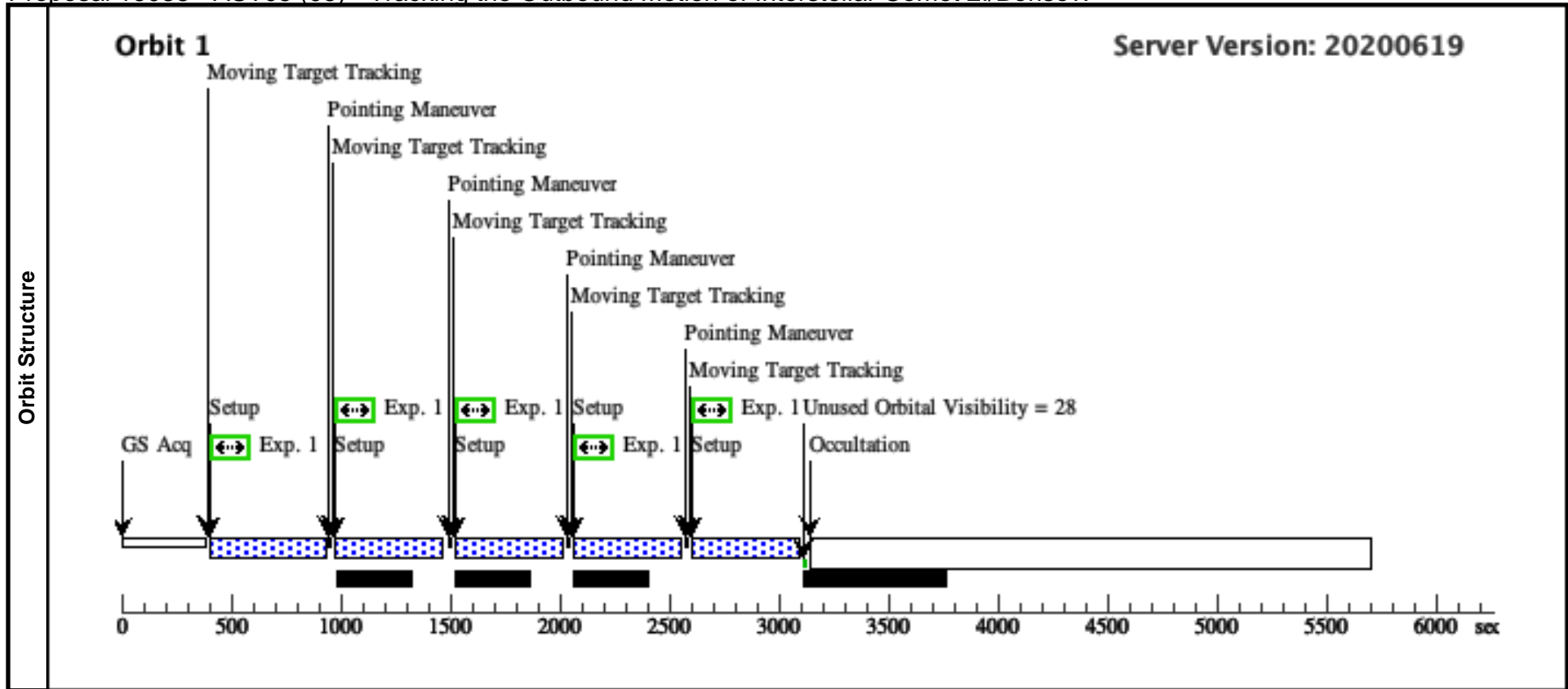
Thu Sep 03 16:00:24 GMT 2020

Visit	Proposal 16088, AST04 (04), completed Diagnostic Status: Warning Scientific Instruments: WFC3/UVIS Special Requirements: BETWEEN 01-JUL-2020:00:00:00 AND 10-JUL-2020:00:00:00 <i>Comments: The five long, dithered exposures are intended to fill a single visibility window to get the relative timing we need. This is a stand-alone visit with a window provided to give a time constraint that is loose but holds it in roughly the right timeframe for the overall temporal sequence needed for the astrometry. Successful observations require a minimum number of suitable Gaia DR2 sources in the full field of UVIS. As the observations are scheduled, the proposal team needs to check potential windows for suitable guide stars and provide guidance on which windows will work best. If the fields are sparse enough, we may need to provide adjusted POSTARG values to ensure there are enough stars.</i>										
	(Exposure 1 (Pattern 1, Exps 1-1 in Sequence 1-1 Non-Int in AST04 (04)) special requirements) Warning (Form): Be very careful mixing POS TARG and Center_Pattern = Yes										
Diagnosics											
Patterns	#	Primary Pattern				Secondary Pattern				Exposures	
	(1)	Pattern Type=LINE Purpose=OTHER Number Of Points=5 Point Spacing=0.03 Line Spacing=	Coordinate Frame=CELESTIAL Pattern Orientation=0 Angle Between Sides= Center Pattern=true							(1)	
Solar System Targets	#	Name	Level 1	Level 2	Level 3	Window	Ephem Center				
	(1)	I2-BOROSOV	TYPE=COMET,Q=2.0066240085872 65,E=3.356191268153205,I=44.05262 620283894 .O=308.1489154698829,W=209.12460 56235187,T=08-DEC- 2019:13:04:38,TimeScale=TDB,EQ UINOX=J2000,EPOCH=31-JUL- 2020:00:00:00,EpochTimeScale=TDB, R0=2.808 .DT=0. .A1=7.312064170837E-8,A2=- 3.252092599869E-8,A3=0. .ALN=0.1112620426,NM=2.15,NN=5. 093,NK=4.6142,AMRAT=0.					EARTH			
<i>Comments: Description=Interstellar Object</i>											
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]		Orbit
	1	(1) I2-BOROSOV	(1) I2-BOROSOV	WFC3/UVIS, ACCUM, UVIS	F350LP		POS TARG 0,0	Sequence 1-1 Non-Int in AST04 (04) Pattern 1, Exps 1-1 in Sequence 1-1 Non-Int in AST04 (04) (1)	380 Secs (1900 Secs) [=>(Pattern 1)] [=>(Pattern 2)] [=>(Pattern 3)] [=>(Pattern 4)] [=>(Pattern 5)]	[1]	

Proposal 16088 - AST05 (05) - Tracking the Outbound Motion of Interstellar Comet 2I/Borisov.

Thu Sep 03 16:00:24 GMT 2020

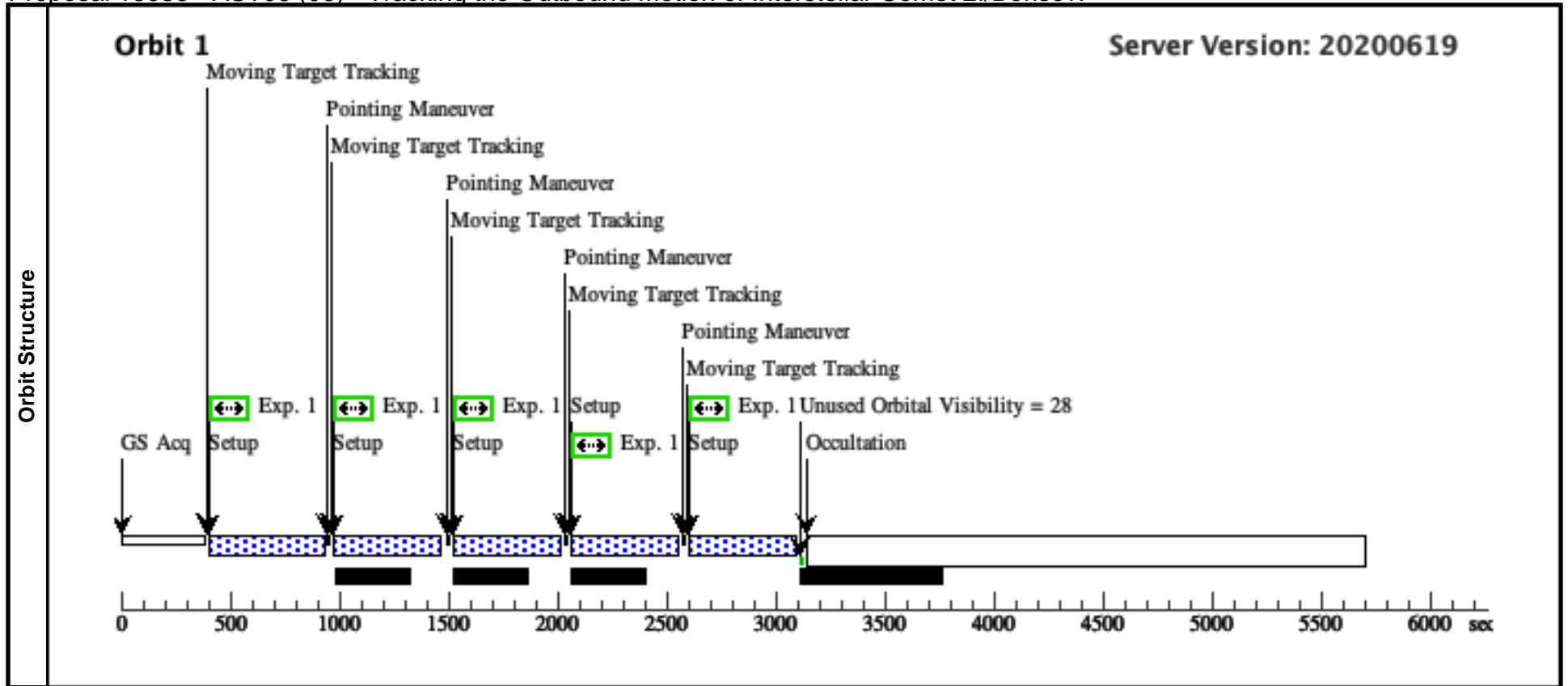
Visit	Proposal 16088, AST05 (05), completed Diagnostic Status: Warning Scientific Instruments: WFC3/UVIS Special Requirements: BETWEEN 25-AUG-2020:00:00:00 AND 07-SEP-2020:00:00:00 <i>Comments: The five long, dithered exposures are intended to fill a single visibility window to get the relative timing we need. This is a stand-alone visit with a window provided to give a time constraint that is loose but holds it in roughly the right timeframe for the overall temporal sequence needed for the astrometry. Successful observations require a minimum number of suitable Gaia DR2 sources in the full field of UVIS. As the observations are scheduled, the proposal team needs to check potential windows for suitable guide stars and provide guidance on which windows will work best. If the fields are sparse enough, we may need to provide adjusted POSTARG values to ensure there are enough stars.</i>										
	(Exposure 1 (Pattern 1, Exps 1-1 in Sequence 1-1 Non-Int in AST05 (05)) special requirements) Warning (Form): Be very careful mixing POS TARG and Center_Pattern = Yes										
Diagnosics											
Patterns	#	Primary Pattern				Secondary Pattern				Exposures	
	(1)	Pattern Type=LINE		Coordinate Frame=CELESTIAL						(1)	
		Purpose=OTHER		Pattern Orientation=0							
		Number Of Points=5		Angle Between Sides=							
		Point Spacing=0.03		Center Pattern=true							
		Line Spacing=									
Solar System Targets	#	Name	Level 1	Level 2	Level 3	Window	Ephem Center				
	(1)	I2-BOROSOV	TYPE=COMET,Q=2.0066240085872 65,E=3.356191268153205,I=44.05262 620283894 ,O=308.1489154698829,W=209.12460 56235187,T=08-DEC- 2019:13:04:38,TimeScale=TDB,EQ UINOX=J2000,EPOCH=31-JUL- 2020:00:00:00,EpochTimeScale=TDB, R0=2.808 ,DT=0. ,A1=7.312064170837E-8,A2=- 3.252092599869E-8,A3=0. ,ALN=0.1112620426,NM=2.15,NN=5. 093,NK=4.6142,AMRAT=0.					EARTH			
	<i>Comments: Description=Interstellar Object</i>										
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]		Orbit
	1		(1) I2-BOROSOV	WFC3/UVIS, ACCUM, UVIS2	F350LP		POS TARG 0,0	Sequence 1-1 Non-Int in AST05 (05) Pattern 1, Exps 1-1 in Sequence 1-1 Non-Int in AST05 (05) (1)	380 Secs (1900 Secs) [=>(Pattern 1)] [=>(Pattern 2)] [=>(Pattern 3)] [=>(Pattern 4)] [=>(Pattern 5)]		[1]



Proposal 16088 - AST06 (06) - Tracking the Outbound Motion of Interstellar Comet 2I/Borisov.

Thu Sep 03 16:00:24 GMT 2020

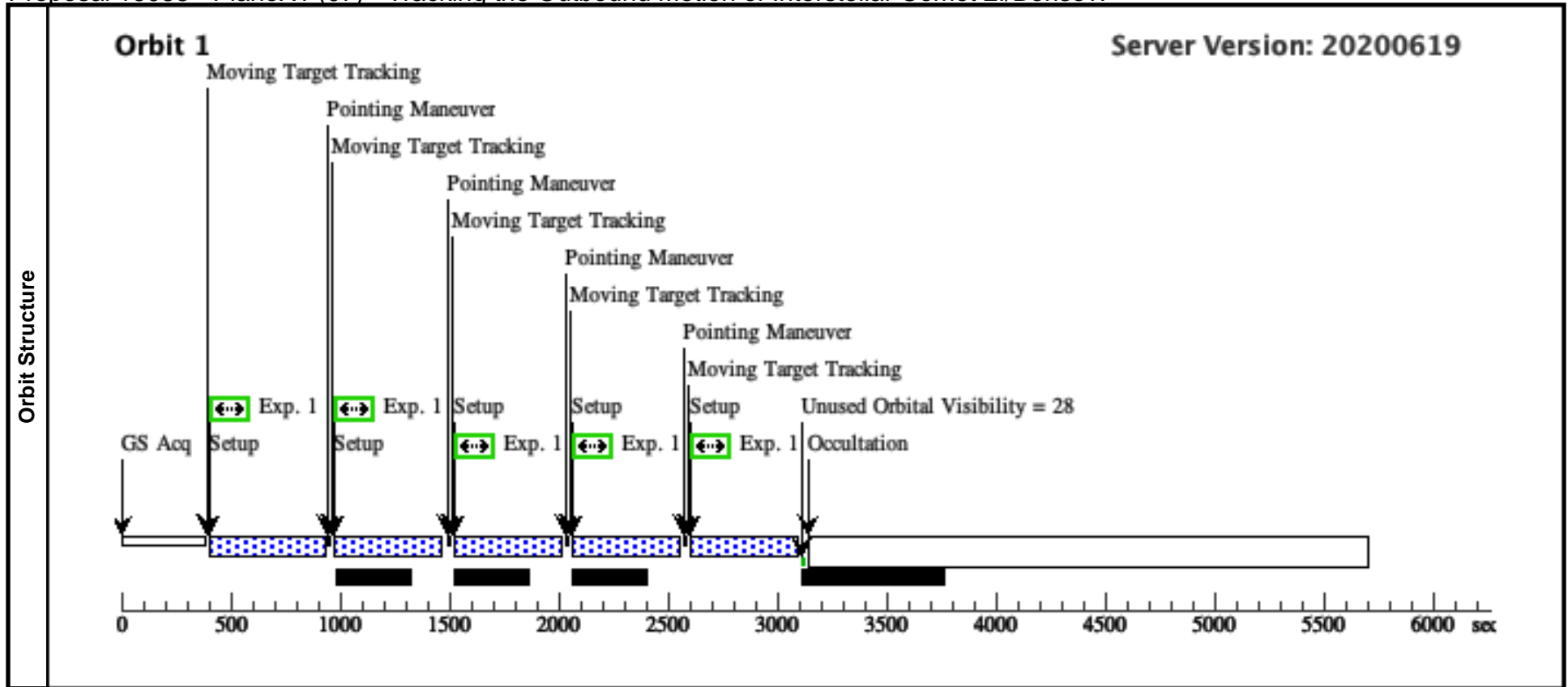
Visit	Proposal 16088, AST06 (06), scheduling Diagnostic Status: Warning Scientific Instruments: WFC3/UVIS Special Requirements: BETWEEN 26-SEP-2020:00:00:00 AND 05-OCT-2020:00:00:00 <i>Comments: The five long, dithered exposures are intended to fill a single visibility window to get the relative timing we need. This is a stand-alone visit with a window provided to give a time constraint that is loose but holds it in roughly the right timeframe for the overall temporal sequence needed for the astrometry. Successful observations require a minimum number of suitable Gaia DR2 sources in the full field of UVIS. As the observations are scheduled, the proposal team needs to check potential windows for suitable guide stars and provide guidance on which windows will work best. If the fields are sparse enough, we may need to provide adjusted POSTARG values to ensure there are enough stars.</i>									
	Diagnosics (Exposure 1 (Pattern 1, Exps 1-1 in Sequence 1-1 Non-Int in AST06 (06)) special requirements) Warning (Form): Be very careful mixing POS TARG and Center_Pattern = Yes									
Patterns	#	Primary Pattern				Secondary Pattern			Exposures	
	(1)	Pattern Type=LINE Purpose=OTHER Number Of Points=5 Point Spacing=0.03 Line Spacing=	Coordinate Frame=CELESTIAL Pattern Orientation=0 Angle Between Sides= Center Pattern=true				(1)			
Solar System Targets	#	Name	Level 1	Level 2	Level 3	Window	Ephem Center			
	(1)	I2-BOROSOV	TYPE=COMET,Q=2.0066240085872 65,E=3.356191268153205,I=44.05262 620283894 .O=308.1489154698829,W=209.12460 56235187,T=08-DEC- 2019:13:04:38,TTIMEscale=TDB,EQ UINOX=J2000,EPOCH=31-JUL- 2020:00:00:00,EpochTimeScale=TDB, R0=2.808 .DT=0. .A1=7.312064170837E-8,A2=- 3.252092599869E-8,A3=0. .ALN=0.1112620426,NM=2.15,NN=5. 093,NK=4.6142,AMRAT=0.					EARTH		
<i>Comments: Description=Interstellar Object</i>										
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1	(1) I2-BOROSOV	(1) I2-BOROSOV	WFC3/UVIS, ACCUM, UVIS2	F350LP		POS TARG 0,0	Sequence 1-1 Non-Int in AST06 (06) Pattern 1, Exps 1-1 in Sequence 1-1 Non-Int in AST06 (06) (1)	380 Secs (1900 Secs) [=>(Pattern 1)] [=>(Pattern 2)] [=>(Pattern 3)] [=>(Pattern 4)] [=>(Pattern 5)]	[1]



Proposal 16088 - PlaneX1 (07) - Tracking the Outbound Motion of Interstellar Comet 2I/Borisov.

Thu Sep 03 16:00:24 GMT 2020

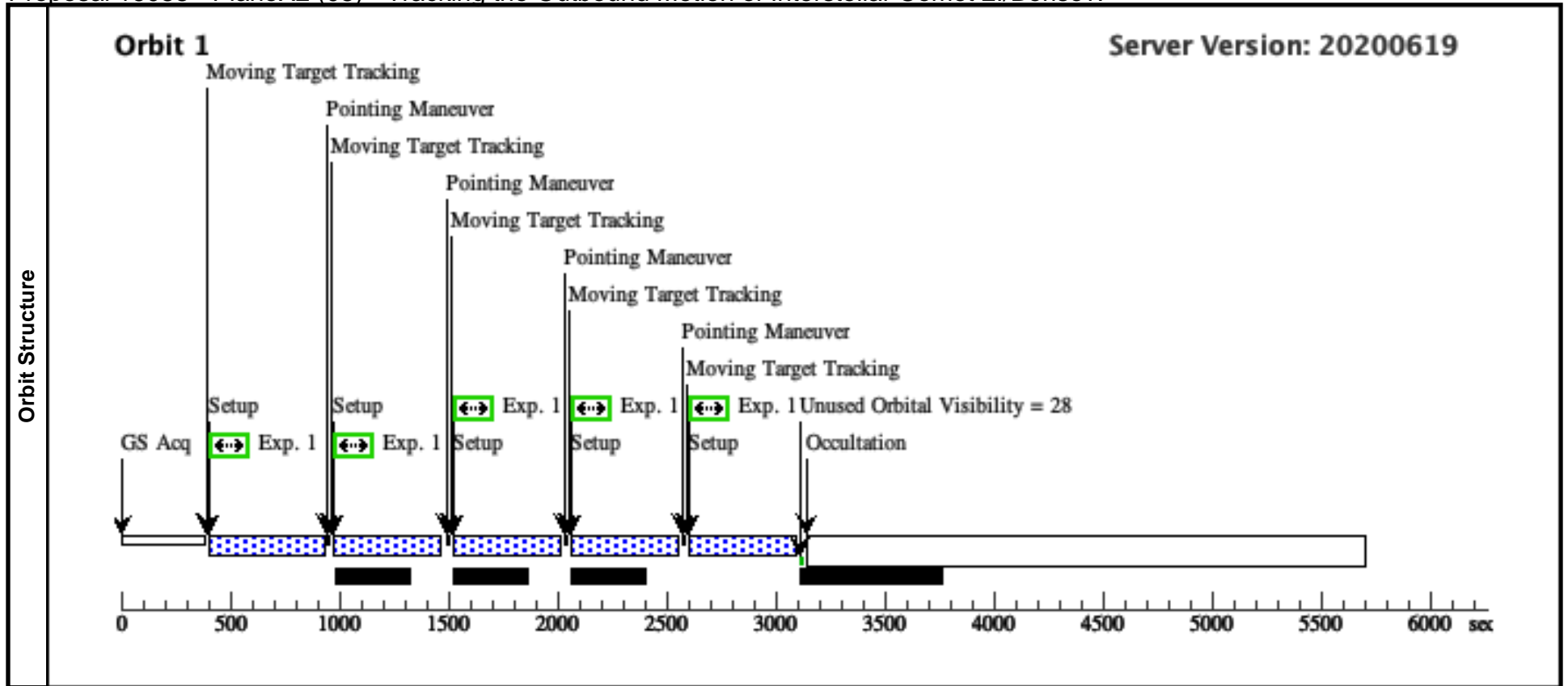
Visit	Proposal 16088, PlaneX1 (07), completed Diagnostic Status: Warning Scientific Instruments: WFC3/UVIS Special Requirements: ORIENT 118D TO 118 D; BETWEEN 30-JUL-2020:16:17:30 AND 31-JUL-2020:16:17:30 <i>Comments: The five long, dithered exposures are intended to fill a single visibility window to get the relative timing we need. This visit is timed to be close to the time when our viewpoint is in the orbit plane of the comet to study the dust surrounding the comet but is also used for astrometry. Successful observations require a minimum number of suitable Gaia DR2 sources in the full field of UVIS. As the observations are scheduled, the proposal team needs to check potential windows for suitable guide stars and provide guidance on which windows will work best. If the fields are sparse enough, we may need to provide adjusted POSTARG values to ensure there are enough stars.</i>									
	(Exposure 1 (Pattern 1, Exps 1-1 in Sequence 1-1 Non-Int in PlaneX1 (07)) special requirements) Warning (Form): Be very careful mixing POS TARG and Center_Pattern = Yes									
Diagnosics										
Patterns	#	Primary Pattern				Secondary Pattern			Exposures	
	(1)	Pattern Type=LINE Purpose=OTHER Number Of Points=5 Point Spacing=0.03 Line Spacing=	Coordinate Frame=CELESTIAL Pattern Orientation=0 Angle Between Sides= Center Pattern=true						(1)	
Solar System Targets	#	Name	Level 1	Level 2	Level 3	Window	Ephem Center			
	(1)	I2-BOROSOV	TYPE=COMET,Q=2.0066240085872 65,E=3.356191268153205,I=44.05262 620283894 .O=308.1489154698829,W=209.12460 56235187,T=08-DEC- 2019:13:04:38,TTimeScale=TDB,EQ UINOX=J2000,EPOCH=31-JUL- 2020:00:00:00,EpochTimeScale=TDB, R0=2.808 .DT=0. .A1=7.312064170837E-8,A2=- 3.252092599869E-8,A3=0. .ALN=0.1112620426,NM=2.15,NN=5. 093,NK=4.6142,AMRAT=0.					EARTH		
<i>Comments: Description=Interstellar Object</i>										
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1		(1) I2-BOROSOV	WFC3/UVIS, ACCUM, UVIS	F350LP		POS TARG 0,0	Sequence 1-1 Non-Int in PlaneX1 (07) Pattern 1, Exps 1-1 in Sequence 1-1 Non-Int in PlaneX1 (07) (1)	380 Secs (1900 Secs) [=>(Pattern 1)] [=>(Pattern 2)] [=>(Pattern 3)] [=>(Pattern 4)] [=>(Pattern 5)]	[1]



Proposal 16088 - PlaneX2 (08) - Tracking the Outbound Motion of Interstellar Comet 2I/Borisov.

Thu Sep 03 16:00:25 GMT 2020

Visit	Proposal 16088, PlaneX2 (08), completed Diagnostic Status: Warning Scientific Instruments: WFC3/UVIS Special Requirements: ORIENT 118D TO 118 D; AFTER 07 BY 0.8 Orbits TO 1.2 Orbits <i>Comments: The five long, dithered exposures are intended to fill a single visibility window to get the relative timing we need. This visit is timed to be close to the time when our viewpoint is in the orbit plane of the comet to study the dust surrounding the comet but is also used for astrometry. It has a relative timing constraint binding it to the previous visit. Ideally, visits 7 and 8 should be done back to back and this is how the timing constraint is written. Successful observations require a minimum number of suitable Gaia DR2 sources in the full field of UVIS. As the observations are scheduled, the proposal team needs to check potential windows for suitable guide stars and provide guidance on which windows will work best. If the fields are sparse enough, we may need to provide adjusted POSTARG values to ensure there are enough stars.</i>										
	(Exposure 1 (Pattern 1, Exps 1-1 in Sequence 1-1 Non-Int in PlaneX2 (08)) special requirements) Warning (Form): Be very careful mixing POS TARG and Center_Pattern = Yes										
Diagnosics											
Patterns	#	Primary Pattern				Secondary Pattern				Exposures	
	(1)	Pattern Type=LINE Purpose=OTHER Number Of Points=5 Point Spacing=0.03 Line Spacing=	Coordinate Frame=CELESTIAL Pattern Orientation=0 Angle Between Sides= Center Pattern=true							(1)	
Solar System Targets	#	Name	Level 1	Level 2	Level 3	Window	Ephem Center				
	(1)	I2-BOROSOV	TYPE=COMET,Q=2.0066240085872 65,E=3.356191268153205,I=44.05262 620283894 .O=308.1489154698829,W=209.12460 56235187,T=08-DEC- 2019:13:04:38,TTTimeScale=TDB,EQ UINOX=J2000,EPOCH=31-JUL- 2020:00:00:00,EpochTimeScale=TDB, R0=2.808 .DT=0. .A1=7.312064170837E-8,A2=- 3.252092599869E-8,A3=0. .ALN=0.1112620426,NM=2.15,NN=5. 093,NK=4.6142,AMRAT=0.					EARTH			
<i>Comments: Description=Interstellar Object</i>											
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]		Orbit
	1		(1) I2-BOROSOV	WFC3/UVIS, ACCUM, UVIS	F350LP		POS TARG 0,0	Sequence 1-1 Non-Int in PlaneX2 (08) Pattern 1, Exps 1-1 in Sequence 1-1 Non-Int in PlaneX2 (08) (1)	380 Secs (1900 Secs) [=>(Pattern 1)] [=>(Pattern 2)] [=>(Pattern 3)] [=>(Pattern 4)] [=>(Pattern 5)]		[1]



Proposal 16088 - PlaneX_post1 (09) - Tracking the Outbound Motion of Interstellar Comet 2I/Borisov.

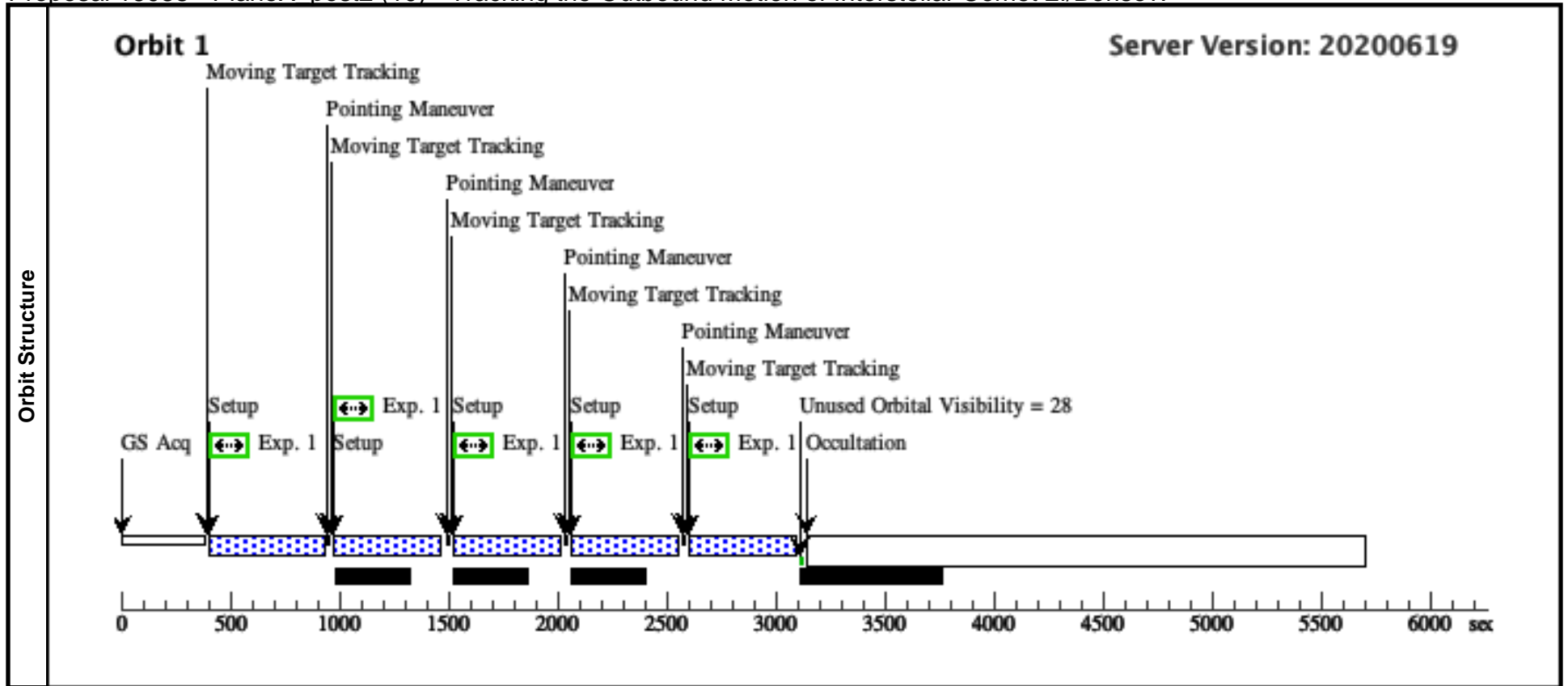
Thu Sep 03 16:00:25 GMT 2020

Visit	<p>Proposal 16088, PlaneX_post1 (09), completed</p> <p>Diagnostic Status: Warning</p> <p>Scientific Instruments: WFC3/UVIS</p> <p>Special Requirements: AFTER 07 BY 2.5 D TO 3.5 D</p> <p><i>Comments: The five long, dithered exposures are intended to fill a single visibility window to get the relative timing we need. This visit is in support of the visit 7 and 8 data which are timed to be close to the time when our viewpoint is in the orbit plane of the comet to study the dust surrounding the comet but is also used for astrometry. Visits 9 and 10 provide rotational context for visits 7 and 8. Successful observations require a minimum number of suitable Gaia DR2 sources in the full field of UVIS. As the observations are scheduled, the proposal team needs to check potential windows for suitable guide stars and provide guidance on which windows will work best. If the fields are sparse enough, we may need to provide adjusted POSTARG values to ensure there are enough stars.</i></p>										
	<p>(Exposure 1 (Pattern 1, Exps 1-1 in Sequence 1-1 Non-Int in PlaneX_post1 (09)) special requirements) Warning (Form): Be very careful mixing POS TARG and Center_Pattern = Yes</p>										
Diagnosics											
Patterns	#	Primary Pattern				Secondary Pattern				Exposures	
	(1)	Pattern Type=LINE	Coordinate Frame=CELESTIAL								(1)
		Purpose=OTHER	Pattern Orientation=0								
		Number Of Points=5	Angle Between Sides=								
		Point Spacing=0.03	Center Pattern=true								
		Line Spacing=									
Solar System Targets	#	Name	Level 1	Level 2	Level 3	Window	Ephem Center				
	(1)	I2-BOROSOV	TYPE=COMET,Q=2.0066240085872 65,E=3.356191268153205,I=44.05262 620283894 ,O=308.1489154698829,W=209.12460 56235187,T=08-DEC- 2019:13:04:38,TTIMEscale=TDB,EQ UINOX=J2000,EPOCH=31-JUL- 2020:00:00:00,EpochTimeScale=TDB, R0=2.808 ,DT=0. ,A1=7.312064170837E-8,A2=- 3.252092599869E-8,A3=0. ,ALN=0.1112620426,NM=2.15,NN=5. 093,NK=4.6142,AMRAT=0.					EARTH			
	<i>Comments: Description=Interstellar Object</i>										
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]		Orbit
	1	(1) I2-BOROSOV	WFC3/UVIS, ACCUM, UVIS2	F350LP	POS TARG -16,0	Sequence 1-1 Non-Int in PlaneX_post1 (09)	380 Secs (1900 Secs)	[==>(Pattern 1)]	[==>(Pattern 2)]	[==>(Pattern 3)]	[==>(Pattern 4)]
						Pattern 1, Exps 1-1 in Sequence 1-1 Non-Int in PlaneX_post1 (09) (1)	[==>(Pattern 5)]				

Proposal 16088 - PlaneX_post2 (10) - Tracking the Outbound Motion of Interstellar Comet 2I/Borisov.

Thu Sep 03 16:00:25 GMT 2020

Visit	<p>Proposal 16088, PlaneX_post2 (10), completed</p> <p>Diagnostic Status: Warning</p> <p>Scientific Instruments: WFC3/UVIS</p> <p>Special Requirements: AFTER 07 BY 4.5 D TO 5.5 D</p> <p><i>Comments: The five long, dithered exposures are intended to fill a single visibility window to get the relative timing we need. This visit is in support of the visit 7 and 8 data which are timed to be close to the time when our viewpoint is in the orbit plane of the comet to study the dust surrounding the comet but is also used for astrometry. Visits 9 and 10 provide rotational context for visits 7 and 8. Successful observations require a minimum number of suitable Gaia DR2 sources in the full field of UVIS. As the observations are scheduled, the proposal team needs to check potential windows for suitable guide stars and provide guidance on which windows will work best. If the fields are sparse enough, we may need to provide adjusted POSTARG values to ensure there are enough stars.</i></p>										
	<p>(Exposure 1 (Pattern 1, Exps 1-1 in Sequence 1-1 Non-Int in PlaneX_post2 (10)) special requirements) Warning (Form): Be very careful mixing POS TARG and Center_Pattern = Yes</p>										
Diagnosics											
Patterns	#	Primary Pattern				Secondary Pattern				Exposures	
	(1)	Pattern Type=LINE	Coordinate Frame=CELESTIAL								(1)
		Purpose=OTHER	Pattern Orientation=0								
		Number Of Points=5	Angle Between Sides=								
		Point Spacing=0.03	Center Pattern=true								
		Line Spacing=									
Solar System Targets	#	Name	Level 1	Level 2	Level 3	Window	Ephem Center				
	(1)	I2-BOROSOV	TYPE=COMET,Q=2.0066240085872 65,E=3.356191268153205,I=44.05262 620283894 ,O=308.1489154698829,W=209.12460 56235187,T=08-DEC- 2019:13:04:38,TTIMEscale=TDB,EQ UINOX=J2000,EPOCH=31-JUL- 2020:00:00:00,EpochTimeScale=TDB, R0=2.808 ,DT=0. ,A1=7.312064170837E-8,A2=- 3.252092599869E-8,A3=0. ,ALN=0.1112620426,NM=2.15,NN=5. 093,NK=4.6142,AMRAT=0.					EARTH			
	<i>Comments: Description=Interstellar Object</i>										
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]		Orbit
	1	(1) I2-BOROSOV	WFC3/UVIS, ACCUM, UVIS2	F350LP	POS TARG -16,0	Sequence 1-1 Non-Int in PlaneX_post2 (10)	380 Secs (1900 Secs)				[1]
						Pattern 1, Exps 1-1 in Sequence 1-1 Non-Int in PlaneX_post2 (10) (1)	[==>(Pattern 1)]				
							[==>(Pattern 2)]				
							[==>(Pattern 3)]				
							[==>(Pattern 4)]				
							[==>(Pattern 5)]				



Proposal 16088 - AST05 retry (11) - Tracking the Outbound Motion of Interstellar Comet 2I/Borisov.

Thu Sep 03 16:00:25 GMT 2020

Visit	<p>Proposal 16088, AST05 retry (11)</p> <p>Diagnostic Status: Warning</p> <p>Scientific Instruments: WFC3/UVIS</p> <p>Special Requirements: BETWEEN 21-SEP-2020:00:00:00 AND 19-OCT-2020:00:00:00</p> <p><i>Comments: The five long, dithered exposures are intended to fill a single visibility window to get the relative timing we need. This is a stand-alone visit with a window provided to give a time constraint that is loose but holds it in roughly the right timeframe for the overall temporal sequence needed for the astrometry. Successful observations require a minimum number of suitable Gaia DR2 sources in the full field of UVIS. As the observations are scheduled, the proposal team needs to check potential windows for suitable guide stars and provide guidance on which windows will work best. If the fields are sparse enough, we may need to provide adjusted POSTARG values to ensure there are enough stars.</i></p> <p><i>This is a repeat of visit 5 due to a guide star failure. The best use of this repeat visit would be to schedule this immediately adjacent to visit 6 which is already scheduled. If that is not possible, the next best thing is to schedule after visit 5 before the object is lost due to the solar exclusion zone. The window is set to all of the remaining time for scheduling in case even our second choice isn't possible.</i></p>									
	<p>(Exposure 1 (Pattern 1, Exps 1-1 in Sequence 1-1 Non-Int in AST05 retry (11)) special requirements) Warning (Form): Be very careful mixing POS TARG and Center_Pattern = Yes</p>									
Diagnosics										
Patterns	#	Primary Pattern				Secondary Pattern			Exposures	
	(1)	Pattern Type=LINE Purpose=OTHER Number Of Points=5 Point Spacing=0.03 Line Spacing=	Coordinate Frame=CELESTIAL Pattern Orientation=0 Angle Between Sides= Center Pattern=true						(1)	
Solar System Targets	#	Name	Level 1	Level 2	Level 3	Window	Ephem Center			
	(1)	I2-BOROSOV	TYPE=COMET,Q=2.0066240085872 65,E=3.356191268153205,I=44.05262 620283894 ,O=308.1489154698829,W=209.12460 56235187,T=08-DEC- 2019:13:04:38,TTIMEscale=TDB,EQ UINOX=J2000,EPOCH=31-JUL- 2020:00:00:00,EpochTimeScale=TDB, R0=2.808 ,DT=0. ,A1=7.312064170837E-8,A2=- 3.252092599869E-8,A3=0. ,ALN=0.1112620426,NM=2.15,NN=5. 093,NK=4.6142,AMRAT=0.					EARTH		
<p><i>Comments: Description=Interstellar Object</i></p>										
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1		(1) I2-BOROSOV	WFC3/UVIS, ACCUM, UVIS2	F350LP		POS TARG 0,0	Sequence 1-1 Non-Int in AST05 retry (11) Pattern 1, Exps 1-1 in Sequence 1-1 Non-Int in AST05 retry (11) (1)	380 Secs (1900 Secs) [=>(Pattern 1)] [=>(Pattern 2)] [=>(Pattern 3)] [=>(Pattern 4)] [=>(Pattern 5)]	[1]

