



16781 - Re-activation of binary main-belt comet 288P

Cycle: 29, 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) 288P	WFC3/UVIS	1	04-Nov-2021 16:01:27.0	yes
02	(1) 288P	WFC3/UVIS	1	04-Nov-2021 16:01:28.0	yes
03	(1) 288P	WFC3/UVIS	1	04-Nov-2021 16:01:28.0	yes
04	(1) 288P	WFC3/UVIS	1	04-Nov-2021 16:01:29.0	yes
53	(2) 288P-2	WFC3/UVIS	1	04-Nov-2021 16:01:30.0	yes
54	(2) 288P-2	WFC3/UVIS	1	04-Nov-2021 16:01:30.0	yes

6 Total Orbits Used

ABSTRACT

We propose to closely follow the expected re-activation of the unusual binary main-belt comet 288P (300163) in the fall of 2021, to identify the active component(s). This is a crucial parameter to understand the formation and evolution of this system which is unique among the known binary asteroids both because of its comet-like activity and because of its wide, eccentric and asynchronous mutual orbit in combination with similarly sized components. We request a total of 8 orbits. Seven orbits, distributed across one month, will serve to measure the brightness increase due to dust as the system re-approaches perihelion in 2021. In addition, we request 1 orbit in 2021 June to probe for a potential orbit instability. It is currently unclear why no other systems with similar orbital properties as 288P are known. There is a strong detection bias against such systems, and the binary nature of 288P was only identified because of its activity. On the other hand, if activity is needed to form such systems, they may indeed be rare. Our proposed observations will shed light on the frequency of similar systems and on the processes behind binary asteroid formation and evolution. Since the re-activation is expected for the 2021 September-October time frame, we request 4 orbits in Cycle 28 and 4 orbits in Cycle 29.

OBSERVING DESCRIPTION

The purpose of the proposed observations is to monitor the re-activation of the binary main-belt comet 288P that is expected to take place in September/October 2021. We have used 1 orbit of WFC3 imaging in 2021 June to establish the orbital state of the system and verify its predicted binary orbit and rotation state. This will be followed by 3 orbits of WFC3 imaging in 2021 September, and 4 additional orbits in October, that have been allocated for Cycle 29. This phase 2 proposal covers the 4 orbits in Cycle 29. The four orbits should be carried out on Oct-05, 10, 15, and 20, with +/- 1 day flexibility. This timing is crucial to

-) catch the expected time interval of re-activation (2021 mid-September to mid-October)
-) follow the growth of the dust coma, which is expected to take place on timescales of several days
-) catch the system at maximum separation (2021 September)

The orbital visibility for a solar system target near the ecliptic plane is 54 min (Section 6.3 of the HST Primer document). In each orbit, we will take 8 exposures of 239s using the C512C subarray of WFC3 and perform a 2-point dither pattern to mitigate hot pixels and cosmic ray hits, obtaining 4 exposures at each dither point. This provides a total exposure time of 1912 s = 32 min. The ephemeris is known with uncertainty <1arcsec, such that there is no risk of missing the target even using the C512C sub-array.

We will use the wide bandpass filter F606W for an optimum trade-off between sensitivity and highest resolution, and maximum compatibility with

Proposal 16781 (STScI Edit Number: 4, Created: Thursday, November 4, 2021 at 3:01:31 PM Eastern Standard Time) - Overview
data from earlier epochs. We expect a target brightness of $V=22-23$ mag, depending on time.

The target will be at solar elongations $>95^\circ$.

Proposal 16781 - V1 (01) - Re-activation of binary main-belt comet 288P

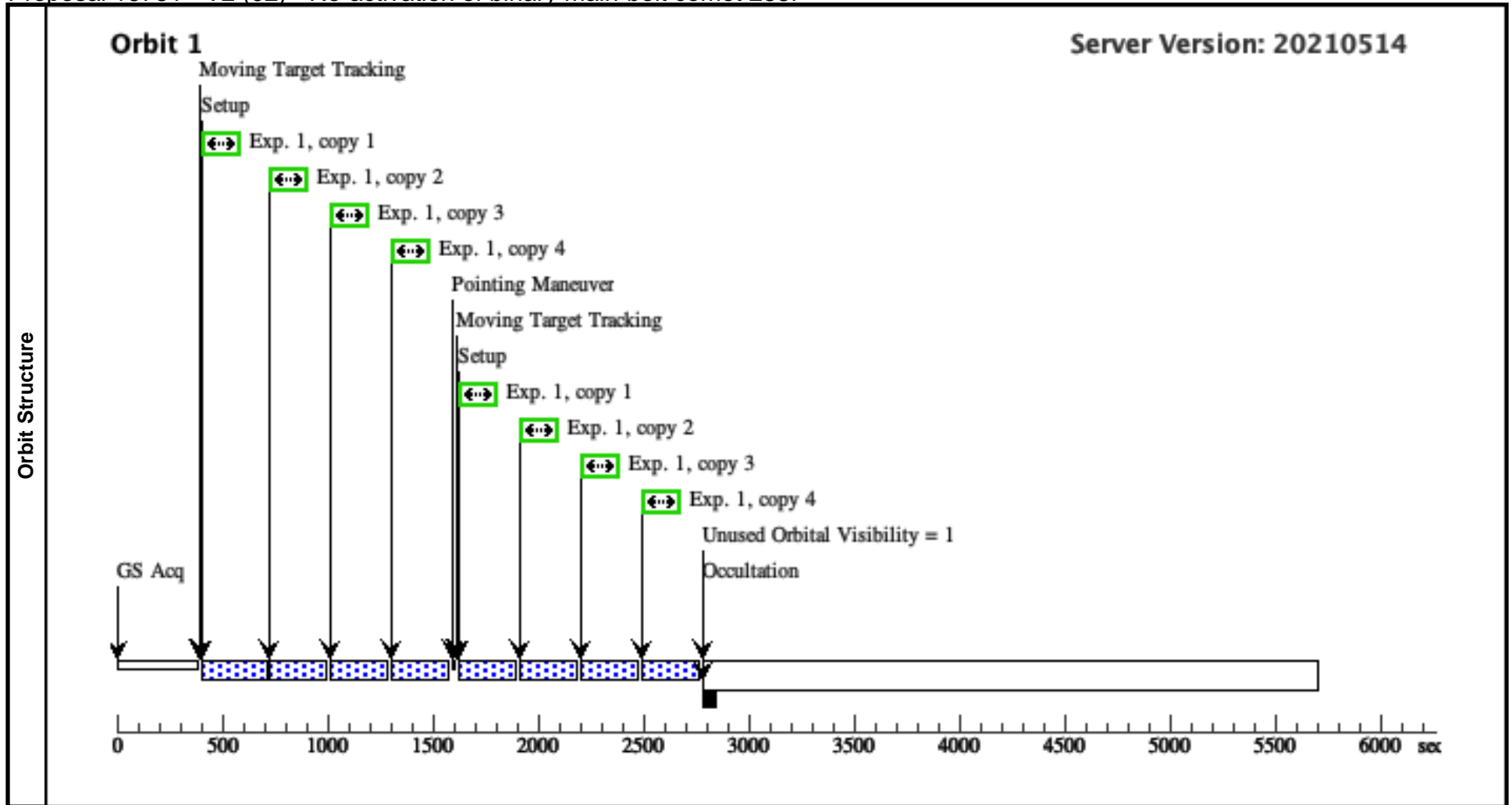
Thu Nov 04 20:01:31 GMT 2021

Visit	Proposal 16781, V1 (01), completed Diagnostic Status: Warning Scientific Instruments: WFC3/UVIS Special Requirements: BETWEEN 04-OCT-2021:00:50:00 AND 05-OCT-2021:15:30:00; BETWEEN 05-OCT-2021:16:40:00 AND 06-OCT-2021:03:30:00 Comments: BETWEENs will be used to avoid times when 288P should not be observed due to the proximity of bright background stars. These need to be updated once the HST orbit for this epoch is known in the JPL/Horizons system.									
	(Exposure 1 (Pattern 1, Exps 1-1 in Sequence 1-1 Non-Int in V1 (01))) Warning (Form): FLASH level may be too low for this exposure or a short subexposure. See extended explanation in the diagnostic browser									
Diagnosics										
Patterns	#	Primary Pattern		Secondary Pattern		Exposures				
	(1)	Pattern Type=WFC3-UVIS-DITHER- LINE Purpose=DITHER Number Of Points=2 Point Spacing=0.145 Line Spacing=		Coordinate Frame=POS-TARG Pattern Orientation=46.84 Angle Between Sides= Center Pattern=false		(1)				
Solar System Targets	#	Name	Level 1	Level 2	Level 3	Window	Ephem Center			
	(1)	288P	TYPE=ASTEROID,A=3.04931670684 5886,E=0.2011145348983784,I=3.240 027217147757 .O=83.18987601023933,W=281.05319 96557008,M=359.7694035685469,EQ UINOX=J2000,EPOCH=07-NOV- 2016:00:00:00,EpochTimeScale=TDB					EARTH		
Comments: Description=binary main-belt comet Extended=NO										
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1		(1) 288P	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F606W			Sequence 1-1 Non-Int in V1 (01) Pattern 1, Exps 1-1 in Sequence 1-1 Non-Int in V1 (01) (1)	239 Secs X 4 (1912 Secs) [=>(Pattern 1, Copy 1)] [=>(Pattern 1, Copy 2)] [=>(Pattern 1, Copy 3)] [=>(Pattern 1, Copy 4)] [=>(Pattern 2, Copy 1)] [=>(Pattern 2, Copy 2)] [=>(Pattern 2, Copy 3)] [=>(Pattern 2, Copy 4)]	[1]
Comments: When running the ETC for the actual zodiacal light background at the time of observation, the flash warning disappears (ETC Request ID: WFC3UVIS.im.1526613).										

Proposal 16781 - V2 (02) - Re-activation of binary main-belt comet 288P

Thu Nov 04 20:01:31 GMT 2021

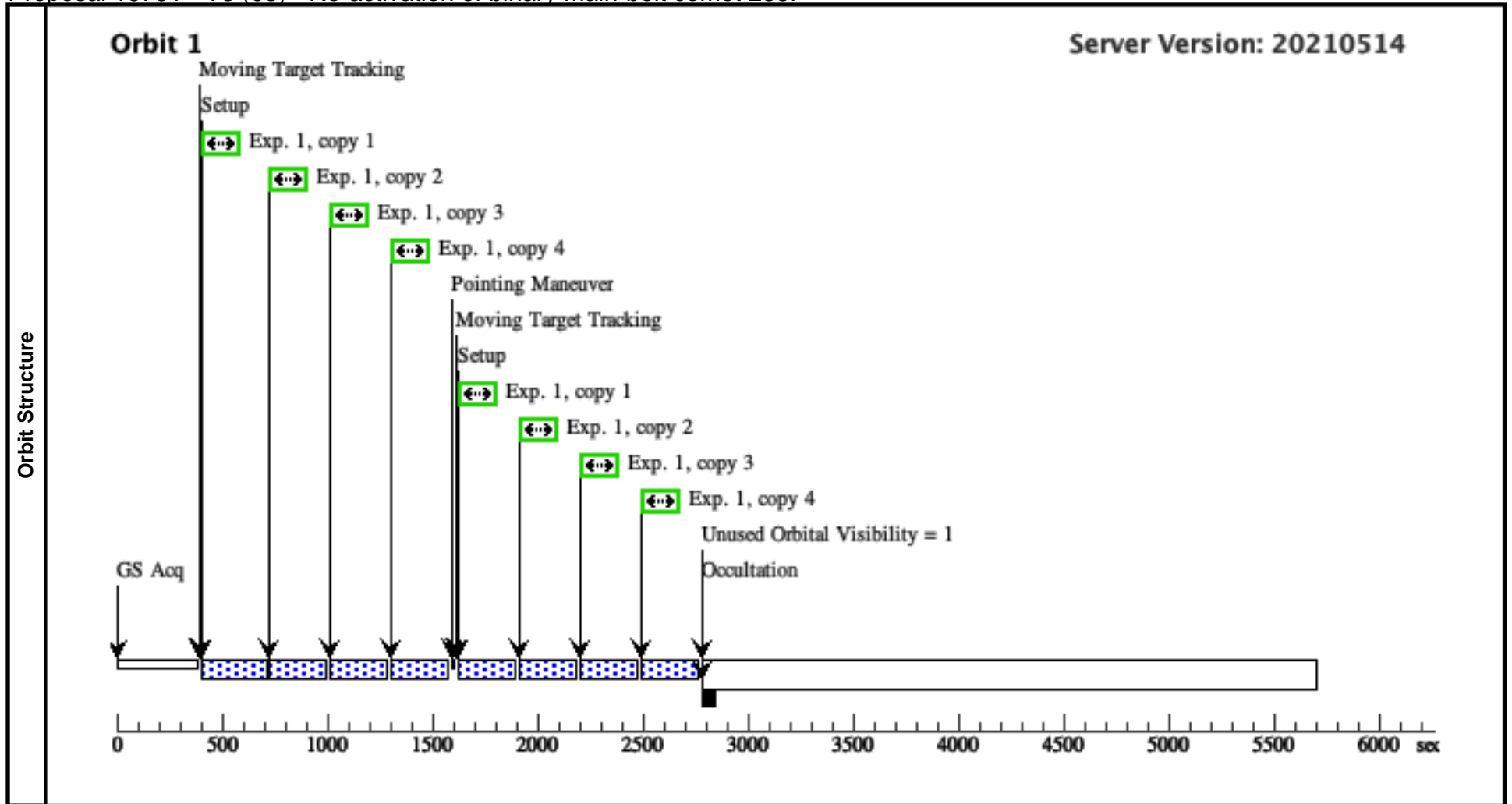
Visit	Proposal 16781, V2 (02), completed Diagnostic Status: Warning Scientific Instruments: WFC3/UVIS Special Requirements: BETWEEN 09-OCT-2021:00:00:00 AND 10-OCT-2021:12:00:00; BETWEEN 10-OCT-2021:13:10:00 AND 11-OCT-2021:05:20:00 Comments: BETWEENs will be used to avoid times when 288P should not be observed due to the proximity of bright background stars. These need to be updated once the HST orbit for this epoch is known in the JPL/Horizons system.									
	Diagnosics (Exposure 1 (Pattern 1, Exps 1-1 in Sequence 1-1 Non-Int in V2 (02))) Warning (Form): FLASH level may be too low for this exposure or a short subexposure. See extended explanation in the diagnostic browser									
Patterns	#	Primary Pattern			Secondary Pattern	Exposures				
	(1)	Pattern Type=WFC3-UVIS-DITHER- LINE Purpose=DITHER Number Of Points=2 Point Spacing=0.145 Line Spacing= Coordinate Frame=POS-TARG Pattern Orientation=46.84 Angle Between Sides= Center Pattern=false				(1)				
Solar System Targets	#	Name	Level 1	Level 2	Level 3	Window	Ephem Center			
	(1)	288P	TYPE=ASTEROID,A=3.04931670684 5886,E=0.2011145348983784,I=3.240 027217147757 .O=83.18987601023933,W=281.05319 96557008,M=359.7694035685469,EQ UINOX=J2000,EPOCH=07-NOV- 2016:00:00:00,EpochTimeScale=TDB				EARTH			
Comments: Description=binary main-belt comet Extended=NO										
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1		(1) 288P	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F606W			Sequence 1-1 Non-Int in V2 (02) Pattern 1, Exps 1-1 in Sequence 1-1 Non-Int in V2 (02) (1)	239 Secs X 4 (1912 Secs) [=>(Pattern 1, Copy 1)] [=>(Pattern 1, Copy 2)] [=>(Pattern 1, Copy 3)] [=>(Pattern 1, Copy 4)] [=>(Pattern 2, Copy 1)] [=>(Pattern 2, Copy 2)] [=>(Pattern 2, Copy 3)] [=>(Pattern 2, Copy 4)]	[1]
Comments: When running the ETC for the actual zodiacal light background at the time of observation, the flash warning disappears (ETC Request ID: WFC3UVIS.im.1526613).										



Proposal 16781 - V3 (03) - Re-activation of binary main-belt comet 288P

Thu Nov 04 20:01:31 GMT 2021

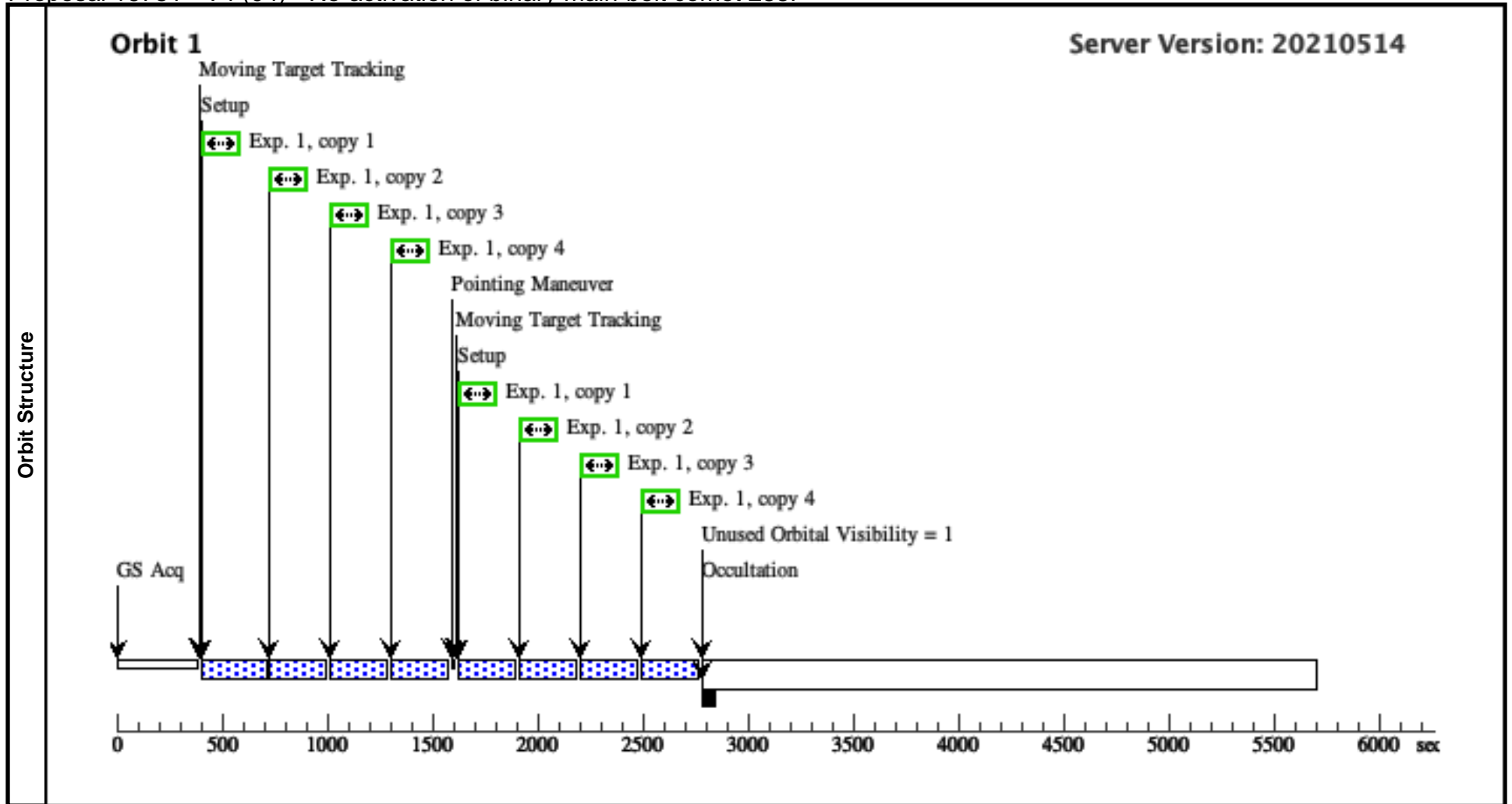
Visit	<p>Proposal 16781, V3 (03), failed</p> <p>Diagnostic Status: Warning</p> <p>Scientific Instruments: WFC3/UVIS</p> <p>Special Requirements: BETWEEN 13-OCT-2021:16:40:00 AND 14-OCT-2021:16:20:00; BETWEEN 14-OCT-2021:17:30:00 AND 15-OCT-2021:01:40:00; BETWEEN 15-OCT-2021:02:50:00 AND 15-OCT-2021:04:30:00; BETWEEN 15-OCT-2021:05:40:00 AND 16-OCT-2021:09:30:00</p> <p><i>Comments: BETWEENs will be used to avoid times when 288P should not be observed due to the proximity of bright background stars. These need to be updated once the HST orbit for this epoch is known in the JPL/Horizons system.</i></p>									
	<p>(Exposure 1 (Pattern 1, Exps 1-1 in Sequence 1-1 Non-Int in V3 (03))) Warning (Form): FLASH level may be too low for this exposure or a short subexposure. See extended explanation in the diagnostic browser</p>									
Diagnosics										
Patterns	#	Primary Pattern			Secondary Pattern		Exposures			
	(1)	Pattern Type=WFC3-UVIS-DITHER- LINE Purpose=DITHER Number Of Points=2 Point Spacing=0.145 Line Spacing=			Coordinate Frame=POS-TARG Pattern Orientation=46.84 Angle Between Sides= Center Pattern=false		(1)			
Solar System Targets	#	Name	Level 1	Level 2	Level 3	Window	Ephem Center			
	(1)	288P	TYPE=ASTEROID,A=3.04931670684 5886,E=0.2011145348983784,I=3.240 027217147757 ,O=83.18987601023933,W=281.05319 96557008,M=359.7694035685469,EQ UINOX=J2000,EPOCH=07-NOV- 2016:00:00:00,EpochTimeScale=TDB				EARTH			
<p><i>Comments: Description=binary main-belt comet Extended=NO</i></p>										
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1		(1) 288P	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F606W			Sequence 1-1 Non-Int in V3 (03) Pattern 1, Exps 1-1 i n Sequence 1-1 Non- Int in V3 (03) (1)	239 Secs X 4 (1912 Secs) [=>(Pattern 1, Copy 1)] [=>(Pattern 1, Copy 2)] [=>(Pattern 1, Copy 3)] [=>(Pattern 1, Copy 4)] [=>(Pattern 2, Copy 1)] [=>(Pattern 2, Copy 2)] [=>(Pattern 2, Copy 3)] [=>(Pattern 2, Copy 4)]	[1]
<p><i>Comments: When running the ETC for the actual zodiacal light background at the time of observation, the flash warning disappears (ETC Request ID: WFC3UVIS.im.1526613).</i></p>										



Proposal 16781 - V4 (04) - Re-activation of binary main-belt comet 288P

Thu Nov 04 20:01:31 GMT 2021

Visit	<p>Proposal 16781, V4 (04), failed</p> <p>Diagnostic Status: Warning</p> <p>Scientific Instruments: WFC3/UVIS</p> <p>Special Requirements: BETWEEN 19-OCT-2021:09:00:00 AND 21-OCT-2021:01:30:00; BETWEEN 21-OCT-2021:03:00:00 AND 22-OCT-2021:00:00:00</p> <p><i>Comments: BETWEENs will be used to avoid times when 288P should not be observed due to the proximity of bright background stars. These need to be updated once the HST orbit for this epoch is known in the JPL/Horizons system.</i></p>					
	<p>(Exposure 1 (Pattern 1, Exps 1-1 in Sequence 1-1 Non-Int in V4 (04))) Warning (Form): FLASH level may be too low for this exposure or a short subexposure. See extended explanation in the diagnostic browser</p>					
Diagnosics						
Patterns	#	Primary Pattern			Secondary Pattern	Exposures
	(1)	Pattern Type=WFC3-UVIS-DITHER- LINE Purpose=DITHER Number Of Points=2 Point Spacing=0.145 Line Spacing= Coordinate Frame=POS-TARG Pattern Orientation=46.84 Angle Between Sides= Center Pattern=false				(1)
Solar System Targets	#	Name	Level 1	Level 2	Level 3	Window
	(1)	288P	TYPE=ASTEROID,A=3.04931670684 5886,E=0.2011145348983784,I=3.240 027217147757 .O=83.18987601023933,W=281.05319 96557008,M=359.7694035685469,EQ UINOX=J2000,EPOCH=07-NOV- 2016:00:00:00,EpochTimeScale=TDB			
<p><i>Comments: Description=binary main-belt comet</i></p> <p><i>Extended=NO</i></p>						
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.
	1	(1) 288P		WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F606W	
<p>Special Reqs.</p> <p>Sequence 1-1 Non-Int in V4 (04)</p> <p>Pattern 1, Exps 1-1 in Sequence 1-1 Non-Int in V4 (04) (1)</p>						
<p>Groups</p> <p>Sequence 1-1 Non-Int in V4 (04)</p> <p>Pattern 1, Exps 1-1 in Sequence 1-1 Non-Int in V4 (04) (1)</p>						
<p>Exp. Time (Total)/[Actual Dur.]</p> <p>239 Secs X 4 (1912 Secs)</p> <p>[=>(Pattern 1, Copy 1)]</p> <p>[=>(Pattern 1, Copy 2)]</p> <p>[=>(Pattern 1, Copy 3)]</p> <p>[=>(Pattern 1, Copy 4)]</p> <p>[=>(Pattern 2, Copy 1)]</p> <p>[=>(Pattern 2, Copy 2)]</p> <p>[=>(Pattern 2, Copy 3)]</p> <p>[=>(Pattern 2, Copy 4)]</p>						
<p>Orbit</p> <p>[1]</p>						
<p><i>Comments: When running the ETC for the actual zodiacal light background at the time of observation, the flash warning disappears (ETC Request ID: WFC3UVIS.im.1526613).</i></p>						



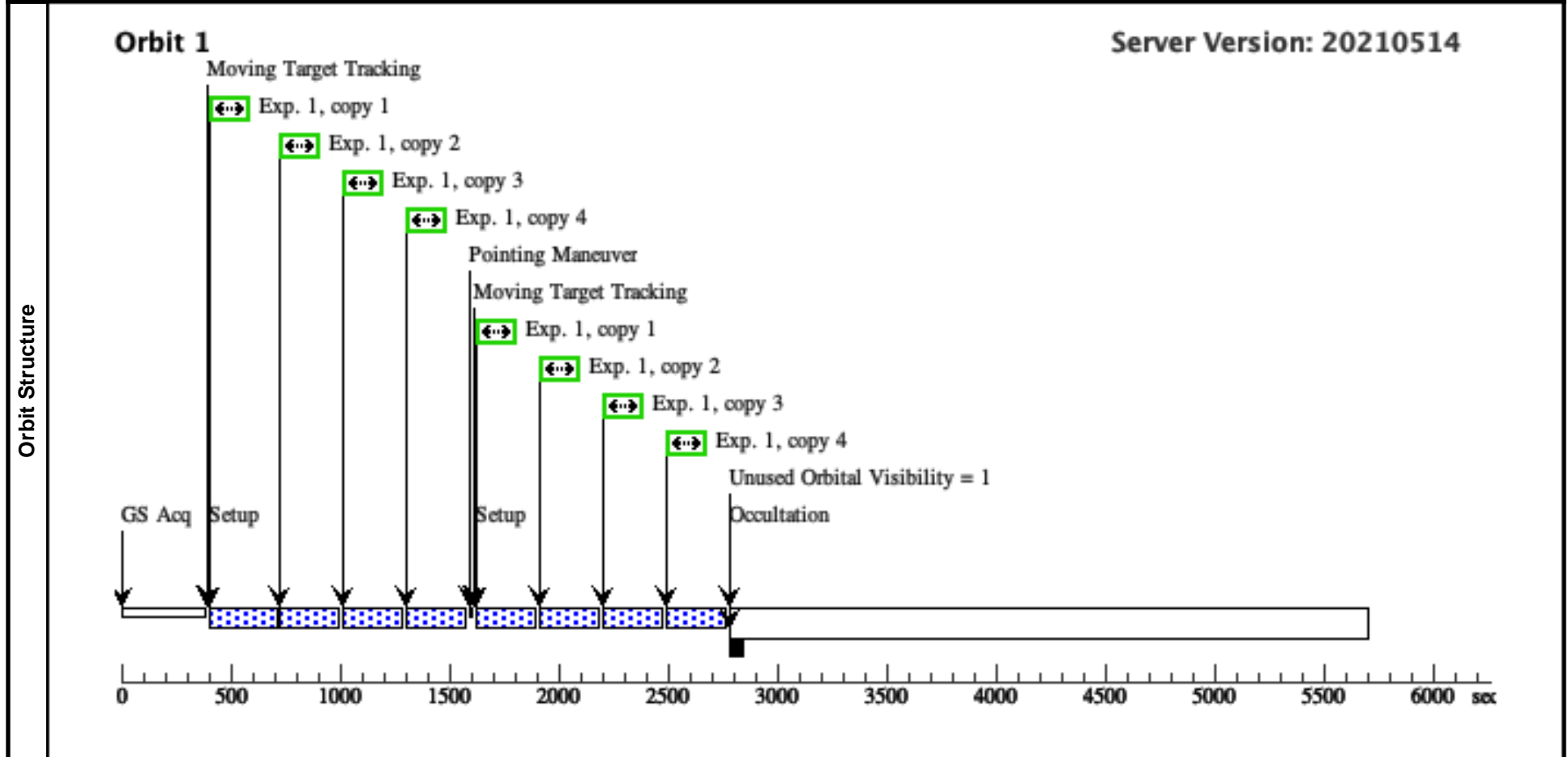
Proposal 16781 - V3 repeat (53) - Re-activation of binary main-belt comet 288P

Thu Nov 04 20:01:31 GMT 2021

Visit	<p>Proposal 16781, V3_repeat (53), scheduling</p> <p>Diagnostic Status: Warning</p> <p>Scientific Instruments: WFC3/UVIS</p> <p>Special Requirements: BETWEEN 01-NOV-2021:04:40:00 AND 01-NOV-2021:15:00:00; BETWEEN 01-NOV-2021:16:30:00 AND 02-NOV-2021:06:10:00; BETWEEN 02-NOV-2021:07:10:00 AND 03-NOV-2021:11:30:00; BETWEEN 03-NOV-2021:12:30:00 AND 04-NOV-2021:04:00:00; BETWEEN 04-NOV-2021:05:10:00 AND 04-NOV-2021:09:40:00; BETWEEN 04-NOV-2021:10:50:00 AND 05-NOV-2021:06:10:00; BETWEEN 05-NOV-2021:07:20:00 AND 05-NOV-2021:14:10:00; BETWEEN 05-NOV-2021:15:20:00 AND 07-NOV-2021:04:20:00; BETWEEN 07-NOV-2021:05:40:00 AND 08-NOV-2021:23:20:00; BETWEEN 09-NOV-2021:00:20:00 AND 10-NOV-2021:20:50:00; BETWEEN 10-NOV-2021:22:00:00 AND 12-NOV-2021:00:00:00; BETWEEN 12-NOV-2021:01:10:00 AND 13-NOV-2021:01:20:00; BETWEEN 13-NOV-2021:02:40:00 AND 14-NOV-2021:04:10:00; BETWEEN 14-NOV-2021:05:20:00 AND 14-NOV-2021:09:10:00; BETWEEN 14-NOV-2021:10:10:00 AND 14-NOV-2021:20:00:00; BETWEEN 14-NOV-2021:21:10:00 AND 15-NOV-2021:13:50:00; BETWEEN 15-NOV-2021:14:50:00 AND 15-NOV-2021:16:00:00; BETWEEN 15-NOV-2021:17:00:00 AND 17-NOV-2021:05:40:00; BETWEEN 17-NOV-2021:06:50:00 AND 17-NOV-2021:14:10:00; BETWEEN 17-NOV-2021:15:20:00 AND 17-NOV-2021:16:50:00; BETWEEN 17-NOV-2021:18:00:00 AND 17-NOV-2021:19:40:00; BETWEEN 17-NOV-2021:20:40:00 AND 17-NOV-2021:23:20:00; BETWEEN 18-NOV-2021:00:30:00 AND 18-NOV-2021:10:50:00; BETWEEN 18-NOV-2021:12:00:00 AND 18-NOV-2021:14:50:00; BETWEEN 18-NOV-2021:15:50:00 AND 18-NOV-2021:20:20:00; BETWEEN 18-NOV-2021:21:30:00 AND 19-NOV-2021:15:30:00; BETWEEN 19-NOV-2021:16:30:00 AND 19-NOV-2021:16:50:00; BETWEEN 19-NOV-2021:18:00:00 AND 19-NOV-2021:18:50:00; BETWEEN 19-NOV-2021:20:00:00 AND 19-NOV-2021:21:00:00; BETWEEN 19-NOV-2021:22:10:00 AND 20-NOV-2021:12:40:00; BETWEEN 20-NOV-2021:13:50:00 AND 21-NOV-2021:02:30:00; BETWEEN 21-NOV-2021:03:30:00 AND 21-NOV-2021:04:20:00; BETWEEN 21-NOV-2021:05:20:00 AND 22-NOV-2021:03:00:00; BETWEEN 22-NOV-2021:04:00:00 AND 22-NOV-2021:04:50:00; BETWEEN 22-NOV-2021:06:00:00 AND 23-NOV-2021:00:20:00; BETWEEN 23-NOV-2021:01:20:00 AND 23-NOV-2021:03:10:00; BETWEEN 23-NOV-2021:04:30:00 AND 23-NOV-2021:06:30:00; BETWEEN 23-NOV-2021:07:40:00 AND 24-NOV-2021:07:20:00; BETWEEN 24-NOV-2021:08:20:00 AND 24-NOV-2021:21:20:00; BETWEEN 24-NOV-2021:22:50:00 AND 25-NOV-2021:05:20:00; BETWEEN 25-NOV-2021:06:20:00 AND 25-NOV-2021:17:50:00; BETWEEN 25-NOV-2021:19:00:00 AND 25-NOV-2021:20:00:00; BETWEEN 25-NOV-2021:21:20:00 AND 26-NOV-2021:02:50:00; BETWEEN 26-NOV-2021:04:00:00 AND 27-NOV-2021:23:20:00; BETWEEN 28-NOV-2021:00:30:00 AND 28-NOV-2021:03:10:00; BETWEEN 28-NOV-2021:04:10:00 AND 29-NOV-2021:09:10:00; BETWEEN 29-NOV-2021:10:10:00 AND 30-NOV-2021:21:00:00; BETWEEN 30-NOV-2021:22:10:00 AND 01-DEC-2021:04:20:00; BETWEEN 01-DEC-2021:05:30:00 AND 01-DEC-2021:23:30:00; BETWEEN 02-DEC-2021:00:30:00 AND 03-DEC-2021:07:50:00; BETWEEN 03-DEC-2021:09:00:00 AND 04-DEC-2021:20:00:00; BETWEEN 04-DEC-2021:21:10:00 AND 05-DEC-2021:04:40:00; BETWEEN 05-DEC-2021:05:40:00 AND 05-DEC-2021:06:20:00; BETWEEN 05-DEC-2021:07:30:00 AND 05-DEC-2021:15:00:00; BETWEEN 05-DEC-2021:16:30:00 AND 05-DEC-2021:21:30:00; BETWEEN 05-DEC-2021:22:40:00 AND 06-DEC-2021:18:40:00; BETWEEN 06-DEC-2021:19:40:00 AND 07-DEC-2021:00:50:00; BETWEEN 07-DEC-2021:02:00:00 AND 07-DEC-2021:10:00:00; BETWEEN 07-DEC-2021:11:10:00 AND 07-DEC-2021:19:20:00; BETWEEN 07-DEC-2021:20:50:00 AND 08-DEC-2021:04:20:00; BETWEEN 08-DEC-2021:05:30:00 AND 10-DEC-2021:11:00:00; BETWEEN 10-DEC-2021:12:00:00 AND 11-DEC-2021:01:10:00; BETWEEN 11-DEC-2021:02:20:00 AND 11-DEC-2021:04:40:00; BETWEEN 11-DEC-2021:05:50:00 AND 11-DEC-2021:11:20:00; BETWEEN 11-DEC-2021:15:20:00; BETWEEN 11-DEC-2021:16:30:00 AND 13-DEC-2021:05:30:00; BETWEEN 13-DEC-2021:06:40:00 AND 14-DEC-2021:19:40:00; BETWEEN 14-DEC-2021:20:40:00 AND 15-DEC-2021:00:20:00; BETWEEN 15-DEC-2021:02:00:00 AND 15-DEC-2021:13:00:00; BETWEEN 15-DEC-2021:15:00:00 AND 16-DEC-2021:11:30:00; BETWEEN 16-DEC-2021:12:40:00 AND 17-DEC-2021:12:20:00; BETWEEN 17-DEC-2021:14:00:00 AND 17-DEC-2021:20:30:00; BETWEEN 17-DEC-2021:21:40:00 AND 18-DEC-2021:03:30:00; BETWEEN 18-DEC-2021:04:40:00 AND 18-DEC-2021:06:30:00; BETWEEN 18-DEC-2021:07:40:00 AND 18-DEC-2021:20:10:00; BETWEEN 18-DEC-2021:21:20:00 AND 18-DEC-2021:23:40:00; BETWEEN 19-DEC-2021:00:50:00 AND 19-DEC-2021:09:30:00; BETWEEN 19-DEC-2021:10:40:00 AND 19-DEC-2021:19:20:00; BETWEEN 19-DEC-2021:20:30:00 AND 20-DEC-2021:03:20:00; BETWEEN 20-DEC-2021:04:30:00 AND 20-DEC-2021:15:00:00; BETWEEN 20-DEC-2021:16:10:00 AND 20-DEC-2021:19:00:00; BETWEEN 20-DEC-2021:21:00:00 AND 21-DEC-2021:07:50:00; BETWEEN 21-DEC-2021:08:50:00 AND 21-DEC-2021:14:10:00</p> <p><i>Comments: BETWEENs will be used to avoid times when 288P should not be observed due to the proximity of bright background stars. These need to be updated once the HST orbit for this epoch is known in the JPL/Horizons system.</i></p>								
	Diagnostics	<p>(Exposure 1 (Pattern 1, Exps 1-1 in Sequence 1-1 Non-Int in V3_repeat (53))) Warning (Form): FLASH level may be too low for this exposure or a short subexposure. See extended explanation in the diagnostic browser</p>							
Patterns	#	Primary Pattern	Secondary Pattern	Exposures					
	(1)	<p>Pattern Type=WFC3-UVIS-DITHER-LINE</p> <p>Purpose=DITHER</p> <p>Number Of Points=2</p> <p>Point Spacing=0.145</p> <p>Line Spacing=</p> <p>Coordinate Frame=POS-TARG</p> <p>Pattern Orientation=46.84</p> <p>Angle Between Sides=</p> <p>Center Pattern=false</p>		(1)					
Solar System Targets	#	Name	Level 1	Level 2	Level 3	Window	Ephem Center		
	(2)	288P-2	TYPE=ASTEROID,A=3.04898341783	3043.E=0.2010721219292816,I=3.240	155687537047	.O=83.18714325056506,W=281.01962	26634146,M=37.74383008099473,EQ	UINOX=J2000,EPOCH=31-MAY-2017:00:00,EpochTimeScale=TDB	EARTH
	<p><i>Comments: Description=binary main-belt comet</i></p> <p><i>Extended=NO</i></p>								

Proposal 16781 - V3 repeat (53) - Re-activation of binary main-belt comet 288P

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1		(2) 288P-2	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F606W			Sequence 1-1 Non-Int in V3_repeat (53) Pattern 1, Exps 1-1 in Sequence 1-1 Non-Int in V3_repeat (53) (1)	239 Secs X 4 (1912 Secs) [=>(Pattern 1, Copy 1)] [=>(Pattern 1, Copy 2)] [=>(Pattern 1, Copy 3)] [=>(Pattern 1, Copy 4)] [=>(Pattern 2, Copy 1)] [=>(Pattern 2, Copy 2)] [=>(Pattern 2, Copy 3)] [=>(Pattern 2, Copy 4)]	[1]



Proposal 16781 - V4 repeat (54) - Re-activation of binary main-belt comet 288P

Thu Nov 04 20:01:31 GMT 2021

Visit	<p>Proposal 16781, V4_repeat (54), implementation</p> <p>Diagnostic Status: Warning</p> <p>Scientific Instruments: WFC3/UVIS</p> <p>Special Requirements: BETWEEN 01-NOV-2021:04:40:00 AND 01-NOV-2021:15:00:00; BETWEEN 01-NOV-2021:16:30:00 AND 02-NOV-2021:06:10:00; BETWEEN 02-NOV-2021:07:10:00 AND 03-NOV-2021:11:30:00; BETWEEN 03-NOV-2021:12:30:00 AND 04-NOV-2021:04:00:00; BETWEEN 04-NOV-2021:05:10:00 AND 04-NOV-2021:09:40:00; BETWEEN 04-NOV-2021:10:50:00 AND 05-NOV-2021:06:10:00; BETWEEN 05-NOV-2021:07:20:00 AND 05-NOV-2021:14:10:00; BETWEEN 05-NOV-2021:15:20:00 AND 07-NOV-2021:04:20:00; BETWEEN 07-NOV-2021:05:40:00 AND 08-NOV-2021:23:20:00; BETWEEN 09-NOV-2021:00:20:00 AND 10-NOV-2021:20:50:00; BETWEEN 10-NOV-2021:22:00:00 AND 12-NOV-2021:00:00:00; BETWEEN 12-NOV-2021:01:10:00 AND 13-NOV-2021:01:20:00; BETWEEN 13-NOV-2021:02:40:00 AND 14-NOV-2021:04:10:00; BETWEEN 14-NOV-2021:05:20:00 AND 14-NOV-2021:09:10:00; BETWEEN 14-NOV-2021:10:10:00 AND 14-NOV-2021:20:00:00; BETWEEN 14-NOV-2021:21:10:00 AND 15-NOV-2021:13:50:00; BETWEEN 15-NOV-2021:14:50:00 AND 15-NOV-2021:16:00:00; BETWEEN 15-NOV-2021:17:00:00 AND 17-NOV-2021:05:40:00; BETWEEN 17-NOV-2021:06:50:00 AND 17-NOV-2021:14:10:00; BETWEEN 17-NOV-2021:15:20:00 AND 17-NOV-2021:16:50:00; BETWEEN 17-NOV-2021:18:00:00 AND 17-NOV-2021:19:40:00; BETWEEN 17-NOV-2021:20:40:00 AND 17-NOV-2021:23:20:00; BETWEEN 18-NOV-2021:00:30:00 AND 18-NOV-2021:10:50:00; BETWEEN 18-NOV-2021:12:00:00 AND 18-NOV-2021:14:50:00; BETWEEN 18-NOV-2021:15:50:00 AND 18-NOV-2021:20:20:00; BETWEEN 18-NOV-2021:21:30:00 AND 19-NOV-2021:15:30:00; BETWEEN 19-NOV-2021:16:30:00 AND 19-NOV-2021:16:50:00; BETWEEN 19-NOV-2021:18:00:00 AND 19-NOV-2021:18:50:00; BETWEEN 19-NOV-2021:20:00:00 AND 19-NOV-2021:21:00:00; BETWEEN 19-NOV-2021:22:10:00 AND 20-NOV-2021:12:40:00; BETWEEN 20-NOV-2021:13:50:00 AND 21-NOV-2021:02:30:00; BETWEEN 21-NOV-2021:03:30:00 AND 21-NOV-2021:04:20:00; BETWEEN 21-NOV-2021:05:20:00 AND 22-NOV-2021:03:00:00; BETWEEN 22-NOV-2021:04:00:00 AND 22-NOV-2021:04:50:00; BETWEEN 22-NOV-2021:06:00:00 AND 23-NOV-2021:00:20:00; BETWEEN 23-NOV-2021:01:20:00 AND 23-NOV-2021:03:10:00; BETWEEN 23-NOV-2021:04:30:00 AND 23-NOV-2021:06:30:00; BETWEEN 23-NOV-2021:07:40:00 AND 24-NOV-2021:07:20:00; BETWEEN 24-NOV-2021:08:20:00 AND 24-NOV-2021:21:20:00; BETWEEN 24-NOV-2021:22:50:00 AND 25-NOV-2021:05:20:00; BETWEEN 25-NOV-2021:06:20:00 AND 25-NOV-2021:17:50:00; BETWEEN 25-NOV-2021:19:00:00 AND 25-NOV-2021:20:00:00; BETWEEN 25-NOV-2021:21:20:00 AND 26-NOV-2021:02:50:00; BETWEEN 26-NOV-2021:04:00:00 AND 27-NOV-2021:23:20:00; BETWEEN 28-NOV-2021:00:30:00 AND 28-NOV-2021:03:10:00; BETWEEN 28-NOV-2021:04:10:00 AND 29-NOV-2021:09:10:00; BETWEEN 29-NOV-2021:10:10:00 AND 30-NOV-2021:21:00:00; BETWEEN 30-NOV-2021:22:10:00 AND 01-DEC-2021:04:20:00; BETWEEN 01-DEC-2021:05:30:00 AND 01-DEC-2021:23:30:00; BETWEEN 02-DEC-2021:00:30:00 AND 03-DEC-2021:07:50:00; BETWEEN 03-DEC-2021:09:00:00 AND 04-DEC-2021:20:00:00; BETWEEN 04-DEC-2021:21:10:00 AND 05-DEC-2021:04:40:00; BETWEEN 05-DEC-2021:05:40:00 AND 05-DEC-2021:06:20:00; BETWEEN 05-DEC-2021:07:30:00 AND 05-DEC-2021:15:00:00; BETWEEN 05-DEC-2021:16:30:00 AND 05-DEC-2021:21:30:00; BETWEEN 05-DEC-2021:22:40:00 AND 06-DEC-2021:18:40:00; BETWEEN 06-DEC-2021:19:40:00 AND 07-DEC-2021:00:50:00; BETWEEN 07-DEC-2021:02:00:00 AND 07-DEC-2021:10:00:00; BETWEEN 07-DEC-2021:11:10:00 AND 07-DEC-2021:19:20:00; BETWEEN 07-DEC-2021:20:50:00 AND 08-DEC-2021:04:20:00; BETWEEN 08-DEC-2021:05:30:00 AND 10-DEC-2021:11:00:00; BETWEEN 10-DEC-2021:12:00:00 AND 11-DEC-2021:01:10:00; BETWEEN 11-DEC-2021:02:20:00 AND 11-DEC-2021:04:40:00; BETWEEN 11-DEC-2021:05:50:00 AND 11-DEC-2021:11:20:00; BETWEEN 11-DEC-2021:16:30:00 AND 13-DEC-2021:05:30:00; BETWEEN 13-DEC-2021:06:40:00 AND 14-DEC-2021:19:40:00; BETWEEN 14-DEC-2021:20:40:00 AND 15-DEC-2021:00:20:00; BETWEEN 15-DEC-2021:02:00:00 AND 15-DEC-2021:13:00:00; BETWEEN 15-DEC-2021:15:00:00 AND 16-DEC-2021:11:30:00; BETWEEN 16-DEC-2021:12:40:00 AND 17-DEC-2021:12:20:00; BETWEEN 17-DEC-2021:14:00:00 AND 17-DEC-2021:20:30:00; BETWEEN 17-DEC-2021:21:40:00 AND 18-DEC-2021:03:30:00; BETWEEN 18-DEC-2021:04:40:00 AND 18-DEC-2021:06:30:00; BETWEEN 18-DEC-2021:07:40:00 AND 18-DEC-2021:20:10:00; BETWEEN 18-DEC-2021:21:20:00 AND 18-DEC-2021:23:40:00; BETWEEN 19-DEC-2021:00:50:00 AND 19-DEC-2021:09:30:00; BETWEEN 19-DEC-2021:10:40:00 AND 19-DEC-2021:19:20:00; BETWEEN 19-DEC-2021:20:30:00 AND 20-DEC-2021:03:20:00; BETWEEN 20-DEC-2021:04:30:00 AND 20-DEC-2021:15:00:00; BETWEEN 20-DEC-2021:16:10:00 AND 20-DEC-2021:19:00:00; BETWEEN 20-DEC-2021:21:00:00 AND 21-DEC-2021:07:50:00; BETWEEN 21-DEC-2021:08:50:00 AND 21-DEC-2021:14:10:00</p> <p><i>Comments: BETWEENs will be used to avoid times when 288P should not be observed due to the proximity of bright background stars. These need to be updated once the HST orbit for this epoch is known in the JPL/Horizons system.</i></p>								
	Diagnostics	<p>(Exposure 1 (Pattern 1, Exps 1-1 in Sequence 1-1 Non-Int in V4_repeat (54))) Warning (Form): FLASH level may be too low for this exposure or a short subexposure. See extended explanation in the diagnostic browser</p>							
Patterns	#	Primary Pattern	Secondary Pattern	Exposures					
	(1)	<p>Pattern Type=WFC3-UVIS-DITHER-LINE</p> <p>Purpose=DITHER</p> <p>Number Of Points=2</p> <p>Point Spacing=0.145</p> <p>Line Spacing=</p> <p>Coordinate Frame=POS-TARG</p> <p>Pattern Orientation=46.84</p> <p>Angle Between Sides=</p> <p>Center Pattern=false</p>		(1)					
Solar System Targets	#	Name	Level 1	Level 2	Level 3	Window	Ephem Center		
	(2)	288P-2	TYPE=ASTEROID,A=3.04898341783	3043.E=0.2010721219292816,I=3.240	155687537047	.O=83.18714325056506,W=281.01962	26634146,M=37.74383008099473,EQ	UINOX=J2000,EPOCH=31-MAY-2017:00:00:00,EpochTimeScale=TDB	EARTH
	<p><i>Comments: Description=binary main-belt comet</i></p> <p><i>Extended=NO</i></p>								

Proposal 16781 - V4 repeat (54) - Re-activation of binary main-belt comet 288P

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1		(2) 288P-2	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F606W			Sequence 1-1 Non-Int in V4_repeat (54) Pattern 1, Exps 1-1 in Sequence 1-1 Non-Int in V4_repeat (54) (1)	239 Secs X 4 (1912 Secs) [=>(Pattern 1, Copy 1)] [=>(Pattern 1, Copy 2)] [=>(Pattern 1, Copy 3)] [=>(Pattern 1, Copy 4)] [=>(Pattern 2, Copy 1)] [=>(Pattern 2, Copy 2)] [=>(Pattern 2, Copy 3)] [=>(Pattern 2, Copy 4)]	[1]

