



# 12436 - New Horizons Mission Planning Support: A Deep Search for Faint Rings of Pluto

Cycle: 18, Proposal Category: GO/DD

(Availability Mode: SUPPORTED)

## INVESTIGATORS

<i>Name</i>	<i>Institution</i>	<i>E-Mail</i>
<b>Dr. Mark R. Showalter (PI)</b>	<b>SETI Institute</b>	<b>mshowalter@seti.org</b>
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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	(3) PLUTO-CHARON-3RD-QUADRANT	WFC3/UVIS	2	11-Jul-2011 21:04:38.0	yes
02	(2) PLUTO-CHARON-2ND-QUADRANT	WFC3/UVIS	2	11-Jul-2011 21:04:44.0	yes
11	(4) PLUTO-CHARON-4TH-QUADRANT	WFC3/UVIS	2	11-Jul-2011 21:04:49.0	yes
12	(3) PLUTO-CHARON-3RD-QUADRANT	WFC3/UVIS	2	11-Jul-2011 21:04:54.0	yes
21	(4) PLUTO-CHARON-4TH-QUADRANT	WFC3/UVIS	2	11-Jul-2011 21:04:59.0	yes
22	(3) PLUTO-CHARON-3RD-QUADRANT	WFC3/UVIS	2	11-Jul-2011 21:05:05.0	yes
31	(1) PLUTO-CHARON-1ST-QUADRANT	WFC3/UVIS	2	11-Jul-2011 21:05:12.0	yes
32	(4) PLUTO-CHARON-4TH-QUADRANT	WFC3/UVIS	2	11-Jul-2011 21:05:17.0	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>
41	(1) PLUTO-CHARON-1ST-QUADRANT	WFC3/UVIS	2	11-Jul-2011 21:05:23.0	yes
42	(4) PLUTO-CHARON-4TH-QUADRANT	WFC3/UVIS	2	11-Jul-2011 21:05:27.0	yes
51	(2) PLUTO-CHARON-2ND-QUADRANT	WFC3/UVIS	2	11-Jul-2011 21:05:31.0	yes
52	(1) PLUTO-CHARON-1ST-QUADRANT	WFC3/UVIS	2	11-Jul-2011 21:05:36.0	yes
61	(2) PLUTO-CHARON-2ND-QUADRANT	WFC3/UVIS	2	11-Jul-2011 21:05:40.0	yes
62	(1) PLUTO-CHARON-1ST-QUADRANT	WFC3/UVIS	2	11-Jul-2011 21:05:44.0	yes
71	(3) PLUTO-CHARON-3RD-QUADRANT	WFC3/UVIS	2	11-Jul-2011 21:05:49.0	yes
72	(2) PLUTO-CHARON-2ND-QUADRANT	WFC3/UVIS	2	11-Jul-2011 21:05:53.0	yes
A2	(5) PLUTO	WFC3/UVIS	1	11-Jul-2011 21:05:56.0	yes
A3	(5) PLUTO	WFC3/UVIS	1	11-Jul-2011 21:06:00.0	yes
A4	(5) PLUTO	WFC3/UVIS	1	11-Jul-2011 21:06:03.0	yes
A5	(5) PLUTO	WFC3/UVIS	1	11-Jul-2011 21:06:05.0	yes
A6	(5) PLUTO	WFC3/UVIS	1	11-Jul-2011 21:06:08.0	yes
A7	(5) PLUTO	WFC3/UVIS	1	11-Jul-2011 21:06:11.0	yes
A8	(5) PLUTO	WFC3/UVIS	1	11-Jul-2011 21:06:13.0	yes

39 Total Orbits Used

## ABSTRACT

With the discoveries of Hydra and Nix, dwarf planet Pluto centers a more extensive satellite system than any terrestrial planet. Small moons are usually accompanied by rings of faint dust, which arise from impacts into their surfaces. Such rings show interesting dynamics including the influence of non-gravitational forces such as radiation pressure and Poynting-Robertson drag. A previous search for rings of Pluto in HST images was negative, but was limited by the scattered light from Pluto and Charon. Our more optimized plan will enable us to model and subtract out the scattered light pattern, yielding a detection threshold 10-30 times fainter than the prior limit. If Pluto sports a ring comparable to the major dust rings

of the giant planets, our observing plan should detect it. This work supports the New Horizons mission by potentially revealing a dust hazard that might endanger the spacecraft during its 2015 flyby. It could also enhance the science return by allowing planners to target a known feature rather than conducting a more resource-intensive general search for rings. We request Director's Discretionary time because the Pluto observing sequence will be finalized in 2011; thus the observing window in June represents our last chance to obtain results that could influence the mission.

### **OBSERVING DESCRIPTION**

We propose two 2-orbit visits. Pairs of visits are defined such that ORIENT changes by 90 degrees but Pluto and Charon fall at roughly the same locations on the CCD. This will rotate Pluto's hypothetical dust rings but leave the pattern of scattered light around Pluto and Charon nearly unchanged. We orient that dust rings horizontally on the CCD in one visit and vertically in the other; these orientations maximize the separation between the rings and the diagonal diffraction spikes. We position Charon atop a spike to keep its diffraction pattern away from the rings as well.

The horizontal ring orientation requires ORIENT  $\sim$  192 degrees and can only be scheduled in June 2011. The vertical orientation can be scheduled either before (ORIENT  $\sim$  282) or after (ORIENT  $\sim$  102). This provides eight possible pairs of visits, depending on the vertical ORIENT and the four possible diagonal offsets of Charon relative to Pluto. All eight options are specified in this Phase II proposal as pairs of Visits 01/02, 11/12, ... 71/72. Seven visit pairs are identified as ON HOLD but all pairs are scientifically equivalent.

No dithering will be performed, because the stability of the pointing and stability of the scattered light pattern are paramount. Our target, if detected, will encompass many pixels, so hot pixels will not obscure it and can be rejected (along with background stars and cosmic ray hits) based on statistical tests.

Each visit will consist of ten long (479 s) exposures through the broadest filter, F606W. This enables us to obtain substantial integration time while limiting the effects of cosmic ray hits in individual frames. The second orbit of each visit includes two brief, un-saturated exposures at the end through F606W and F475W. The un-saturated images will provide reliable position measurements for Pluto and Charon, to be used for geometric reference. These exposures will also enable us to check our overall calibration against prior Pluto images taken with the ACS.

### **ADDITIONAL COMMENTS**

This modified submission includes an additional follow-up visit to our recently executed program, to confirm the existence of a small moon of Pluto. We will execute five long exposures through broad filter F606W. A small POS TARG step in the middle will reduce the chance of the detection

## Proposal 12436 (STScI Edit Number: 2, Created: Monday, July 11, 2011 8:06:17 PM EST) - Overview

being lost due to a hot pixel. The plan can be scheduled at any time that Pluto is observable by HST, but ORIENT constraints vary by date to keep the diffraction spikes of Pluto and Charon away from our projected location for the moon. This is handled by providing 7 alternative visits A2-A8, each with a different ORIENT constraint. Six are designated "ON HOLD". All are scientifically equivalent, although projecting the location of the moon becomes less precise as time passes.

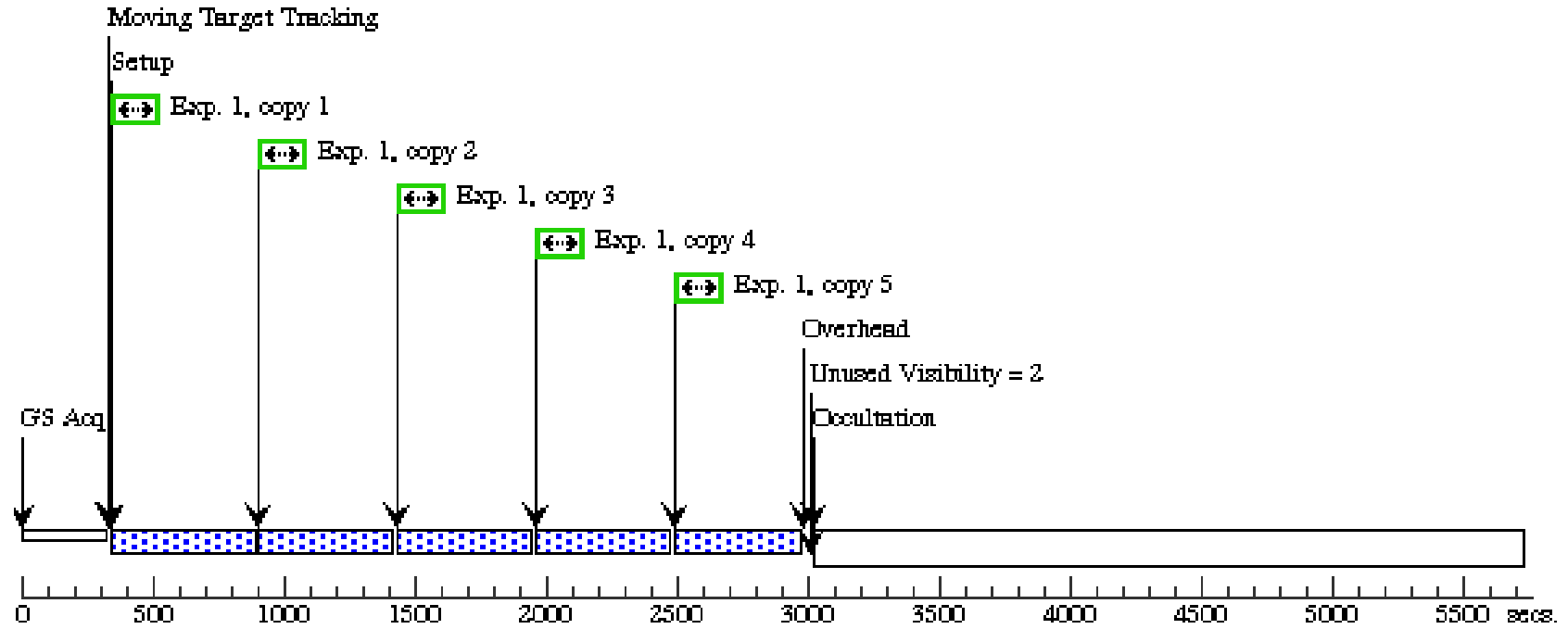
Proposal 12436 - Visit 01 - New Horizons Mission Planning Support: A Deep Search for Faint Rings of Pluto

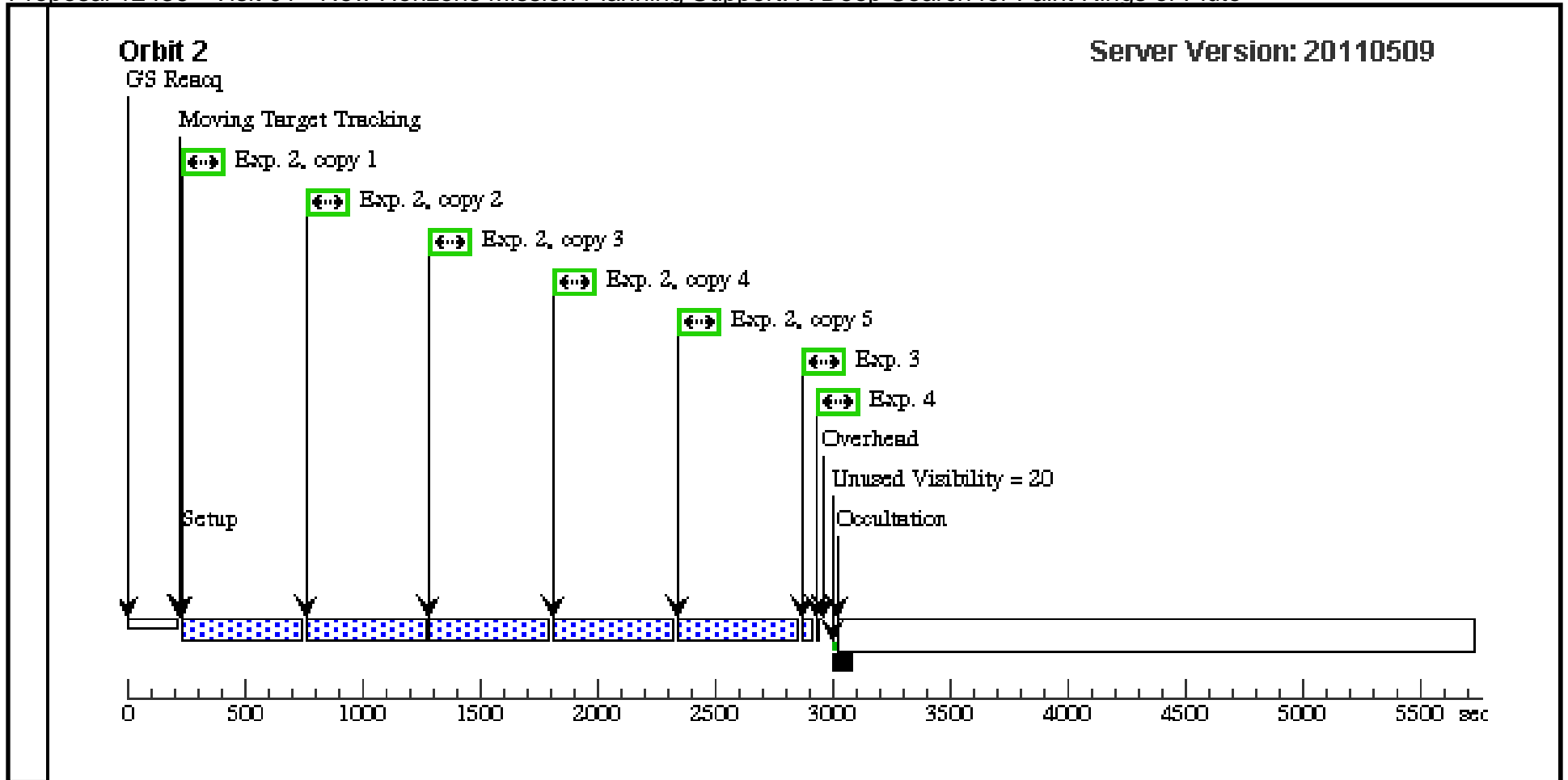
Tue Jul 12 01:06:18 GMT 2011

Visit	<b>Proposal 12436, Visit 01, withdrawn</b> <b>Diagnostic Status: No Diagnostics</b> Scientific Instruments: WFC3/UVIS Special Requirements: SCHED 100%; ORIENT 188D TO 196 D <i>Comments: Pluto with its prograde rotation pole oriented downward, parallel to the UVIS Y-axis; Charon on the diagonal at upper left (3rd orbital quadrant). To be scheduled along with Visit 02.</i>									
	Solar System Targets	#	Name	Level 1	Level 2	Level 3	Window	Ephem Center		
	(3)	PLUTO-CHARON-3RD-QUADRANT	STD=PLUTO				OLG OF CHARON BETWEEN 200 230	EARTH	<i>Comments: Because the sub-Earth latitude of Pluto is ~ 44 degrees, the OLG of Charon needs to be 35, 145, 215 or 325 to place it along a diagonal from Pluto, assuming Pluto is oriented with its pole parallel or perpendicular to the UVIS Y-axis.</i>	
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
	1	F606W, 5 x 479 s	(3) PLUTO-CHARON-3RD-QUADRANT	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB T	F606W	CR-SPLIT=NO		Sequence 1-1 Non-Int in Visit 01	479 Secs X 5 [==>(Copy 1)] [==>(Copy 2)] [==>(Copy 3)] [==>(Copy 4)] [==>(Copy 5)]	[1]
	2	F606W, 5 x 479 s	(3) PLUTO-CHARON-3RD-QUADRANT	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB T	F606W	CR-SPLIT=NO		Sequence 2-4 Non-Int in Visit 01	479 Secs X 5 [==>(Copy 1)] [==>(Copy 2)] [==>(Copy 3)] [==>(Copy 4)] [==>(Copy 5)]	[2]
	3	F606W, 3 s	(3) PLUTO-CHARON-3RD-QUADRANT	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB T	F606W	CR-SPLIT=NO		Sequence 2-4 Non-Int in Visit 01	3 Secs [==>]	[2]
	4	F475W, 6 s	(3) PLUTO-CHARON-3RD-QUADRANT	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB T	F475W	CR-SPLIT=NO		Sequence 2-4 Non-Int in Visit 01	6 Secs [==>]	[2]

Orbit Structure

Orbit 1





Proposal 12436 - Visit 02 - New Horizons Mission Planning Support: A Deep Search for Faint Rings of Pluto

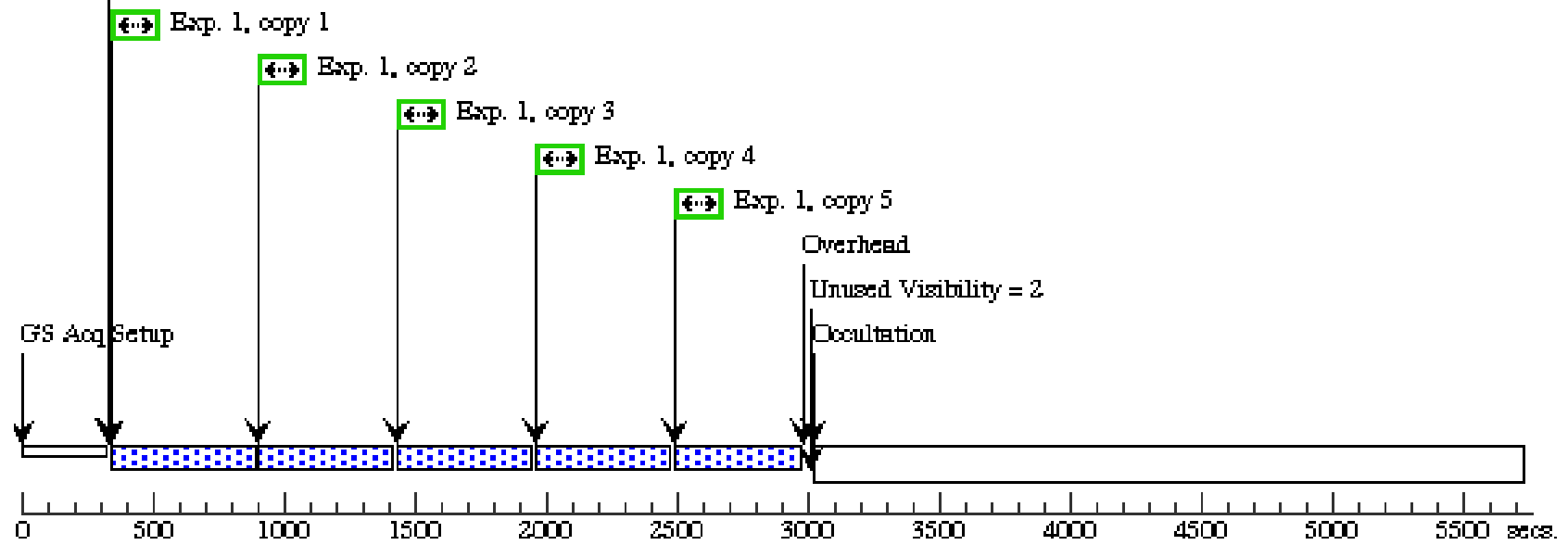
Tue Jul 12 01:06:19 GMT 2011

Visit	<b>Proposal 12436, Visit 02, withdrawn</b> <b>Diagnostic Status: No Diagnostics</b> Scientific Instruments: WFC3/UVIS Special Requirements: SCHED 100%; ORIENT 98D TO 106 D; AFTER 01 BY 0 D TO 40 D <i>Comments: Pluto with its prograde rotation pole pointed rightward, perpendicular to the UVIS Y-axis; Charon on the diagonal at upper left (2nd orbital quadrant). To be scheduled along with Visit 01.</i>									
	Solar System Targets	#	Name	Level 1	Level 2	Level 3	Window	Ephem Center		
	(2)	PLUTO-CHARON-2ND-QUADRANT	STD=PLUTO				OLG OF CHARON BETWEEN 130 160	EARTH	<i>Comments: Because the sub-Earth latitude of Pluto is ~ 44 degrees, the OLG of Charon needs to be 35, 145, 215 or 325 to place it along a diagonal from Pluto, assuming Pluto is oriented with its pole parallel or perpendicular to the UVIS Y-axis.</i>	
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
	1	F606W, 5 x 479 s	(2) PLUTO-CHARON-2ND-QUADRANT	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F606W	CR-SPLIT=NO		Sequence 1-1 Non-Int in Visit 02	479 Secs X 5 [==>(Copy 1)] [==>(Copy 2)] [==>(Copy 3)] [==>(Copy 4)] [==>(Copy 5)]	[1]
	2	F606W, 5 x 479 s	(2) PLUTO-CHARON-2ND-QUADRANT	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F606W	CR-SPLIT=NO		Sequence 2-4 Non-Int in Visit 02	479 Secs X 5 [==>(Copy 1)] [==>(Copy 2)] [==>(Copy 3)] [==>(Copy 4)] [==>(Copy 5)]	[2]
	3	F606W, 3 s	(2) PLUTO-CHARON-2ND-QUADRANT	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F606W	CR-SPLIT=NO		Sequence 2-4 Non-Int in Visit 02	3 Secs [==>]	[2]
	4	F475W, 6 s	(2) PLUTO-CHARON-2ND-QUADRANT	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F475W	CR-SPLIT=NO		Sequence 2-4 Non-Int in Visit 02	6 Secs [==>]	[2]

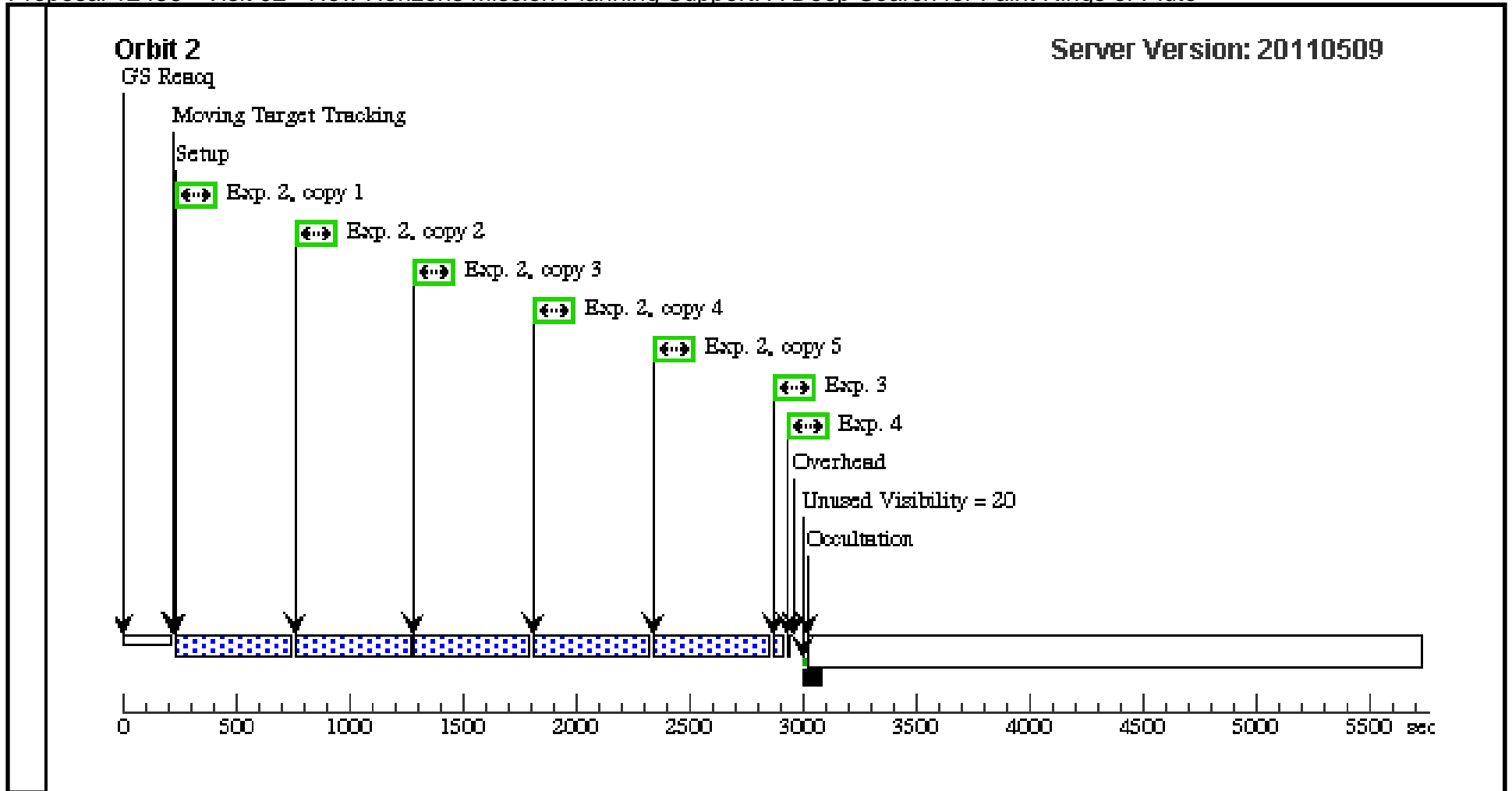


Orbit 1

Moving Target Tracking



Orbit Structure



Proposal 12436 - Visit 11 - New Horizons Mission Planning Support: A Deep Search for Faint Rings of Pluto

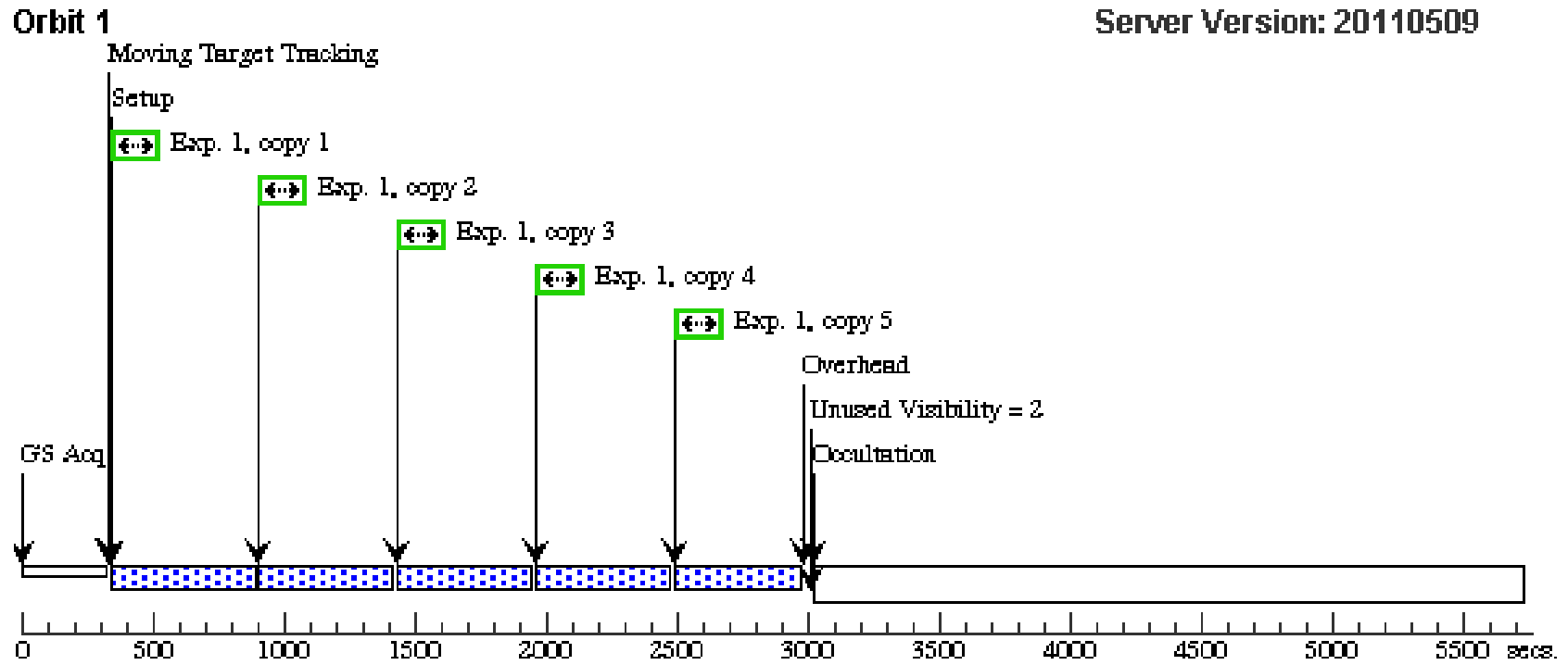
Tue Jul 12 01:06:21 GMT 2011

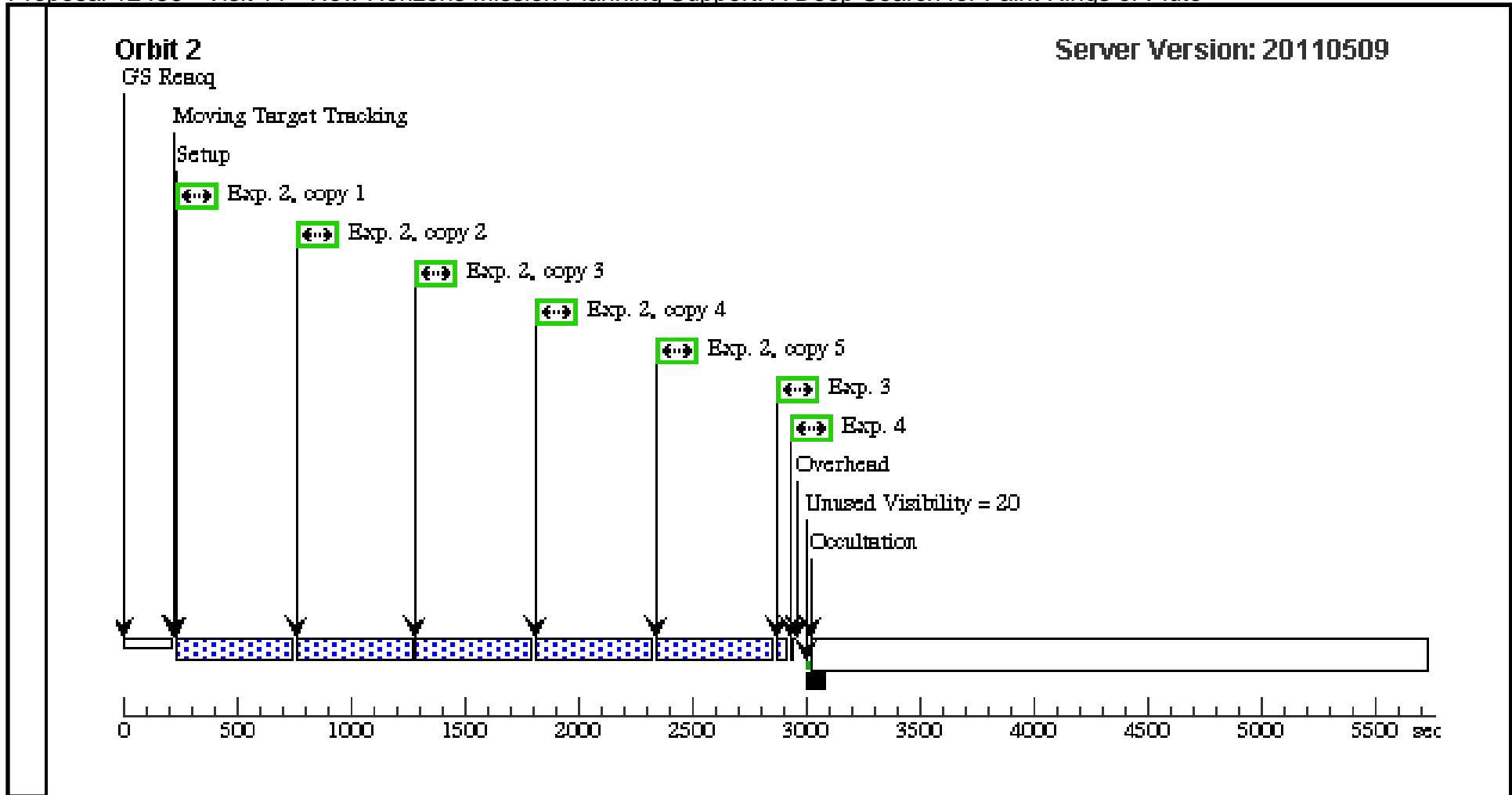
<b>Visit</b>	<p><b>Proposal 12436, Visit 11, withdrawn</b></p> <p><b>Diagnostic Status: No Diagnostics</b></p> <p>Scientific Instruments: WFC3/UVIS</p> <p>Special Requirements: SCHED 100%; ORIENT 278D TO 286 D; ON HOLD</p> <p><i>Comments: Pluto with its prograde rotation pole pointed leftward, perpendicular to the UVIS Y-axis; Charon on the diagonal at upper left (4th orbital quadrant). To be scheduled along with Visit 12.</i></p> <p><i>On Hold Comments: Visits 11/12 are a scientifically equivalent alternative to Visits 01/02. See comment field for Visit 01 for more information.</i></p>
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<b>Solar System Targets</b>	<table border="1"> <thead> <tr> <th>#</th> <th>Name</th> <th>Level 1</th> <th>Level 2</th> <th>Level 3</th> <th>Window</th> <th>Ephem Center</th> </tr> </thead> <tbody> <tr> <td>(4)</td> <td>PLUTO-CHARON-4TH-QUADRANT</td> <td>STD=PLUTO</td> <td></td> <td></td> <td>OLG OF CHARON BETWEEN 310 340</td> <td>EARTH</td> </tr> </tbody> </table> <p><i>Comments: Because the sub-Earth latitude of Pluto is ~ 44 degrees, the OLG of Charon needs to be 35, 145, 215 or 325 to place it along a diagonal from Pluto, assuming Pluto is oriented with its pole parallel or perpendicular to the UVIS Y-axis.</i></p>	#	Name	Level 1	Level 2	Level 3	Window	Ephem Center	(4)	PLUTO-CHARON-4TH-QUADRANT	STD=PLUTO			OLG OF CHARON BETWEEN 310 340	EARTH
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(4)	PLUTO-CHARON-4TH-QUADRANT	STD=PLUTO			OLG OF CHARON BETWEEN 310 340	EARTH									

<b>Exposures</b>	<table border="1"> <thead> <tr> <th>#</th> <th>Label</th> <th>Target</th> <th>Config,Mode,Aperture</th> <th>Spectral Els.</th> <th>Opt. Params.</th> <th>Special Reqs.</th> <th>Groups</th> <th>Exp. Time/[Actual Dur.]</th> <th>Orbit</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>F606W, 5 x 479 s</td> <td>(4) PLUTO-CHARON-4TH-QUADRANT</td> <td>WFC3/UVIS, ACCUM, UVIS2-C512C-SUB</td> <td>F606W</td> <td>CR-SPLIT=NO</td> <td></td> <td>Sequence 1-1 Non-Int in Visit 11</td> <td>479 Secs X 5 [==&gt;(Copy 1)] [==&gt;(Copy 2)] [==&gt;(Copy 3)] [==&gt;(Copy 4)] [==&gt;(Copy 5)]</td> <td>[1]</td> </tr> <tr> <td>2</td> <td>F606W, 5 x 479 s</td> <td>(4) PLUTO-CHARON-4TH-QUADRANT</td> <td>WFC3/UVIS, ACCUM, UVIS2-C512C-SUB</td> <td>F606W</td> <td>CR-SPLIT=NO</td> <td></td> <td>Sequence 2-4 Non-Int in Visit 11</td> <td>479 Secs X 5 [==&gt;(Copy 1)] [==&gt;(Copy 2)] [==&gt;(Copy 3)] [==&gt;(Copy 4)] [==&gt;(Copy 5)]</td> <td>[2]</td> </tr> <tr> <td>3</td> <td>F606W, 3 s</td> <td>(4) PLUTO-CHARON-4TH-QUADRANT</td> <td>WFC3/UVIS, ACCUM, UVIS2-C512C-SUB</td> <td>F606W</td> <td>CR-SPLIT=NO</td> <td></td> <td>Sequence 2-4 Non-Int in Visit 11</td> <td>3 Secs [==&gt;]</td> <td>[2]</td> </tr> <tr> <td>4</td> <td>F475W, 6 s</td> <td>(4) PLUTO-CHARON-4TH-QUADRANT</td> <td>WFC3/UVIS, ACCUM, UVIS2-C512C-SUB</td> <td>F475W</td> <td>CR-SPLIT=NO</td> <td></td> <td>Sequence 2-4 Non-Int in Visit 11</td> <td>6 Secs [==&gt;]</td> <td>[2]</td> </tr> </tbody> </table>	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit	1	F606W, 5 x 479 s	(4) PLUTO-CHARON-4TH-QUADRANT	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F606W	CR-SPLIT=NO		Sequence 1-1 Non-Int in Visit 11	479 Secs X 5 [==>(Copy 1)] [==>(Copy 2)] [==>(Copy 3)] [==>(Copy 4)] [==>(Copy 5)]	[1]	2	F606W, 5 x 479 s	(4) PLUTO-CHARON-4TH-QUADRANT	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F606W	CR-SPLIT=NO		Sequence 2-4 Non-Int in Visit 11	479 Secs X 5 [==>(Copy 1)] [==>(Copy 2)] [==>(Copy 3)] [==>(Copy 4)] [==>(Copy 5)]	[2]	3	F606W, 3 s	(4) PLUTO-CHARON-4TH-QUADRANT	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F606W	CR-SPLIT=NO		Sequence 2-4 Non-Int in Visit 11	3 Secs [==>]	[2]	4	F475W, 6 s	(4) PLUTO-CHARON-4TH-QUADRANT	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F475W	CR-SPLIT=NO		Sequence 2-4 Non-Int in Visit 11	6 Secs [==>]	[2]
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Orbit Structure





Proposal 12436 - Visit 12 - New Horizons Mission Planning Support: A Deep Search for Faint Rings of Pluto

Tue Jul 12 01:06:21 GMT 2011

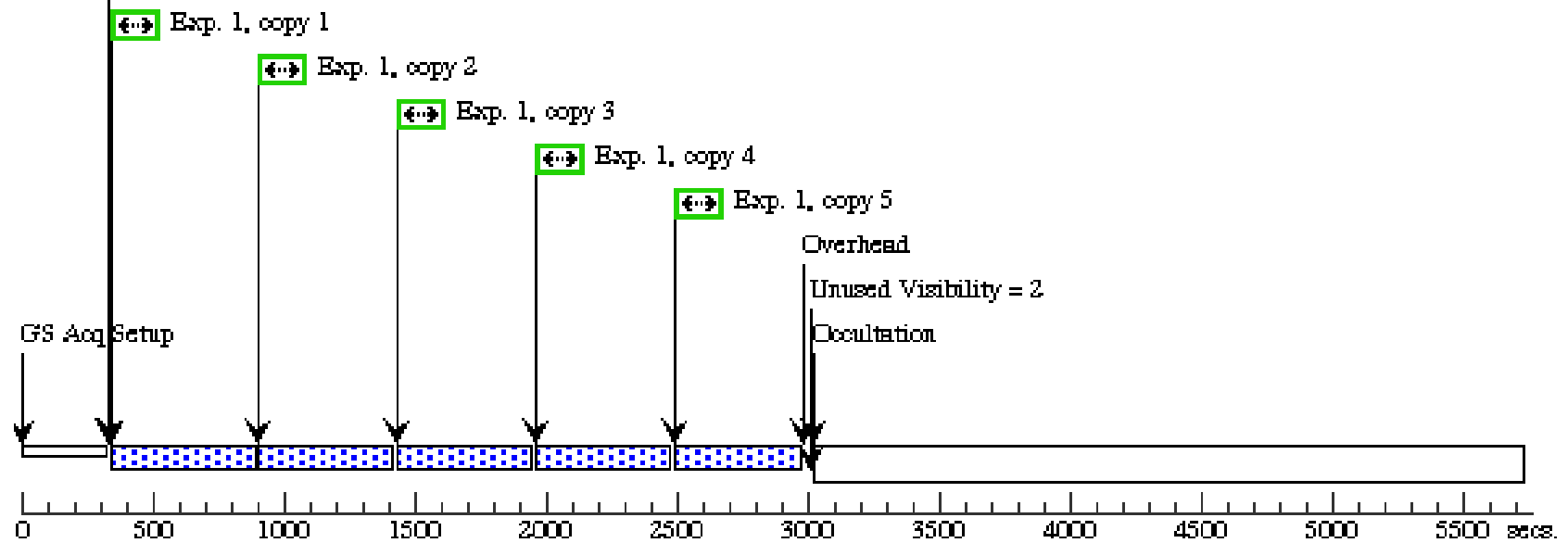
<b>Visit</b>	<p><b>Proposal 12436, Visit 12, withdrawn</b></p> <p><b>Diagnostic Status: No Diagnostics</b></p> <p>Scientific Instruments: WFC3/UVIS</p> <p>Special Requirements: SCHED 100%; ORIENT 188D TO 196 D; AFTER 11 BY 0 D TO 40 D; ON HOLD</p> <p><i>Comments: Pluto with its prograde rotation pole oriented downward, parallel to the UVIS Y-axis; Charon on the diagonal at upper left (3rd orbital quadrant). To be scheduled along with Visit 11.</i></p> <p><i>On Hold Comments: Visits 11/12 are a scientifically equivalent alternative to Visits 01/02. See comment field for Visit 01 for more information.</i></p>
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(3)	PLUTO-CHARON-3RD-QUADRANT	STD=PLUTO			OLG OF CHARON BETWEEN 200 230	EARTH									

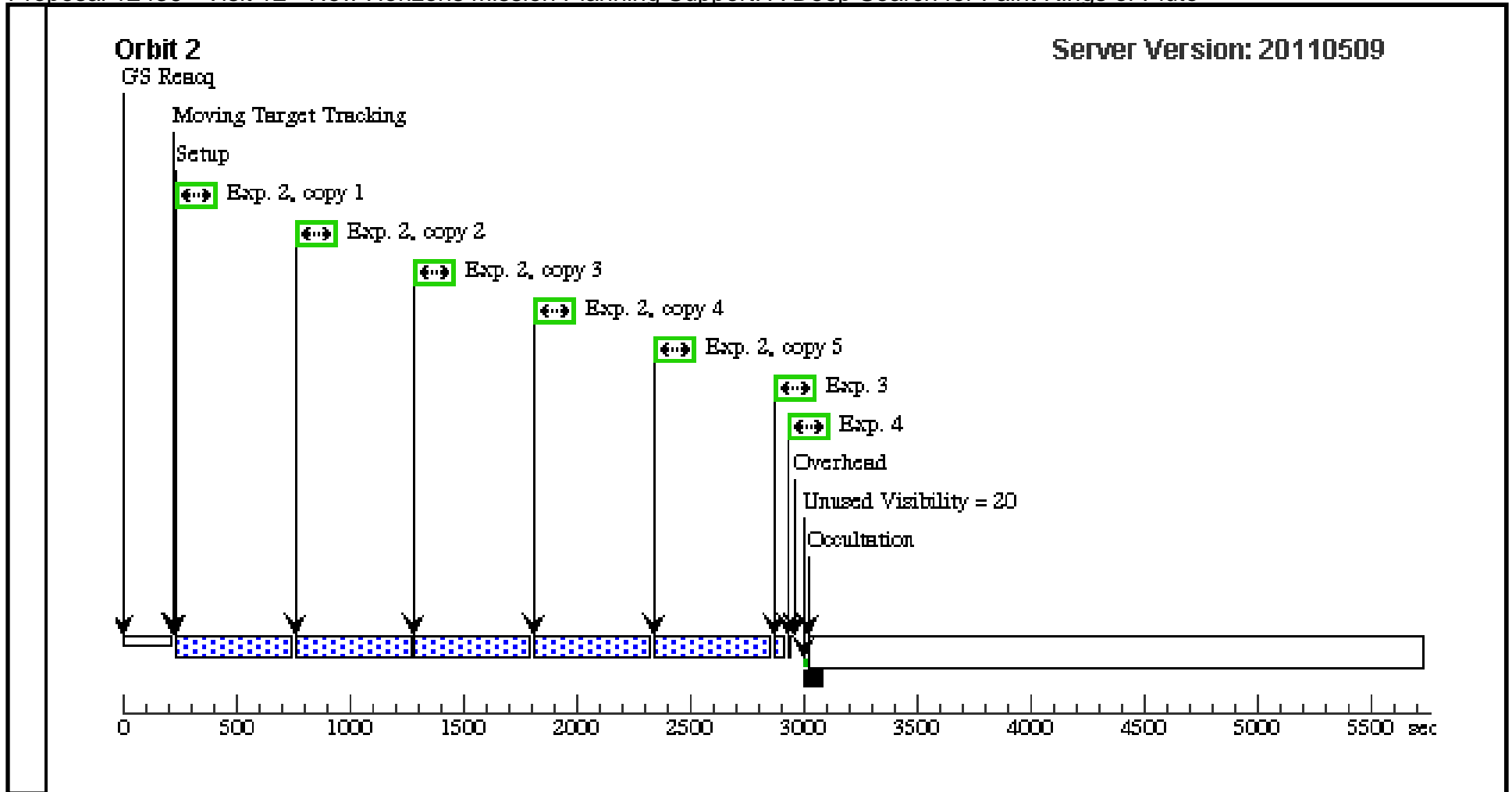
<b>Exposures</b>	<table border="1"> <thead> <tr> <th>#</th> <th>Label</th> <th>Target</th> <th>Config,Mode,Aperture</th> <th>Spectral Els.</th> <th>Opt. Params.</th> <th>Special Reqs.</th> <th>Groups</th> <th>Exp. Time/[Actual Dur.]</th> <th>Orbit</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>F606W, 5 x 479 s</td> <td>(3) PLUTO-CHARON-3RD-QUADRANT</td> <td>WFC3/UVIS, ACCUM, UVIS2-C512C-SUB</td> <td>F606W</td> <td>CR-SPLIT=NO</td> <td></td> <td>Sequence 1-1 Non-Int in Visit 12</td> <td>479 Secs X 5 [==&gt;(Copy 1)] [==&gt;(Copy 2)] [==&gt;(Copy 3)] [==&gt;(Copy 4)] [==&gt;(Copy 5)]</td> <td>[1]</td> </tr> <tr> <td>2</td> <td>F606W, 5 x 479 s</td> <td>(3) PLUTO-CHARON-3RD-QUADRANT</td> <td>WFC3/UVIS, ACCUM, UVIS2-C512C-SUB</td> <td>F606W</td> <td>CR-SPLIT=NO</td> <td></td> <td>Sequence 2-4 Non-Int in Visit 12</td> <td>479 Secs X 5 [==&gt;(Copy 1)] [==&gt;(Copy 2)] [==&gt;(Copy 3)] [==&gt;(Copy 4)] [==&gt;(Copy 5)]</td> <td>[2]</td> </tr> <tr> <td>3</td> <td>F606W, 3 s</td> <td>(3) PLUTO-CHARON-3RD-QUADRANT</td> <td>WFC3/UVIS, ACCUM, UVIS2-C512C-SUB</td> <td>F606W</td> <td>CR-SPLIT=NO</td> <td></td> <td>Sequence 2-4 Non-Int in Visit 12</td> <td>3 Secs [==&gt;]</td> <td>[2]</td> </tr> <tr> <td>4</td> <td>F475W, 6 s</td> <td>(3) PLUTO-CHARON-3RD-QUADRANT</td> <td>WFC3/UVIS, ACCUM, UVIS2-C512C-SUB</td> <td>F475W</td> <td>CR-SPLIT=NO</td> <td></td> <td>Sequence 2-4 Non-Int in Visit 12</td> <td>6 Secs [==&gt;]</td> <td>[2]</td> </tr> </tbody> </table>	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit	1	F606W, 5 x 479 s	(3) PLUTO-CHARON-3RD-QUADRANT	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F606W	CR-SPLIT=NO		Sequence 1-1 Non-Int in Visit 12	479 Secs X 5 [==>(Copy 1)] [==>(Copy 2)] [==>(Copy 3)] [==>(Copy 4)] [==>(Copy 5)]	[1]	2	F606W, 5 x 479 s	(3) PLUTO-CHARON-3RD-QUADRANT	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F606W	CR-SPLIT=NO		Sequence 2-4 Non-Int in Visit 12	479 Secs X 5 [==>(Copy 1)] [==>(Copy 2)] [==>(Copy 3)] [==>(Copy 4)] [==>(Copy 5)]	[2]	3	F606W, 3 s	(3) PLUTO-CHARON-3RD-QUADRANT	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F606W	CR-SPLIT=NO		Sequence 2-4 Non-Int in Visit 12	3 Secs [==>]	[2]	4	F475W, 6 s	(3) PLUTO-CHARON-3RD-QUADRANT	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F475W	CR-SPLIT=NO		Sequence 2-4 Non-Int in Visit 12	6 Secs [==>]	[2]
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Orbit 1

Moving Target Tracking



Orbit Structure





Proposal 12436 - Visit 21 - New Horizons Mission Planning Support: A Deep Search for Faint Rings of Pluto

Tue Jul 12 01:06:22 GMT 2011

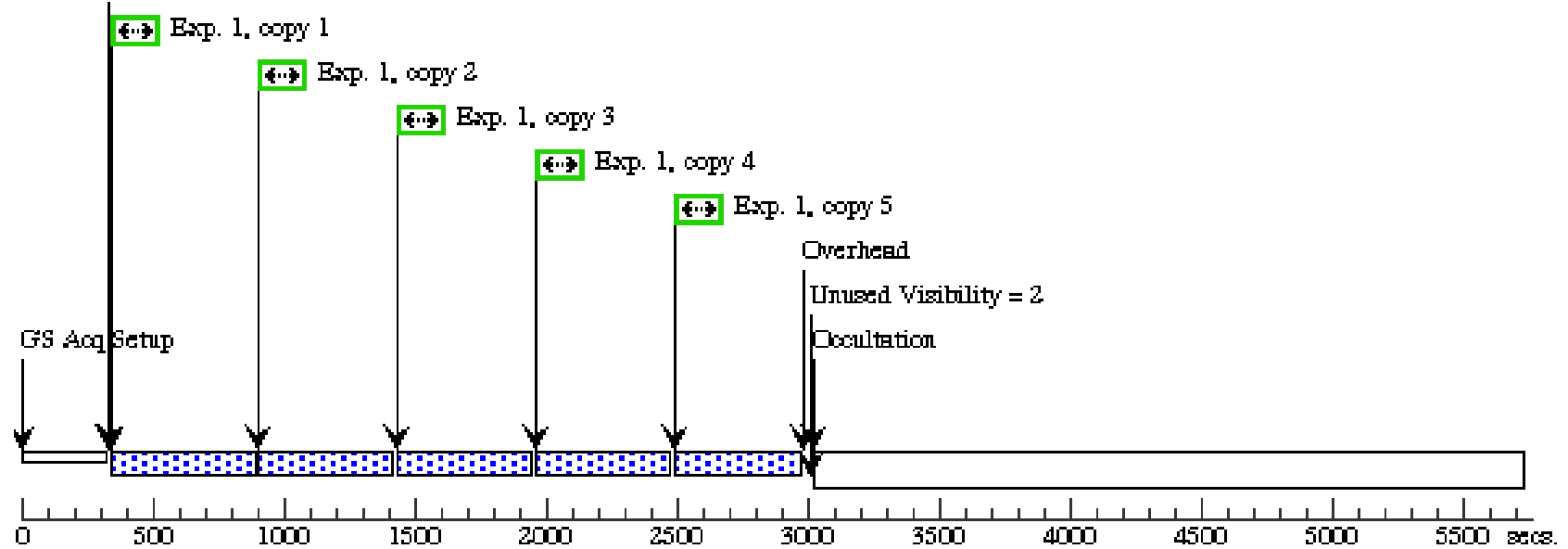
<b>Visit</b>	<b>Proposal 12436, Visit 21, completed</b> <b>Diagnostic Status: No Diagnostics</b> Scientific Instruments: WFC3/UVIS Special Requirements: SCHED 100%; ORIENT 188D TO 196 D; ON HOLD Comments: Pluto with its prograde rotation pole oriented downward, parallel to the UVIS Y-axis; Charon on the diagonal at lower left (4th orbital quadrant). To be scheduled along with Visit 22. On Hold Comments: Visits 21/22 are a scientifically equivalent alternative to Visits 01/02. See comment field for Visit 01 for more information.						

<b>Solar System Targets</b>	<b>#</b>	<b>Name</b>	<b>Level 1</b>	<b>Level 2</b>	<b>Level 3</b>	<b>Window</b>	<b>Ephem Center</b>
	(4)	PLUTO-CHARON-4TH-QUADRANT	STD=PLUTO			OLG OF CHARON BETWEEN 310 340	EARTH
Comments: Because the sub-Earth latitude of Pluto is ~ 44 degrees, the OLG of Charon needs to be 35, 145, 215 or 325 to place it along a diagonal from Pluto, assuming Pluto is oriented with its pole parallel or perpendicular to the UVIS Y-axis.							

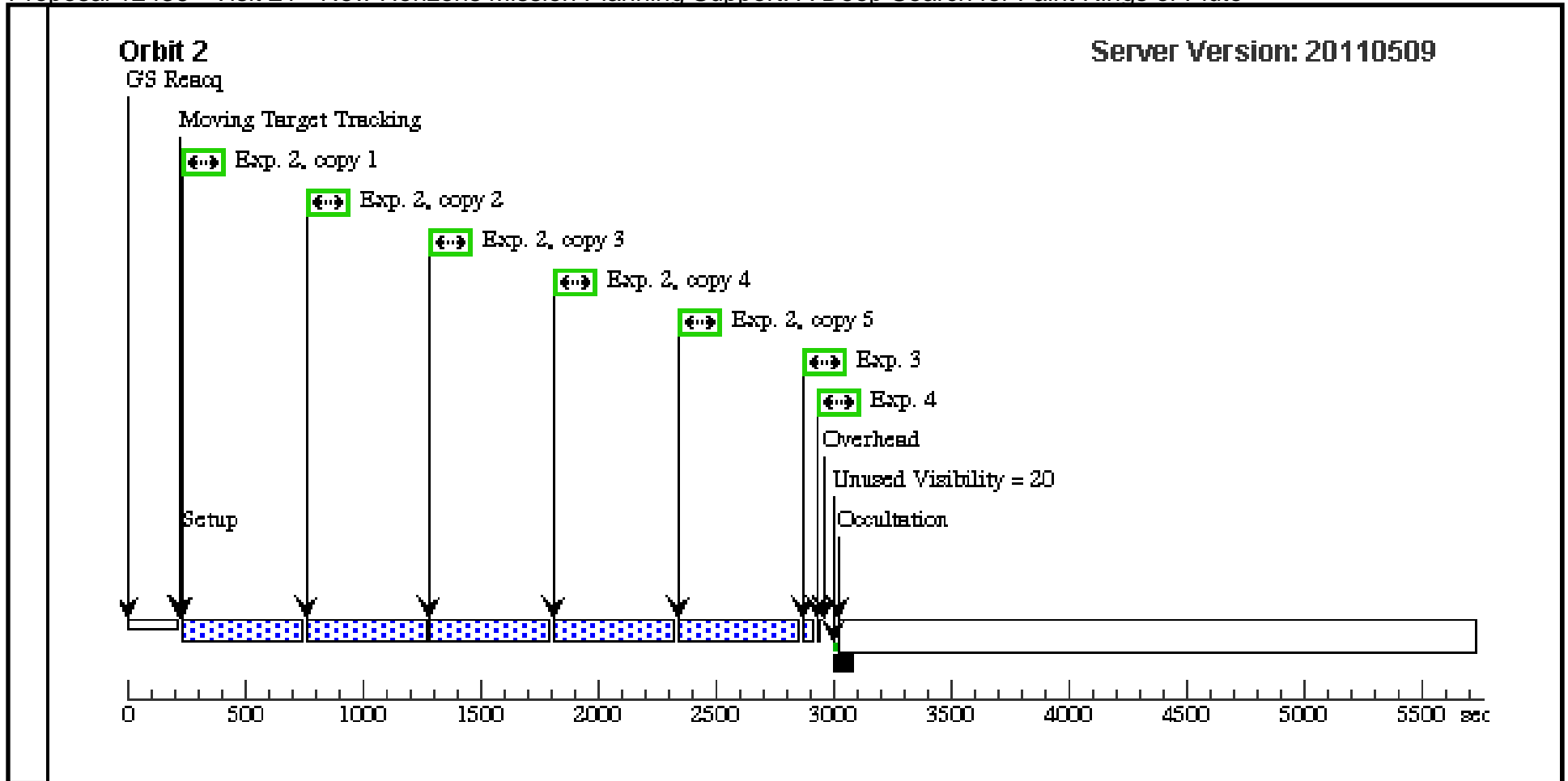
<b>Exposures</b>	<b>#</b>	<b>Label</b>	<b>Target</b>	<b>Config,Mode,Aperture</b>	<b>Spectral Els.</b>	<b>Opt. Params.</b>	<b>Special Reqs.</b>	<b>Groups</b>	<b>Exp. Time/[Actual Dur.]</b>	<b>Orbit</b>
	1	F606W, 5 x 479 s	(4) PLUTO-CHARON-4TH-QUADRANT	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F606W	CR-SPLIT=NO		Sequence 1-1 Non-Int in Visit 21	479 Secs X 5 [==>(Copy 1)] [==>(Copy 2)] [==>(Copy 3)] [==>(Copy 4)] [==>(Copy 5)]	[1]
	2	F606W, 5 x 479 s	(4) PLUTO-CHARON-4TH-QUADRANT	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F606W	CR-SPLIT=NO		Sequence 2-4 Non-Int in Visit 21	479 Secs X 5 [==>(Copy 1)] [==>(Copy 2)] [==>(Copy 3)] [==>(Copy 4)] [==>(Copy 5)]	[2]
	3	F606W, 3 s	(4) PLUTO-CHARON-4TH-QUADRANT	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F606W	CR-SPLIT=NO		Sequence 2-4 Non-Int in Visit 21	3 Secs [==>]	[2]
	4	F475W, 6 s	(4) PLUTO-CHARON-4TH-QUADRANT	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F475W	CR-SPLIT=NO		Sequence 2-4 Non-Int in Visit 21	6 Secs [==>]	[2]

Orbit 1

Moving Target Tracking



Orbit Structure



Proposal 12436 - Visit 22 - New Horizons Mission Planning Support: A Deep Search for Faint Rings of Pluto

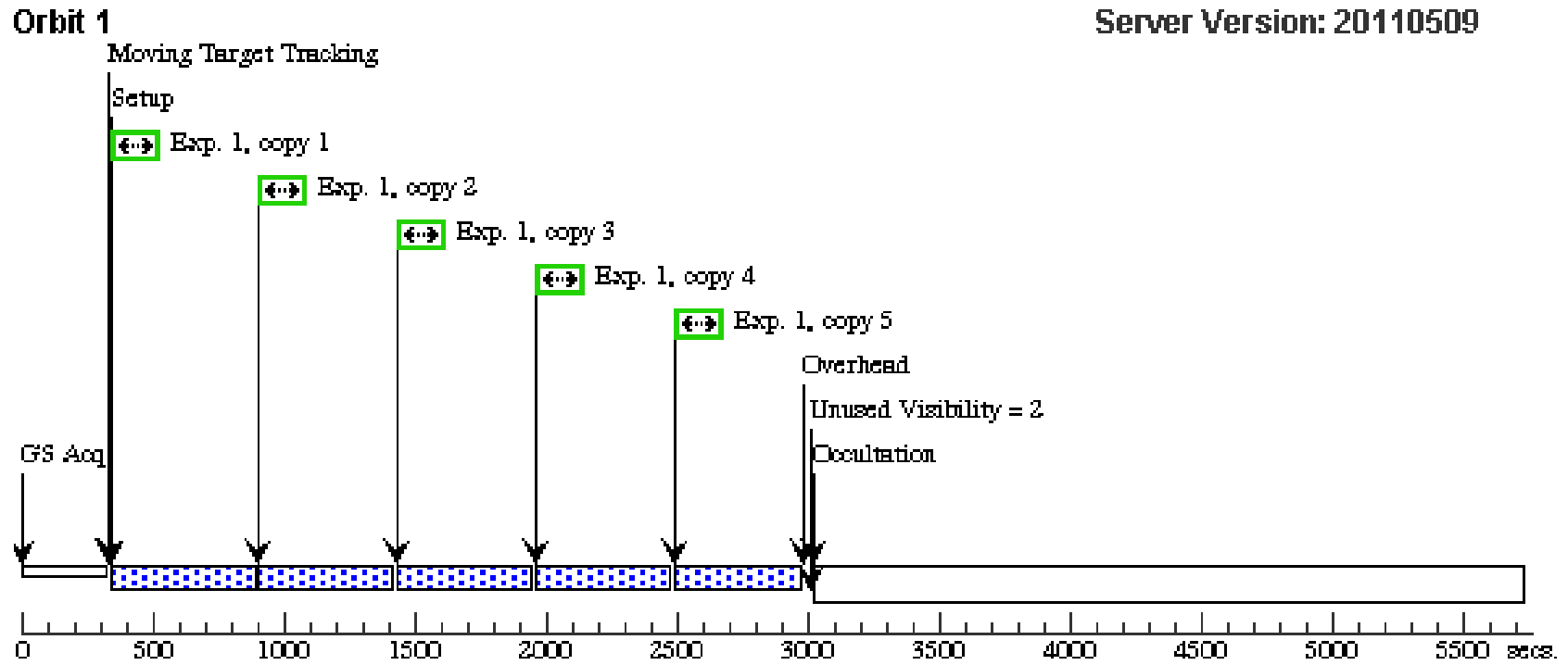
Tue Jul 12 01:06:22 GMT 2011

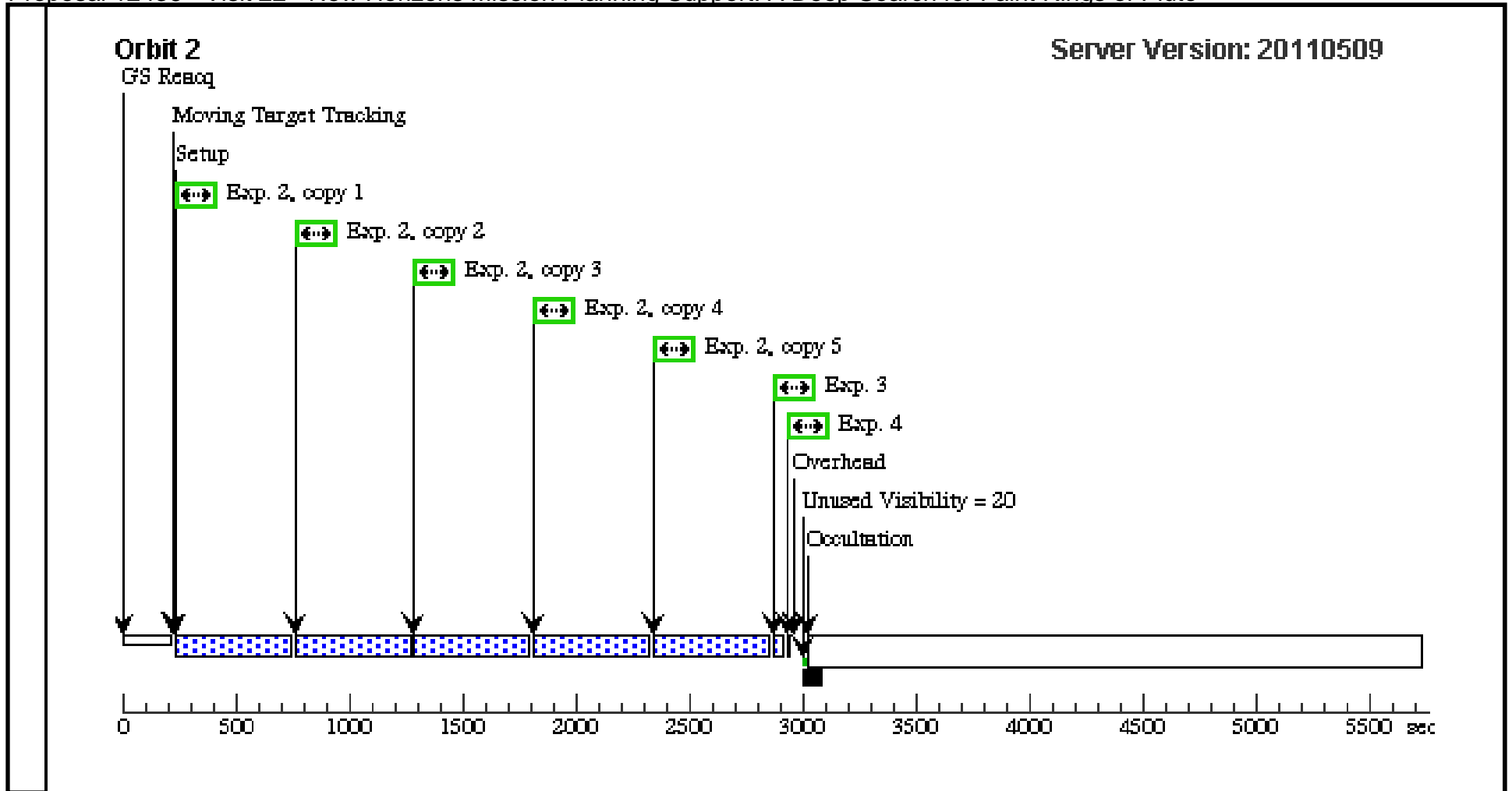
<b>Visit</b>	<p><b>Proposal 12436, Visit 22, completed</b></p> <p><b>Diagnostic Status: No Diagnostics</b></p> <p>Scientific Instruments: WFC3/UVIS</p> <p>Special Requirements: SCHED 100%; ORIENT 98D TO 106 D; AFTER 21 BY 0 D TO 40 D; ON HOLD</p> <p><i>Comments: Pluto with its prograde rotation pole pointed rightward, perpendicular to the UVIS Y-axis; Charon on the diagonal at lower left (3rd orbital quadrant). To be scheduled along with Visit 21.</i></p> <p><i>On Hold Comments: Visits 21/22 are a scientifically equivalent alternative to Visits 01/02. See comment field for Visit 01 for more information.</i></p>
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<b>Solar System Targets</b>	<table border="1"> <thead> <tr> <th>#</th> <th>Name</th> <th>Level 1</th> <th>Level 2</th> <th>Level 3</th> <th>Window</th> <th>Ephem Center</th> </tr> </thead> <tbody> <tr> <td>(3)</td> <td>PLUTO-CHARON-3RD-QUADRANT</td> <td>STD=PLUTO</td> <td></td> <td></td> <td>OLG OF CHARON BETWEEN 200 230</td> <td>EARTH</td> </tr> </tbody> </table> <p><i>Comments: Because the sub-Earth latitude of Pluto is ~ 44 degrees, the OLG of Charon needs to be 35, 145, 215 or 325 to place it along a diagonal from Pluto, assuming Pluto is oriented with its pole parallel or perpendicular to the UVIS Y-axis.</i></p>	#	Name	Level 1	Level 2	Level 3	Window	Ephem Center	(3)	PLUTO-CHARON-3RD-QUADRANT	STD=PLUTO			OLG OF CHARON BETWEEN 200 230	EARTH
	#	Name	Level 1	Level 2	Level 3	Window	Ephem Center								
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Orbit Structure





Proposal 12436 - Visit 31 - New Horizons Mission Planning Support: A Deep Search for Faint Rings of Pluto

Tue Jul 12 01:06:23 GMT 2011

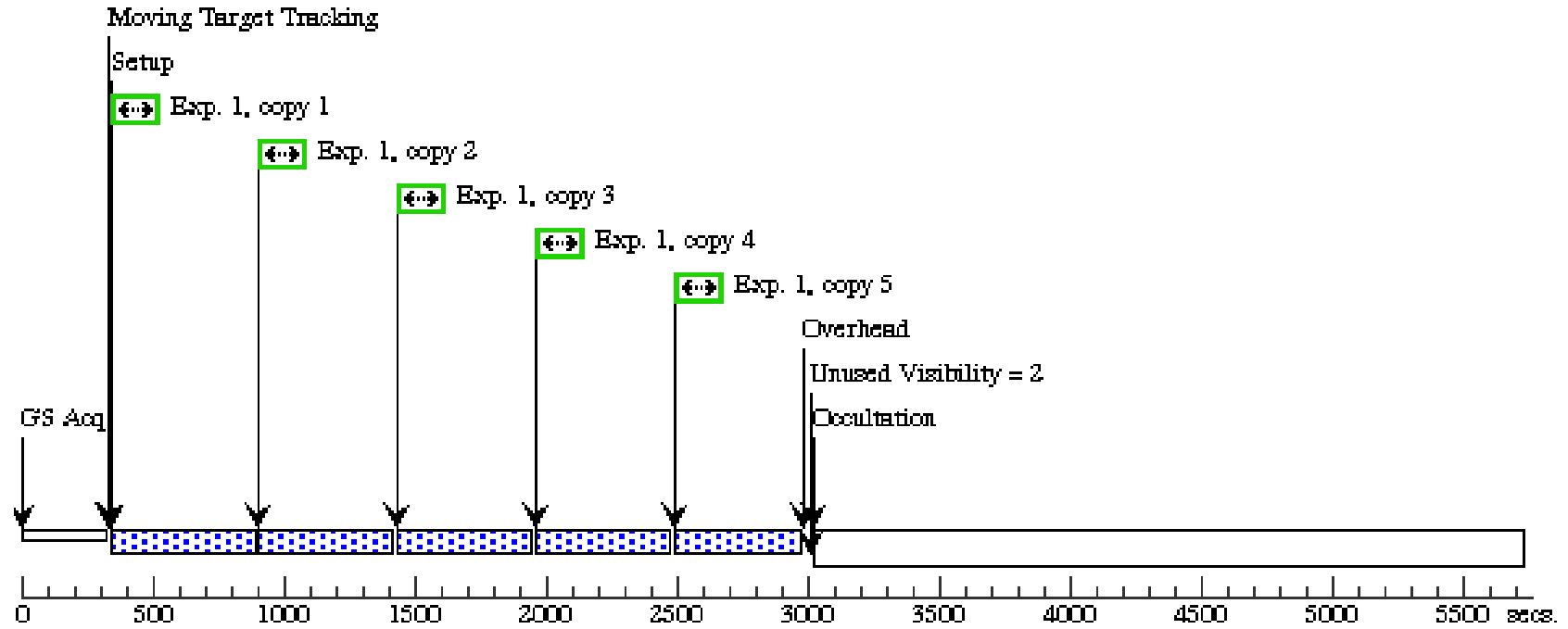
<b>Visit</b>	<p><b>Proposal 12436, Visit 31, withdrawn</b></p> <p><b>Diagnostic Status: No Diagnostics</b></p> <p>Scientific Instruments: WFC3/UVIS</p> <p>Special Requirements: SCHED 100%; ORIENT 278D TO 286 D; ON HOLD</p> <p><i>Comments: Pluto with its prograde rotation pole pointed leftward, perpendicular to the UVIS Y-axis; Charon on the diagonal at lower left (1st orbital quadrant). To be scheduled along with Visit 32.</i></p> <p><i>On Hold Comments: Visits 31/32 are a scientifically equivalent alternative to Visits 01/02. See comment field for Visit 01 for more information.</i></p>
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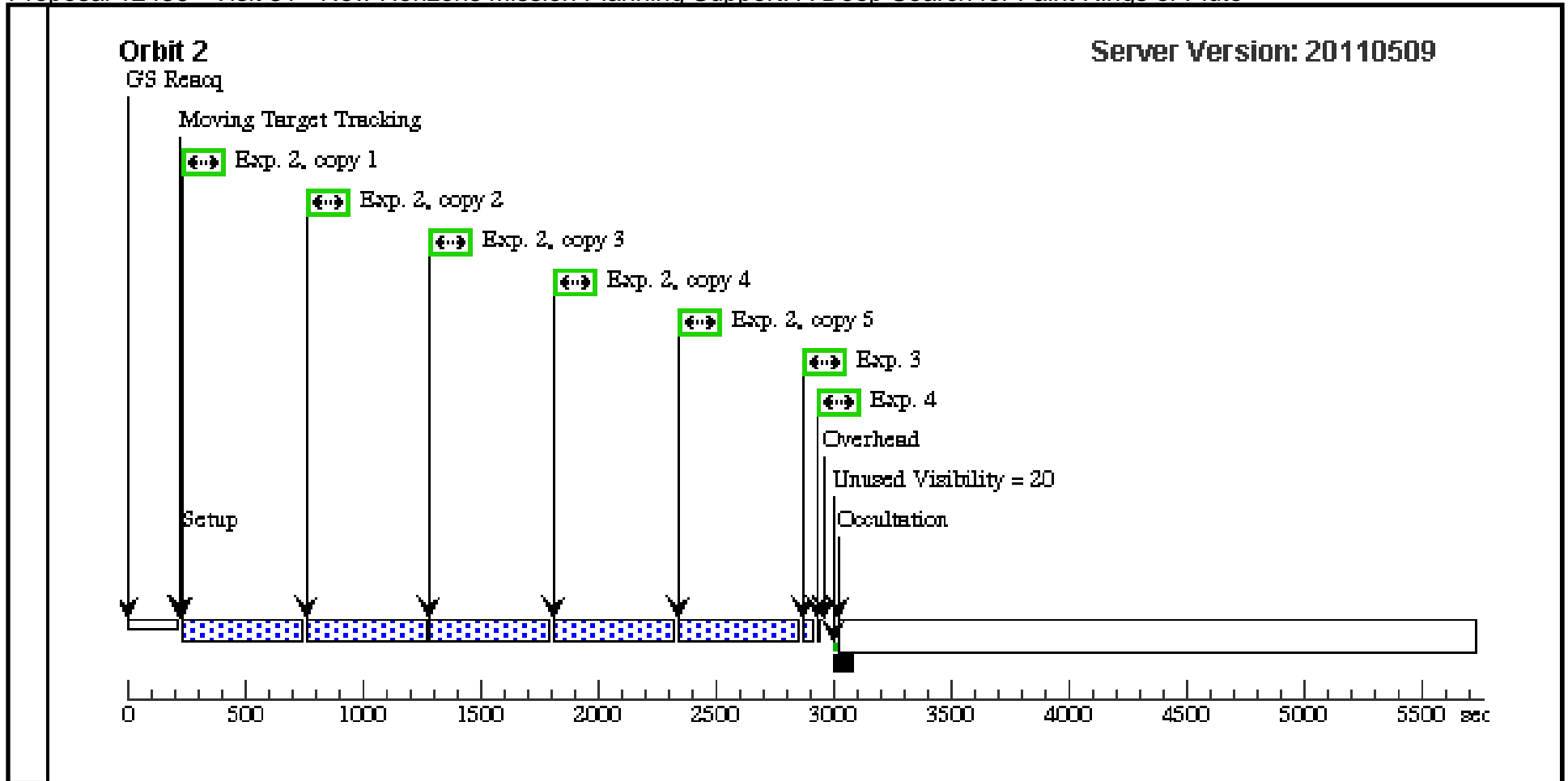
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	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit																																									
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Orbit Structure

Orbit 1







Proposal 12436 - Visit 32 - New Horizons Mission Planning Support: A Deep Search for Faint Rings of Pluto

Tue Jul 12 01:06:24 GMT 2011

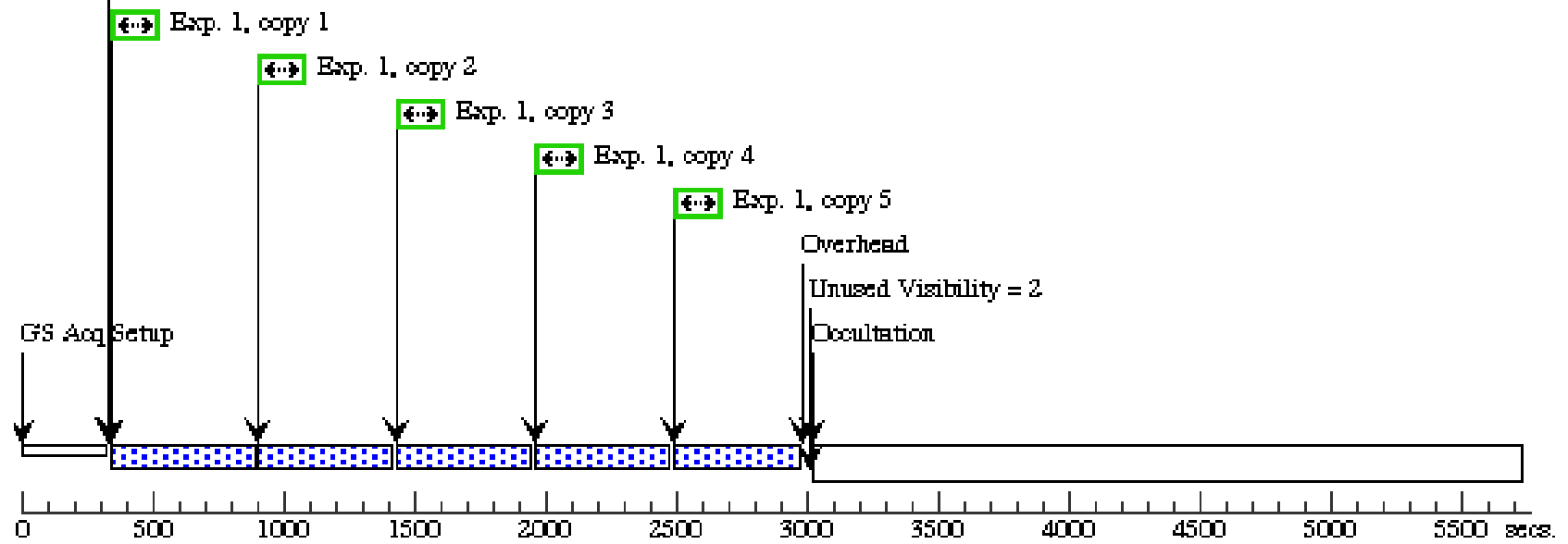
<b>Visit</b>	<p><b>Proposal 12436, Visit 32, withdrawn</b></p> <p><b>Diagnostic Status: No Diagnostics</b></p> <p>Scientific Instruments: WFC3/UVIS</p> <p>Special Requirements: SCHED 100%; ORIENT 188D TO 196 D; AFTER 31 BY 0 D TO 40 D; ON HOLD</p> <p><i>Comments: Pluto with its prograde rotation pole oriented downward, parallel to the UVIS Y-axis; Charon on the diagonal at lower left (4th orbital quadrant). To be scheduled along with Visit 31.</i></p> <p><i>On Hold Comments: Visits 31/32 are a scientifically equivalent alternative to Visits 01/02. See comment field for Visit 01 for more information.</i></p>
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<b>Solar System Targets</b>	<table border="1"> <thead> <tr> <th>#</th> <th>Name</th> <th>Level 1</th> <th>Level 2</th> <th>Level 3</th> <th>Window</th> <th>Ephem Center</th> </tr> </thead> <tbody> <tr> <td>(4)</td> <td>PLUTO-CHARON-4TH-QUADRANT</td> <td>STD=PLUTO</td> <td></td> <td></td> <td>OLG OF CHARON BETWEEN 310 340</td> <td>EARTH</td> </tr> </tbody> </table> <p><i>Comments: Because the sub-Earth latitude of Pluto is ~ 44 degrees, the OLG of Charon needs to be 35, 145, 215 or 325 to place it along a diagonal from Pluto, assuming Pluto is oriented with its pole parallel or perpendicular to the UVIS Y-axis.</i></p>	#	Name	Level 1	Level 2	Level 3	Window	Ephem Center	(4)	PLUTO-CHARON-4TH-QUADRANT	STD=PLUTO			OLG OF CHARON BETWEEN 310 340	EARTH
	#	Name	Level 1	Level 2	Level 3	Window	Ephem Center								
(4)	PLUTO-CHARON-4TH-QUADRANT	STD=PLUTO			OLG OF CHARON BETWEEN 310 340	EARTH									

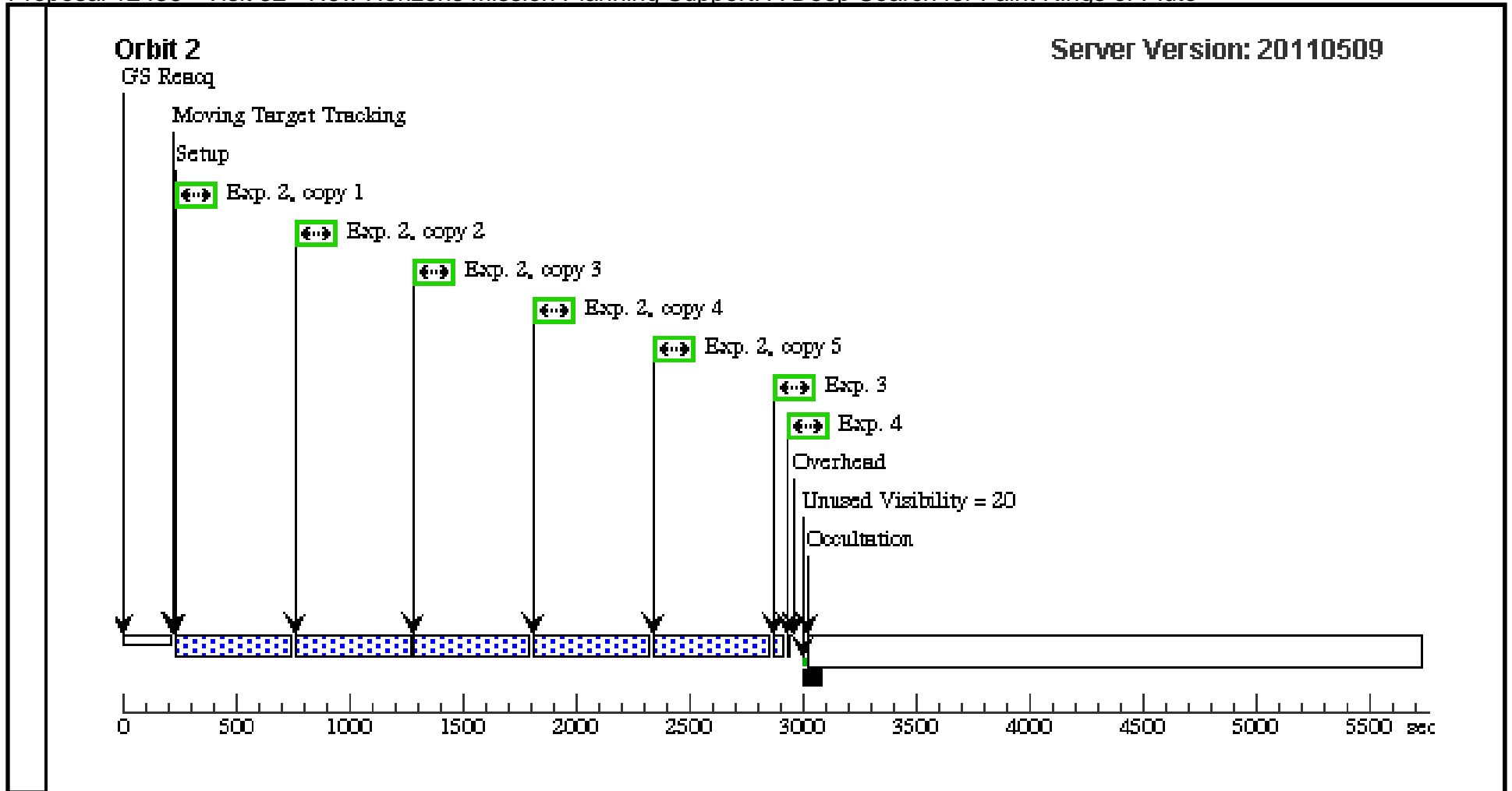
<b>Exposures</b>	<table border="1"> <thead> <tr> <th>#</th> <th>Label</th> <th>Target</th> <th>Config,Mode,Aperture</th> <th>Spectral Els.</th> <th>Opt. Params.</th> <th>Special Reqs.</th> <th>Groups</th> <th>Exp. Time/[Actual Dur.]</th> <th>Orbit</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>F606W, 5 x 479 s</td> <td>(4) PLUTO-CHARON-4TH-QUADRANT</td> <td>WFC3/UVIS, ACCUM, UVIS2-C512C-SUB</td> <td>F606W</td> <td>CR-SPLIT=NO</td> <td></td> <td>Sequence 1-1 Non-Int in Visit 32</td> <td>479 Secs X 5 [==&gt;(Copy 1)] [==&gt;(Copy 2)] [==&gt;(Copy 3)] [==&gt;(Copy 4)] [==&gt;(Copy 5)]</td> <td>[1]</td> </tr> <tr> <td>2</td> <td>F606W, 5 x 479 s</td> <td>(4) PLUTO-CHARON-4TH-QUADRANT</td> <td>WFC3/UVIS, ACCUM, UVIS2-C512C-SUB</td> <td>F606W</td> <td>CR-SPLIT=NO</td> <td></td> <td>Sequence 2-4 Non-Int in Visit 32</td> <td>479 Secs X 5 [==&gt;(Copy 1)] [==&gt;(Copy 2)] [==&gt;(Copy 3)] [==&gt;(Copy 4)] [==&gt;(Copy 5)]</td> <td>[2]</td> </tr> <tr> <td>3</td> <td>F606W, 3 s</td> <td>(4) PLUTO-CHARON-4TH-QUADRANT</td> <td>WFC3/UVIS, ACCUM, UVIS2-C512C-SUB</td> <td>F606W</td> <td>CR-SPLIT=NO</td> <td></td> <td>Sequence 2-4 Non-Int in Visit 32</td> <td>3 Secs [==&gt;]</td> <td>[2]</td> </tr> <tr> <td>4</td> <td>F475W, 6 s</td> <td>(4) PLUTO-CHARON-4TH-QUADRANT</td> <td>WFC3/UVIS, ACCUM, UVIS2-C512C-SUB</td> <td>F475W</td> <td>CR-SPLIT=NO</td> <td></td> <td>Sequence 2-4 Non-Int in Visit 32</td> <td>6 Secs [==&gt;]</td> <td>[2]</td> </tr> </tbody> </table>	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit	1	F606W, 5 x 479 s	(4) PLUTO-CHARON-4TH-QUADRANT	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F606W	CR-SPLIT=NO		Sequence 1-1 Non-Int in Visit 32	479 Secs X 5 [==>(Copy 1)] [==>(Copy 2)] [==>(Copy 3)] [==>(Copy 4)] [==>(Copy 5)]	[1]	2	F606W, 5 x 479 s	(4) PLUTO-CHARON-4TH-QUADRANT	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F606W	CR-SPLIT=NO		Sequence 2-4 Non-Int in Visit 32	479 Secs X 5 [==>(Copy 1)] [==>(Copy 2)] [==>(Copy 3)] [==>(Copy 4)] [==>(Copy 5)]	[2]	3	F606W, 3 s	(4) PLUTO-CHARON-4TH-QUADRANT	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F606W	CR-SPLIT=NO		Sequence 2-4 Non-Int in Visit 32	3 Secs [==>]	[2]	4	F475W, 6 s	(4) PLUTO-CHARON-4TH-QUADRANT	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F475W	CR-SPLIT=NO		Sequence 2-4 Non-Int in Visit 32	6 Secs [==>]	[2]
	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit																																									
	1	F606W, 5 x 479 s	(4) PLUTO-CHARON-4TH-QUADRANT	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F606W	CR-SPLIT=NO		Sequence 1-1 Non-Int in Visit 32	479 Secs X 5 [==>(Copy 1)] [==>(Copy 2)] [==>(Copy 3)] [==>(Copy 4)] [==>(Copy 5)]	[1]																																									
	2	F606W, 5 x 479 s	(4) PLUTO-CHARON-4TH-QUADRANT	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F606W	CR-SPLIT=NO		Sequence 2-4 Non-Int in Visit 32	479 Secs X 5 [==>(Copy 1)] [==>(Copy 2)] [==>(Copy 3)] [==>(Copy 4)] [==>(Copy 5)]	[2]																																									
	3	F606W, 3 s	(4) PLUTO-CHARON-4TH-QUADRANT	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F606W	CR-SPLIT=NO		Sequence 2-4 Non-Int in Visit 32	3 Secs [==>]	[2]																																									
4	F475W, 6 s	(4) PLUTO-CHARON-4TH-QUADRANT	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F475W	CR-SPLIT=NO		Sequence 2-4 Non-Int in Visit 32	6 Secs [==>]	[2]																																										

Orbit 1

Moving Target Tracking



Orbit Structure



Proposal 12436 - Visit 41 - New Horizons Mission Planning Support: A Deep Search for Faint Rings of Pluto

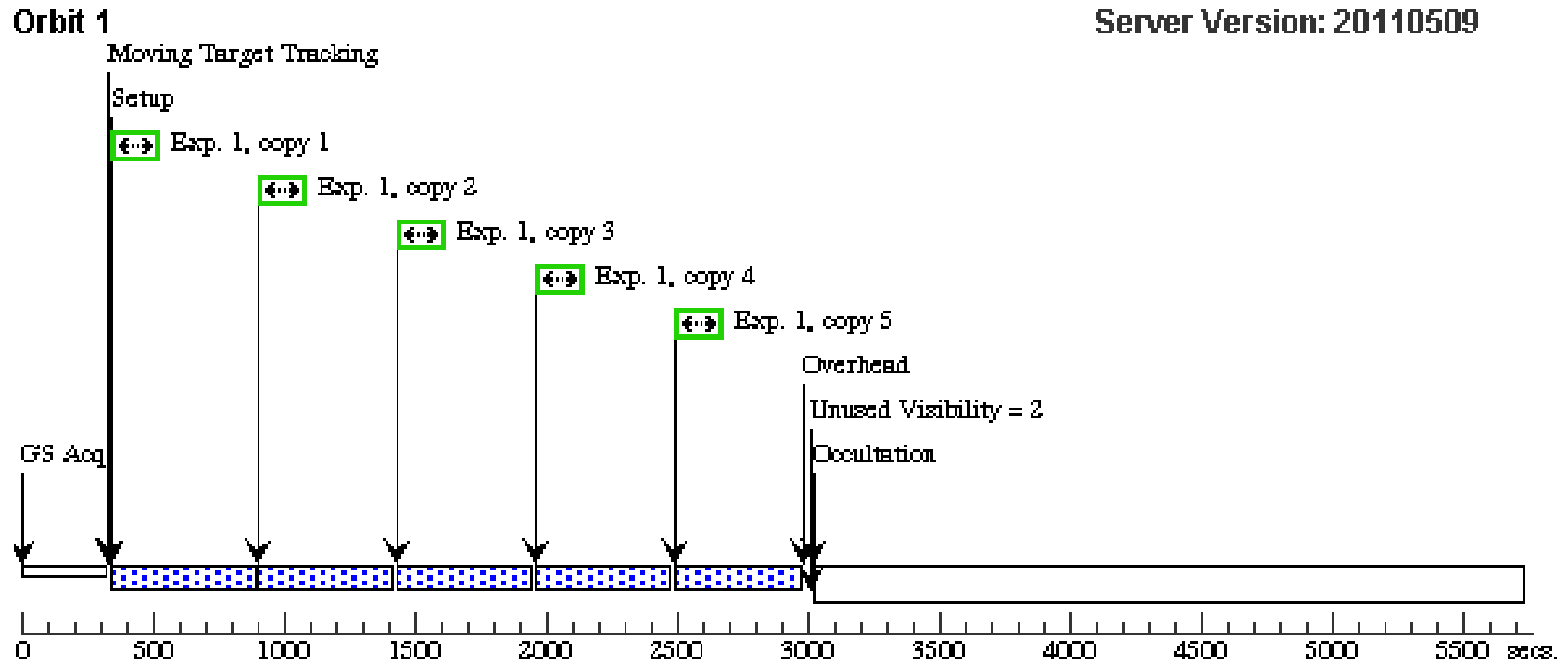
Tue Jul 12 01:06:24 GMT 2011

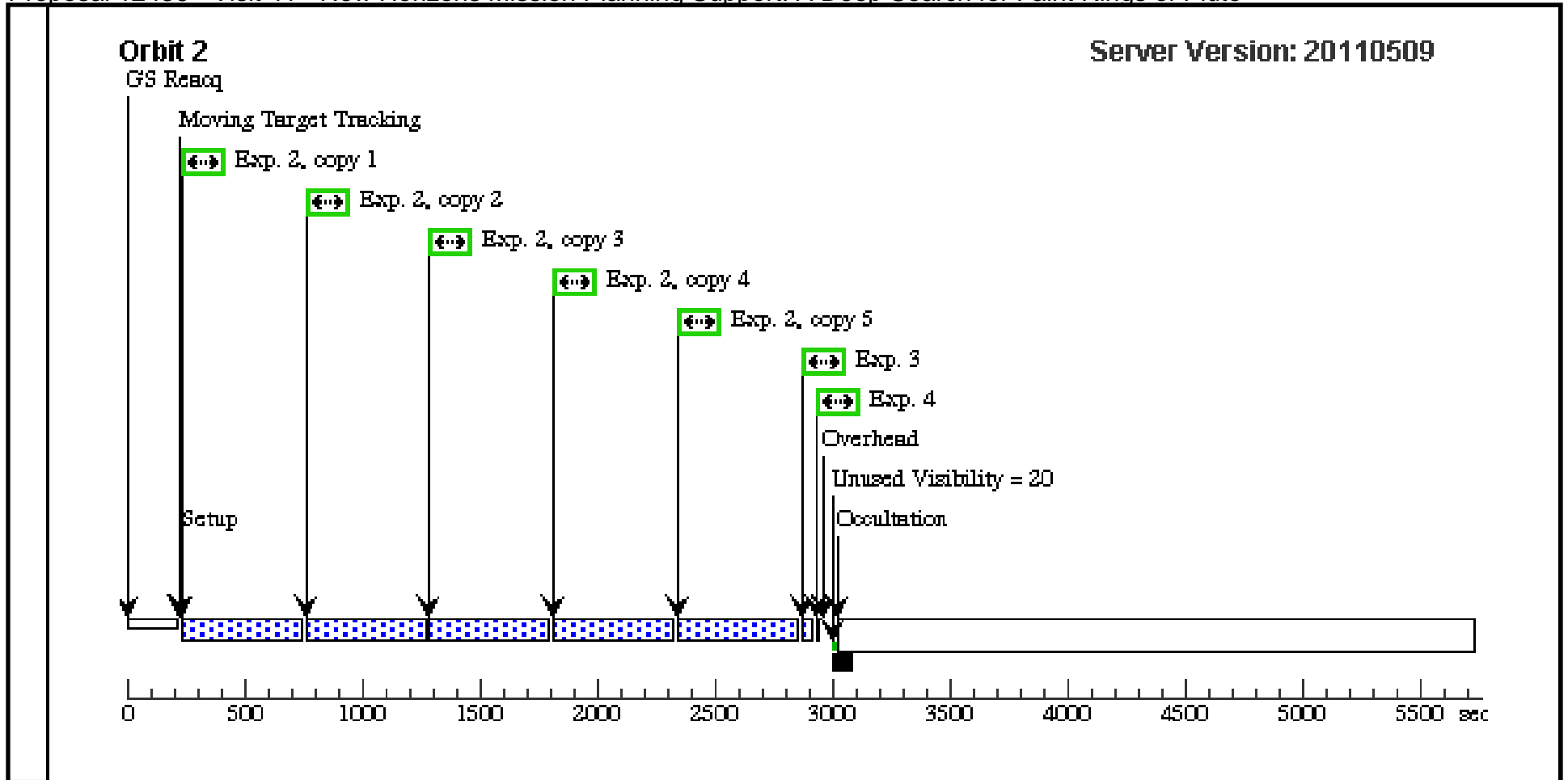
<b>Visit</b>	<b>Proposal 12436, Visit 41, withdrawn</b> <b>Diagnostic Status: No Diagnostics</b> Scientific Instruments: WFC3/UVIS Special Requirements: SCHED 100%; ORIENT 188D TO 196 D; ON HOLD Comments: Pluto with its prograde rotation pole oriented downward, parallel to the UVIS Y-axis; Charon on the diagonal at lower right (1st orbital quadrant). To be scheduled along with Visit 42. On Hold Comments: Visits 41/42 are a scientifically equivalent alternative to Visits 01/02. See comment field for Visit 01 for more information.						

<b>Solar System Targets</b>	<b>#</b>	<b>Name</b>	<b>Level 1</b>	<b>Level 2</b>	<b>Level 3</b>	<b>Window</b>	<b>Ephem Center</b>
	(1)	PLUTO-CHARON-1ST-QUADRANT	STD=PLUTO			OLG OF CHARON BETWEEN 20 50	EARTH
Comments: Because the sub-Earth latitude of Pluto is ~ 44 degrees, the OLG of Charon needs to be 35, 145, 215 or 325 to place it along a diagonal from Pluto, assuming Pluto is oriented with its pole parallel or perpendicular to the UVIS Y-axis.							

<b>Exposures</b>	<b>#</b>	<b>Label</b>	<b>Target</b>	<b>Config,Mode,Aperture</b>	<b>Spectral Els.</b>	<b>Opt. Params.</b>	<b>Special Reqs.</b>	<b>Groups</b>	<b>Exp. Time/[Actual Dur.]</b>	<b>Orbit</b>
	1	F606W, 5 x 479 s	(1) PLUTO-CHARON-1ST-QUADRANT	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F606W	CR-SPLIT=NO		Sequence 1-1 Non-Int in Visit 41	479 Secs X 5 [==>(Copy 1)] [==>(Copy 2)] [==>(Copy 3)] [==>(Copy 4)] [==>(Copy 5)]	[1]
	2	F606W, 5 x 479 s	(1) PLUTO-CHARON-1ST-QUADRANT	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F606W	CR-SPLIT=NO		Sequence 2-4 Non-Int in Visit 41	479 Secs X 5 [==>(Copy 1)] [==>(Copy 2)] [==>(Copy 3)] [==>(Copy 4)] [==>(Copy 5)]	[2]
	3	F606W, 3 s	(1) PLUTO-CHARON-1ST-QUADRANT	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F606W	CR-SPLIT=NO		Sequence 2-4 Non-Int in Visit 41	3 Secs [==>]	[2]
	4	F475W, 6 s	(1) PLUTO-CHARON-1ST-QUADRANT	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F475W	CR-SPLIT=NO		Sequence 2-4 Non-Int in Visit 41	6 Secs [==>]	[2]

Orbit Structure





Proposal 12436 - Visit 42 - New Horizons Mission Planning Support: A Deep Search for Faint Rings of Pluto

Tue Jul 12 01:06:25 GMT 2011

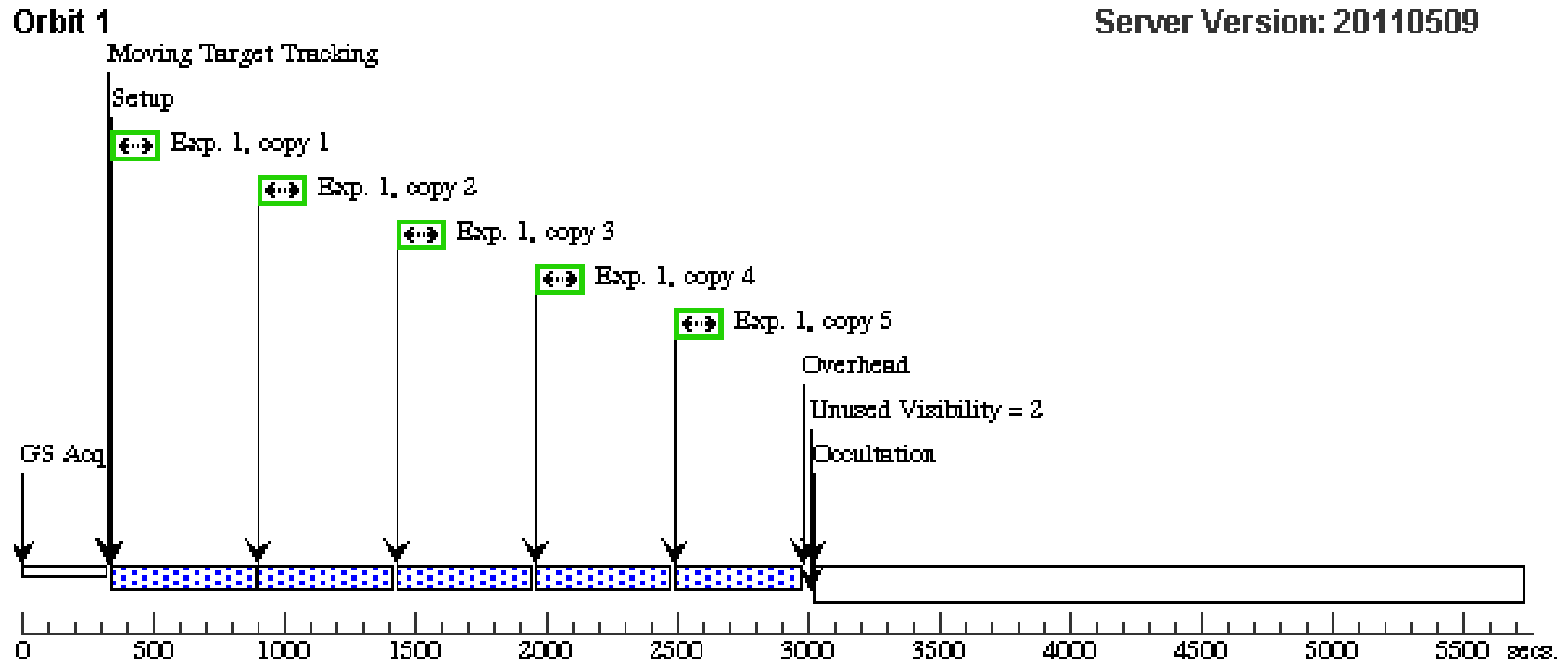
<b>Visit</b>	<b>Proposal 12436, Visit 42, withdrawn</b> <b>Diagnostic Status: No Diagnostics</b> Scientific Instruments: WFC3/UVIS Special Requirements: SCHED 100%; ORIENT 98D TO 106 D; AFTER 41 BY 0 D TO 40 D; ON HOLD Comments: Pluto with its prograde rotation pole pointed rightward, perpendicular to the UVIS Y-axis; Charon on the diagonal at lower right (4th orbital quadrant). To be scheduled along with Visit 41. On Hold Comments: Visits 41/42 are a scientifically equivalent alternative to Visits 01/02. See comment field for Visit 01 for more information.						

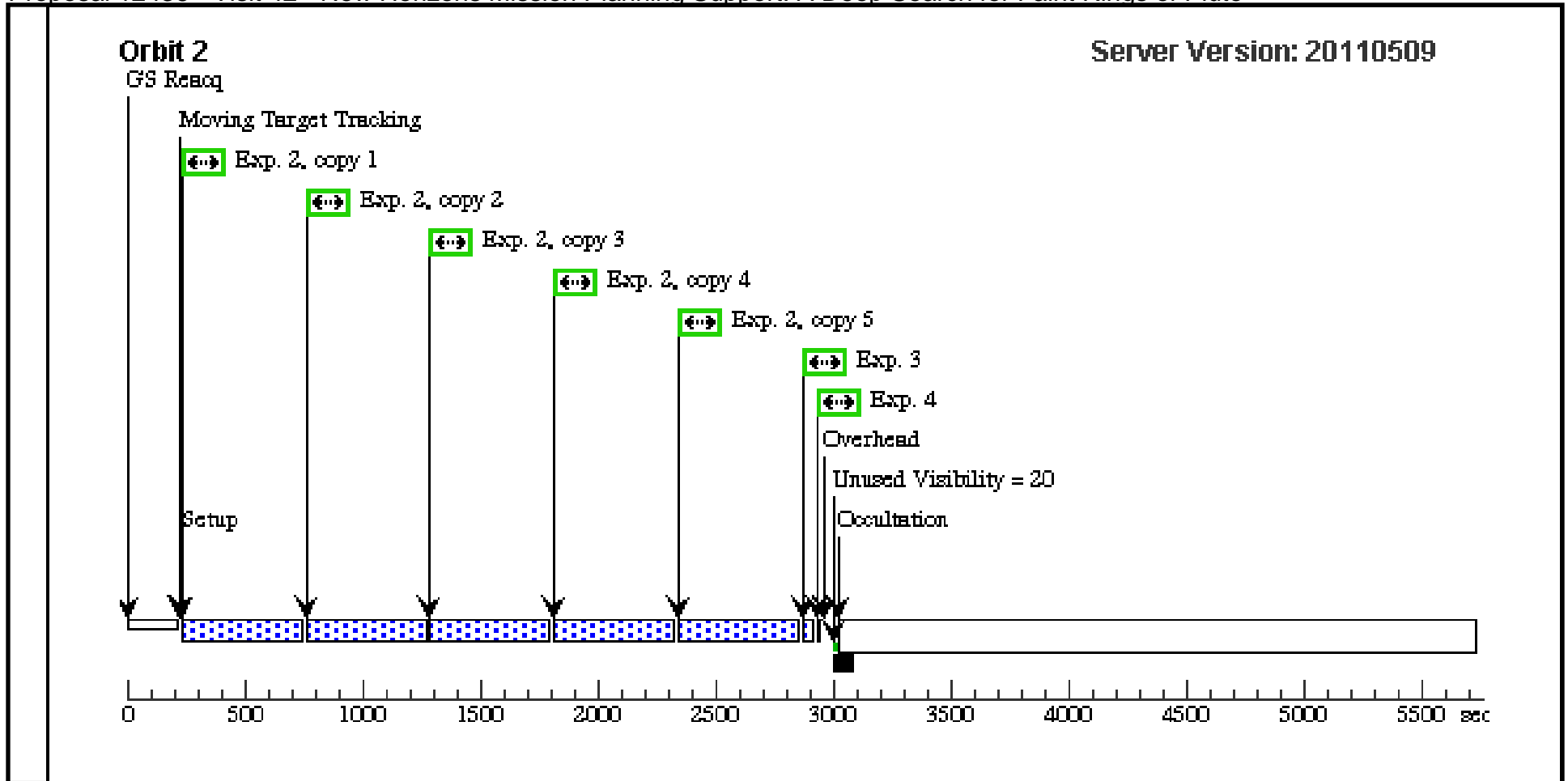
<b>Solar System Targets</b>	#	Name	Level 1	Level 2	Level 3	Window	Ephem Center
	(4)	PLUTO-CHARON-4TH-QUADRANT	STD=PLUTO			OLG OF CHARON BETWEEN 310 340	EARTH
Comments: Because the sub-Earth latitude of Pluto is ~ 44 degrees, the OLG of Charon needs to be 35, 145, 215 or 325 to place it along a diagonal from Pluto, assuming Pluto is oriented with its pole parallel or perpendicular to the UVIS Y-axis.							

<b>Exposures</b>	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
	1	F606W, 5 x 479 s	(4) PLUTO-CHARON-4TH-QUADRANT	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F606W	CR-SPLIT=NO		Sequence 1-1 Non-Int in Visit 42	479 Secs X 5 [==>(Copy 1)] [==>(Copy 2)] [==>(Copy 3)] [==>(Copy 4)] [==>(Copy 5)]	[1]
	2	F606W, 5 x 479 s	(4) PLUTO-CHARON-4TH-QUADRANT	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F606W	CR-SPLIT=NO		Sequence 2-4 Non-Int in Visit 42	479 Secs X 5 [==>(Copy 1)] [==>(Copy 2)] [==>(Copy 3)] [==>(Copy 4)] [==>(Copy 5)]	[2]
	3	F606W, 3 s	(4) PLUTO-CHARON-4TH-QUADRANT	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F606W	CR-SPLIT=NO		Sequence 2-4 Non-Int in Visit 42	3 Secs [==>]	[2]
	4	F475W, 6 s	(4) PLUTO-CHARON-4TH-QUADRANT	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F475W	CR-SPLIT=NO		Sequence 2-4 Non-Int in Visit 42	6 Secs [==>]	[2]



Orbit Structure





Proposal 12436 - Visit 51 - New Horizons Mission Planning Support: A Deep Search for Faint Rings of Pluto

Tue Jul 12 01:06:25 GMT 2011

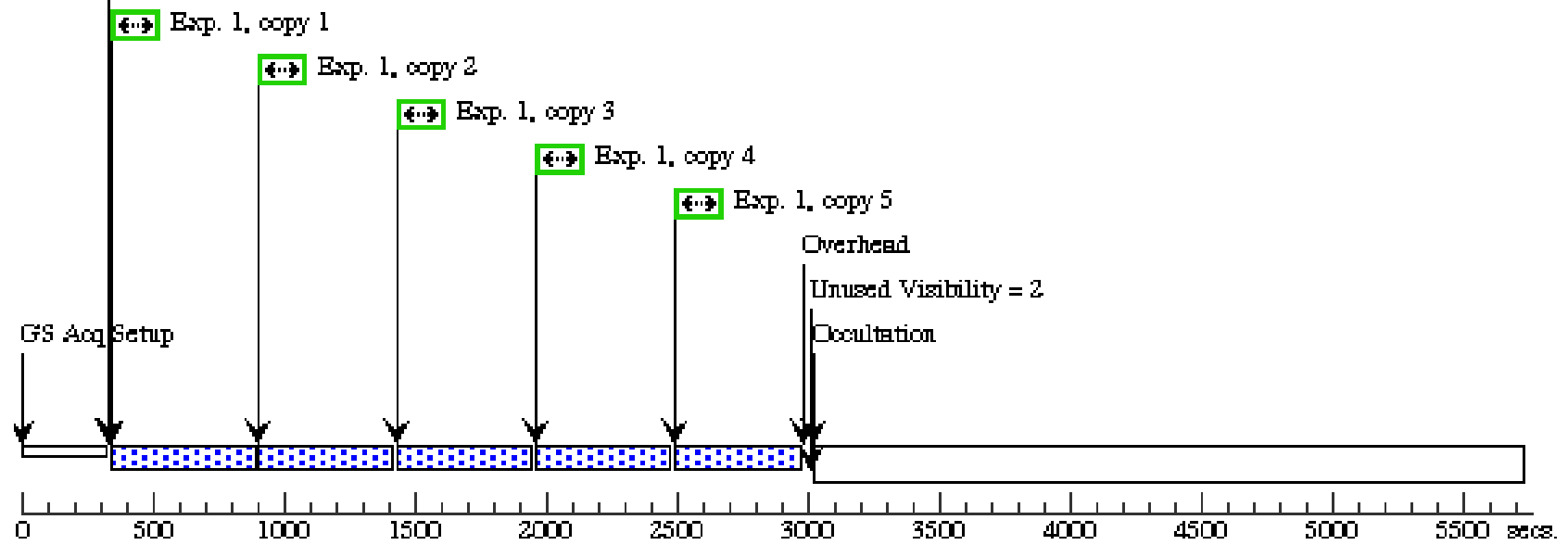
<b>Visit</b>	<b>Proposal 12436, Visit 51, withdrawn</b> <b>Diagnostic Status: No Diagnostics</b> Scientific Instruments: WFC3/UVIS Special Requirements: SCHED 100%; ORIENT 278D TO 286 D; ON HOLD Comments: Pluto with its prograde rotation pole pointed leftward, perpendicular to the UVIS Y-axis; Charon on the diagonal at lower right (2nd orbital quadrant). To be scheduled along with Visit 52. On Hold Comments: Visits 51/52 are a scientifically equivalent alternative to Visits 01/02. See comment field for Visit 01 for more information.						

<b>Solar System Targets</b>	#	Name	Level 1	Level 2	Level 3	Window	Ephem Center
	(2)	PLUTO-CHARON-2ND-QUADRANT	STD=PLUTO				OLG OF CHARON BETWEEN 130 160
Comments: Because the sub-Earth latitude of Pluto is ~ 44 degrees, the OLG of Charon needs to be 35, 145, 215 or 325 to place it along a diagonal from Pluto, assuming Pluto is oriented with its pole parallel or perpendicular to the UVIS Y-axis.							

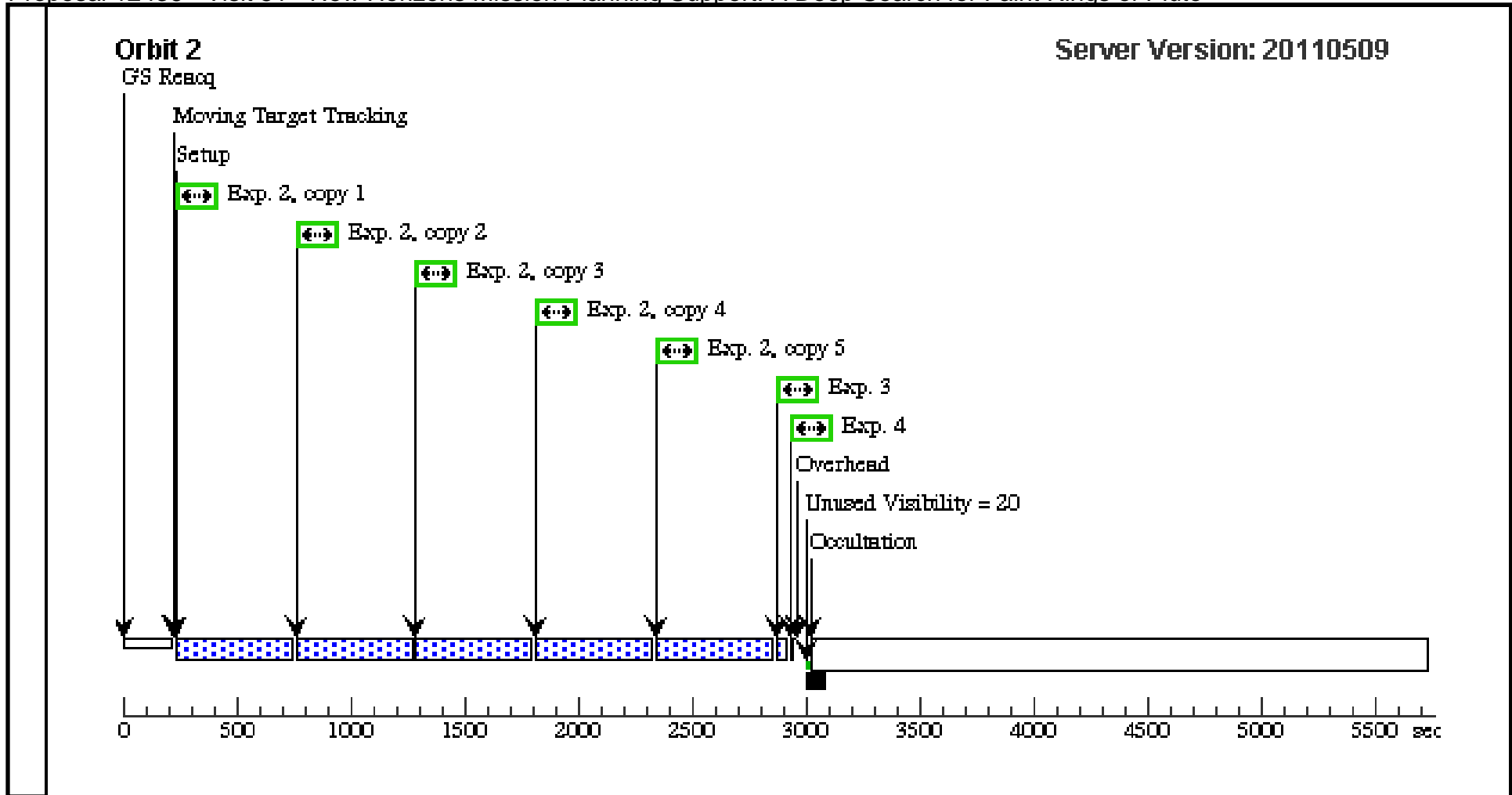
<b>Exposures</b>	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
	1	F606W, 5 x 479 s	(2) PLUTO-CHARON-2ND-QUADRANT	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F606W	CR-SPLIT=NO		Sequence 1-1 Non-Int in Visit 51	479 Secs X 5 [==>(Copy 1)] [==>(Copy 2)] [==>(Copy 3)] [==>(Copy 4)] [==>(Copy 5)]	[1]
	2	F606W, 5 x 479 s	(2) PLUTO-CHARON-2ND-QUADRANT	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F606W	CR-SPLIT=NO		Sequence 2-4 Non-Int in Visit 51	479 Secs X 5 [==>(Copy 1)] [==>(Copy 2)] [==>(Copy 3)] [==>(Copy 4)] [==>(Copy 5)]	[2]
	3	F606W, 3 s	(2) PLUTO-CHARON-2ND-QUADRANT	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F606W	CR-SPLIT=NO		Sequence 2-4 Non-Int in Visit 51	3 Secs [==>]	[2]
	4	F475W, 6 s	(2) PLUTO-CHARON-2ND-QUADRANT	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F475W	CR-SPLIT=NO		Sequence 2-4 Non-Int in Visit 51	6 Secs [==>]	[2]

Orbit 1

Moving Target Tracking



Orbit Structure



Proposal 12436 - Visit 52 - New Horizons Mission Planning Support: A Deep Search for Faint Rings of Pluto

Tue Jul 12 01:06:26 GMT 2011

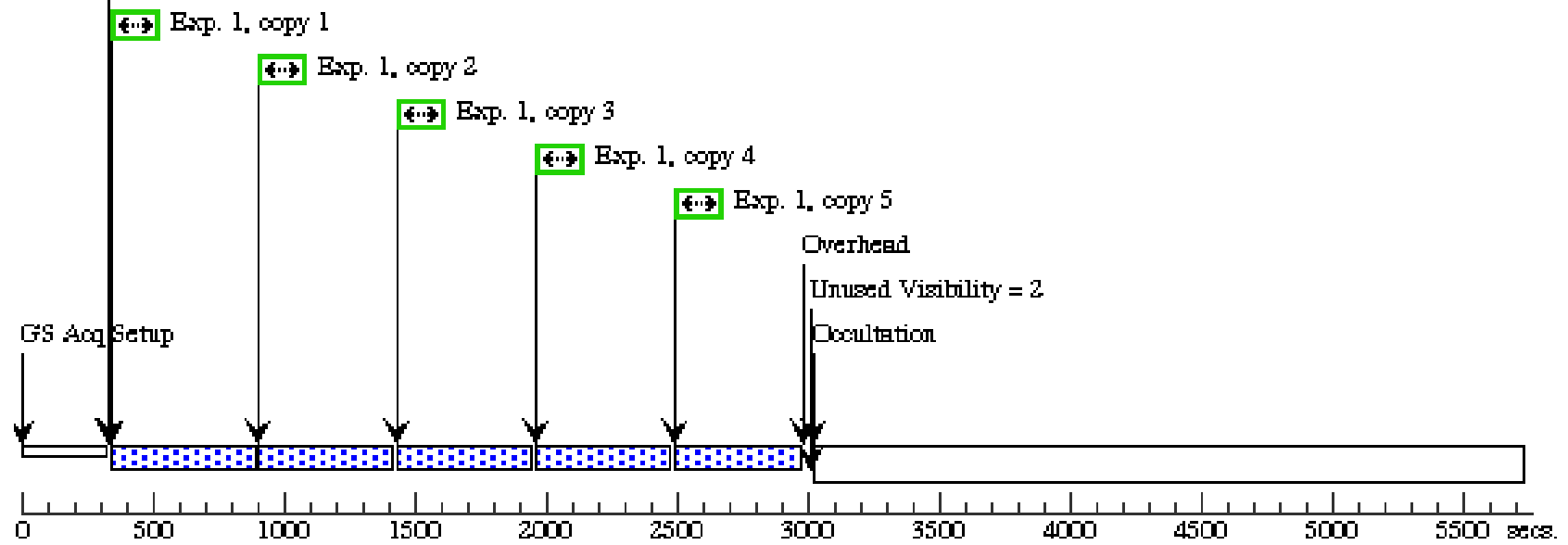
<b>Visit</b>	<p><b>Proposal 12436, Visit 52, withdrawn</b></p> <p><b>Diagnostic Status: No Diagnostics</b></p> <p>Scientific Instruments: WFC3/UVIS</p> <p>Special Requirements: SCHED 100%; ORIENT 188D TO 196 D; AFTER 51 BY 0 D TO 40 D; ON HOLD</p> <p><i>Comments: Pluto with its prograde rotation pole oriented downward, parallel to the UVIS Y-axis; Charon on the diagonal at lower right (1st orbital quadrant). To be scheduled along with Visit 51.</i></p> <p><i>On Hold Comments: Visits 51/52 are a scientifically equivalent alternative to Visits 01/02. See comment field for Visit 01 for more information.</i></p>
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<b>Solar System Targets</b>	<table border="1"> <thead> <tr> <th>#</th> <th>Name</th> <th>Level 1</th> <th>Level 2</th> <th>Level 3</th> <th>Window</th> <th>Ephem Center</th> </tr> </thead> <tbody> <tr> <td>(1)</td> <td>PLUTO-CHARON-1ST-QUADRANT</td> <td>STD=PLUTO</td> <td></td> <td></td> <td>OLG OF CHARON BETWEEN 20 50</td> <td>EARTH</td> </tr> </tbody> </table> <p><i>Comments: Because the sub-Earth latitude of Pluto is ~ 44 degrees, the OLG of Charon needs to be 35, 145, 215 or 325 to place it along a diagonal from Pluto, assuming Pluto is oriented with its pole parallel or perpendicular to the UVIS Y-axis.</i></p>	#	Name	Level 1	Level 2	Level 3	Window	Ephem Center	(1)	PLUTO-CHARON-1ST-QUADRANT	STD=PLUTO			OLG OF CHARON BETWEEN 20 50	EARTH
	#	Name	Level 1	Level 2	Level 3	Window	Ephem Center								
(1)	PLUTO-CHARON-1ST-QUADRANT	STD=PLUTO			OLG OF CHARON BETWEEN 20 50	EARTH									

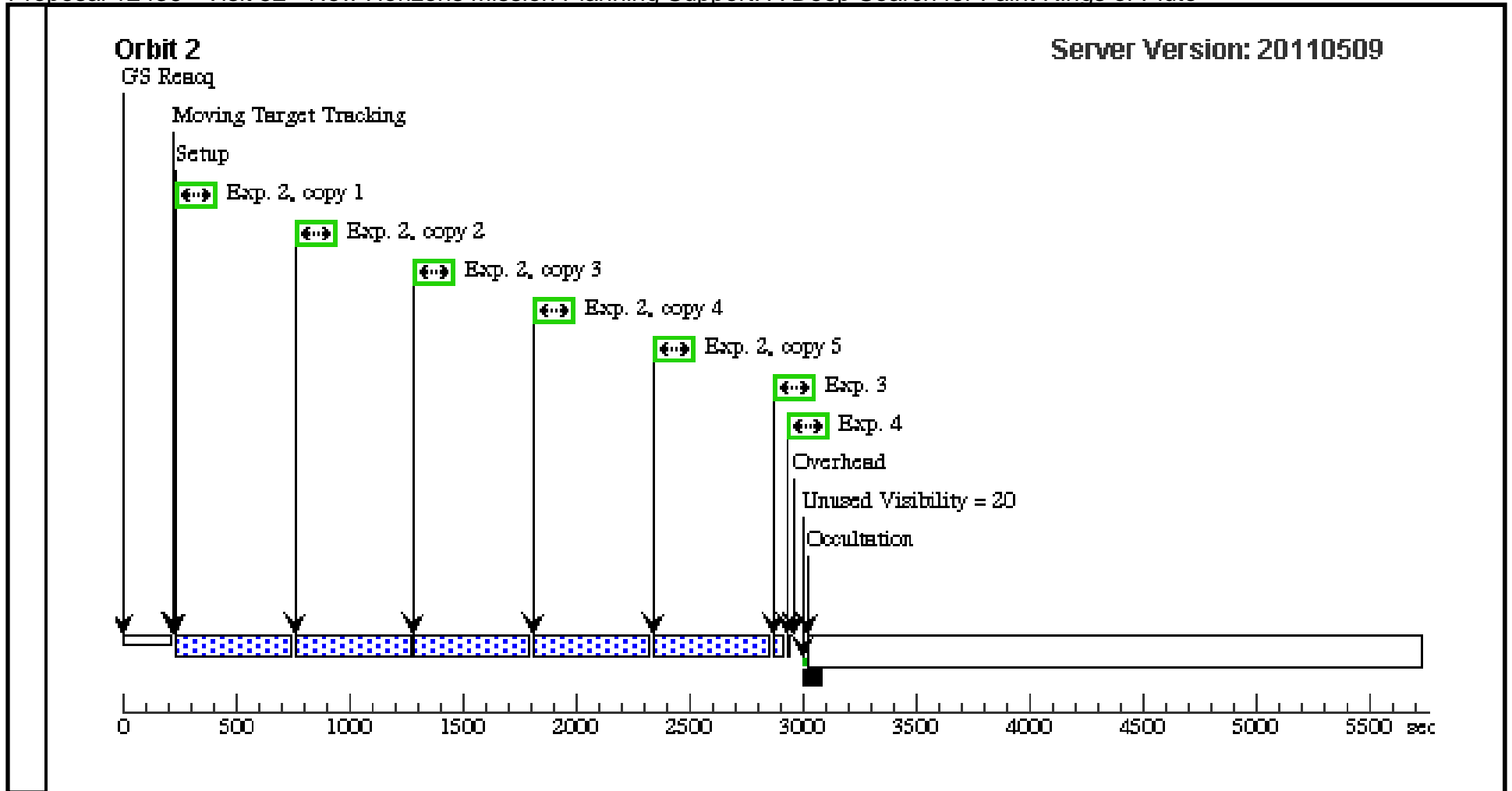
<b>Exposures</b>	<table border="1"> <thead> <tr> <th>#</th> <th>Label</th> <th>Target</th> <th>Config,Mode,Aperture</th> <th>Spectral Els.</th> <th>Opt. Params.</th> <th>Special Reqs.</th> <th>Groups</th> <th>Exp. Time/[Actual Dur.]</th> <th>Orbit</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>F606W, 5 x 479 s</td> <td>(1) PLUTO-CHARON-1ST-QUADRANT</td> <td>WFC3/UVIS, ACCUM, UVIS2-C512C-SUB</td> <td>F606W</td> <td>CR-SPLIT=NO</td> <td></td> <td>Sequence 1-1 Non-Int in Visit 52</td> <td>479 Secs X 5 [==&gt;(Copy 1)] [==&gt;(Copy 2)] [==&gt;(Copy 3)] [==&gt;(Copy 4)] [==&gt;(Copy 5)]</td> <td>[1]</td> </tr> <tr> <td>2</td> <td>F606W, 5 x 479 s</td> <td>(1) PLUTO-CHARON-1ST-QUADRANT</td> <td>WFC3/UVIS, ACCUM, UVIS2-C512C-SUB</td> <td>F606W</td> <td>CR-SPLIT=NO</td> <td></td> <td>Sequence 2-4 Non-Int in Visit 52</td> <td>479 Secs X 5 [==&gt;(Copy 1)] [==&gt;(Copy 2)] [==&gt;(Copy 3)] [==&gt;(Copy 4)] [==&gt;(Copy 5)]</td> <td>[2]</td> </tr> <tr> <td>3</td> <td>F606W, 3 s</td> <td>(1) PLUTO-CHARON-1ST-QUADRANT</td> <td>WFC3/UVIS, ACCUM, UVIS2-C512C-SUB</td> <td>F606W</td> <td>CR-SPLIT=NO</td> <td></td> <td>Sequence 2-4 Non-Int in Visit 52</td> <td>3 Secs [==&gt;]</td> <td>[2]</td> </tr> <tr> <td>4</td> <td>F475W, 6 s</td> <td>(1) PLUTO-CHARON-1ST-QUADRANT</td> <td>WFC3/UVIS, ACCUM, UVIS2-C512C-SUB</td> <td>F475W</td> <td>CR-SPLIT=NO</td> <td></td> <td>Sequence 2-4 Non-Int in Visit 52</td> <td>6 Secs [==&gt;]</td> <td>[2]</td> </tr> </tbody> </table>	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit	1	F606W, 5 x 479 s	(1) PLUTO-CHARON-1ST-QUADRANT	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F606W	CR-SPLIT=NO		Sequence 1-1 Non-Int in Visit 52	479 Secs X 5 [==>(Copy 1)] [==>(Copy 2)] [==>(Copy 3)] [==>(Copy 4)] [==>(Copy 5)]	[1]	2	F606W, 5 x 479 s	(1) PLUTO-CHARON-1ST-QUADRANT	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F606W	CR-SPLIT=NO		Sequence 2-4 Non-Int in Visit 52	479 Secs X 5 [==>(Copy 1)] [==>(Copy 2)] [==>(Copy 3)] [==>(Copy 4)] [==>(Copy 5)]	[2]	3	F606W, 3 s	(1) PLUTO-CHARON-1ST-QUADRANT	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F606W	CR-SPLIT=NO		Sequence 2-4 Non-Int in Visit 52	3 Secs [==>]	[2]	4	F475W, 6 s	(1) PLUTO-CHARON-1ST-QUADRANT	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F475W	CR-SPLIT=NO		Sequence 2-4 Non-Int in Visit 52	6 Secs [==>]	[2]
	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit																																									
	1	F606W, 5 x 479 s	(1) PLUTO-CHARON-1ST-QUADRANT	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F606W	CR-SPLIT=NO		Sequence 1-1 Non-Int in Visit 52	479 Secs X 5 [==>(Copy 1)] [==>(Copy 2)] [==>(Copy 3)] [==>(Copy 4)] [==>(Copy 5)]	[1]																																									
	2	F606W, 5 x 479 s	(1) PLUTO-CHARON-1ST-QUADRANT	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F606W	CR-SPLIT=NO		Sequence 2-4 Non-Int in Visit 52	479 Secs X 5 [==>(Copy 1)] [==>(Copy 2)] [==>(Copy 3)] [==>(Copy 4)] [==>(Copy 5)]	[2]																																									
	3	F606W, 3 s	(1) PLUTO-CHARON-1ST-QUADRANT	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F606W	CR-SPLIT=NO		Sequence 2-4 Non-Int in Visit 52	3 Secs [==>]	[2]																																									
4	F475W, 6 s	(1) PLUTO-CHARON-1ST-QUADRANT	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F475W	CR-SPLIT=NO		Sequence 2-4 Non-Int in Visit 52	6 Secs [==>]	[2]																																										

Orbit 1

Moving Target Tracking



Orbit Structure





Proposal 12436 - Visit 61 - New Horizons Mission Planning Support: A Deep Search for Faint Rings of Pluto

Tue Jul 12 01:06:26 GMT 2011

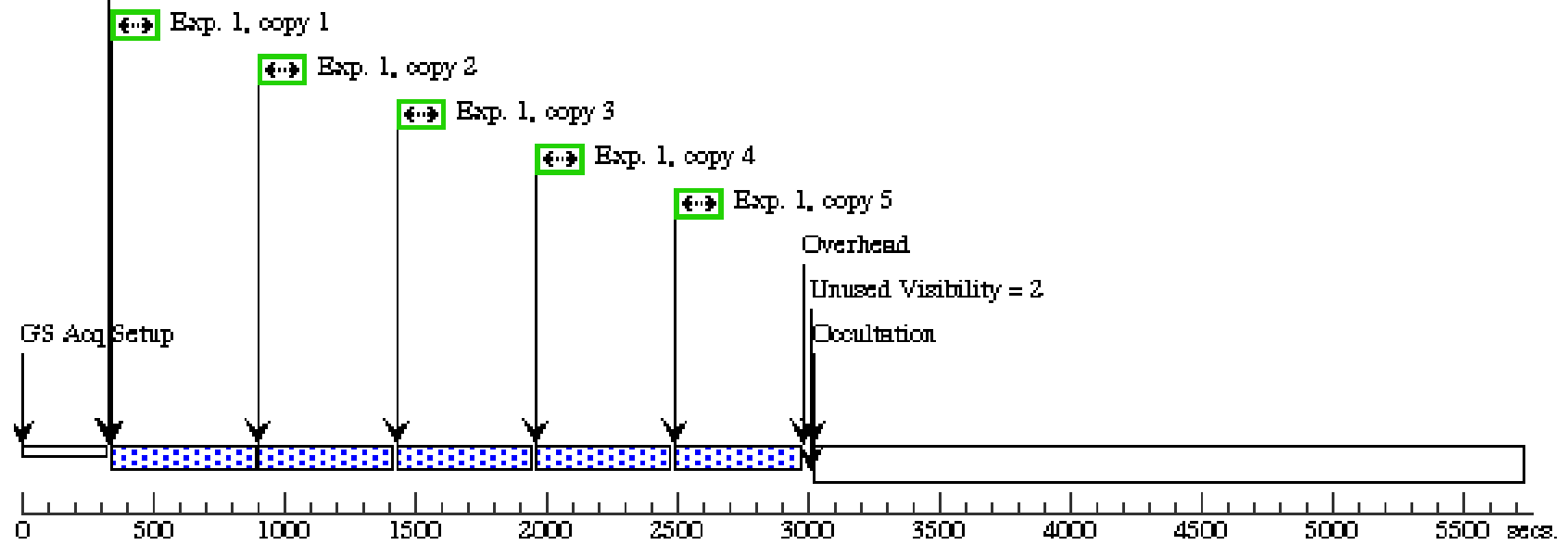
<b>Visit</b>	<b>Proposal 12436, Visit 61, withdrawn</b> <b>Diagnostic Status: No Diagnostics</b> Scientific Instruments: WFC3/UVIS Special Requirements: SCHED 100%; ORIENT 188D TO 196 D; ON HOLD Comments: Pluto with its prograde rotation pole oriented downward, parallel to the UVIS Y-axis; Charon on the diagonal at upper right (2nd orbital quadrant). To be scheduled along with Visit 62. On Hold Comments: Visits 61/62 are a scientifically equivalent alternative to Visits 01/02. See comment field for Visit 01 for more information.						

<b>Solar System Targets</b>	#	Name	Level 1	Level 2	Level 3	Window	Ephem Center
	(2)	PLUTO-CHARON-2ND-QUADRANT	STD=PLUTO				OLG OF CHARON BETWEEN 130 160
Comments: Because the sub-Earth latitude of Pluto is ~ 44 degrees, the OLG of Charon needs to be 35, 145, 215 or 325 to place it along a diagonal from Pluto, assuming Pluto is oriented with its pole parallel or perpendicular to the UVIS Y-axis.							

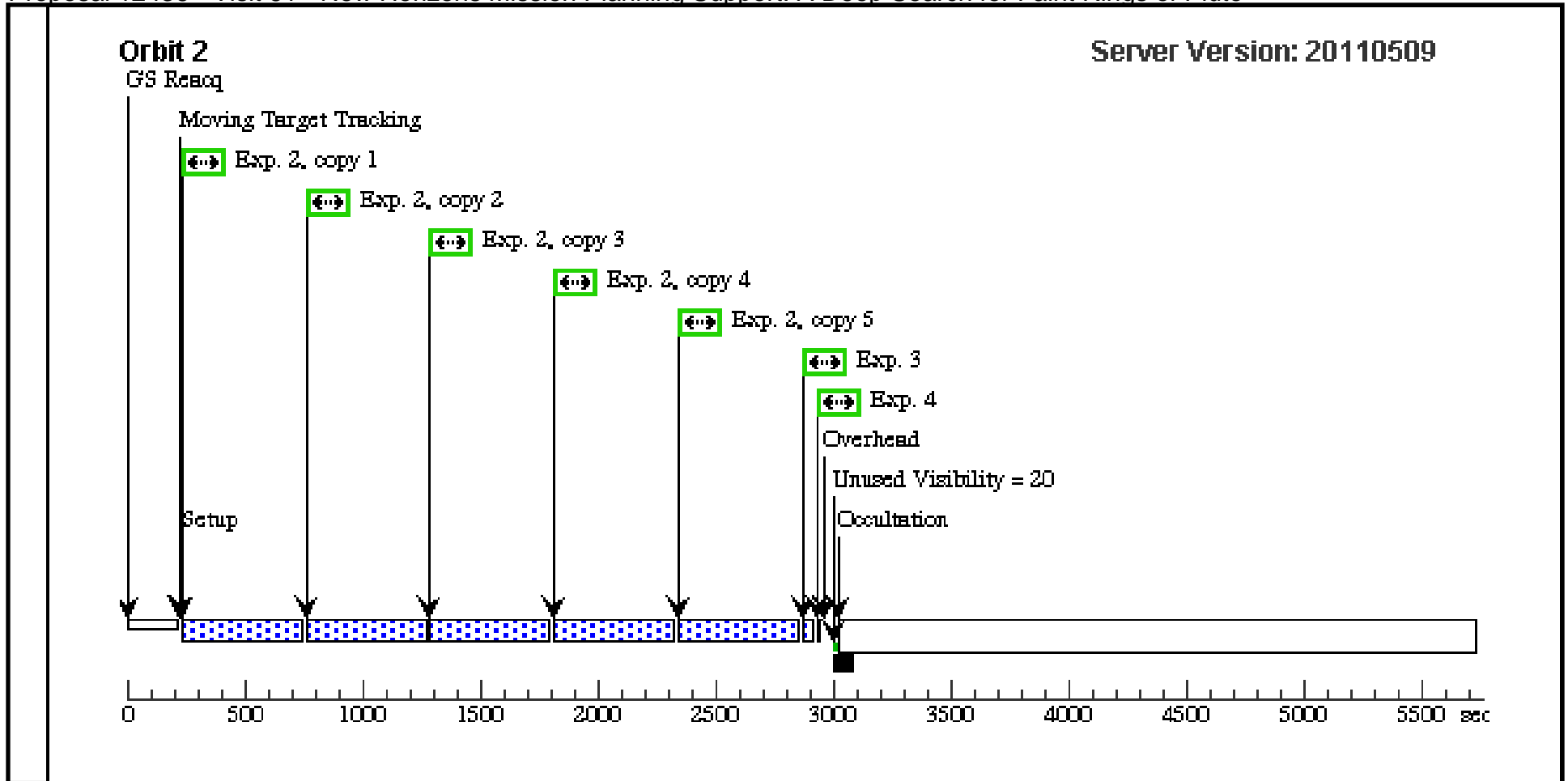
<b>Exposures</b>	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
	1	F606W, 5 x 479 s	(2) PLUTO-CHARON-2ND-QUADRANT	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB T	F606W	CR-SPLIT=NO		Sequence 1-1 Non-Int in Visit 61	479 Secs X 5 [==>(Copy 1)] [==>(Copy 2)] [==>(Copy 3)] [==>(Copy 4)] [==>(Copy 5)]	[1]
	2	F606W, 5 x 479 s	(2) PLUTO-CHARON-2ND-QUADRANT	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB T	F606W	CR-SPLIT=NO		Sequence 2-4 Non-Int in Visit 61	479 Secs X 5 [==>(Copy 1)] [==>(Copy 2)] [==>(Copy 3)] [==>(Copy 4)] [==>(Copy 5)]	[2]
	3	F606W, 3 s	(2) PLUTO-CHARON-2ND-QUADRANT	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB T	F606W	CR-SPLIT=NO		Sequence 2-4 Non-Int in Visit 61	3 Secs [==>]	[2]
	4	F475W, 6 s	(2) PLUTO-CHARON-2ND-QUADRANT	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB T	F475W	CR-SPLIT=NO		Sequence 2-4 Non-Int in Visit 61	6 Secs [==>]	[2]

Orbit 1

Moving Target Tracking



Orbit Structure



Proposal 12436 - Visit 62 - New Horizons Mission Planning Support: A Deep Search for Faint Rings of Pluto

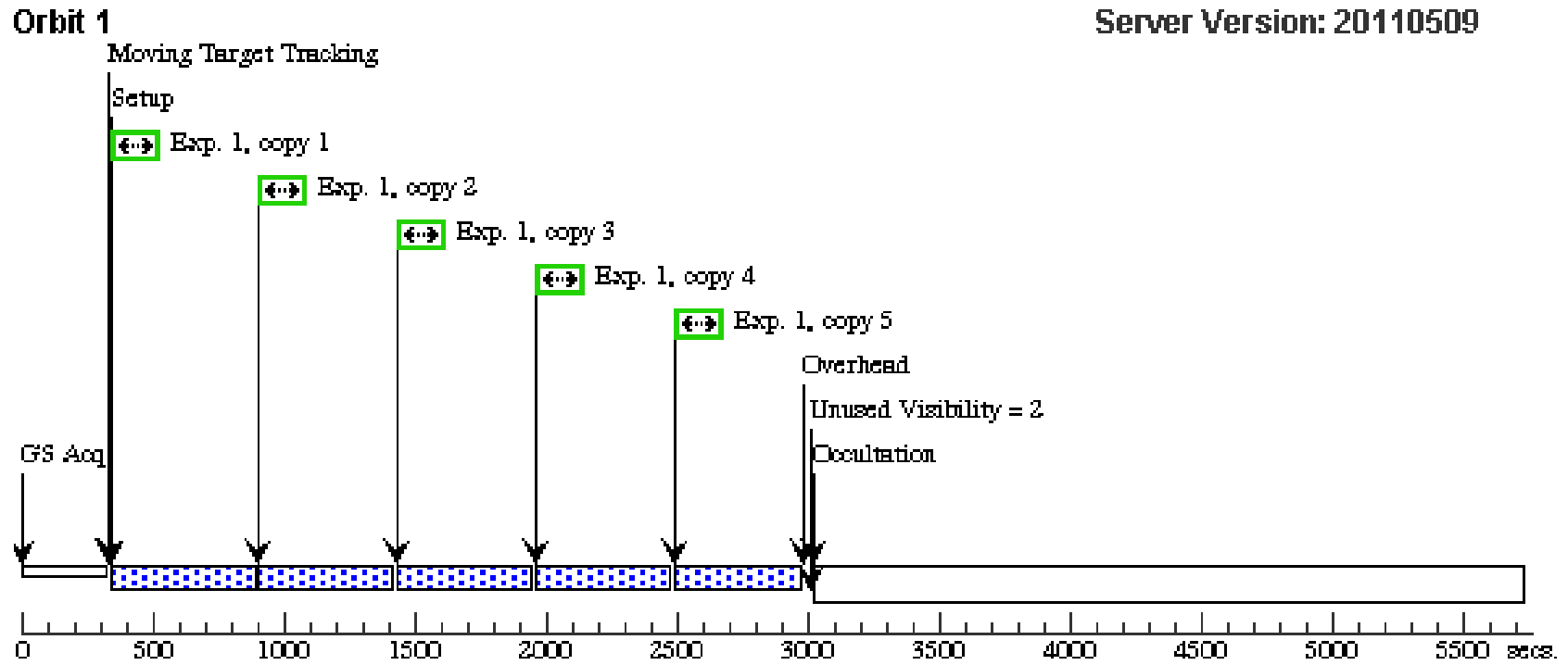
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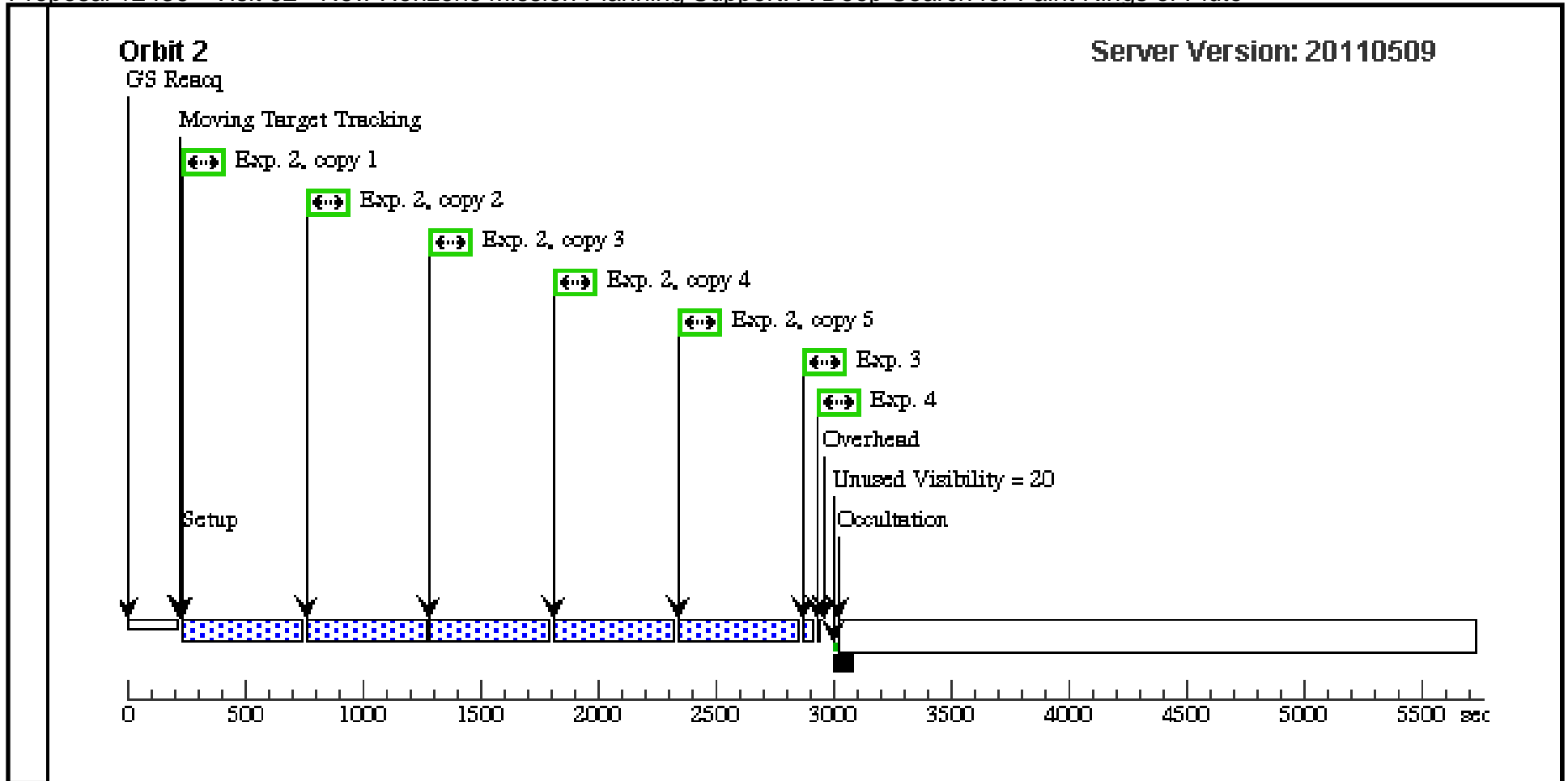
<b>Visit</b>	<p><b>Proposal 12436, Visit 62, withdrawn</b></p> <p><b>Diagnostic Status: No Diagnostics</b></p> <p>Scientific Instruments: WFC3/UVIS</p> <p>Special Requirements: SCHED 100%; ORIENT 98D TO 106 D; AFTER 61 BY 0 D TO 40 D; ON HOLD</p> <p><i>Comments: Pluto with its prograde rotation pole pointed rightward, perpendicular to the UVIS Y-axis; Charon on the diagonal at upper right (1st orbital quadrant). To be scheduled along with Visit 61.</i></p> <p><i>On Hold Comments: Visits 61/62 are a scientifically equivalent alternative to Visits 01/02. See comment field for Visit 01 for more information.</i></p>
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<b>Solar System Targets</b>	<table border="1"> <thead> <tr> <th>#</th> <th>Name</th> <th>Level 1</th> <th>Level 2</th> <th>Level 3</th> <th>Window</th> <th>Ephem Center</th> </tr> </thead> <tbody> <tr> <td>(1)</td> <td>PLUTO-CHARON-1ST-QUADRANT</td> <td>STD=PLUTO</td> <td></td> <td></td> <td>OLG OF CHARON BETWEEN 20 50</td> <td>EARTH</td> </tr> </tbody> </table> <p><i>Comments: Because the sub-Earth latitude of Pluto is ~ 44 degrees, the OLG of Charon needs to be 35, 145, 215 or 325 to place it along a diagonal from Pluto, assuming Pluto is oriented with its pole parallel or perpendicular to the UVIS Y-axis.</i></p>	#	Name	Level 1	Level 2	Level 3	Window	Ephem Center	(1)	PLUTO-CHARON-1ST-QUADRANT	STD=PLUTO			OLG OF CHARON BETWEEN 20 50	EARTH
	#	Name	Level 1	Level 2	Level 3	Window	Ephem Center								
(1)	PLUTO-CHARON-1ST-QUADRANT	STD=PLUTO			OLG OF CHARON BETWEEN 20 50	EARTH									

<b>Exposures</b>	<table border="1"> <thead> <tr> <th>#</th> <th>Label</th> <th>Target</th> <th>Config,Mode,Aperture</th> <th>Spectral Els.</th> <th>Opt. Params.</th> <th>Special Reqs.</th> <th>Groups</th> <th>Exp. Time/[Actual Dur.]</th> <th>Orbit</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>F606W, 5 x 479 s</td> <td>(1) PLUTO-CHARON-1ST-QUADRANT</td> <td>WFC3/UVIS, ACCUM, UVIS2-C512C-SUB</td> <td>F606W</td> <td>CR-SPLIT=NO</td> <td></td> <td>Sequence 1-1 Non-Int in Visit 62</td> <td>479 Secs X 5 [=&gt;(Copy 1)] [=&gt;(Copy 2)] [=&gt;(Copy 3)] [=&gt;(Copy 4)] [=&gt;(Copy 5)]</td> <td>[1]</td> </tr> <tr> <td>2</td> <td>F606W, 5 x 479 s</td> <td>(1) PLUTO-CHARON-1ST-QUADRANT</td> <td>WFC3/UVIS, ACCUM, UVIS2-C512C-SUB</td> <td>F606W</td> <td>CR-SPLIT=NO</td> <td></td> <td>Sequence 2-4 Non-Int in Visit 62</td> <td>479 Secs X 5 [=&gt;(Copy 1)] [=&gt;(Copy 2)] [=&gt;(Copy 3)] [=&gt;(Copy 4)] [=&gt;(Copy 5)]</td> <td>[2]</td> </tr> <tr> <td>3</td> <td>F606W, 3 s</td> <td>(1) PLUTO-CHARON-1ST-QUADRANT</td> <td>WFC3/UVIS, ACCUM, UVIS2-C512C-SUB</td> <td>F606W</td> <td>CR-SPLIT=NO</td> <td></td> <td>Sequence 2-4 Non-Int in Visit 62</td> <td>3 Secs [=&gt;]</td> <td>[2]</td> </tr> <tr> <td>4</td> <td>F475W, 6 s</td> <td>(1) PLUTO-CHARON-1ST-QUADRANT</td> <td>WFC3/UVIS, ACCUM, UVIS2-C512C-SUB</td> <td>F475W</td> <td>CR-SPLIT=NO</td> <td></td> <td>Sequence 2-4 Non-Int in Visit 62</td> <td>6 Secs [=&gt;]</td> <td>[2]</td> </tr> </tbody> </table>	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit	1	F606W, 5 x 479 s	(1) PLUTO-CHARON-1ST-QUADRANT	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F606W	CR-SPLIT=NO		Sequence 1-1 Non-Int in Visit 62	479 Secs X 5 [=>(Copy 1)] [=>(Copy 2)] [=>(Copy 3)] [=>(Copy 4)] [=>(Copy 5)]	[1]	2	F606W, 5 x 479 s	(1) PLUTO-CHARON-1ST-QUADRANT	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F606W	CR-SPLIT=NO		Sequence 2-4 Non-Int in Visit 62	479 Secs X 5 [=>(Copy 1)] [=>(Copy 2)] [=>(Copy 3)] [=>(Copy 4)] [=>(Copy 5)]	[2]	3	F606W, 3 s	(1) PLUTO-CHARON-1ST-QUADRANT	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F606W	CR-SPLIT=NO		Sequence 2-4 Non-Int in Visit 62	3 Secs [=>]	[2]	4	F475W, 6 s	(1) PLUTO-CHARON-1ST-QUADRANT	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F475W	CR-SPLIT=NO		Sequence 2-4 Non-Int in Visit 62	6 Secs [=>]	[2]
	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit																																									
	1	F606W, 5 x 479 s	(1) PLUTO-CHARON-1ST-QUADRANT	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F606W	CR-SPLIT=NO		Sequence 1-1 Non-Int in Visit 62	479 Secs X 5 [=>(Copy 1)] [=>(Copy 2)] [=>(Copy 3)] [=>(Copy 4)] [=>(Copy 5)]	[1]																																									
	2	F606W, 5 x 479 s	(1) PLUTO-CHARON-1ST-QUADRANT	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F606W	CR-SPLIT=NO		Sequence 2-4 Non-Int in Visit 62	479 Secs X 5 [=>(Copy 1)] [=>(Copy 2)] [=>(Copy 3)] [=>(Copy 4)] [=>(Copy 5)]	[2]																																									
	3	F606W, 3 s	(1) PLUTO-CHARON-1ST-QUADRANT	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F606W	CR-SPLIT=NO		Sequence 2-4 Non-Int in Visit 62	3 Secs [=>]	[2]																																									
4	F475W, 6 s	(1) PLUTO-CHARON-1ST-QUADRANT	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F475W	CR-SPLIT=NO		Sequence 2-4 Non-Int in Visit 62	6 Secs [=>]	[2]																																										

Orbit Structure





Proposal 12436 - Visit 71 - New Horizons Mission Planning Support: A Deep Search for Faint Rings of Pluto

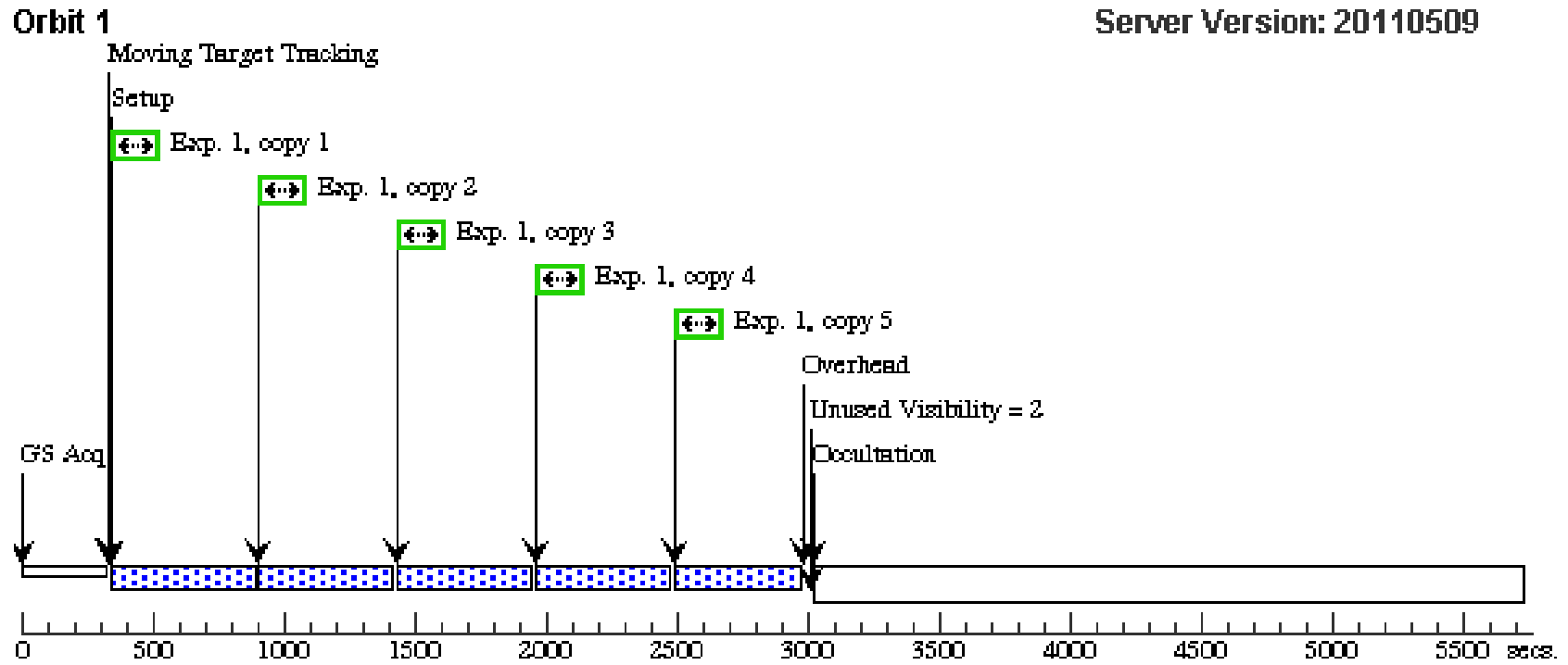
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<b>Visit</b>	<b>Proposal 12436, Visit 71, withdrawn</b> <b>Diagnostic Status: No Diagnostics</b> Scientific Instruments: WFC3/UVIS Special Requirements: SCHED 100%; ORIENT 278D TO 286 D; ON HOLD Comments: Pluto with its prograde rotation pole pointed leftward, perpendicular to the UVIS Y-axis; Charon on the diagonal at upper right (3rd orbital quadrant). To be scheduled along with Visit 72. On Hold Comments: Visits 71/72 are a scientifically equivalent alternative to Visits 01/02. See comment field for Visit 01 for more information.						

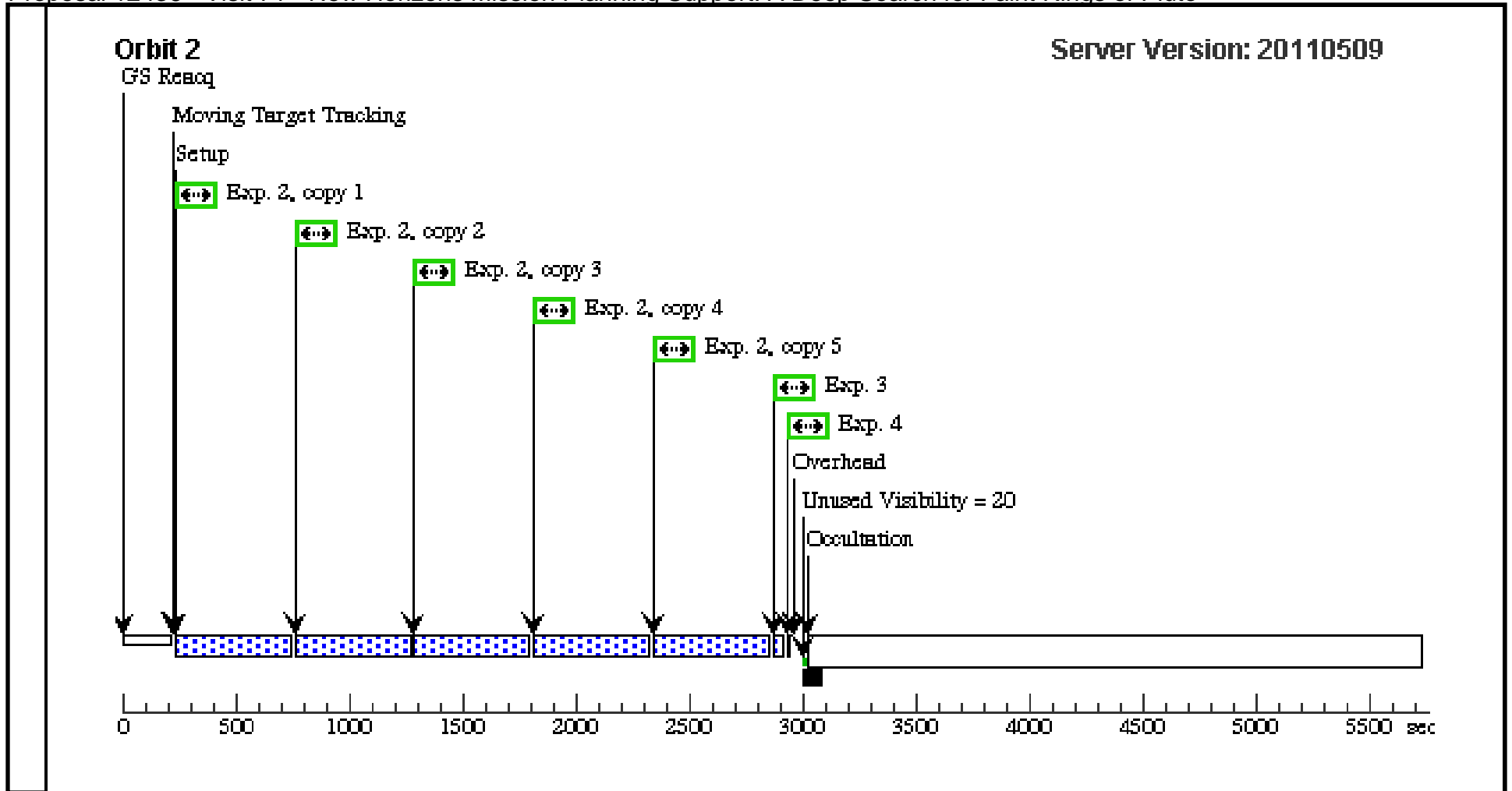
<b>Solar System Targets</b>	#	Name	Level 1	Level 2	Level 3	Window	Ephem Center
	(3)	PLUTO-CHARON-3RD-QUADRANT	STD=PLUTO				OLG OF CHARON BETWEEN 200 230
Comments: Because the sub-Earth latitude of Pluto is ~ 44 degrees, the OLG of Charon needs to be 35, 145, 215 or 325 to place it along a diagonal from Pluto, assuming Pluto is oriented with its pole parallel or perpendicular to the UVIS Y-axis.							

<b>Exposures</b>	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
	1	F606W, 5 x 479 s	(3) PLUTO-CHARON-3RD-QUADRANT	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F606W	CR-SPLIT=NO		Sequence 1-1 Non-Int in Visit 71	479 Secs X 5 [==>(Copy 1)] [==>(Copy 2)] [==>(Copy 3)] [==>(Copy 4)] [==>(Copy 5)]	[1]
	2	F606W, 5 x 479 s	(3) PLUTO-CHARON-3RD-QUADRANT	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F606W	CR-SPLIT=NO		Sequence 2-4 Non-Int in Visit 71	479 Secs X 5 [==>(Copy 1)] [==>(Copy 2)] [==>(Copy 3)] [==>(Copy 4)] [==>(Copy 5)]	[2]
	3	F606W, 3 s	(3) PLUTO-CHARON-3RD-QUADRANT	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F606W	CR-SPLIT=NO		Sequence 2-4 Non-Int in Visit 71	3 Secs [==>]	[2]
	4	F475W, 6 s	(3) PLUTO-CHARON-3RD-QUADRANT	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F475W	CR-SPLIT=NO		Sequence 2-4 Non-Int in Visit 71	6 Secs [==>]	[2]

Orbit Structure







Proposal 12436 - Visit 72 - New Horizons Mission Planning Support: A Deep Search for Faint Rings of Pluto

Tue Jul 12 01:06:27 GMT 2011

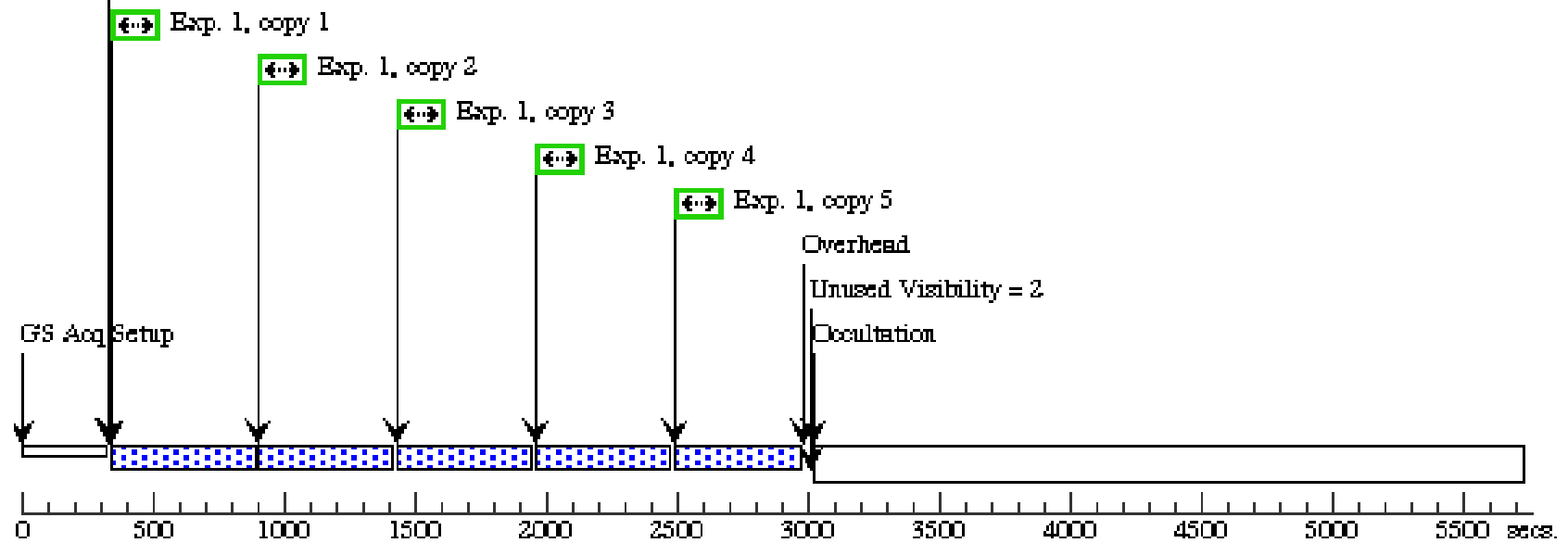
<b>Visit</b>	<p><b>Proposal 12436, Visit 72, withdrawn</b></p> <p><b>Diagnostic Status: No Diagnostics</b></p> <p>Scientific Instruments: WFC3/UVIS</p> <p>Special Requirements: SCHED 100%; ORIENT 188D TO 196 D; AFTER 71 BY 0 D TO 40 D; ON HOLD</p> <p><i>Comments: Pluto with its prograde rotation pole oriented downward, parallel to the UVIS Y-axis; Charon on the diagonal at upper right (2nd orbital quadrant). To be scheduled along with Visit 71.</i></p> <p><i>On Hold Comments: Visits 71/72 are a scientifically equivalent alternative to Visits 01/02. See comment field for Visit 01 for more information.</i></p>
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<b>Solar System Targets</b>	<table border="1"> <thead> <tr> <th>#</th> <th>Name</th> <th>Level 1</th> <th>Level 2</th> <th>Level 3</th> <th>Window</th> <th>Ephem Center</th> </tr> </thead> <tbody> <tr> <td>(2)</td> <td>PLUTO-CHARON-2ND-QUADRANT</td> <td>STD=PLUTO</td> <td></td> <td></td> <td>OLG OF CHARON BETWEEN 130 160</td> <td>EARTH</td> </tr> </tbody> </table> <p><i>Comments: Because the sub-Earth latitude of Pluto is ~ 44 degrees, the OLG of Charon needs to be 35, 145, 215 or 325 to place it along a diagonal from Pluto, assuming Pluto is oriented with its pole parallel or perpendicular to the UVIS Y-axis.</i></p>	#	Name	Level 1	Level 2	Level 3	Window	Ephem Center	(2)	PLUTO-CHARON-2ND-QUADRANT	STD=PLUTO			OLG OF CHARON BETWEEN 130 160	EARTH
	#	Name	Level 1	Level 2	Level 3	Window	Ephem Center								
(2)	PLUTO-CHARON-2ND-QUADRANT	STD=PLUTO			OLG OF CHARON BETWEEN 130 160	EARTH									

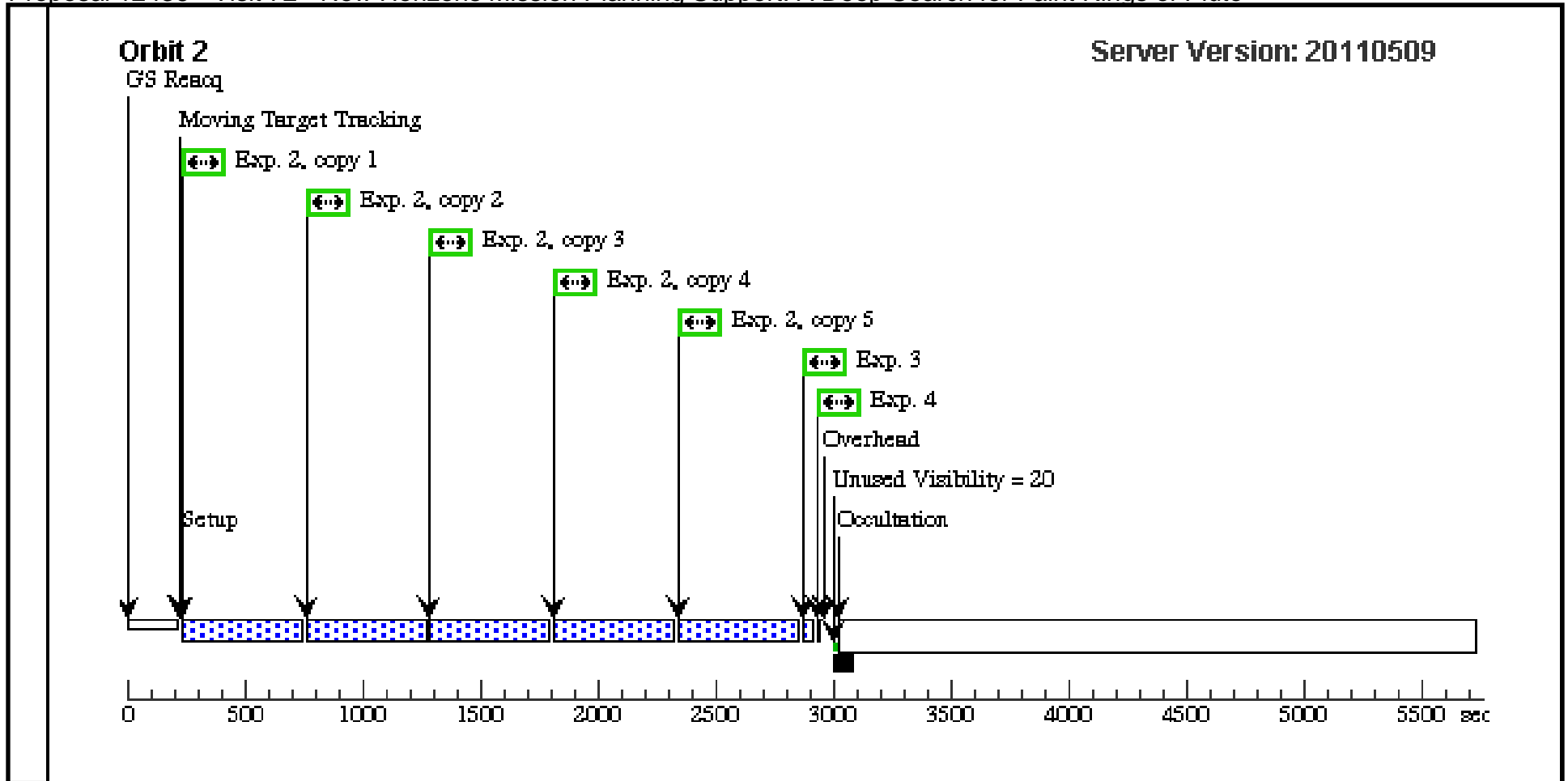
<b>Exposures</b>	<table border="1"> <thead> <tr> <th>#</th> <th>Label</th> <th>Target</th> <th>Config,Mode,Aperture</th> <th>Spectral Els.</th> <th>Opt. Params.</th> <th>Special Reqs.</th> <th>Groups</th> <th>Exp. Time/[Actual Dur.]</th> <th>Orbit</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>F606W, 5 x 479 s</td> <td>(2) PLUTO-CHARON-2ND-QUADRANT</td> <td>WFC3/UVIS, ACCUM, UVIS2-C512C-SUB T</td> <td>F606W</td> <td>CR-SPLIT=NO</td> <td></td> <td>Sequence 1-1 Non-Int in Visit 72</td> <td>479 Secs X 5 [==&gt;(Copy 1)] [==&gt;(Copy 2)] [==&gt;(Copy 3)] [==&gt;(Copy 4)] [==&gt;(Copy 5)]</td> <td>[1]</td> </tr> <tr> <td>2</td> <td>F606W, 5 x 479 s</td> <td>(2) PLUTO-CHARON-2ND-QUADRANT</td> <td>WFC3/UVIS, ACCUM, UVIS2-C512C-SUB T</td> <td>F606W</td> <td>CR-SPLIT=NO</td> <td></td> <td>Sequence 2-4 Non-Int in Visit 72</td> <td>479 Secs X 5 [==&gt;(Copy 1)] [==&gt;(Copy 2)] [==&gt;(Copy 3)] [==&gt;(Copy 4)] [==&gt;(Copy 5)]</td> <td>[2]</td> </tr> <tr> <td>3</td> <td>F606W, 3 s</td> <td>(2) PLUTO-CHARON-2ND-QUADRANT</td> <td>WFC3/UVIS, ACCUM, UVIS2-C512C-SUB T</td> <td>F606W</td> <td>CR-SPLIT=NO</td> <td></td> <td>Sequence 2-4 Non-Int in Visit 72</td> <td>3 Secs [==&gt;]</td> <td>[2]</td> </tr> <tr> <td>4</td> <td>F475W, 6 s</td> <td>(2) PLUTO-CHARON-2ND-QUADRANT</td> <td>WFC3/UVIS, ACCUM, UVIS2-C512C-SUB T</td> <td>F475W</td> <td>CR-SPLIT=NO</td> <td></td> <td>Sequence 2-4 Non-Int in Visit 72</td> <td>6 Secs [==&gt;]</td> <td>[2]</td> </tr> </tbody> </table>	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit	1	F606W, 5 x 479 s	(2) PLUTO-CHARON-2ND-QUADRANT	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB T	F606W	CR-SPLIT=NO		Sequence 1-1 Non-Int in Visit 72	479 Secs X 5 [==>(Copy 1)] [==>(Copy 2)] [==>(Copy 3)] [==>(Copy 4)] [==>(Copy 5)]	[1]	2	F606W, 5 x 479 s	(2) PLUTO-CHARON-2ND-QUADRANT	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB T	F606W	CR-SPLIT=NO		Sequence 2-4 Non-Int in Visit 72	479 Secs X 5 [==>(Copy 1)] [==>(Copy 2)] [==>(Copy 3)] [==>(Copy 4)] [==>(Copy 5)]	[2]	3	F606W, 3 s	(2) PLUTO-CHARON-2ND-QUADRANT	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB T	F606W	CR-SPLIT=NO		Sequence 2-4 Non-Int in Visit 72	3 Secs [==>]	[2]	4	F475W, 6 s	(2) PLUTO-CHARON-2ND-QUADRANT	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB T	F475W	CR-SPLIT=NO		Sequence 2-4 Non-Int in Visit 72	6 Secs [==>]	[2]
	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit																																									
	1	F606W, 5 x 479 s	(2) PLUTO-CHARON-2ND-QUADRANT	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB T	F606W	CR-SPLIT=NO		Sequence 1-1 Non-Int in Visit 72	479 Secs X 5 [==>(Copy 1)] [==>(Copy 2)] [==>(Copy 3)] [==>(Copy 4)] [==>(Copy 5)]	[1]																																									
	2	F606W, 5 x 479 s	(2) PLUTO-CHARON-2ND-QUADRANT	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB T	F606W	CR-SPLIT=NO		Sequence 2-4 Non-Int in Visit 72	479 Secs X 5 [==>(Copy 1)] [==>(Copy 2)] [==>(Copy 3)] [==>(Copy 4)] [==>(Copy 5)]	[2]																																									
	3	F606W, 3 s	(2) PLUTO-CHARON-2ND-QUADRANT	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB T	F606W	CR-SPLIT=NO		Sequence 2-4 Non-Int in Visit 72	3 Secs [==>]	[2]																																									
4	F475W, 6 s	(2) PLUTO-CHARON-2ND-QUADRANT	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB T	F475W	CR-SPLIT=NO		Sequence 2-4 Non-Int in Visit 72	6 Secs [==>]	[2]																																										

Orbit 1

Moving Target Tracking



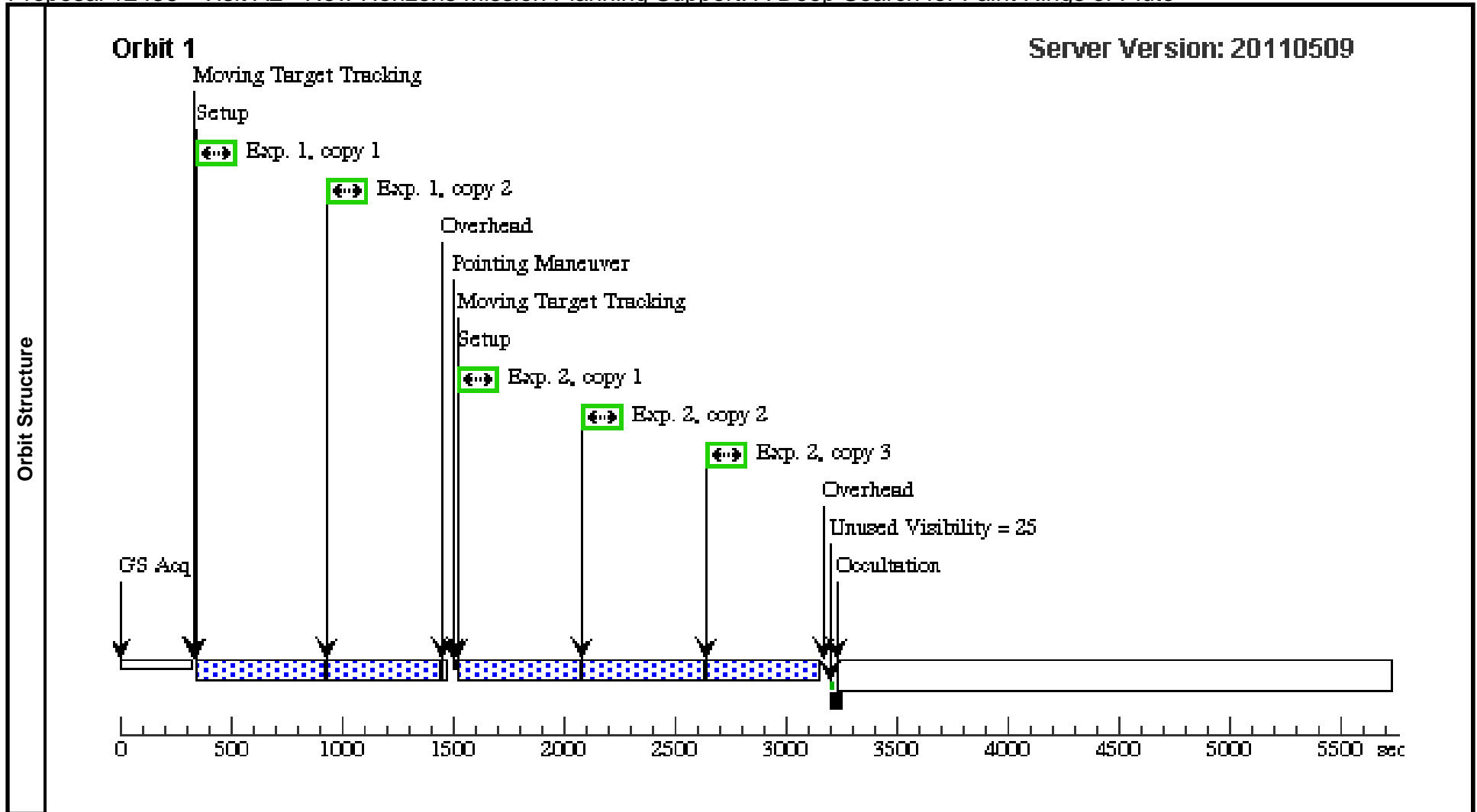
Orbit Structure



Proposal 12436 - Visit A2 - New Horizons Mission Planning Support: A Deep Search for Faint Rings of Pluto

Tue Jul 12 01:06:28 GMT 2011

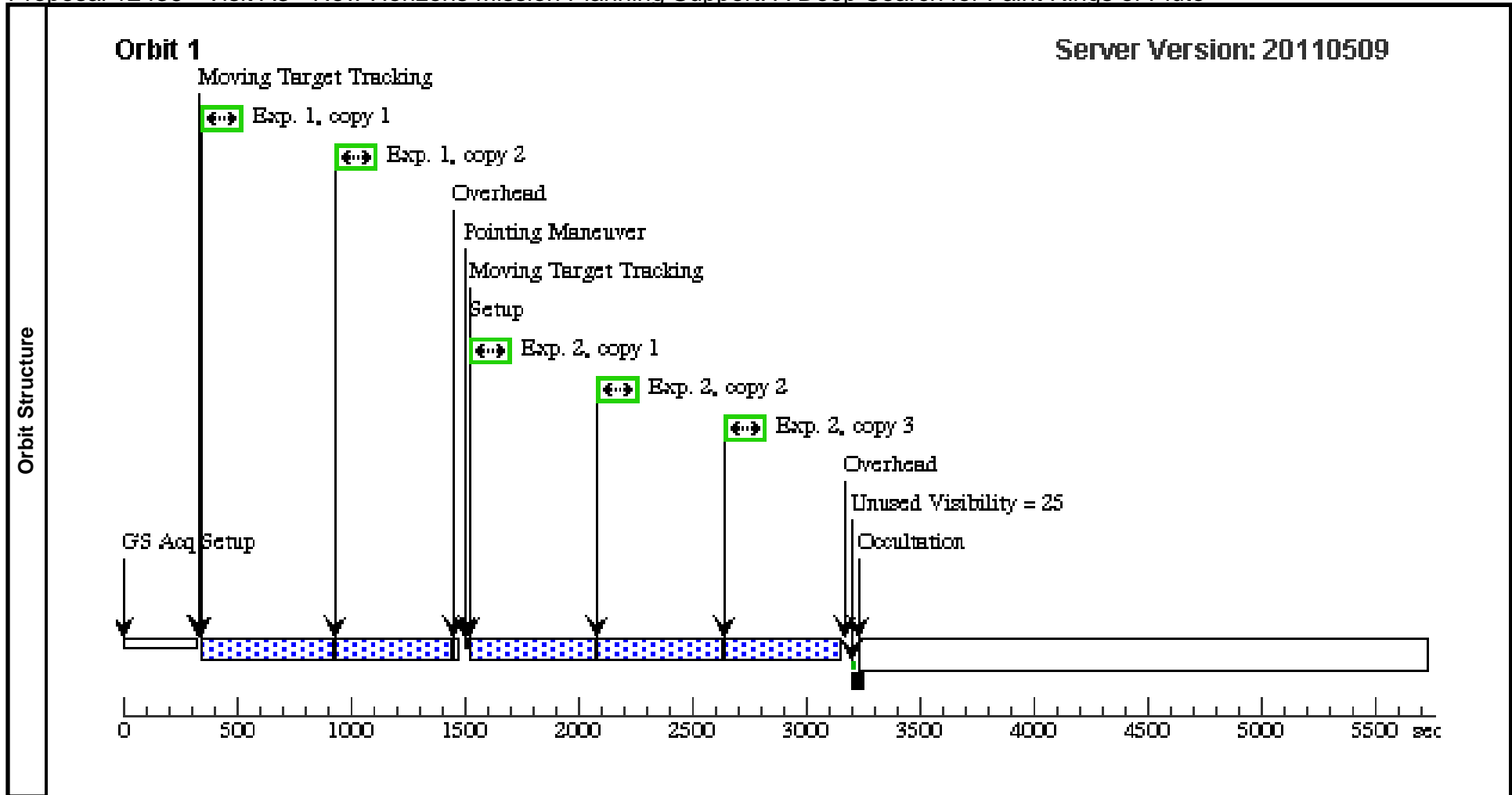
Visit	<b>Proposal 12436, Visit A2, withdrawn</b> <b>Diagnostic Status: No Diagnostics</b> Scientific Instruments: WFC3/UVIS Special Requirements: SCHED 30%; ORIENT 81D TO 83 D; BETWEEN 09-JUL-2011:11:00:00 AND 12-JUL-2011:13:00:00 <i>Comments: A follow-up visit of one orbit to confirm the existence of a small moon of Pluto. ORIENT = 82 selected to keep the moon clear of diffraction spikes. Available roughly July 10-12, 2011.</i>									
	Solar System Targets									
#	Name	Level 1	Level 2	Level 3	Window	Ephem Center				
(5)	PLUTO	STD=PLUTO				EARTH				
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
	1		(5) PLUTO	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F606W		POS TARG 0,null	Sequence 1-2 Non-Int in Visit A2	510 Secs X 2	
									[==>(Copy 1)]	[1]
									[==>(Copy 2)]	
2		(5) PLUTO	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F606W		POS TARG 0,0.797	Sequence 1-2 Non-Int in Visit A2	510 Secs X 3		
								[==>(Copy 1)]	[1]	
								[==>(Copy 2)]		
								[==>(Copy 3)]		



Proposal 12436 - Visit A3 - New Horizons Mission Planning Support: A Deep Search for Faint Rings of Pluto

Tue Jul 12 01:06:28 GMT 2011

Visit	<b>Proposal 12436, Visit A3, withdrawn</b> <b>Diagnostic Status: No Diagnostics</b> Scientific Instruments: WFC3/UVIS Special Requirements: SCHED 30%; ORIENT 101D TO 103 D; BETWEEN 12-JUL-2011:12:00:00 AND 15-JUL-2011:12:00:00; ON HOLD Comments: A follow-up visit of one orbit to confirm the existence of a small moon of Pluto. ORIENT = 102 selected to keep the moon clear of diffraction spikes. Available roughly July 13-15, 2011. On Hold Comments: One of 7 alternative visit options. Schedule one. ORIENT constraints vary by date to keep the diffraction spikes of Pluto and Charon away from the moon.									
	Solar System Targets									
#	Name	Level 1	Level 2	Level 3	Window	Ephem Center				
(5)	PLUTO	STD=PLUTO				EARTH				
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
	1		(5) PLUTO	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F606W		POS TARG 0,null	Sequence 1-2 Non-Int in Visit A3	510 Secs X 2	
									[==>(Copy 1)] [==>(Copy 2)]	[1]
	2		(5) PLUTO	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F606W		POS TARG 0,0.797	Sequence 1-2 Non-Int in Visit A3	510 Secs X 3	
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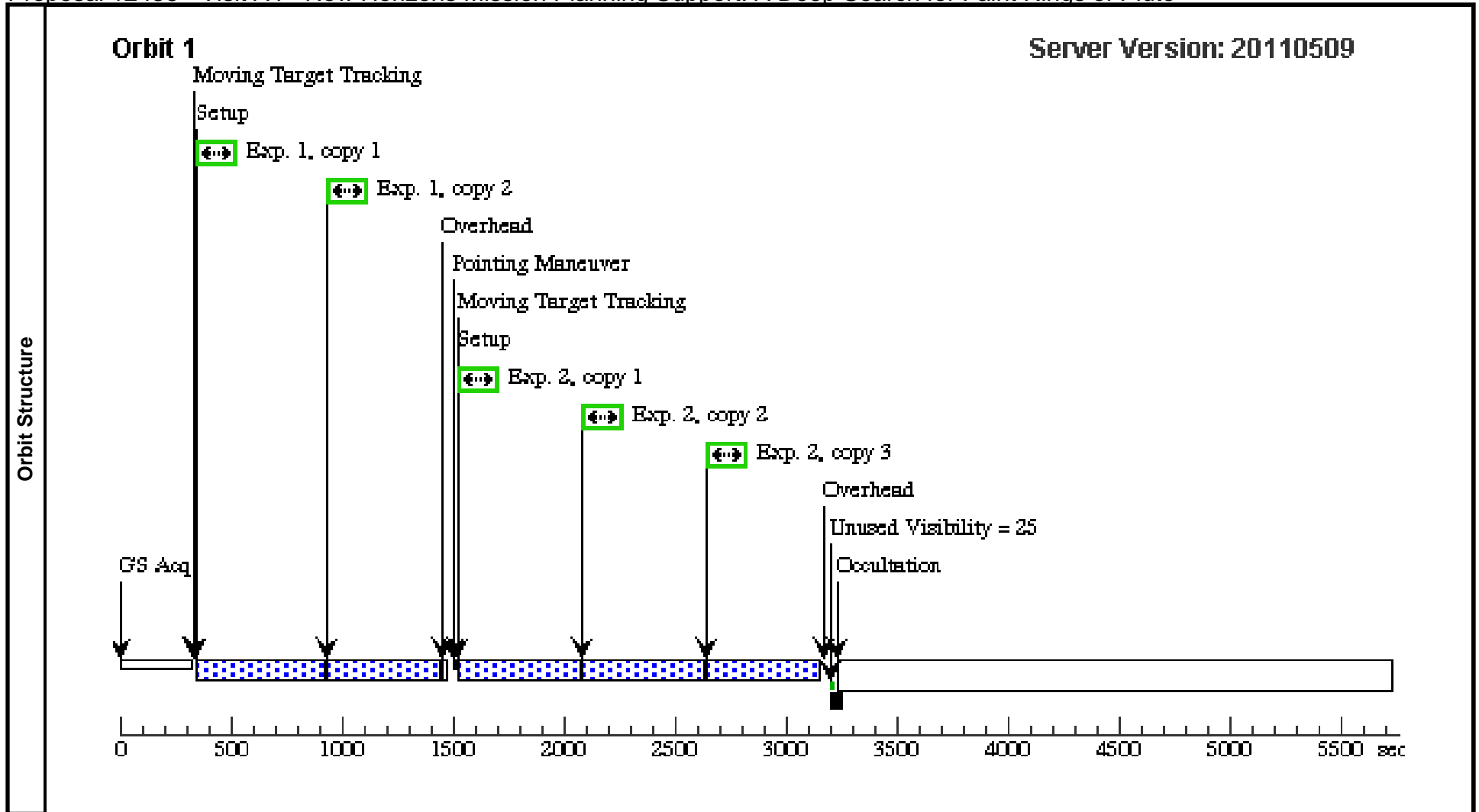




Proposal 12436 - Visit A4 - New Horizons Mission Planning Support: A Deep Search for Faint Rings of Pluto

Tue Jul 12 01:06:28 GMT 2011

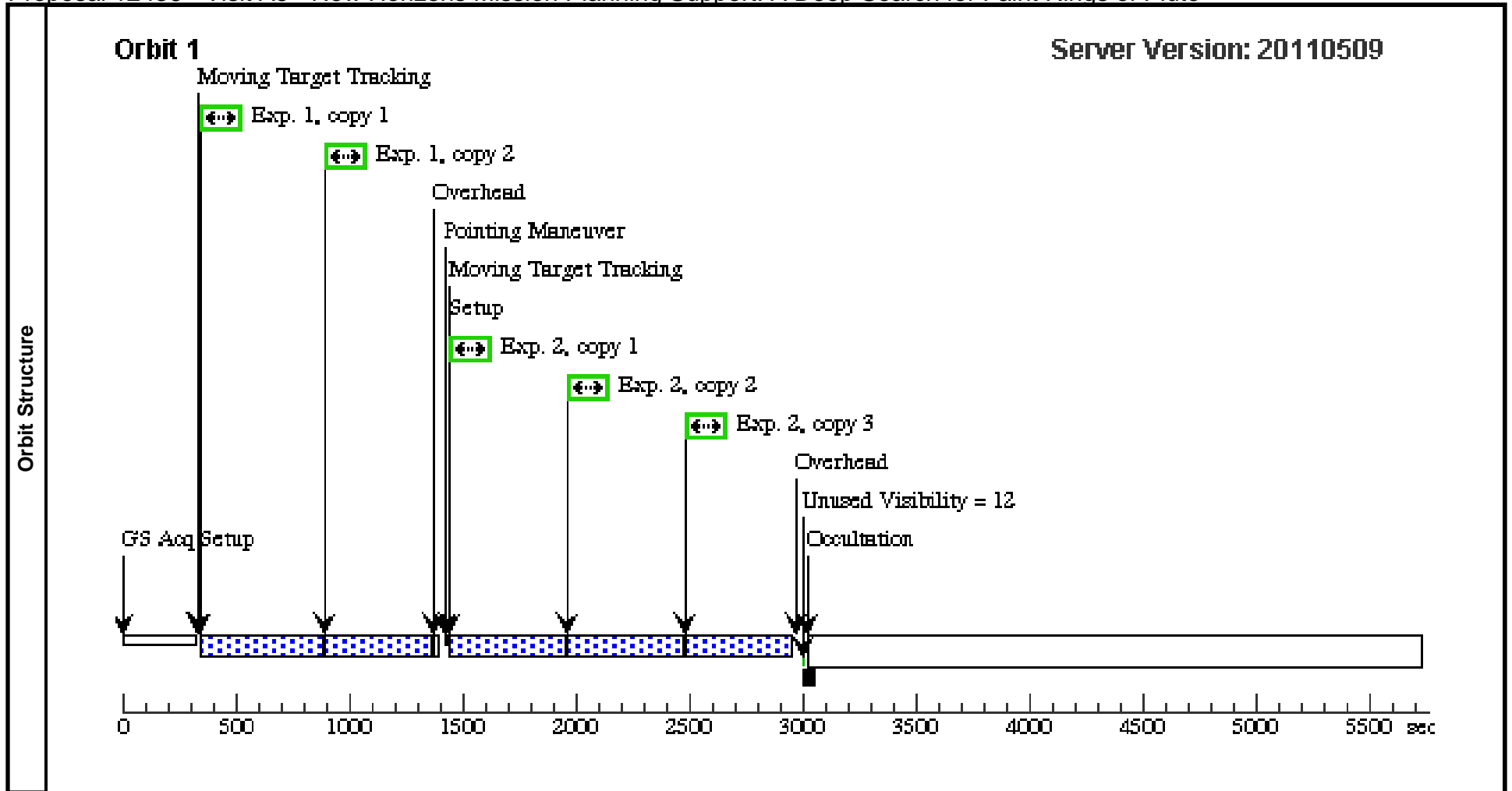
<b>Visit</b>	<p><b>Proposal 12436, Visit A4, scheduling</b></p> <p><b>Diagnostic Status: No Diagnostics</b></p> <p>Scientific Instruments: WFC3/UVIS</p> <p>Special Requirements: SCHED 30%; ORIENT 70D TO 74 D; BETWEEN 15-JUL-2011:11:00:00 AND 19-JUL-2011:13:00:00; ON HOLD</p> <p><i>Comments: A follow-up visit of one orbit to confirm the existence of a small moon of Pluto. ORIENT = 108 selected to keep the moon clear of diffraction spikes and saturation bloom from Charon. Available roughly July 16-19, 2011.</i></p> <p><i>On Hold Comments: One of 7 alternative visit options. Schedule one. ORIENT constraints vary by date to keep the diffraction spikes of Pluto and Charon away from the moon.</i></p>									
	<b>Solar System Targets</b>	<b>#</b>	<b>Name</b>	<b>Level 1</b>	<b>Level 2</b>	<b>Level 3</b>	<b>Window</b>	<b>Ephem Center</b>		
(5)		PLUTO	STD=PLUTO				EARTH			
<b>Exposures</b>	<b>#</b>	<b>Label</b>	<b>Target</b>	<b>Config,Mode,Aperture</b>	<b>Spectral Els.</b>	<b>Opt. Params.</b>	<b>Special Reqs.</b>	<b>Groups</b>	<b>Exp. Time/[Actual Dur.]</b>	<b>Orbit</b>
	1		(5) PLUTO	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F606W		POS TARG 0,null	Sequence 1-2 Non-Int in Visit A4	510 Secs X 2	
									[==>(Copy 1)]	[1]
									[==>(Copy 2)]	
2		(5) PLUTO	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F606W		POS TARG 0,0.797	Sequence 1-2 Non-Int in Visit A4	510 Secs X 3		
								[==>(Copy 1)]		
								[==>(Copy 2)]	[1]	
								[==>(Copy 3)]		



Proposal 12436 - Visit A5 - New Horizons Mission Planning Support: A Deep Search for Faint Rings of Pluto

Tue Jul 12 01:06:29 GMT 2011

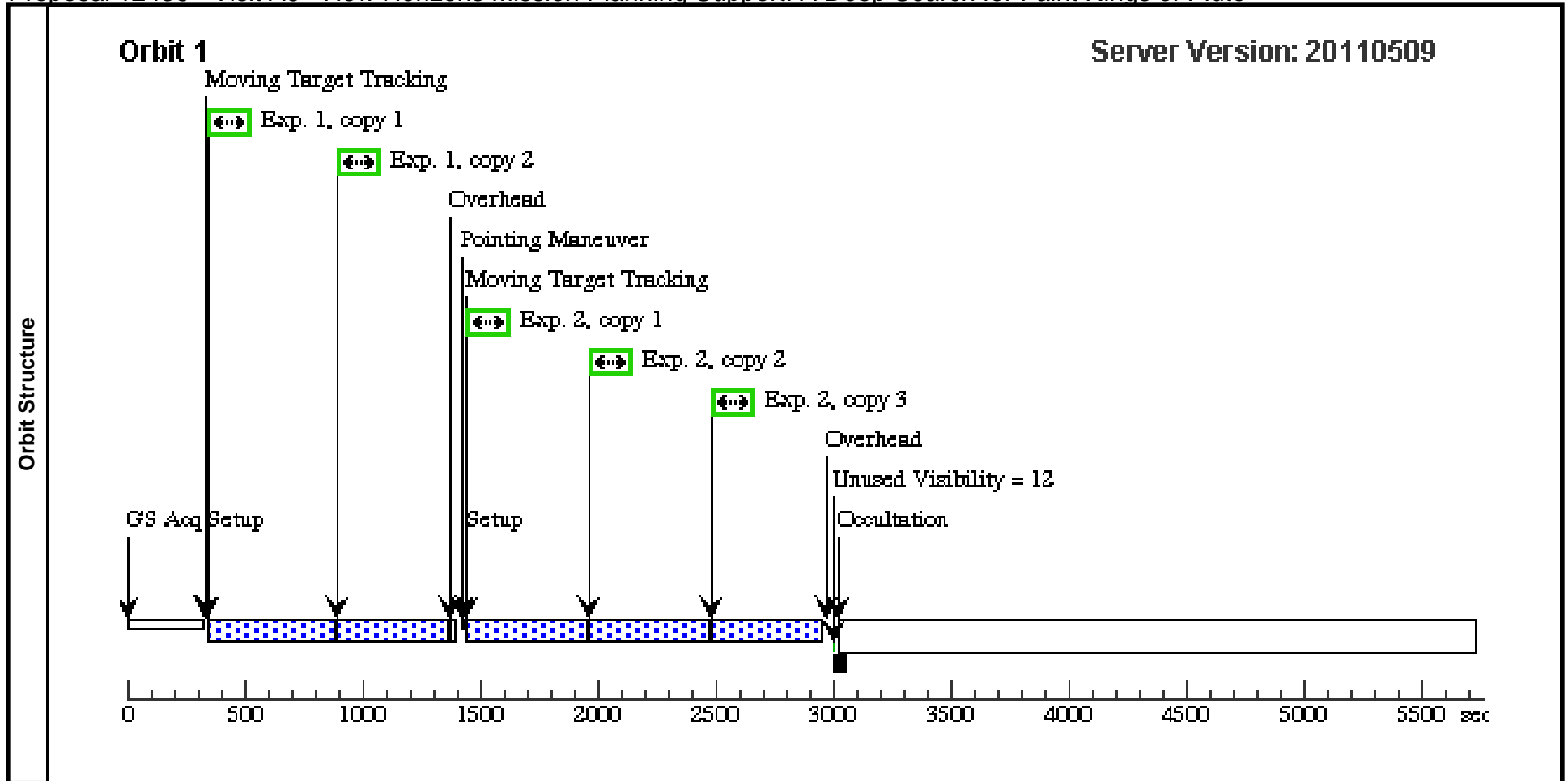
Visit	<b>Proposal 12436, Visit A5, withdrawn</b> <b>Diagnostic Status: No Diagnostics</b> Scientific Instruments: WFC3/UVIS Special Requirements: SCHED 100%; ORIENT 70D TO 72 D; BETWEEN 19-JUL-2011:11:00:00 AND 21-JUL-2011:13:00:00; ON HOLD Comments: A follow-up visit of one orbit to confirm the existence of a small moon of Pluto. ORIENT = 71 selected to keep the moon clear of diffraction spikes. Available roughly July 20-21, 2011. On Hold Comments: One of 7 alternative visit options. Schedule one. ORIENT constraints vary by date to keep the diffraction spikes of Pluto and Charon away from the moon.									
	Solar System Targets									
#	Name	Level 1	Level 2	Level 3	Window	Ephem Center				
(5)	PLUTO	STD=PLUTO				EARTH				
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
	1		(5) PLUTO	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F606W		POS TARG 0,null	Sequence 1-2 Non-Int in Visit A5	470 Secs X 2	
									[==>(Copy 1)]	[1]
									[==>(Copy 2)]	
2		(5) PLUTO	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F606W		POS TARG 0,0.797	Sequence 1-2 Non-Int in Visit A5	470 Secs X 3		
								[==>(Copy 1)]	[1]	
								[==>(Copy 2)]		
								[==>(Copy 3)]		



Proposal 12436 - Visit A6 - New Horizons Mission Planning Support: A Deep Search for Faint Rings of Pluto

Tue Jul 12 01:06:29 GMT 2011

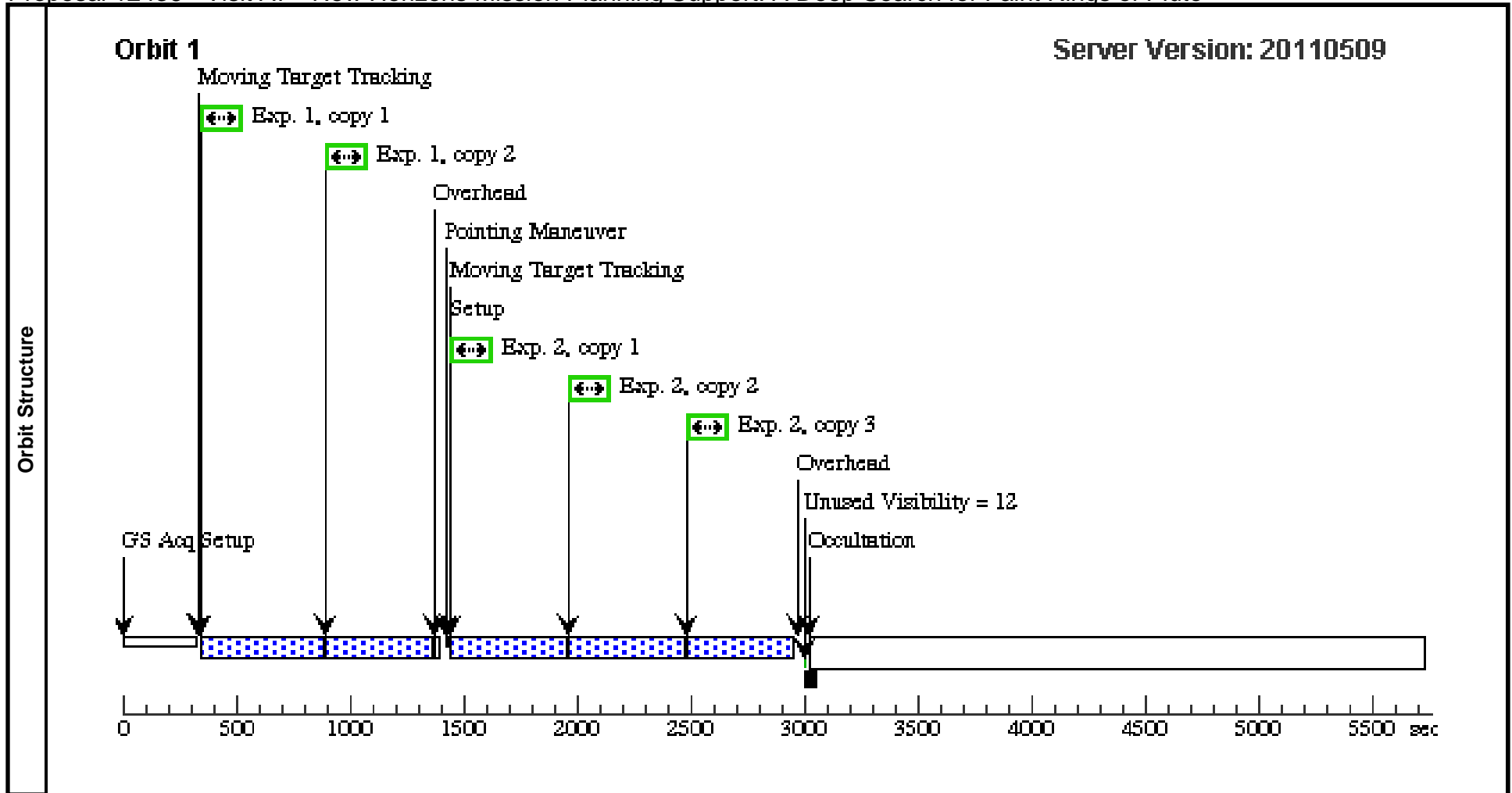
Visit	<b>Proposal 12436, Visit A6, withdrawn</b> <b>Diagnostic Status: No Diagnostics</b> Scientific Instruments: WFC3/UVIS Special Requirements: SCHED 100%; ORIENT 101D TO 103 D; BETWEEN 21-JUL-2011:11:00:00 AND 22-JUL-2011:13:00:00; ON HOLD Comments: A follow-up visit of one orbit to confirm the existence of a small moon of Pluto. ORIENT = 102 selected to keep the moon clear of diffraction spikes. Available around July 22, 2011. On Hold Comments: One of 7 alternative visit options. Schedule one. ORIENT constraints vary by date to keep the diffraction spikes of Pluto and Charon away from the moon.									
	Solar System Targets									
#	Name	Level 1	Level 2	Level 3	Window	Ephem Center				
(5)	PLUTO	STD=PLUTO				EARTH				
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
	1		(5) PLUTO	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F606W		POS TARG 0,null	Sequence 1-2 Non-Int in Visit A6	470 Secs X 2	
									[==>(Copy 1)]	[1]
									[==>(Copy 2)]	
2		(5) PLUTO	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F606W		POS TARG 0,0.797	Sequence 1-2 Non-Int in Visit A6	470 Secs X 3		
								[==>(Copy 1)]	[1]	
								[==>(Copy 2)]		
								[==>(Copy 3)]		



Proposal 12436 - Visit A7 - New Horizons Mission Planning Support: A Deep Search for Faint Rings of Pluto

Tue Jul 12 01:06:29 GMT 2011

Visit	<b>Proposal 12436, Visit A7, withdrawn</b> <b>Diagnostic Status: No Diagnostics</b> Scientific Instruments: WFC3/UVIS Special Requirements: SCHED 100%; ORIENT 109D TO 111 D; BETWEEN 22-JUL-2011:11:00:00 AND 23-JUL-2011:13:00:00; ON HOLD Comments: A follow-up visit of one orbit to confirm the existence of a small moon of Pluto. ORIENT = 110 selected to keep the moon clear of diffraction spikes. Available around July 23, 2011. On Hold Comments: One of 7 alternative visit options. Schedule one. ORIENT constraints vary by date to keep the diffraction spikes of Pluto and Charon away from the moon.									
	Solar System Targets	#	Name	Level 1	Level 2	Level 3	Window	Ephem Center		
	(5)	PLUTO	STD=PLUTO					EARTH		
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
	1		(5) PLUTO	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F606W		POS TARG 0,null	Sequence 1-2 Non-Int in Visit A7	470 Secs X 2 [==>(Copy 1)] [==>(Copy 2)]	[1]
2		(5) PLUTO	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F606W		POS TARG 0,0.797	Sequence 1-2 Non-Int in Visit A7	470 Secs X 3 [==>(Copy 1)] [==>(Copy 2)] [==>(Copy 3)]	[1]	





Proposal 12436 - Visit A8 - New Horizons Mission Planning Support: A Deep Search for Faint Rings of Pluto

Tue Jul 12 01:06:30 GMT 2011

Visit	<p><b>Proposal 12436, Visit A8, withdrawn</b></p> <p><b>Diagnostic Status: No Diagnostics</b></p> <p>Scientific Instruments: WFC3/UVIS</p> <p>Special Requirements: SCHED 100%; AFTER 23-JUL-2011:12:00:00; ON HOLD</p> <p><i>Comments: A follow-up visit of one orbit to confirm the existence of a small moon of Pluto. Beyond July 23, we are unable to predict the orbit reliably, so we will let diffraction spikes fall where they may.</i></p> <p><i>On Hold Comments: One of 7 alternative visit options. Schedule one. ORIENT constraints vary by date to keep the diffraction spikes of Pluto and Charon away from the moon.</i></p>									
	Solar System Targets									
#	Name	Level 1	Level 2	Level 3	Window	Ephem Center				
(5)	PLUTO	STD=PLUTO				EARTH				
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
	1		(5) PLUTO	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F606W		POS TARG 0,null	Sequence 1-2 Non-Int in Visit A8	468 Secs X 2	
									[==>(Copy 1)]	[1]
									[==>(Copy 2)]	
2		(5) PLUTO	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F606W		POS TARG 0,0.797	Sequence 1-2 Non-Int in Visit A8	468 Secs X 3		
								[==>(Copy 1)]	[1]	
								[==>(Copy 2)]		
								[==>(Copy 3)]		

