



13667 - Observations of the Pluto System During the New Horizons Encounter

Epoch

Cycle: 22, 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) PLUTO-SYSTEM	WFC3/IR WFC3/UVIS	1	06-Aug-2015 21:01:15.0	yes
02	(1) PLUTO-SYSTEM	WFC3/IR WFC3/UVIS	1	06-Aug-2015 21:01:19.0	yes
03	(1) PLUTO-SYSTEM	WFC3/IR WFC3/UVIS	1	06-Aug-2015 21:01:23.0	yes

Proposal 13667 (STScI Edit Number: 10, Created: Thursday, August 6, 2015 8:03:00 PM EST) - Overview

Visit	Targets used in Visit	Configurations used in Visit	Orbits Used	Last Orbit Planner Run	OP Current with Visit?
04	(1) PLUTO-SYSTEM	WFC3/UVIS	1	06-Aug-2015 21:01:26.0	yes
05	(1) PLUTO-SYSTEM	WFC3/UVIS	1	06-Aug-2015 21:01:28.0	yes
06	(1) PLUTO-SYSTEM	WFC3/IR WFC3/UVIS	1	06-Aug-2015 21:01:33.0	yes
07	(1) PLUTO-SYSTEM	WFC3/UVIS	1	06-Aug-2015 21:01:36.0	yes
08	(1) PLUTO-SYSTEM	WFC3/UVIS	1	06-Aug-2015 21:01:38.0	yes
09	(1) PLUTO-SYSTEM	WFC3/UVIS	1	06-Aug-2015 21:01:41.0	yes
10	(1) PLUTO-SYSTEM	WFC3/IR WFC3/UVIS	1	06-Aug-2015 21:01:44.0	yes
11	(1) PLUTO-SYSTEM	WFC3/UVIS	1	06-Aug-2015 21:01:46.0	yes
12	(1) PLUTO-SYSTEM	WFC3/UVIS	1	06-Aug-2015 21:01:49.0	yes
13	(1) PLUTO-SYSTEM	WFC3/UVIS	1	06-Aug-2015 21:01:51.0	yes
14	(1) PLUTO-SYSTEM	WFC3/UVIS	1	06-Aug-2015 21:01:54.0	yes
15	(1) PLUTO-SYSTEM	WFC3/UVIS	1	06-Aug-2015 21:01:56.0	yes
16	(1) PLUTO-SYSTEM	WFC3/UVIS	1	06-Aug-2015 21:01:58.0	yes
17	(1) PLUTO-SYSTEM	WFC3/IR WFC3/UVIS	1	06-Aug-2015 21:02:01.0	yes
18	(1) PLUTO-SYSTEM	WFC3/UVIS	1	06-Aug-2015 21:02:03.0	yes
19	(1) PLUTO-SYSTEM	WFC3/UVIS	1	06-Aug-2015 21:02:06.0	yes
20	(1) PLUTO-SYSTEM	WFC3/UVIS	1	06-Aug-2015 21:02:08.0	yes
21	(1) PLUTO-SYSTEM	WFC3/UVIS	1	06-Aug-2015 21:02:10.0	yes
22	(1) PLUTO-SYSTEM	WFC3/UVIS	1	06-Aug-2015 21:02:12.0	yes
23	(1) PLUTO-SYSTEM	WFC3/UVIS	1	06-Aug-2015 21:02:14.0	yes
24	(1) PLUTO-SYSTEM	WFC3/UVIS	1	06-Aug-2015 21:02:16.0	yes
25	(1) PLUTO-SYSTEM	WFC3/UVIS	1	06-Aug-2015 21:02:19.0	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>
26	(1) PLUTO-SYSTEM	WFC3/IR WFC3/UVIS	1	06-Aug-2015 21:02:22.0	yes
27	(1) PLUTO-SYSTEM	WFC3/UVIS	1	06-Aug-2015 21:02:24.0	yes
28	(1) PLUTO-SYSTEM	WFC3/IR WFC3/UVIS	1	06-Aug-2015 21:02:27.0	yes
29	(1) PLUTO-SYSTEM	WFC3/UVIS	1	06-Aug-2015 21:02:29.0	yes
30	(1) PLUTO-SYSTEM	WFC3/UVIS	1	06-Aug-2015 21:02:31.0	yes
31	(1) PLUTO-SYSTEM	WFC3/UVIS	1	06-Aug-2015 21:02:33.0	yes
32	(1) PLUTO-SYSTEM	WFC3/UVIS	1	06-Aug-2015 21:02:35.0	yes
33	(1) PLUTO-SYSTEM	WFC3/UVIS	1	06-Aug-2015 21:02:38.0	yes
34	(1) PLUTO-SYSTEM	WFC3/UVIS	1	06-Aug-2015 21:02:40.0	yes
35	(1) PLUTO-SYSTEM	WFC3/IR WFC3/UVIS	1	06-Aug-2015 21:02:43.0	yes
36	(1) PLUTO-SYSTEM	WFC3/UVIS	1	06-Aug-2015 21:02:45.0	yes
37	(1) PLUTO-SYSTEM	WFC3/UVIS	1	06-Aug-2015 21:02:48.0	yes
38	(1) PLUTO-SYSTEM	WFC3/IR WFC3/UVIS	1	06-Aug-2015 21:02:51.0	yes
39	(1) PLUTO-SYSTEM	WFC3/UVIS	1	06-Aug-2015 21:02:53.0	yes
40	(1) PLUTO-SYSTEM	WFC3/IR WFC3/UVIS	1	06-Aug-2015 21:02:57.0	yes

40 Total Orbits Used

ABSTRACT

We propose a comprehensive set of observations of the Pluto system that will leverage upon the contemporaneous New Horizons flyby to study the surfaces of all the bodies in the system, rotation states of the outer satellites, and provide improved masses. These observations comprise a tightly integrated set of WFC3 imaging and grism data that span from Feb 2015 to Oct 2015, critically providing a broader temporal context for most fully understanding the once-in-a-lifetime encounter snapshot. A small portion of the data collected will also be directly useful for cross-calibrating HST

and ground-based data with the New Horizons data. Our science objectives address both the past formation and current evolution of the Pluto system, thereby setting this system into the larger context of the Kuiper Belt. For example, the rotation state measurements anchored with the New Horizons data represent a truly unique dataset that is unlikely to ever be achievable for any similar-sized satellites or Kuiper Belt objects for many decades to come. As such, this proposal will provide a legacy dataset for understanding the diverse members Pluto system and by extension, analogous members of the Kuiper Belt.

OBSERVING DESCRIPTION

There are three different visit designs in this program. All optical data are to be taken with UVIS2-C512C-SUB. The FOV is sufficient to cover the entire system and avoids the extra overhead of data dumps during the visibility window. Each type of visit is optimized for a different primary science goal but all of them also address an over-arching goal of photometry of Nix and Hydra as well as astrometry.

Spectroscopy (SPEC), 11 visits

These visits provide high SNR near-IR spectra of Pluto and Charon separately with the WFC3/IR grism G141. Our goal is to constrain the medium-term temporal variability of Pluto's volatile ice absorption bands, and to do this at a time when we will also have high spatial resolution imagery from NH. An anchor visit targets the hemisphere of Pluto that is especially well studied by NH during the closest approach at the time of the NH observations themselves on 2015 July 14, to ensure HST and NH are observing the same region and in the same time frame. To control for the significant spectral changes due to Pluto's rotation, all other visits are matched to the same central meridian longitude (CML) of the anchor visit. After controlling for Pluto's rotation, several sources of spectral variability remain. Two are nuisance factors that need to be overcome to discern potential medium-term variability. First of these is the gradual, seasonal evolution as volatile ices sublimate from Pluto's sunlit summer hemisphere and re-condense on the winter hemisphere, as reported from multi-year ground-based studies. These spectral changes should be monotonic in time, with CO and N₂ spectral signatures declining over the year, as CH₄ absorptions increase. Second are potential phase-dependent spectral effects, that are a smooth function of phase angle and are symmetric around opposition. We have identified 11 visits as the minimum required to meet our science goal, designing a sequence that combines a long temporal baseline with symmetry around opposition, in conjunction with denser sampling near opposition when the phase angle changes most rapidly (and also when NH is exploring the system). This plan enables us to characterize and isolate spectral effects from seasonal evolution and phase effects with unprecedented precision, revealing potential evolution on timescales of a ~month that would be crucial to bridging the gap between longer term seasonal trends and NH's much shorter-term snapshot of the system.

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The grism observations require a roll angle that keeps Pluto and Charon well separated in the spatial direction on the focal plane. Our choice of fixed CML implies a fixed Charon position angle of 283 deg east of north, since the system is tidally locked. We have verified with APT that we can get a suitable roll angle throughout the proposed observing timeline. Additional time available within each visit is dedicated to long exposures for photometry and astrometry of the small outer satellites.

The ETC shows that spectral uncertainty at the level of 0.2% or better is achievable by combining four dithered grism exposures per visit. One set is done at the start of the visit and one at the end for insurance against systematic errors in the spectral extraction, cosmic ray strikes, and passing field stars. This provides the sensitivity to detect changes at considerably higher precision than the typical annual seasonal evolution. The seasonal evolution of Pluto's spectrum is strongly wavelength-dependent, but for comparison, albedos in typical methane bands evolves by about 1% per year, a factor of 5 greater than our anticipated noise level. The grism observations require only a fraction of the orbit at each visit. The additional time within each visit is dedicated to long exposures for photometry and astrometry of the small outer satellites.

Pluto-Charon Photometry (PHOT), 24 visits

These visits address surface properties as well as the dynamical properties of the satellites. These data are optimized for Pluto and Charon photometry. These visits will be split into two sets. Each set will target 12 discrete Pluto CMLs (uniform 30deg spacing) but will be interleaved and spread out through the year. The goal of these observations is the overall phase function as well as the shape of the lightcurve at a new sub-earth latitude. Set #1 will omit the ultra low phase portion. Set #2 is a much tighter set of observations, spread over the two rotations that end with the NH close approach, and which also happens to cover the lowest phase angles (0.06-0.27deg). In CML, the first of these rotations will be 60deg spacing, starting with 30deg, the second of these rotations will be 60deg spacing starting with 0deg. Within these visits, there will be three distinct visit patterns. We will target three filters on Pluto and Charon in every visit. F438W and F555W will be done every time and the third filter will cycle between F625W (R/r', MVIC red), F775W (MVIC gap), and F845M (MVIC NIR). These extra filters will thus provide 8 samples per rotation of Pluto and Charon. These filters are important for providing cross-calibration measurements with the New Horizons data. The rest of the time in each visit is devoted to long exposures for astrometry and photometry of the outer satellites. The first three image sequences will use a spatial scan to vastly improve the photometry of Pluto and Charon will using a very small portion of the orbit. The scan serves the purpose of multiple dithered observations without the overhead of dithering or readout and will be designed to yield a trailed image of Pluto and Charon that is 12 pixels long, avoiding saturation. The observations will be setup to use the on-board parallax correction so that Pluto and Charon can be moved precisely relative to their heliocentric motion. These observations are more complex to craft but the burden falls on the proposing team to work out the geometry of the spatial scans needed. The scans are designed to be identical for all filters to simplify the observing sequence and data analysis

Styx/Kerberos Photometry (DEEP), 5 visits

The other visits in the program do an excellent job on Nix and Hydra photometry, but Kerberos and (especially) Styx require an entire orbit of integration to obtain acceptable signal-to-noise. These five visits are designed to capture photometry of these objects (good to 5% for Styx, better for the others) to ensure a proper characterization of their phase curves. The times chosen for these visits are based on the need to cover specific NH events as well as covering the phase angle range available to HST that are not accessible to NH. The two nearly simultaneous datasets will combine for the full range including extremely low phase angle where the opposition surge is expected. The most time critical visit is chosen to match the NH close approach and yields data at a phase angle of 0.23deg. The second visit is chosen at the time of minimum phase angle of 0.06deg. The third visit is in between the first two set at a phase angle of 0.12 deg. The fourth visit is set for a phase angle of 0.5deg and occurs after the NH close approach. The fifth and final visit is set for a phase angle of 1.0deg roughly a month later. Through this strategically integrated progression of visits the time window for collecting the data starts out very tight and then relaxes toward the end. All images are long exposures except for the short exposure navigation observations to measure Pluto and Charon without saturation. This plan gives the highest possible SNR on Styx that can be obtained within a single visibility window. Note that the long-exposure data has a uniform exposure time across all 24 orbits.

Nix/Hydra Photometry, ALL visits

The visit designs all have exposures intended for photometry of Nix and Hydra. These are optimized, subject to all of the other constraints, to provide data over the entire apparition of Pluto and as uniform sampling in time and orbital longitude as is possible. These data must be corrected for solar phase angle effects and compared to the imaging data that will come from New Horizons.

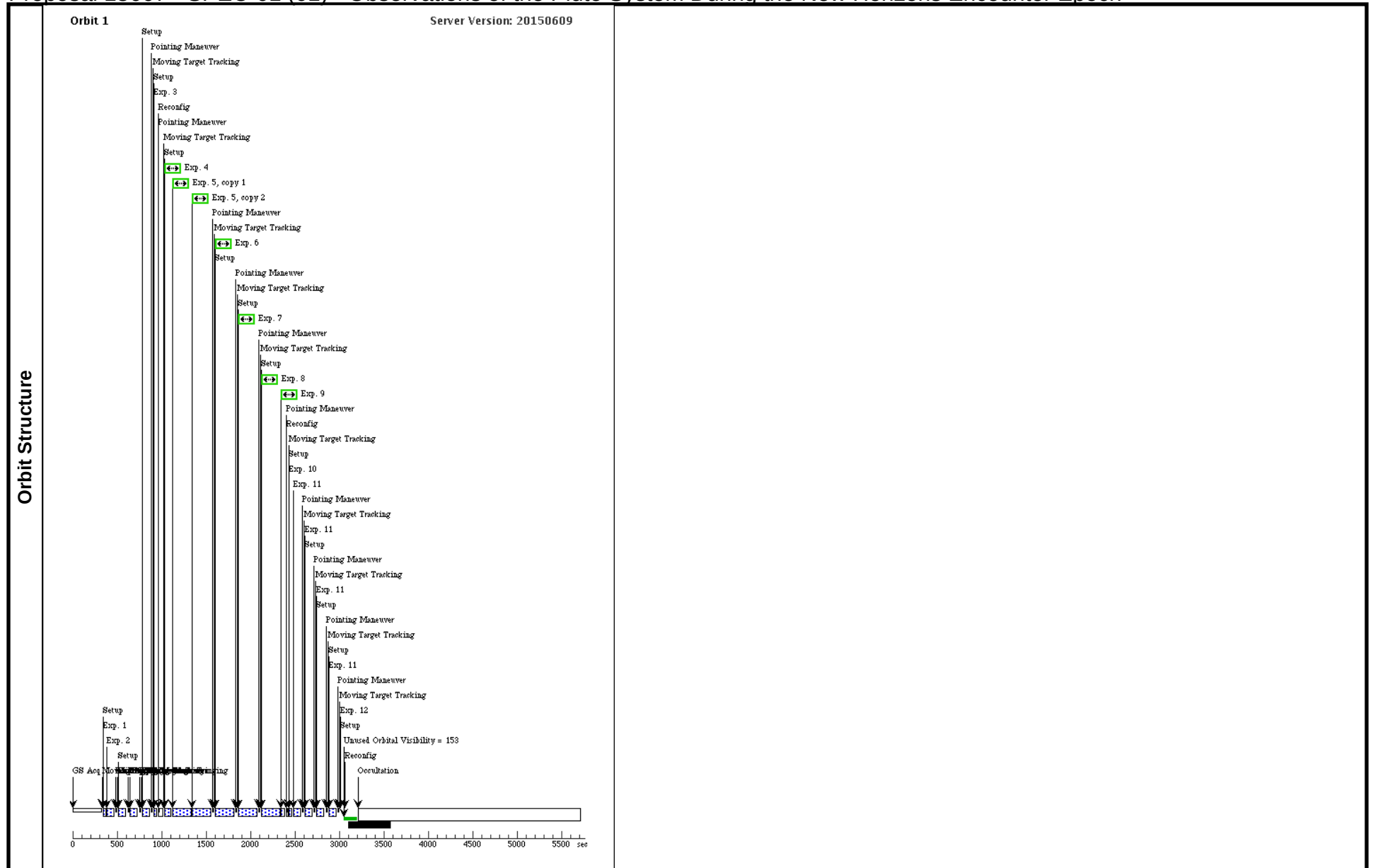
Proposal 13667 - SPEC-01 (01) - Observations of the Pluto System During the New Horizons Encounter Epoch

Visit	Proposal 13667, SPEC-01 (01), completed Fri Aug 07 01:03:00 GMT 2015 Diagnostic Status: Warning Scientific Instruments: WFC3/IR, WFC3/UVIS Special Requirements: ORIENT 265D TO 265 D; ORIENT 85D TO 85 D; BETWEEN 02-MAR-2015:04:45:00 AND 03-MAR-2015:00:00:00 <i>Comments: This visit is designed to get near-IR grism spectra of Pluto and Charon. The special roll requirements are used to keep the spectral images from Pluto and Charon from overlapping. The timing is set by the observing cadence while also selecting a fixed sub-earth longitude for all of the SPEC visits. The timing of all visits are also optimized for the deep imaging cadence on the outer satellites to get uniform longitude coverage.</i> <i>The other part of the visit is to get deep optical images of the faint outer satellites. POS TARG values re-position Pluto in steps of exactly 5.5 pixels along each axis.</i>				
	(Short POS 1 (01.004)) Warning (Form): FLASH level may be too low for this exposure or a short subexposure. See extended explanation in the diagnostic browser (Short POS 4 (01.009)) Warning (Form): FLASH level may be too low for this exposure or a short subexposure. See extended explanation in the diagnostic browser				
Diagnos					
Patterns	#	Primary Pattern		Secondary Pattern	Exposures
	(2)	Pattern Type=WFC3-IR-DITHER-BOX-MIN Purpose=DITHER Number Of Points=4 Point Spacing=1.716 Line Spacing=1.095 Coordinate Frame=POS-TARG Pattern Orientation=18.528 Angle Between Sides=74.653 Center Pattern=false			(2), (11)
Solar System Targets	#	Name	Level 1	Level 2	Level 3
	(1)	PLUTO-SYSTEM	STD=PLUTO		
					Window
					Ephem Center
					EARTH

Proposal 13667 - SPEC-01 (01) - Observations of the Pluto System During the New Horizons Encounter Epoch

Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1	Navigation	(1) PLUTO-SYSTEM	WFC3/IR, MULTIACCUM, GRISM512	F139M	NSAMP=4; SAMP-SEQ=RAPID			3.412108 Secs (3.412 Secs) [==>]	[1]
	2	Spectra	(1) PLUTO-SYSTEM	WFC3/IR, MULTIACCUM, GRISM512	G141	NSAMP=7; SAMP-SEQ=STEP25		Pattern 2, Exps 2-2 in SPEC-01 (01) (2)	59.675893 Secs (238.704 Secs) [==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)] [==>(Pattern 4)]	[1]
	Comments: Dithered slitless grism spectra. Ideally, the bracketing navigation images would correspond to the first and last dither positions in each set of four, but I'm not sure if that's the default behavior. (the reasons are to avoid pointing overheads, and also to minimize offsets). If it isn't easy to get this to happen, it's not a big deal.									
	3	Navigation	(1) PLUTO-SYSTEM	WFC3/IR, MULTIACCUM, GRISM512	F139M	NSAMP=4; SAMP-SEQ=RAPID			3.412108 Secs (3.412 Secs) [==>]	[1]
	4	Short POS 1	(1) PLUTO-SYSTEM	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F350LP		POS TARG 1.184,0.079		3 Secs (3 Secs) [==>]	[1]
	5	Deep imaging POS 1 (x2)	(1) PLUTO-SYSTEM	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F350LP		POS TARG 1.184,0.079		170 Secs X 2 (340 Secs) [==>(Copy 1)] [==>(Copy 2)]	[1]
	6	Deep imaging POS 2	(1) PLUTO-SYSTEM	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F350LP		POS TARG 1.184,0.298		170 Secs (170 Secs) [==>]	[1]
	7	Deep imaging POS 3	(1) PLUTO-SYSTEM	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F350LP		POS TARG 1.401,0.093		170 Secs (170 Secs) [==>]	[1]
	8	Deep imaging POS 4	(1) PLUTO-SYSTEM	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F350LP		POS TARG 1.401,0.312		170 Secs (170 Secs) [==>]	[1]
	9	Short POS 4	(1) PLUTO-SYSTEM	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F350LP		POS TARG 1.401,0.312		3 Secs (3 Secs) [==>]	[1]
	10	Navigation	(1) PLUTO-SYSTEM	WFC3/IR, MULTIACCUM, GRISM512	F139M	NSAMP=4; SAMP-SEQ=RAPID			3.412108 Secs (3.412 Secs) [==>]	[1]
	11	Spectra	(1) PLUTO-SYSTEM	WFC3/IR, MULTIACCUM, GRISM512	G141	NSAMP=7; SAMP-SEQ=STEP25		Pattern 2, Exps 11-11 in SPEC-01 (01) (2)	59.675893 Secs (238.704 Secs) [==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)] [==>(Pattern 4)]	[1]
	Comments: Dithered slitless grism spectra. Ideally, the bracketing navigation images would correspond to the first and last dither positions in each set of four, but I'm not sure if that's the default behavior. (the reasons are to avoid pointing overheads, and also to minimize offsets). If it isn't easy to get this to happen, it's not a big deal.									
	12	Navigation	(1) PLUTO-SYSTEM	WFC3/IR, MULTIACCUM, GRISM512	F139M	NSAMP=4; SAMP-SEQ=RAPID			3.412108 Secs (3.412 Secs) [==>]	[1]

Proposal 13667 - SPEC-01 (01) - Observations of the Pluto System During the New Horizons Encounter Epoch



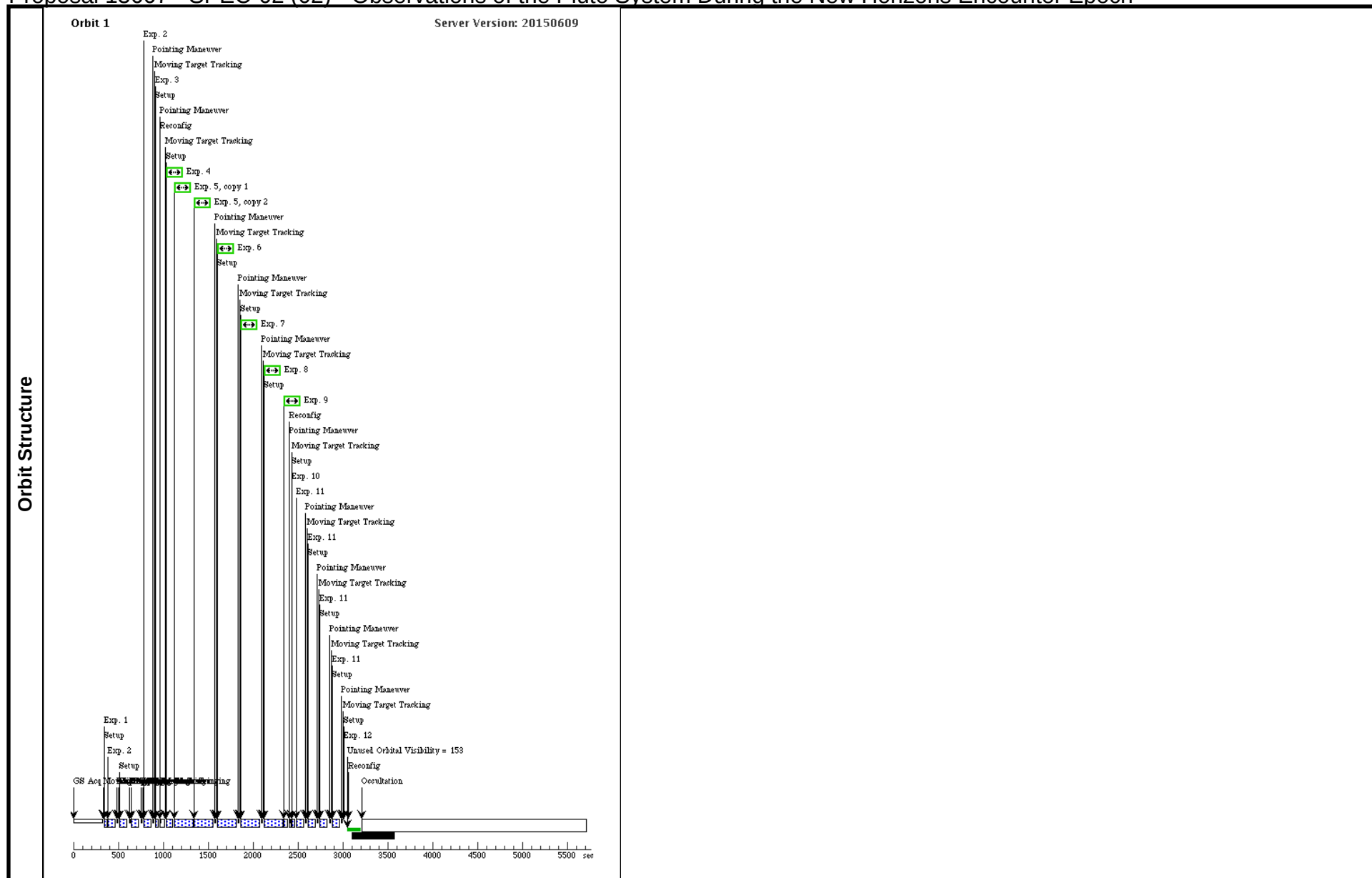
Proposal 13667 - SPEC-02 (02) - Observations of the Pluto System During the New Horizons Encounter Epoch

Visit	Proposal 13667, SPEC-02 (02), completed Fri Aug 07 01:03:01 GMT 2015				
	Diagnostic Status: Warning Scientific Instruments: WFC3/IR, WFC3/UVIS Special Requirements: ORIENT 265D TO 265 D; ORIENT 85D TO 85 D; BETWEEN 27-MAR-2015:17:55:00 AND 28-MAR-2015:05:55:00 Comments: This visit is designed to get near-IR grism spectra of Pluto and Charon. The special roll requirements are used to keep the spectral images from Pluto and Charon from overlapping. The timing is set by the observing cadence while also selecting a fixed sub-earth longitude for all of the SPEC visits. The timing of all visits are also optimized for the deep imaging cadence on the outer satellites to get uniform longitude coverage. The other part of the visit is to get deep optical images of the faint outer satellites. POS TARG values re-position Pluto in steps of exactly 5.5 pixels along each axis.				
Diagnosics	(Short POS 1 (02.004)) Warning (Form): FLASH level may be too low for this exposure or a short subexposure. See extended explanation in the diagnostic browser (Short POS 4 (02.009)) 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
	(2)	Pattern Type=WFC3-IR-DITHER-BOX-MIN Purpose=DITHER Number Of Points=4 Point Spacing=1.716 Line Spacing=1.095		Coordinate Frame=POS-TARG Pattern Orientation=18.528 Angle Between Sides=74.653 Center Pattern=false	(2), (11)
Solar System Targets	#	Name	Level 1	Level 2	Level 3
	(1)	PLUTO-SYSTEM	STD=PLUTO		
				Window	Ephem Center
					EARTH

Proposal 13667 - SPEC-02 (02) - Observations of the Pluto System During the New Horizons Encounter Epoch

Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1	Navigation	(1) PLUTO-SYSTEM	WFC3/IR, MULTIACCUM, GRISM512	F139M	NSAMP=4; SAMP-SEQ=RAPID			3.412108 Secs (3.412 Secs) [==>]	[1]
	2	Spectra	(1) PLUTO-SYSTEM	WFC3/IR, MULTIACCUM, GRISM512	G141	NSAMP=7; SAMP-SEQ=STEP25		Pattern 2, Exps 2-2 in SPEC-02 (02) (2)	59.675893 Secs (238.704 Secs) [==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)] [==>(Pattern 4)]	[1]
	Comments: Dithered slitless grism spectra. Ideally, the bracketing navigation images would correspond to the first and last dither positions in each set of four, but I'm not sure if that's the default behavior. (the reasons are to avoid pointing overheads, and also to minimize offsets). If it isn't easy to get this to happen, it's not a big deal.									
	3	Navigation	(1) PLUTO-SYSTEM	WFC3/IR, MULTIACCUM, GRISM512	F139M	NSAMP=4; SAMP-SEQ=RAPID			3.412108 Secs (3.412 Secs) [==>]	[1]
	4	Short POS 1	(1) PLUTO-SYSTEM	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F350LP		POS TARG 1.184,0.079		3 Secs (3 Secs) [==>]	[1]
	5	Deep imaging POS 1 (x2)	(1) PLUTO-SYSTEM	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F350LP		POS TARG 1.184,0.079		170 Secs X 2 (340 Secs) [==>(Copy 1)] [==>(Copy 2)]	[1]
	6	Deep imaging POS 2	(1) PLUTO-SYSTEM	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F350LP		POS TARG 1.184,0.298		170 Secs (170 Secs) [==>]	[1]
	7	Deep imaging POS 3	(1) PLUTO-SYSTEM	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F350LP		POS TARG 1.401,0.093		170 Secs (170 Secs) [==>]	[1]
	8	Deep imaging POS 4	(1) PLUTO-SYSTEM	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F350LP		POS TARG 1.401,0.312		170 Secs (170 Secs) [==>]	[1]
	9	Short POS 4	(1) PLUTO-SYSTEM	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F350LP		POS TARG 1.401,0.312		3 Secs (3 Secs) [==>]	[1]
	10	Navigation	(1) PLUTO-SYSTEM	WFC3/IR, MULTIACCUM, GRISM512	F139M	NSAMP=4; SAMP-SEQ=RAPID			3.412108 Secs (3.412 Secs) [==>]	[1]
	11	Spectra	(1) PLUTO-SYSTEM	WFC3/IR, MULTIACCUM, GRISM512	G141	NSAMP=7; SAMP-SEQ=STEP25		Pattern 2, Exps 11-11 in SPEC-02 (02) (2)	59.675893 Secs (238.704 Secs) [==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)] [==>(Pattern 4)]	[1]
	Comments: Dithered slitless grism spectra. Ideally, the bracketing navigation images would correspond to the first and last dither positions in each set of four, but I'm not sure if that's the default behavior. (the reasons are to avoid pointing overheads, and also to minimize offsets). If it isn't easy to get this to happen, it's not a big deal.									
	12	Navigation	(1) PLUTO-SYSTEM	WFC3/IR, MULTIACCUM, GRISM512	F139M	NSAMP=4; SAMP-SEQ=RAPID			3.412108 Secs (3.412 Secs) [==>]	[1]

Proposal 13667 - SPEC-02 (02) - Observations of the Pluto System During the New Horizons Encounter Epoch



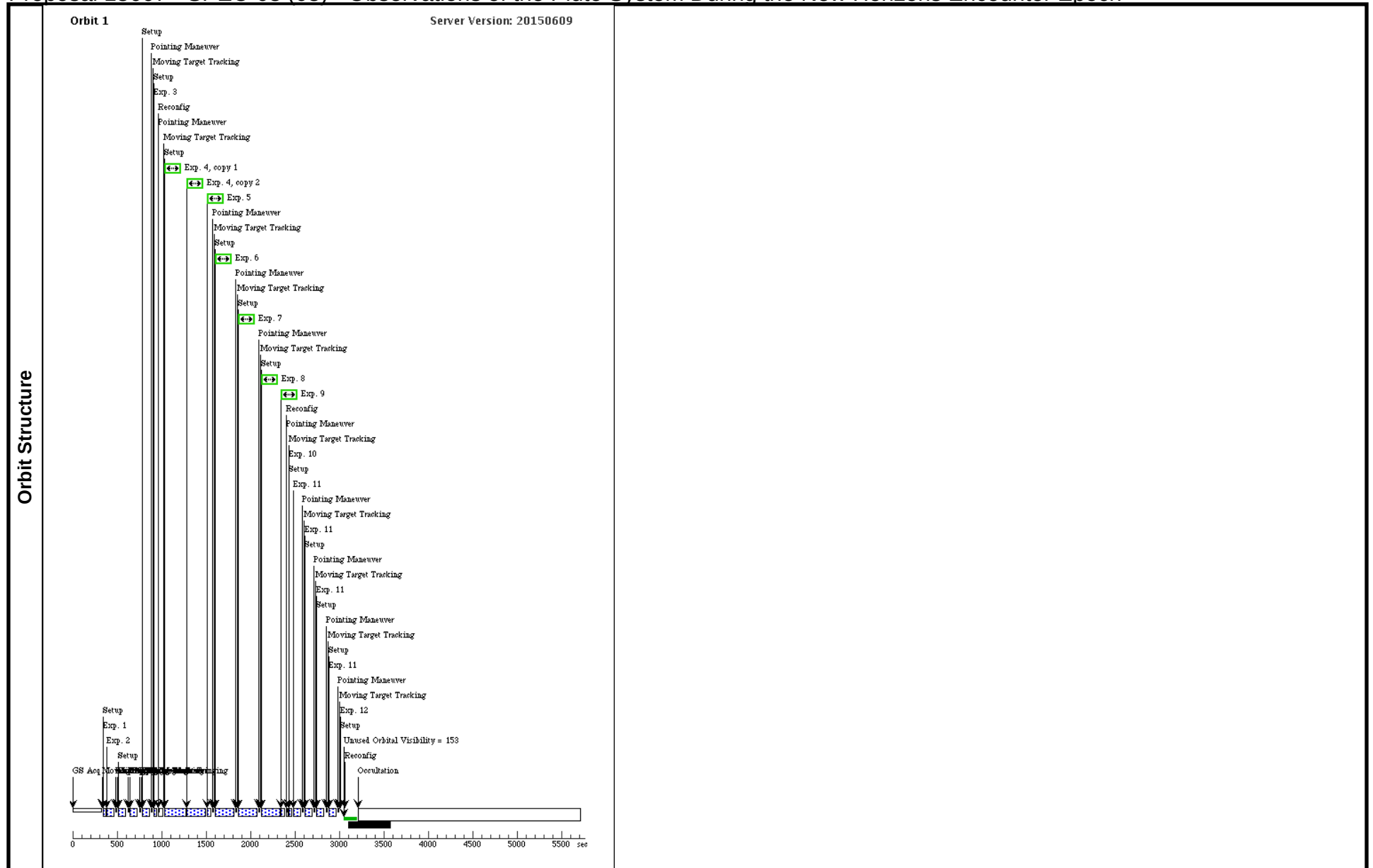
Proposal 13667 - SPEC-03 (03) - Observations of the Pluto System During the New Horizons Encounter Epoch

Visit	Proposal 13667, SPEC-03 (03), completed Fri Aug 07 01:03:01 GMT 2015				
	Diagnostic Status: Warning Scientific Instruments: WFC3/IR, WFC3/UVIS Special Requirements: ORIENT 265D TO 265 D; ORIENT 85D TO 85 D; BETWEEN 28-APR-2015:16:23:00 AND 29-APR-2015:04:23:00 Comments: This visit is designed to get near-IR grism spectra of Pluto and Charon. The special roll requirements are used to keep the spectral images from Pluto and Charon from overlapping. The timing is set by the observing cadence while also selecting a fixed sub-earth longitude for all of the SPEC visits. The timing of all visits are also optimized for the deep imaging cadence on the outer satellites to get uniform longitude coverage. The other part of the visit is to get deep optical images of the faint outer satellites. POS TARG values re-position Pluto in steps of exactly 5.5 pixels along each axis.				
Diagnostics	(Short POS 1 (03.005)) Warning (Form): FLASH level may be too low for this exposure or a short subexposure. See extended explanation in the diagnostic browser (Short POS 4 (03.009)) 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
	(2)	Pattern Type=WFC3-IR-DITHER-BOX-MIN Purpose=DITHER Number Of Points=4 Point Spacing=1.716 Line Spacing=1.095		Coordinate Frame=POS-TARG Pattern Orientation=18.528 Angle Between Sides=74.653 Center Pattern=false	(2), (11)
Solar System Targets	#	Name	Level 1	Level 2	Level 3
	(1)	PLUTO-SYSTEM	STD=PLUTO		Window
					Ephem Center

Proposal 13667 - SPEC-03 (03) - Observations of the Pluto System During the New Horizons Encounter Epoch

Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1	Navigation	(1) PLUTO-SYSTEM	WFC3/IR, MULTIACCUM, GRISM512	F139M	NSAMP=4; SAMP-SEQ=RAPID			3.412108 Secs (3.412 Secs) [==>]	[1]
	2	Spectra	(1) PLUTO-SYSTEM	WFC3/IR, MULTIACCUM, GRISM512	G141	NSAMP=7; SAMP-SEQ=STEP25		Pattern 2, Exps 2-2 in SPEC-03 (03) (2)	59.675893 Secs (238.704 Secs) [==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)] [==>(Pattern 4)]	[1]
	Comments: Dithered slitless grism spectra. Ideally, the bracketing navigation images would correspond to the first and last dither positions in each set of four, but I'm not sure if that's the default behavior. (the reasons are to avoid pointing overheads, and also to minimize offsets). If it isn't easy to get this to happen, it's not a big deal.									
	3	Navigation	(1) PLUTO-SYSTEM	WFC3/IR, MULTIACCUM, GRISM512	F139M	NSAMP=4; SAMP-SEQ=RAPID			3.412108 Secs (3.412 Secs) [==>]	[1]
	4	Deep imaging POS 1 (x2)	(1) PLUTO-SYSTEM	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F350LP		POS TARG 1.184,0.079		170 Secs X 2 (340 Secs) [==>(Copy 1)] [==>(Copy 2)]	[1]
	5	Short POS 1	(1) PLUTO-SYSTEM	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F350LP		POS TARG 1.184,0.079		3 Secs (3 Secs) [==>]	[1]
	6	Deep imaging POS 2	(1) PLUTO-SYSTEM	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F350LP		POS TARG 1.184,0.298		170 Secs (170 Secs) [==>]	[1]
	7	Deep imaging POS 3	(1) PLUTO-SYSTEM	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F350LP		POS TARG 1.401,0.093		170 Secs (170 Secs) [==>]	[1]
	8	Deep imaging POS 4	(1) PLUTO-SYSTEM	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F350LP		POS TARG 1.401,0.312		170 Secs (170 Secs) [==>]	[1]
	9	Short POS 4	(1) PLUTO-SYSTEM	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F350LP		POS TARG 1.401,0.312		3 Secs (3 Secs) [==>]	[1]
	10	Navigation	(1) PLUTO-SYSTEM	WFC3/IR, MULTIACCUM, GRISM512	F139M	NSAMP=4; SAMP-SEQ=RAPID			3.412108 Secs (3.412 Secs) [==>]	[1]
	11	Spectra	(1) PLUTO-SYSTEM	WFC3/IR, MULTIACCUM, GRISM512	G141	NSAMP=7; SAMP-SEQ=STEP25		Pattern 2, Exps 11-11 in SPEC-03 (03) (2)	59.675893 Secs (238.704 Secs) [==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)] [==>(Pattern 4)]	[1]
	Comments: Dithered slitless grism spectra. Ideally, the bracketing navigation images would correspond to the first and last dither positions in each set of four, but I'm not sure if that's the default behavior. (the reasons are to avoid pointing overheads, and also to minimize offsets). If it isn't easy to get this to happen, it's not a big deal.									
	12	Navigation	(1) PLUTO-SYSTEM	WFC3/IR, MULTIACCUM, GRISM512	F139M	NSAMP=4; SAMP-SEQ=RAPID			3.412108 Secs (3.412 Secs) [==>]	[1]

Proposal 13667 - SPEC-03 (03) - Observations of the Pluto System During the New Horizons Encounter Epoch



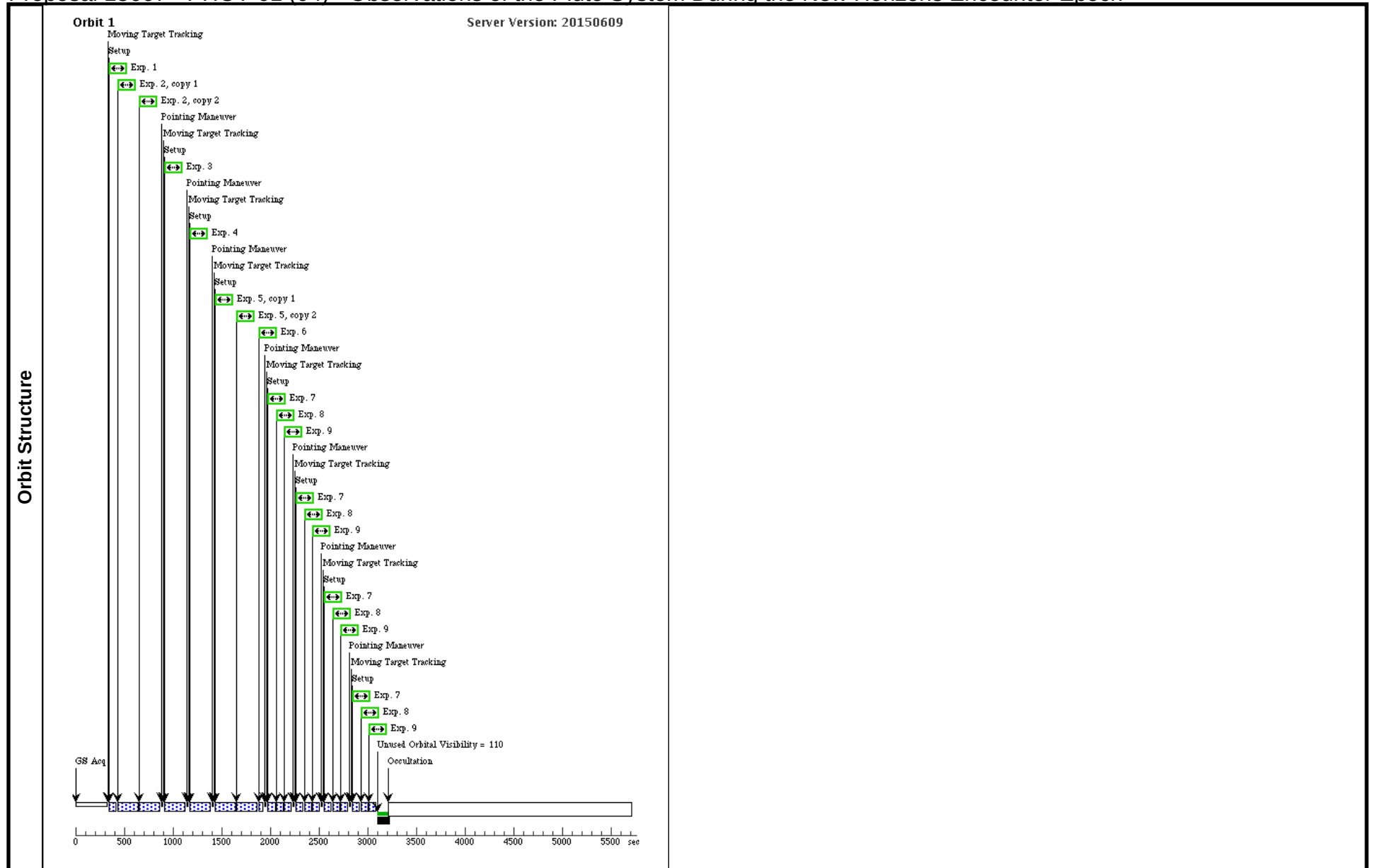
Proposal 13667 - PHOT-01 (04) - Observations of the Pluto System During the New Horizons Encounter Epoch

Visit	Proposal 13667, PHOT-01 (04), completed Fri Aug 07 01:03:02 GMT 2015				
	Diagnostic Status: Warning Scientific Instruments: WFC3/UVIS Special Requirements: BETWEEN 02-MAY-2015:20:10:22 AND 03-MAY-2015:08:10:22 Comments: <i>The PHOT visits are designed for high SNR photometry of Pluto and Charon.</i> <i>The Pluto observations use F435W and F555W in each visit for complete longitude coverage. This coverage is targeted for two time ranges. The first set is 12 visits covering the last full rotation of Pluto leading up to the time of closest approach of New Horizons to Pluto. These images are fixed at 30 degree longitude resolution. The other set of 12 visits are spread out to cover the full range of solar phase angle available to HST while also achieving 30 degree longitude spacing. Within these 24 visits, there are 3 other filters used, one per visit. The timing on the extra filter is set to get 8 evenly spaced longitudes (45 degree spacing) in each of the other filters.</i> <i>The long exposure images are observations to get positions and photometry on the faint outer satellites. POS TARG values re-position Pluto in steps of exactly 5.5 pixels along each axis.</i>				
Diagnostics	(Short POS 1 (04.001)) Warning (Form): FLASH level may be too low for this exposure or a short subexposure. See extended explanation in the diagnostic browser				
	(Short POS 4 (04.006)) Warning (Form): FLASH level may be too low for this exposure or a short subexposure. See extended explanation in the diagnostic browser				
	(PICh F1 (04.007)) Warning (Form): FLASH level may be too low for this exposure or a short subexposure. See extended explanation in the diagnostic browser				
	(PICh F2 (04.008)) Warning (Form): FLASH level may be too low for this exposure or a short subexposure. See extended explanation in the diagnostic browser				
	(PICh F3 (04.009)) 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
	(3)	Pattern Type=WFC3-UVIS-DITHER-BOX Purpose=DITHER Number Of Points=4 Point Spacing=0.173 Line Spacing=0.112	Coordinate Frame=POS-TARG Pattern Orientation=23.884 Angle Between Sides=81.785 Center Pattern=false		(7-9)
Solar System Targets	#	Name	Level 1	Level 2	Level 3
	(1)	PLUTO-SYSTEM	STD=PLUTO		Window
					Ephem Center

Proposal 13667 - PHOT-01 (04) - Observations of the Pluto System During the New Horizons Encounter Epoch

Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1	Short POS 1	(1) PLUTO-SYSTEM	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F350LP		POS TARG 1.184,0.079		3 Secs (3 Secs)	
									[==>]	[1]
	2	Deep imaging POS 1 (x2)	(1) PLUTO-SYSTEM	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F350LP		POS TARG 1.184,0.079		170 Secs X 2 (340 Secs)	
									[==>(Copy 1)]	[1]
									[==>(Copy 2)]	
	3	Deep imaging POS 2	(1) PLUTO-SYSTEM	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F350LP		POS TARG 1.184,0.298		170 Secs (170 Secs)	
									[==>]	[1]
	4	Deep imaging POS 3	(1) PLUTO-SYSTEM	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F350LP		POS TARG 1.401,0.093		170 Secs (170 Secs)	
									[==>]	[1]
Exposures	5	Deep imaging POS 4	(1) PLUTO-SYSTEM	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F350LP		POS TARG 1.401,0.312		170 Secs X 2 (340 Secs)	
									[==>(Copy 1)]	[1]
									[==>(Copy 2)]	
	6	Short POS 4	(1) PLUTO-SYSTEM	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F350LP		POS TARG 1.401,0.312		3 Secs (3 Secs)	
									[==>]	[1]
	7	PlCh F1	(1) PLUTO-SYSTEM	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F438W	CR-SPLIT=NO	POS TARG 1.184,0.079	Pattern 3, Exps 7-9 in PHOT-01 (04) (3)	12 Secs (48 Secs)	
									[==>(Pattern 1)]	[1]
									[==>(Pattern 2)]	
									[==>(Pattern 3)]	
									[==>(Pattern 4)]	
Exposures	8	PlCh F2	(1) PLUTO-SYSTEM	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F555W	CR-SPLIT=NO	POS TARG 1.184,0.079	Pattern 3, Exps 7-9 in PHOT-01 (04) (3)	6 Secs (24 Secs)	
									[==>(Pattern 1)]	[1]
									[==>(Pattern 2)]	
									[==>(Pattern 3)]	
									[==>(Pattern 4)]	
	9	PlCh F3	(1) PLUTO-SYSTEM	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F625W	CR-SPLIT=NO	POS TARG 1.184,0.079	Pattern 3, Exps 7-9 in PHOT-01 (04) (3)	6 Secs (24 Secs)	
									[==>(Pattern 1)]	[1]
									[==>(Pattern 2)]	
									[==>(Pattern 3)]	
									[==>(Pattern 4)]	

Proposal 13667 - PHOT-01 (04) - Observations of the Pluto System During the New Horizons Encounter Epoch



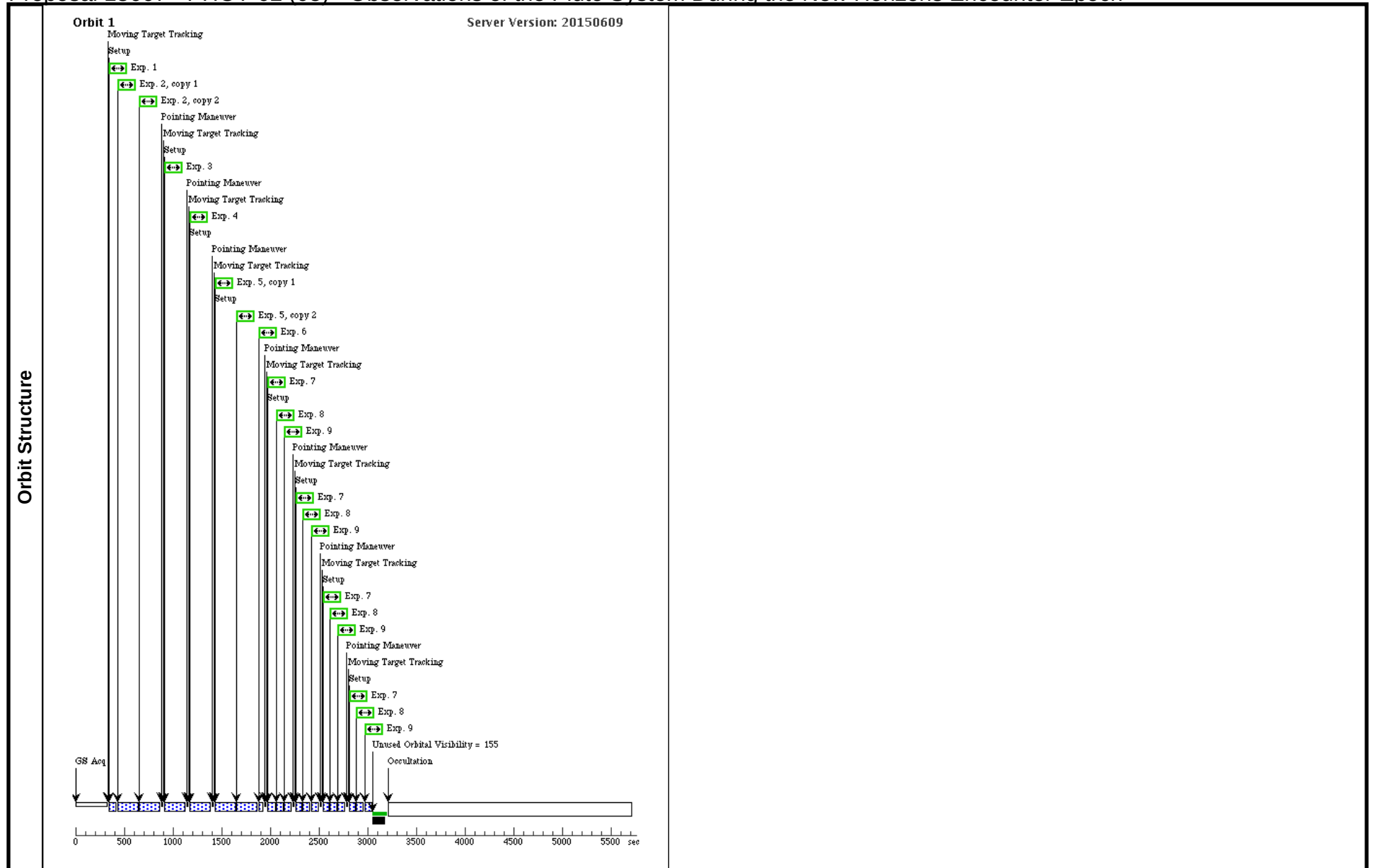
Proposal 13667 - PHOT-02 (05) - Observations of the Pluto System During the New Horizons Encounter Epoch

Visit	Proposal 13667, PHOT-02 (05), completed Fri Aug 07 01:03:02 GMT 2015					
	Diagnostic Status: Warning Scientific Instruments: WFC3/UVIS Special Requirements: BETWEEN 26-MAY-2015:06:14:49 AND 26-MAY-2015:18:14:49 Comments: The PHOT visits are designed for high SNR photometry of Pluto and Charon. These observations are designed as a spatial scan to combine dithering and extra detected signal into a single exposure. These images need to use the onboard parallax correction but have to be implemented as a fixed time, ambush observation to get Pluto and Charon in the field. The spatial scan will incorporate the geocentric motion of Pluto to get the desired trail on the image. The Pluto observations use F435W and F555W in each visit for complete longitude coverage. This coverage is targeted for two time ranges. The first set is 12 visits covering the last full rotation of Pluto leading up to the time of closest approach of New Horizons to Pluto. These images are fixed at 30 degree longitude resolution. The other set of 12 visits are spread out to cover the full range of solar phase angle available to HST while also achieving 30 degree longitude spacing. Within these 24 visits, there are 3 other filters used, one per visit. The timing on the extra filter is set to get 8 evenly spaced longitudes (45 degree spacing) in each of the other filters. The long exposure images are normal moving target observations to get positions and photometry on the faint outer satellites. POS TARG values re-position Pluto in steps of exactly 5.5 pixels along each axis. As built, APT does not support mixing these two types of observations in one orbit. The durations for the pieces appear to fit in a single visibility window with a few minutes to spare. It is intended and expected that all exposures will fit in one window. Deviations from this need to be discussed for science impact.					
Diagnostics	(Short POS 1 (05.001)) Warning (Form): FLASH level may be too low for this exposure or a short subexposure. See extended explanation in the diagnostic browser (Short POS 4 (05.006)) Warning (Form): FLASH level may be too low for this exposure or a short subexposure. See extended explanation in the diagnostic browser (PICCh F1 (05.007)) Warning (Form): FLASH level may be too low for this exposure or a short subexposure. See extended explanation in the diagnostic browser (PICCh F2 (05.008)) Warning (Form): FLASH level may be too low for this exposure or a short subexposure. See extended explanation in the diagnostic browser (PICCh F4 (05.009)) 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
	(3)	Pattern Type=WFC3-UVIS-DITHER-BOX Purpose=DITHER Number Of Points=4 Point Spacing=0.173 Line Spacing=0.112		Coordinate Frame=POS-TARG Pattern Orientation=23.884 Angle Between Sides=81.785 Center Pattern=false		(7-9)
Solar System Targets	#	Name	Level 1	Level 2	Level 3	Window
	(1)	PLUTO-SYSTEM	STD=PLUTO			EARTH

Proposal 13667 - PHOT-02 (05) - Observations of the Pluto System During the New Horizons Encounter Epoch

Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1	Short POS 1	(1) PLUTO-SYSTEM	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F350LP		POS TARG 1.184,0.079	Sequence 1-9 Non-Int in PHOT-02 (05)	3 Secs (3 Secs)	
									[==>]	[1]
	2	Deep imaging POS 1 (x2)	(1) PLUTO-SYSTEM	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F350LP		POS TARG 1.184,0.079	Sequence 1-9 Non-Int in PHOT-02 (05)	170 Secs X 2 (340 Secs)	
									[==>(Copy 1)]	
									[==>(Copy 2)]	[1]
	3	Deep imaging POS 2	(1) PLUTO-SYSTEM	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F350LP		POS TARG 1.184,0.298	Sequence 1-9 Non-Int in PHOT-02 (05)	170 Secs (170 Secs)	
									[==>]	[1]
	4	Deep imaging POS 3	(1) PLUTO-SYSTEM	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F350LP		POS TARG 1.401,0.093	Sequence 1-9 Non-Int in PHOT-02 (05)	170 Secs (170 Secs)	
									[==>]	[1]
	5	Deep imaging POS 4	(1) PLUTO-SYSTEM	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F350LP		POS TARG 1.401,0.312	Sequence 1-9 Non-Int in PHOT-02 (05)	170 Secs X 2 (340 Secs)	
									[==>(Copy 1)]	
									[==>(Copy 2)]	[1]
	6	Short POS 4	(1) PLUTO-SYSTEM	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F350LP		POS TARG 1.401,0.312	Sequence 1-9 Non-Int in PHOT-02 (05)	3 Secs (3 Secs)	
									[==>]	[1]
	7	PlCh F1	(1) PLUTO-SYSTEM	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F438W	CR-SPLIT=NO	POS TARG 1.184,0.079	Sequence 1-9 Non-Int in PHOT-02 (05) Pattern 3, Exps 7-9 in Sequence 1-9 Non-Int in PHOT-02 (05) (3)	12 Secs (48 Secs)	
									[==>(Pattern 1)]	
									[==>(Pattern 2)]	
									[==>(Pattern 3)]	[1]
									[==>(Pattern 4)]	
	8	PlCh F2	(1) PLUTO-SYSTEM	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F555W	CR-SPLIT=NO	POS TARG 1.184,0.079	Sequence 1-9 Non-Int in PHOT-02 (05) Pattern 3, Exps 7-9 in Sequence 1-9 Non-Int in PHOT-02 (05) (3)	6 Secs (24 Secs)	
									[==>(Pattern 1)]	
									[==>(Pattern 2)]	
									[==>(Pattern 3)]	[1]
									[==>(Pattern 4)]	
	9	PlCh F4	(1) PLUTO-SYSTEM	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F775W	CR-SPLIT=NO	POS TARG 1.184,0.079	Sequence 1-9 Non-Int in PHOT-02 (05) Pattern 3, Exps 7-9 in Sequence 1-9 Non-Int in PHOT-02 (05) (3)	9 Secs (36 Secs)	
									[==>(Pattern 1)]	
									[==>(Pattern 2)]	
									[==>(Pattern 3)]	[1]
									[==>(Pattern 4)]	

Proposal 13667 - PHOT-02 (05) - Observations of the Pluto System During the New Horizons Encounter Epoch



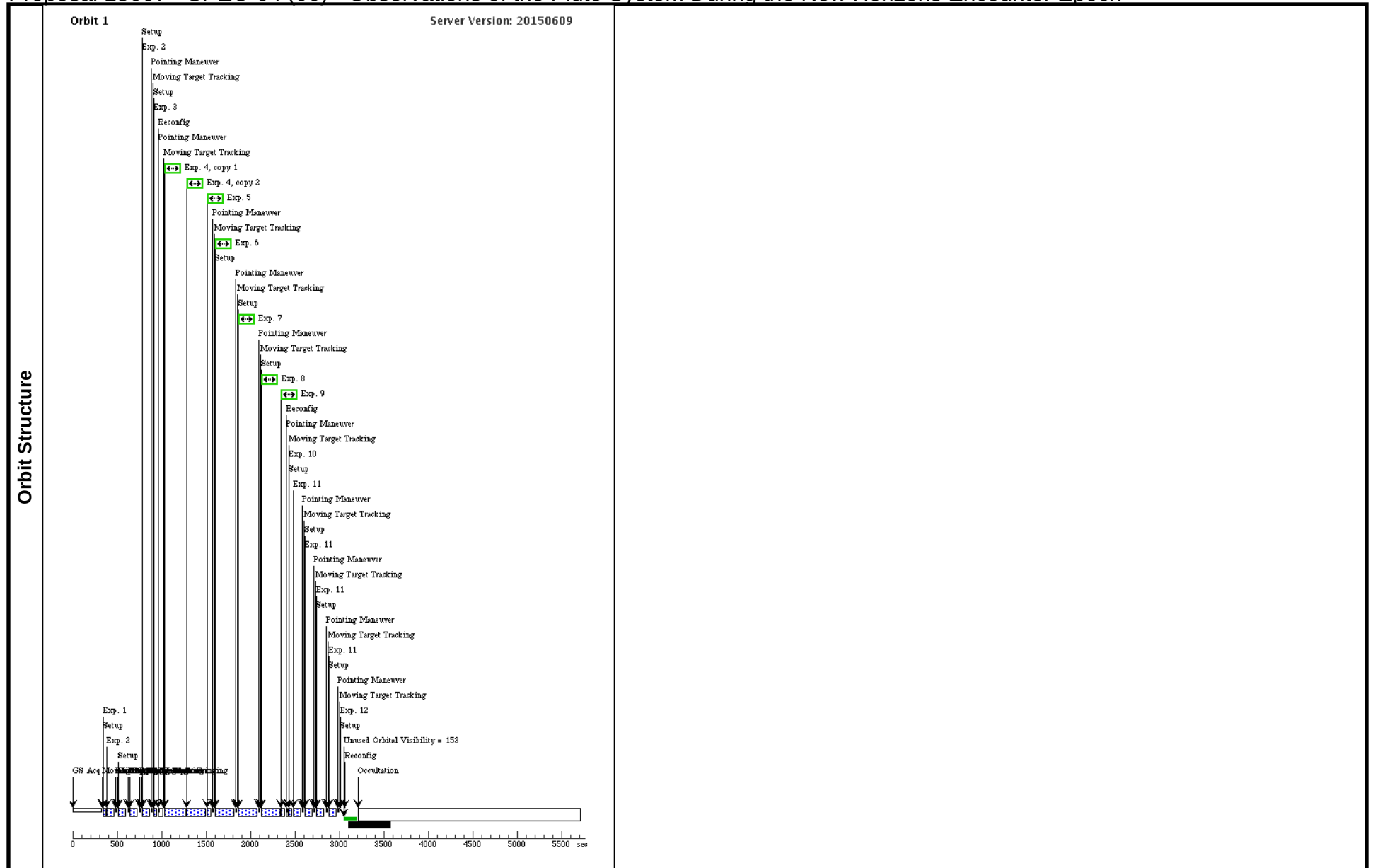
Proposal 13667 - SPEC-04 (06) - Observations of the Pluto System During the New Horizons Encounter Epoch

Visit	Proposal 13667, SPEC-04 (06), completed Fri Aug 07 01:03:02 GMT 2015				
	Diagnostic Status: Warning Scientific Instruments: WFC3/IR, WFC3/UVIS Special Requirements: ORIENT 265D TO 265 D; ORIENT 85D TO 85 D; BETWEEN 30-MAY-2015:14:51:00 AND 31-MAY-2015:02:51:00 <i>Comments: This visit is designed to get near-IR grism spectra of Pluto and Charon. The special roll requirements are used to keep the spectral images from Pluto and Charon from overlapping. The timing is set by the observing cadence while also selecting a fixed sub-earth longitude for all of the SPEC visits. The timing of all visits are also optimized for the deep imaging cadence on the outer satellites to get uniform longitude coverage.</i> <i>The other part of the visit is to get deep optical images of the faint outer satellites. POS TARG values re-position Pluto in steps of exactly 5.5 pixels along each axis.</i>				
Diagnostics	(Short POS 1 (06.005)) Warning (Form): FLASH level may be too low for this exposure or a short subexposure. See extended explanation in the diagnostic browser (Short POS 4 (06.009)) 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
	(2)	Pattern Type=WFC3-IR-DITHER-BOX-MIN Purpose=DITHER Number Of Points=4 Point Spacing=1.716 Line Spacing=1.095		Coordinate Frame=POS-TARG Pattern Orientation=18.528 Angle Between Sides=74.653 Center Pattern=false	(2), (11)
Solar System Targets	#	Name	Level 1	Level 2	Level 3
	(1)	PLUTO-SYSTEM	STD=PLUTO		
		Window		Ephem Center	
				EARTH	

Proposal 13667 - SPEC-04 (06) - Observations of the Pluto System During the New Horizons Encounter Epoch

Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1	Navigation	(1) PLUTO-SYSTEM	WFC3/IR, MULTIACCUM, GRISM512	F139M	NSAMP=4; SAMP-SEQ=RAPID		Sequence 1-12 Non-Int in SPEC-04 (06)	3,412,108 Secs (3,412 Secs) [==>]	[1]
	2	Spectra	(1) PLUTO-SYSTEM	WFC3/IR, MULTIACCUM, GRISM512	G141	NSAMP=7; SAMP-SEQ=STEP25		Sequence 1-12 Non-Int in SPEC-04 (06) Pattern 2, Exps 2-2 in Sequence 1-12 Non-Int in SPEC-04 (06) (2)	59,675,893 Secs (238,704 Secs) [==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)] [==>(Pattern 4)]	[1]
	Comments: Dithered slitless grism spectra. Ideally, the bracketing navigation images would correspond to the first and last dither positions in each set of four, but I'm not sure if that's the default behavior. (the reasons are to avoid pointing overheads, and also to minimize offsets). If it isn't easy to get this to happen, it's not a big deal.									
	3	Navigation	(1) PLUTO-SYSTEM	WFC3/IR, MULTIACCUM, GRISM512	F139M	NSAMP=4; SAMP-SEQ=RAPID		Sequence 1-12 Non-Int in SPEC-04 (06)	3,412,108 Secs (3,412 Secs) [==>]	[1]
	4	Deep imaging POS 1 (x2)	(1) PLUTO-SYSTEM	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F350LP		POS TARG 1.184,0.079	Sequence 1-12 Non-Int in SPEC-04 (06)	170 Secs X 2 (340 Secs) [==>(Copy 1)] [==>(Copy 2)]	[1]
	5	Short POS 1	(1) PLUTO-SYSTEM	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F350LP		POS TARG 1.184,0.079	Sequence 1-12 Non-Int in SPEC-04 (06)	3 Secs (3 Secs) [==>]	[1]
	6	Deep imaging POS 2	(1) PLUTO-SYSTEM	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F350LP		POS TARG 1.184,0.298	Sequence 1-12 Non-Int in SPEC-04 (06)	170 Secs (170 Secs) [==>]	[1]
	7	Deep imaging POS 3	(1) PLUTO-SYSTEM	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F350LP		POS TARG 1.401,0.093	Sequence 1-12 Non-Int in SPEC-04 (06)	170 Secs (170 Secs) [==>]	[1]
	8	Deep imaging POS 4	(1) PLUTO-SYSTEM	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F350LP		POS TARG 1.401,0.312	Sequence 1-12 Non-Int in SPEC-04 (06)	170 Secs (170 Secs) [==>]	[1]
	9	Short POS 4	(1) PLUTO-SYSTEM	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F350LP		POS TARG 1.401,0.312	Sequence 1-12 Non-Int in SPEC-04 (06)	3 Secs (3 Secs) [==>]	[1]
	10	Navigation	(1) PLUTO-SYSTEM	WFC3/IR, MULTIACCUM, GRISM512	F139M	NSAMP=4; SAMP-SEQ=RAPID		Sequence 1-12 Non-Int in SPEC-04 (06)	3,412,108 Secs (3,412 Secs) [==>]	[1]
	11	Spectra	(1) PLUTO-SYSTEM	WFC3/IR, MULTIACCUM, GRISM512	G141	NSAMP=7; SAMP-SEQ=STEP25		Sequence 1-12 Non-Int in SPEC-04 (06) Pattern 2, Exps 11-11 in Sequence 1-12 Non-Int in SPEC-04 (06) (2)	59,675,893 Secs (238,704 Secs) [==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)] [==>(Pattern 4)]	[1]
	Comments: Dithered slitless grism spectra. Ideally, the bracketing navigation images would correspond to the first and last dither positions in each set of four, but I'm not sure if that's the default behavior. (the reasons are to avoid pointing overheads, and also to minimize offsets). If it isn't easy to get this to happen, it's not a big deal.									
	12	Navigation	(1) PLUTO-SYSTEM	WFC3/IR, MULTIACCUM, GRISM512	F139M	NSAMP=4; SAMP-SEQ=RAPID		Sequence 1-12 Non-Int in SPEC-04 (06)	3,412,108 Secs (3,412 Secs) [==>]	[1]

Proposal 13667 - SPEC-04 (06) - Observations of the Pluto System During the New Horizons Encounter Epoch



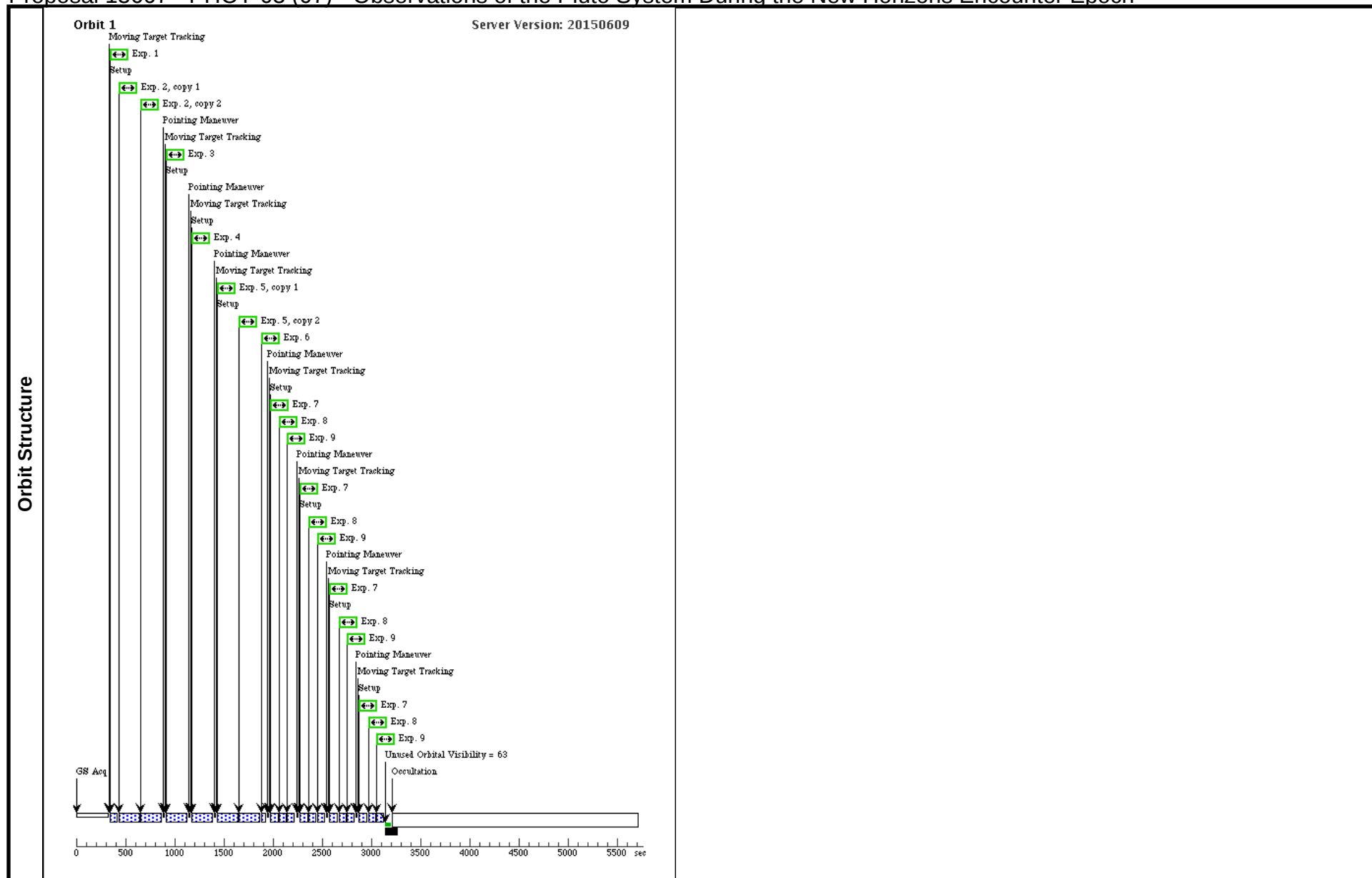
Proposal 13667 - PHOT-03 (07) - Observations of the Pluto System During the New Horizons Encounter Epoch

Visit	Proposal 13667, PHOT-03 (07), completed				Fri Aug 07 01:03:02 GMT 2015		
	Diagnostic Status: Warning						
	Scientific Instruments: WFC3/UVIS						
	Special Requirements: BETWEEN 05-JUN-2015:21:44:07 AND 06-JUN-2015:09:44:07						
	Comments: The PHOT visits are designed for high SNR photometry of Pluto and Charon. These observations are designed as a spatial scan to combine dithering and extra detected signal into a single exposure. These images need to use the onboard parallax correction but have to be implemented as a fixed time, ambush observation to get Pluto and Charon in the field. The spatial scan will incorporate the geocentric motion of Pluto to get the desired trail on the image. The Pluto observations use F435W and F555W in each visit for complete longitude coverage. This coverage is targeted for two time ranges. The first set is 12 visits covering the last full rotation of Pluto leading up to the time of closest approach of New Horizons to Pluto. These images are fixed at 30 degree longitude resolution. The other set of 12 visits are spread out to cover the full range of solar phase angle available to HST while also achieving 30 degree longitude spacing. Within these 24 visits, there are 3 other filters used, one per visit. The timing on the extra filter is set to get 8 evenly spaced longitudes (45 degree spacing) in each of the other filters. The long exposure images are normal moving target observations to get positions and photometry on the faint outer satellites. POS TARG values re-position Pluto in steps of exactly 5.5 pixels along each axis. As built, APT does not support mixing these two types of observations in one orbit. The durations for the pieces appear to fit in a single visibility window with a few minutes to spare. It is intended and expected that all exposures will fit in one window. Deviations from this need to be discussed for science impact.						
Diagnostics	(Short POS 1 (07.001)) Warning (Form): FLASH level may be too low for this exposure or a short subexposure. See extended explanation in the diagnostic browser (Short POS 4 (07.006)) Warning (Form): FLASH level may be too low for this exposure or a short subexposure. See extended explanation in the diagnostic browser (PICh F1 (07.007)) Warning (Form): FLASH level may be too low for this exposure or a short subexposure. See extended explanation in the diagnostic browser (PICh F2 (07.008)) Warning (Form): FLASH level may be too low for this exposure or a short subexposure. See extended explanation in the diagnostic browser (PICh F5 (07.009)) 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		
	(3)	Pattern Type=WFC3-UVIS-DITHER-BOX Purpose=DITHER Number Of Points=4 Point Spacing=0.173 Line Spacing=0.112	Coordinate Frame=POS-TARG Pattern Orientation=23.884 Angle Between Sides=81.785 Center Pattern=false		(7-9)		
Solar System Targets	#	Name	Level 1	Level 2	Level 3	Window	Ephem Center
	(1)	PLUTO-SYSTEM	STD=PLUTO				EARTH

Proposal 13667 - PHOT-03 (07) - Observations of the Pluto System During the New Horizons Encounter Epoch

Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1	Short POS 1	(1) PLUTO-SYSTEM	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F350LP		POS TARG 1.184,0.079	Sequence 1-9 Non-Int in PHOT-03 (07)	3 Secs (3 Secs)	
									[==>]	[1]
	2	Deep imaging POS 1 (x2)	(1) PLUTO-SYSTEM	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F350LP		POS TARG 1.184,0.079	Sequence 1-9 Non-Int in PHOT-03 (07)	170 Secs X 2 (340 Secs)	
									[==>(Copy 1)]	[1]
									[==>(Copy 2)]	
	3	Deep imaging POS 2	(1) PLUTO-SYSTEM	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F350LP		POS TARG 1.184,0.298	Sequence 1-9 Non-Int in PHOT-03 (07)	170 Secs (170 Secs)	
									[==>]	[1]
	4	Deep imaging POS 3	(1) PLUTO-SYSTEM	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F350LP		POS TARG 1.401,0.093	Sequence 1-9 Non-Int in PHOT-03 (07)	170 Secs (170 Secs)	
									[==>]	[1]
	5	Deep imaging POS 4	(1) PLUTO-SYSTEM	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F350LP		POS TARG 1.401,0.312	Sequence 1-9 Non-Int in PHOT-03 (07)	170 Secs X 2 (340 Secs)	
									[==>(Copy 1)]	[1]
									[==>(Copy 2)]	
	6	Short POS 4	(1) PLUTO-SYSTEM	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F350LP		POS TARG 1.401,0.312	Sequence 1-9 Non-Int in PHOT-03 (07)	3 Secs (3 Secs)	
									[==>]	[1]
	7	PlCh F1	(1) PLUTO-SYSTEM	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F438W	CR-SPLIT=NO	POS TARG 1.184,0.079	Sequence 1-9 Non-Int in PHOT-03 (07) Pattern 3, Exps 7-9 in Sequence 1-9 Non-Int in PHOT-03 (07) (3)	12 Secs (48 Secs)	
									[==>(Pattern 1)]	[1]
									[==>(Pattern 2)]	
									[==>(Pattern 3)]	
									[==>(Pattern 4)]	
	8	PlCh F2	(1) PLUTO-SYSTEM	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F555W	CR-SPLIT=NO	POS TARG 1.184,0.079	Sequence 1-9 Non-Int in PHOT-03 (07) Pattern 3, Exps 7-9 in Sequence 1-9 Non-Int in PHOT-03 (07) (3)	6 Secs (24 Secs)	
									[==>(Pattern 1)]	[1]
									[==>(Pattern 2)]	
									[==>(Pattern 3)]	
									[==>(Pattern 4)]	
	9	PlCh F5	(1) PLUTO-SYSTEM	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F845M	CR-SPLIT=NO	POS TARG 1.184,0.079	Sequence 1-9 Non-Int in PHOT-03 (07) Pattern 3, Exps 7-9 in Sequence 1-9 Non-Int in PHOT-03 (07) (3)	20 Secs (80 Secs)	
									[==>(Pattern 1)]	[1]
									[==>(Pattern 2)]	
									[==>(Pattern 3)]	
									[==>(Pattern 4)]	

Proposal 13667 - PHOT-03 (07) - Observations of the Pluto System During the New Horizons Encounter Epoch



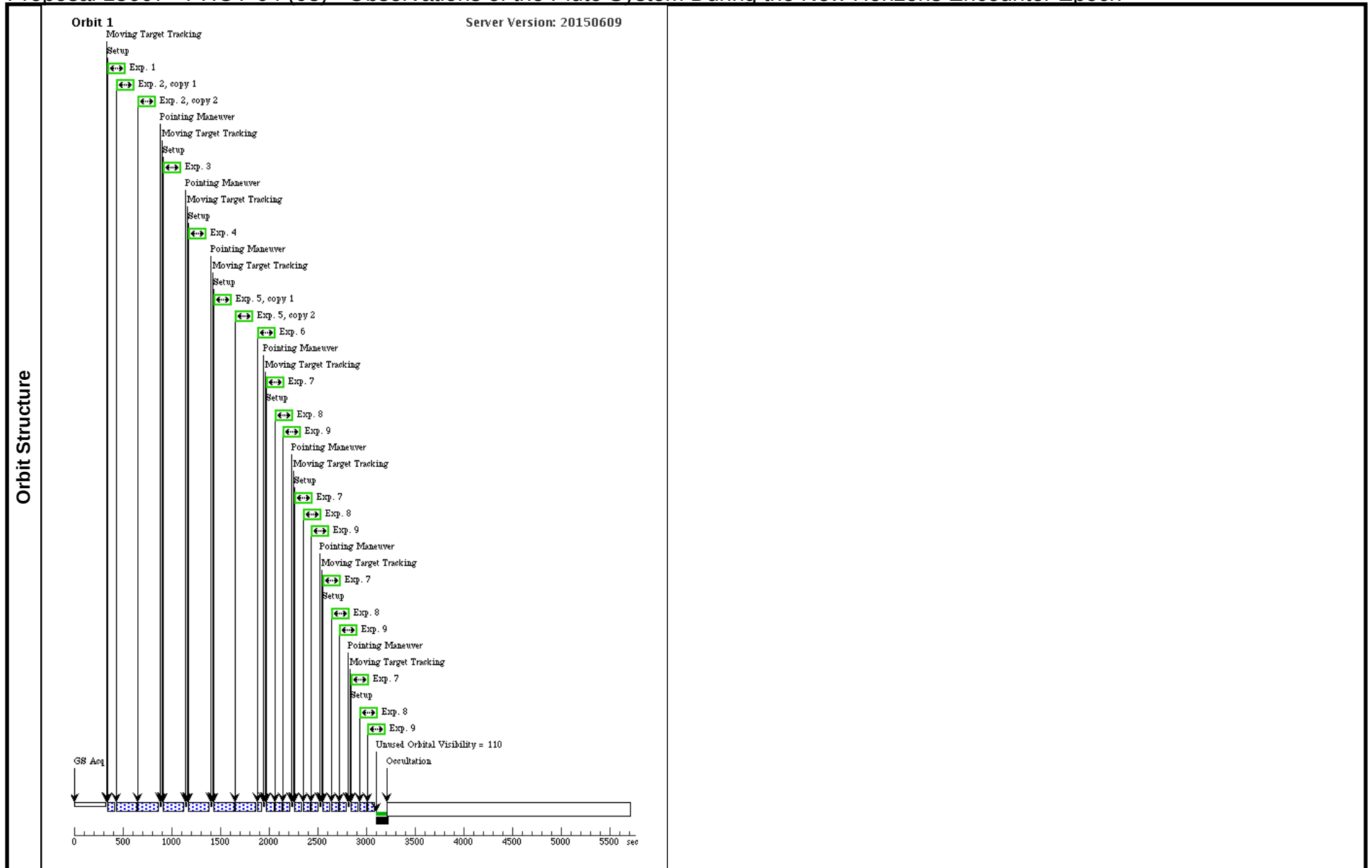
Proposal 13667 - PHOT-04 (08) - Observations of the Pluto System During the New Horizons Encounter Epoch

Visit	Proposal 13667, PHOT-04 (08), completed				Fri Aug 07 01:03:02 GMT 2015		
	Diagnostic Status: Warning						
	Scientific Instruments: WFC3/UVIS						
	Special Requirements: BETWEEN 19-JUN-2015:17:52:12 AND 20-JUN-2015:05:52:12						
	Comments: The PHOT visits are designed for high SNR photometry of Pluto and Charon. These observations are designed as a spatial scan to combine dithering and extra detected signal into a single exposure. These images need to use the onboard parallax correction but have to be implemented as a fixed time, ambush observation to get Pluto and Charon in the field. The spatial scan will incorporate the geocentric motion of Pluto to get the desired trail on the image. The Pluto observations use F435W and F555W in each visit for complete longitude coverage. This coverage is targeted for two time ranges. The first set is 12 visits covering the last full rotation of Pluto leading up to the time of closest approach of New Horizons to Pluto. These images are fixed at 30 degree longitude resolution. The other set of 12 visits are spread out to cover the full range of solar phase angle available to HST while also achieving 30 degree longitude spacing. Within these 24 visits, there are 3 other filters used, one per visit. The timing on the extra filter is set to get 8 evenly spaced longitudes (45 degree spacing) in each of the other filters. The long exposure images are normal moving target observations to get positions and photometry on the faint outer satellites. POS TARG values re-position Pluto in steps of exactly 5.5 pixels along each axis. As built, APT does not support mixing these two types of observations in one orbit. The durations for the pieces appear to fit in a single visibility window with a few minutes to spare. It is intended and expected that all exposures will fit in one window. Deviations from this need to be discussed for science impact.						
Diagnostics	(Short POS 1 (08.001)) Warning (Form): FLASH level may be too low for this exposure or a short subexposure. See extended explanation in the diagnostic browser (Short POS 4 (08.006)) Warning (Form): FLASH level may be too low for this exposure or a short subexposure. See extended explanation in the diagnostic browser (PICh F1 (08.007)) Warning (Form): FLASH level may be too low for this exposure or a short subexposure. See extended explanation in the diagnostic browser (PICh F2 (08.008)) Warning (Form): FLASH level may be too low for this exposure or a short subexposure. See extended explanation in the diagnostic browser (PICh F3 (08.009)) 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		
	(3)	Pattern Type=WFC3-UVIS-DITHER-BOX Purpose=DITHER Number Of Points=4 Point Spacing=0.173 Line Spacing=0.112	Coordinate Frame=POS-TARG Pattern Orientation=23.884 Angle Between Sides=81.785 Center Pattern=false		(7-9)		
Solar System Targets	#	Name	Level 1	Level 2	Level 3	Window	Ephem Center
	(1)	PLUTO-SYSTEM	STD=PLUTO				EARTH

Proposal 13667 - PHOT-04 (08) - Observations of the Pluto System During the New Horizons Encounter Epoch

Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1	Short POS 1	(1) PLUTO-SYSTEM	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F350LP		POS TARG 1.184,0.079	Sequence 1-9 Non-Int in PHOT-04 (08)	3 Secs (3 Secs)	
									[==>]	[1]
	2	Deep imaging POS 1 (x2)	(1) PLUTO-SYSTEM	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F350LP		POS TARG 1.184,0.079	Sequence 1-9 Non-Int in PHOT-04 (08)	170 Secs X 2 (340 Secs)	
									[==>(Copy 1)]	[1]
									[==>(Copy 2)]	
	3	Deep imaging POS 2	(1) PLUTO-SYSTEM	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F350LP		POS TARG 1.184,0.298	Sequence 1-9 Non-Int in PHOT-04 (08)	170 Secs (170 Secs)	
									[==>]	[1]
	4	Deep imaging POS 3	(1) PLUTO-SYSTEM	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F350LP		POS TARG 1.401,0.093	Sequence 1-9 Non-Int in PHOT-04 (08)	170 Secs (170 Secs)	
									[==>]	[1]
	5	Deep imaging POS 4	(1) PLUTO-SYSTEM	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F350LP		POS TARG 1.401,0.312	Sequence 1-9 Non-Int in PHOT-04 (08)	170 Secs X 2 (340 Secs)	
									[==>(Copy 1)]	[1]
									[==>(Copy 2)]	
	6	Short POS 4	(1) PLUTO-SYSTEM	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F350LP		POS TARG 1.401,0.312	Sequence 1-9 Non-Int in PHOT-04 (08)	3 Secs (3 Secs)	
									[==>]	[1]
	7	PlCh F1	(1) PLUTO-SYSTEM	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F438W	CR-SPLIT=NO	POS TARG 1.184,0.079	Sequence 1-9 Non-Int in PHOT-04 (08) Pattern 3, Exps 7-9 in Sequence 1-9 Non-Int in PHOT-04 (08) (3)	12 Secs (48 Secs)	
									[==>(Pattern 1)]	[1]
									[==>(Pattern 2)]	
									[==>(Pattern 3)]	
									[==>(Pattern 4)]	
	8	PlCh F2	(1) PLUTO-SYSTEM	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F555W	CR-SPLIT=NO	POS TARG 1.184,0.079	Sequence 1-9 Non-Int in PHOT-04 (08) Pattern 3, Exps 7-9 in Sequence 1-9 Non-Int in PHOT-04 (08) (3)	6 Secs (24 Secs)	
									[==>(Pattern 1)]	[1]
									[==>(Pattern 2)]	
									[==>(Pattern 3)]	
									[==>(Pattern 4)]	
	9	PlCh F3	(1) PLUTO-SYSTEM	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F625W	CR-SPLIT=NO	POS TARG 1.184,0.079	Sequence 1-9 Non-Int in PHOT-04 (08) Pattern 3, Exps 7-9 in Sequence 1-9 Non-Int in PHOT-04 (08) (3)	6 Secs (24 Secs)	
									[==>(Pattern 1)]	[1]
									[==>(Pattern 2)]	
									[==>(Pattern 3)]	
									[==>(Pattern 4)]	

Proposal 13667 - PHOT-04 (08) - Observations of the Pluto System During the New Horizons Encounter Epoch



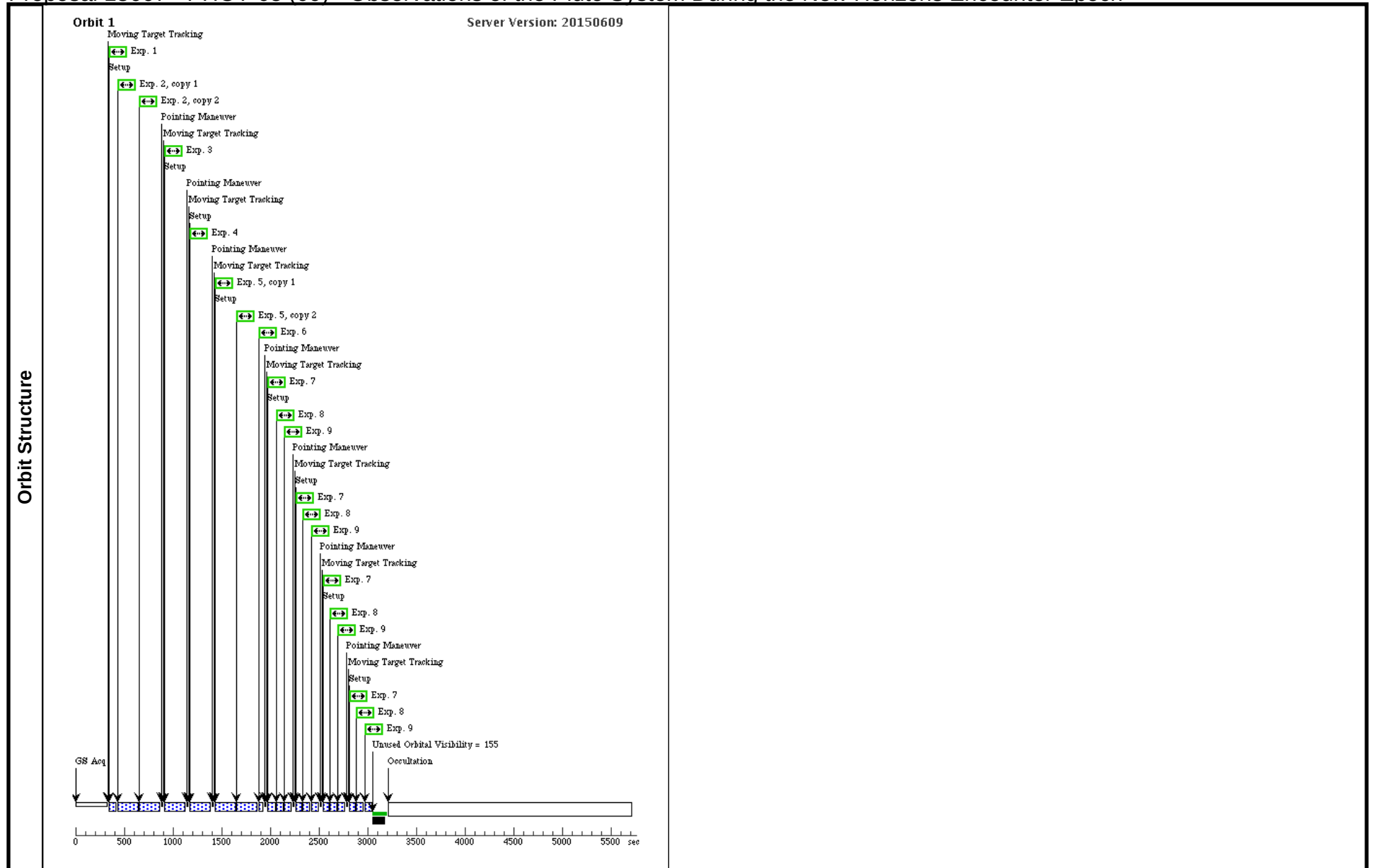
Proposal 13667 - PHOT-05 (09) - Observations of the Pluto System During the New Horizons Encounter Epoch

Visit	Proposal 13667, PHOT-05 (09), completed			Fri Aug 07 01:03:02 GMT 2015			
	Diagnostic Status: Warning						
	Scientific Instruments: WFC3/UVIS						
	Special Requirements: BETWEEN 21-JUN-2015:20:58:03 AND 22-JUN-2015:08:58:03						
	Comments: The PHOT visits are designed for high SNR photometry of Pluto and Charon. These observations are designed as a spatial scan to combine dithering and extra detected signal into a single exposure. These images need to use the onboard parallax correction but have to be implemented as a fixed time, ambush observation to get Pluto and Charon in the field. The spatial scan will incorporate the geocentric motion of Pluto to get the desired trail on the image. The Pluto observations use F435W and F555W in each visit for complete longitude coverage. This coverage is targeted for two time ranges. The first set is 12 visits covering the last full rotation of Pluto leading up to the time of closest approach of New Horizons to Pluto. These images are fixed at 30 degree longitude resolution. The other set of 12 visits are spread out to cover the full range of solar phase angle available to HST while also achieving 30 degree longitude spacing. Within these 24 visits, there are 3 other filters used, one per visit. The timing on the extra filter is set to get 8 evenly spaced longitudes (45 degree spacing) in each of the other filters. The long exposure images are normal moving target observations to get positions and photometry on the faint outer satellites. POS TARG values re-position Pluto in steps of exactly 5.5 pixels along each axis. As built, APT does not support mixing these two types of observations in one orbit. The durations for the pieces appear to fit in a single visibility window with a few minutes to spare. It is intended and expected that all exposures will fit in one window. Deviations from this need to be discussed for science impact.						
Diagnostics	(Short POS 1 (09.001)) Warning (Form): FLASH level may be too low for this exposure or a short subexposure. See extended explanation in the diagnostic browser						
	(Short POS 4 (09.006)) Warning (Form): FLASH level may be too low for this exposure or a short subexposure. See extended explanation in the diagnostic browser						
	(PlCh F1 (09.007)) Warning (Form): FLASH level may be too low for this exposure or a short subexposure. See extended explanation in the diagnostic browser						
	(PlCh F2 (09.008)) Warning (Form): FLASH level may be too low for this exposure or a short subexposure. See extended explanation in the diagnostic browser						
	(PlCh F4 (09.009)) 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		
	(3)	Pattern Type=WFC3-UVIS-DITHER-BOX Purpose=DITHER Number Of Points=4 Point Spacing=0.173 Line Spacing=0.112	Coordinate Frame=POS-TARG Pattern Orientation=23.884 Angle Between Sides=81.785 Center Pattern=false		(7-9)		
Solar System Targets	#	Name	Level 1	Level 2	Level 3	Window	Ephem Center
	(1)	PLUTO-SYSTEM	STD=PLUTO				EARTH

Proposal 13667 - PHOT-05 (09) - Observations of the Pluto System During the New Horizons Encounter Epoch

Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1	Short POS 1	(1) PLUTO-SYSTEM	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F350LP		POS TARG 1.184,0.079	Sequence 1-9 Non-Int in PHOT-05 (09)	3 Secs (3 Secs)	
									[==>]	[1]
	2	Deep imaging POS 1 (x2)	(1) PLUTO-SYSTEM	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F350LP		POS TARG 1.184,0.079	Sequence 1-9 Non-Int in PHOT-05 (09)	170 Secs X 2 (340 Secs)	
									[==>(Copy 1)]	
									[==>(Copy 2)]	[1]
	3	Deep imaging POS 2	(1) PLUTO-SYSTEM	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F350LP		POS TARG 1.184,0.298	Sequence 1-9 Non-Int in PHOT-05 (09)	170 Secs (170 Secs)	
									[==>]	[1]
	4	Deep imaging POS 3	(1) PLUTO-SYSTEM	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F350LP		POS TARG 1.401,0.093	Sequence 1-9 Non-Int in PHOT-05 (09)	170 Secs (170 Secs)	
									[==>]	[1]
Exposures	5	Deep imaging POS 4	(1) PLUTO-SYSTEM	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F350LP		POS TARG 1.401,0.312	Sequence 1-9 Non-Int in PHOT-05 (09)	170 Secs X 2 (340 Secs)	
									[==>(Copy 1)]	
									[==>(Copy 2)]	[1]
	6	Short POS 4	(1) PLUTO-SYSTEM	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F350LP		POS TARG 1.401,0.312	Sequence 1-9 Non-Int in PHOT-05 (09)	3 Secs (3 Secs)	
									[==>]	[1]
	7	PlCh F1	(1) PLUTO-SYSTEM	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F438W	CR-SPLIT=NO	POS TARG 1.184,0.079	Sequence 1-9 Non-Int in PHOT-05 (09)	12 Secs (48 Secs)	
								Pattern 3, Exps 7-9 in Sequence 1-9 Non-Int in PHOT-05 (09) (3)	[==>(Pattern 1)]	
									[==>(Pattern 2)]	
									[==>(Pattern 3)]	[1]
									[==>(Pattern 4)]	
Exposures	8	PlCh F2	(1) PLUTO-SYSTEM	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F555W	CR-SPLIT=NO	POS TARG 1.184,0.079	Sequence 1-9 Non-Int in PHOT-05 (09)	6 Secs (24 Secs)	
								Pattern 3, Exps 7-9 in Sequence 1-9 Non-Int in PHOT-05 (09) (3)	[==>(Pattern 1)]	
									[==>(Pattern 2)]	
									[==>(Pattern 3)]	[1]
									[==>(Pattern 4)]	
	9	PlCh F4	(1) PLUTO-SYSTEM	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F775W	CR-SPLIT=NO	POS TARG 1.184,0.079	Sequence 1-9 Non-Int in PHOT-05 (09)	9 Secs (36 Secs)	
								Pattern 3, Exps 7-9 in Sequence 1-9 Non-Int in PHOT-05 (09) (3)	[==>(Pattern 1)]	
									[==>(Pattern 2)]	
									[==>(Pattern 3)]	[1]
									[==>(Pattern 4)]	

Proposal 13667 - PHOT-05 (09) - Observations of the Pluto System During the New Horizons Encounter Epoch



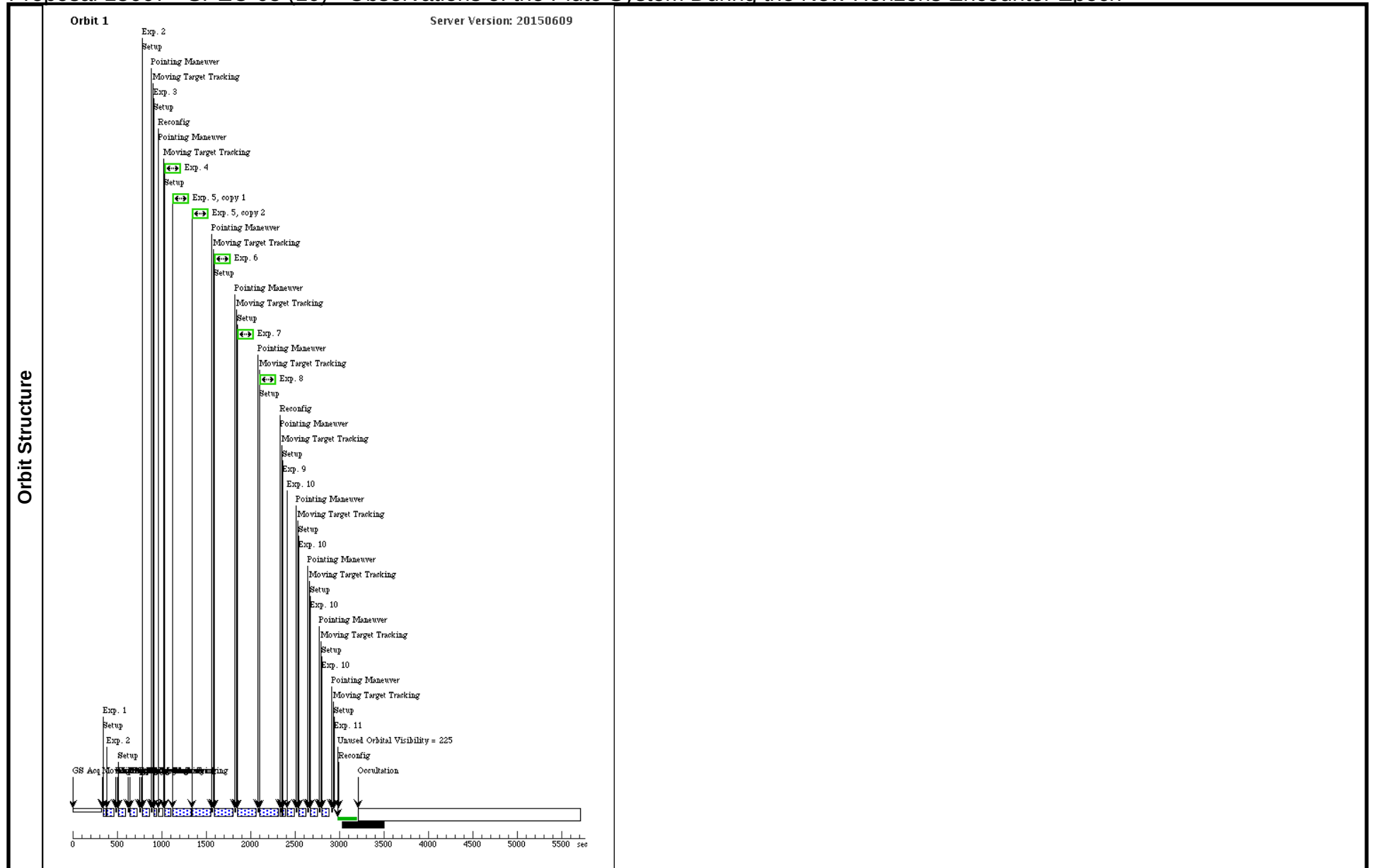
Proposal 13667 - SPEC-05 (10) - Observations of the Pluto System During the New Horizons Encounter Epoch

Visit	Proposal 13667, SPEC-05 (10), completed					Fri Aug 07 01:03:03 GMT 2015	
	Diagnostic Status: Warning						
	Scientific Instruments: WFC3/IR, WFC3/UVIS						
	Special Requirements: ORIENT 265D TO 265 D; ORIENT 85D TO 85 D; BETWEEN 01-JUL-2015:12:19:00 AND 02-JUL-2015:01:19:00						
Diagnostics	Comments: Note: this visit is hard to schedule in APT, due to lunar interference. I've softened the time limit by an hour, to make it a >3 hour window, but if that's looking too hard to schedule, please get in touch. We would then evaluate if it's better to widen the window even further, or just shift the visit to a different Pluto day.						
	This visit is designed to get near-IR grism spectra of Pluto and Charon. The special roll requirements are used to keep the spectral images from Pluto and Charon from overlapping. The timing is set by the observing cadence while also selecting a fixed sub-earth longitude for all of the SPEC visits. The timing of all visits are also optimized for the deep imaging cadence on the outer satellites to get uniform longitude coverage.						
	The other part of the visit is to get deep optical images of the faint outer satellites. POS TARG values re-position Pluto in steps of exactly 5.5 pixels along each axis.						
	(Short POS 1 (10.004)) 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	
	(2)	Pattern Type=WFC3-IR-DITHER-BOX-MIN Purpose=DITHER Number Of Points=4 Point Spacing=1.716 Line Spacing=1.095	Coordinate Frame=POS-TARG Pattern Orientation=18.528 Angle Between Sides=74.653 Center Pattern=false			(2), (10)	
Solar System Targets	#	Name	Level 1	Level 2	Level 3	Window	Ephem Center
	(1)	PLUTO-SYSTEM	STD=PLUTO				

Proposal 13667 - SPEC-05 (10) - Observations of the Pluto System During the New Horizons Encounter Epoch

Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1	Navigation	(1) PLUTO-SYSTEM	WFC3/IR, MULTIACCUM, GRISM512	F139M	NSAMP=4; SAMP-SEQ=RAPID		Sequence 1-11 Non-Int in SPEC-05 (10)	3,412,108 Secs (3,412 Secs) [==>]	[1]
	2	Spectra	(1) PLUTO-SYSTEM	WFC3/IR, MULTIACCUM, GRISM512	G141	NSAMP=7; SAMP-SEQ=STEP25		Sequence 1-11 Non-Int in SPEC-05 (10) Pattern 2, Exps 2-2 in Sequence 1-11 Non-Int in SPEC-05 (10) (2)	59,675,893 Secs (238,704 Secs) [==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)] [==>(Pattern 4)]	[1]
	Comments: Dithered slitless grism spectra. Ideally, the bracketing navigation images would correspond to the first and last dither positions in each set of four, but I'm not sure if that's the default behavior. (the reasons are to avoid pointing overheads, and also to minimize offsets). If it isn't easy to get this to happen, it's not a big deal.									
	3	Navigation	(1) PLUTO-SYSTEM	WFC3/IR, MULTIACCUM, GRISM512	F139M	NSAMP=4; SAMP-SEQ=RAPID		Sequence 1-11 Non-Int in SPEC-05 (10)	3,412,108 Secs (3,412 Secs) [==>]	[1]
	4	Short POS 1	(1) PLUTO-SYSTEM	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F350LP		POS TARG 1.184,0.079	Sequence 1-11 Non-Int in SPEC-05 (10)	3 Secs (3 Secs) [==>]	[1]
	5	Deep imaging POS 1 (x2)	(1) PLUTO-SYSTEM	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F350LP		POS TARG 1.184,0.079	Sequence 1-11 Non-Int in SPEC-05 (10)	167 Secs X 2 (334 Secs) [==>(Copy 1)] [==>(Copy 2)]	[1]
	6	Deep imaging POS 2	(1) PLUTO-SYSTEM	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F350LP		POS TARG 1.184,0.298	Sequence 1-11 Non-Int in SPEC-05 (10)	167 Secs (167 Secs) [==>]	[1]
	7	Deep imaging POS 3	(1) PLUTO-SYSTEM	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F350LP		POS TARG 1.401,0.093	Sequence 1-11 Non-Int in SPEC-05 (10)	167 Secs (167 Secs) [==>]	[1]
	8	Deep imaging POS 4	(1) PLUTO-SYSTEM	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F350LP		POS TARG 1.401,0.312	Sequence 1-11 Non-Int in SPEC-05 (10)	167 Secs (167 Secs) [==>]	[1]
	9	Navigation	(1) PLUTO-SYSTEM	WFC3/IR, MULTIACCUM, GRISM512	F139M	NSAMP=4; SAMP-SEQ=RAPID		Sequence 1-11 Non-Int in SPEC-05 (10)	3,412,108 Secs (3,412 Secs) [==>]	[1]
	10	Spectra	(1) PLUTO-SYSTEM	WFC3/IR, MULTIACCUM, GRISM512	G141	NSAMP=7; SAMP-SEQ=STEP25		Sequence 1-11 Non-Int in SPEC-05 (10) Pattern 2, Exps 10-10 in Sequence 1-11 Non-Int in SPEC-05 (10) (2)	59,675,893 Secs (238,704 Secs) [==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)] [==>(Pattern 4)]	[1]
	Comments: Dithered slitless grism spectra. Ideally, the bracketing navigation images would correspond to the first and last dither positions in each set of four, but I'm not sure if that's the default behavior. (the reasons are to avoid pointing overheads, and also to minimize offsets). If it isn't easy to get this to happen, it's not a big deal.									
	11	Navigation	(1) PLUTO-SYSTEM	WFC3/IR, MULTIACCUM, GRISM512	F139M	NSAMP=4; SAMP-SEQ=RAPID		Sequence 1-11 Non-Int in SPEC-05 (10)	3,412,108 Secs (3,412 Secs) [==>]	[1]

Proposal 13667 - SPEC-05 (10) - Observations of the Pluto System During the New Horizons Encounter Epoch



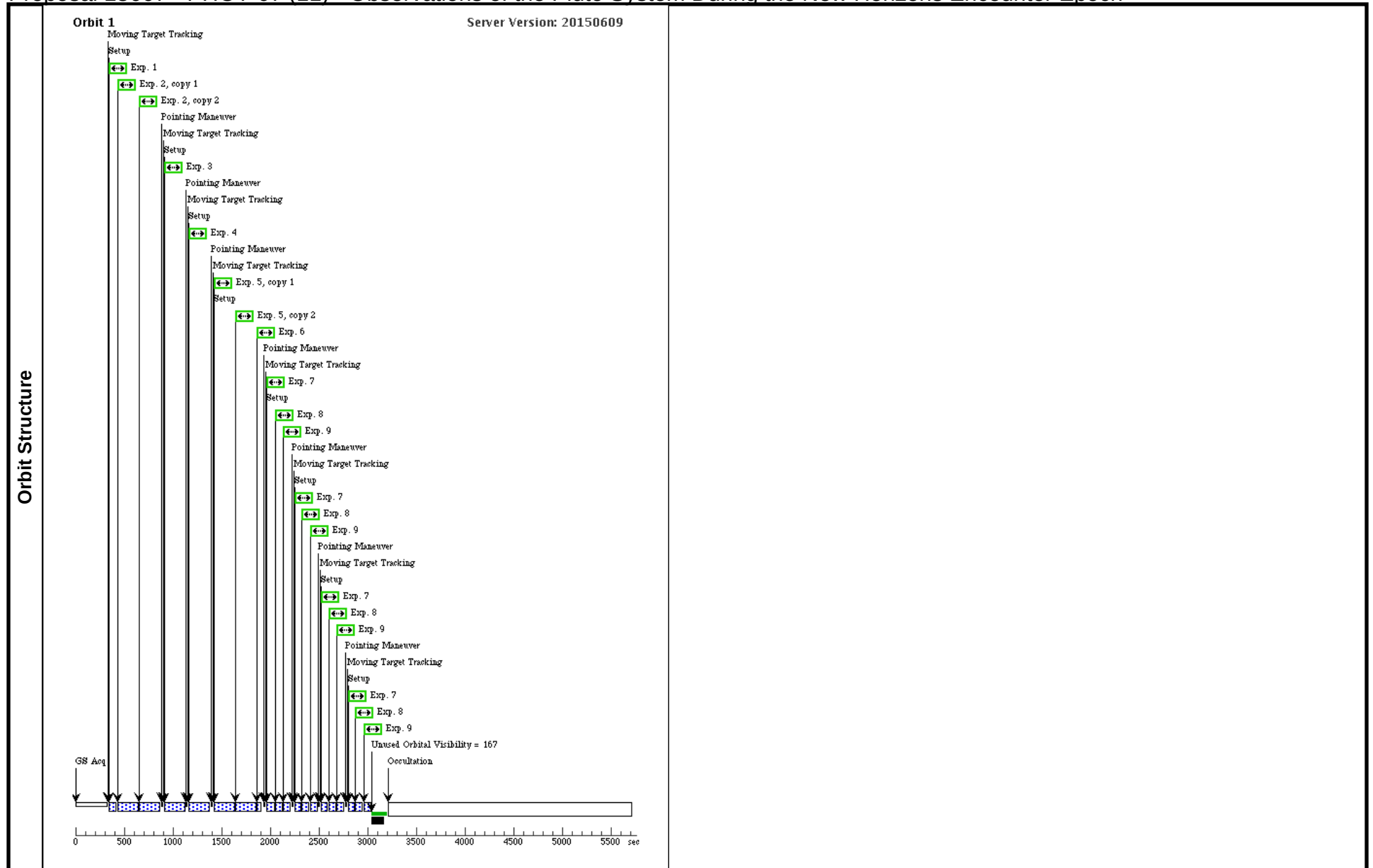
Proposal 13667 - PHOT-07 (11) - Observations of the Pluto System During the New Horizons Encounter Epoch

Visit	Proposal 13667, PHOT-07 (11), completed				Fri Aug 07 01:03:03 GMT 2015		
	Diagnostic Status: Warning						
	Scientific Instruments: WFC3/UVIS						
	Special Requirements: BETWEEN 03-JUL-2015:01:14:14 AND 03-JUL-2015:13:14:14						
	Comments: The PHOT visits are designed for high SNR photometry of Pluto and Charon. These observations are designed as a spatial scan to combine dithering and extra detected signal into a single exposure. These images need to use the onboard parallax correction but have to be implemented as a fixed time, ambush observation to get Pluto and Charon in the field. The spatial scan will incorporate the geocentric motion of Pluto to get the desired trail on the image. The Pluto observations use F435W and F555W in each visit for complete longitude coverage. This coverage is targeted for two time ranges. The first set is 12 visits covering the last full rotation of Pluto leading up to the time of closest approach of New Horizons to Pluto. These images are fixed at 30 degree longitude resolution. The other set of 12 visits are spread out to cover the full range of solar phase angle available to HST while also achieving 30 degree longitude spacing. Within these 24 visits, there are 3 other filters used, one per visit. The timing on the extra filter is set to get 8 evenly spaced longitudes (45 degree spacing) in each of the other filters. The long exposure images are normal moving target observations to get positions and photometry on the faint outer satellites. POS TARG values re-position Pluto in steps of exactly 5.5 pixels along each axis. As built, APT does not support mixing these two types of observations in one orbit. The durations for the pieces appear to fit in a single visibility window with a few minutes to spare. It is intended and expected that all exposures will fit in one window. Deviations from this need to be discussed for science impact.						
Diagnostics	(Short POS 1 (11.001)) Warning (Form): FLASH level may be too low for this exposure or a short subexposure. See extended explanation in the diagnostic browser (Short POS 4 (11.006)) Warning (Form): FLASH level may be too low for this exposure or a short subexposure. See extended explanation in the diagnostic browser (PICh F1 (11.007)) Warning (Form): FLASH level may be too low for this exposure or a short subexposure. See extended explanation in the diagnostic browser (PICh F2 (11.008)) Warning (Form): FLASH level may be too low for this exposure or a short subexposure. See extended explanation in the diagnostic browser (PICh F4 (11.009)) 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		
	(3)	Pattern Type=WFC3-UVIS-DITHER-BOX Purpose=DITHER Number Of Points=4 Point Spacing=0.173 Line Spacing=0.112	Coordinate Frame=POS-TARG Pattern Orientation=23.884 Angle Between Sides=81.785 Center Pattern=false		(7-9)		
Solar System Targets	#	Name	Level 1	Level 2	Level 3	Window	Ephem Center
	(1)	PLUTO-SYSTEM	STD=PLUTO				EARTH

Proposal 13667 - PHOT-07 (11) - Observations of the Pluto System During the New Horizons Encounter Epoch

Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1	Short POS 1	(1) PLUTO-SYSTEM	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F350LP		POS TARG 1.184,0.079	Sequence 1-9 Non-Int in PHOT-07 (11)	3 Secs (3 Secs)	
									[==>]	[1]
	2	Deep imaging POS 1 (x2)	(1) PLUTO-SYSTEM	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F350LP		POS TARG 1.184,0.079	Sequence 1-9 Non-Int in PHOT-07 (11)	168 Secs X 2 (336 Secs)	
									[==>(Copy 1)]	
									[==>(Copy 2)]	[1]
	3	Deep imaging POS 2	(1) PLUTO-SYSTEM	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F350LP		POS TARG 1.184,0.298	Sequence 1-9 Non-Int in PHOT-07 (11)	168 Secs (168 Secs)	
									[==>]	[1]
	4	Deep imaging POS 3	(1) PLUTO-SYSTEM	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F350LP		POS TARG 1.401,0.093	Sequence 1-9 Non-Int in PHOT-07 (11)	168 Secs (168 Secs)	
									[==>]	[1]
	5	Deep imaging POS 4	(1) PLUTO-SYSTEM	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F350LP		POS TARG 1.401,0.312	Sequence 1-9 Non-Int in PHOT-07 (11)	168 Secs X 2 (336 Secs)	
									[==>(Copy 1)]	
									[==>(Copy 2)]	[1]
	6	Short POS 4	(1) PLUTO-SYSTEM	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F350LP		POS TARG 1.401,0.312	Sequence 1-9 Non-Int in PHOT-07 (11)	3 Secs (3 Secs)	
									[==>]	[1]
	7	PlCh F1	(1) PLUTO-SYSTEM	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F438W	CR-SPLIT=NO	POS TARG 1.184,0.079	Sequence 1-9 Non-Int in PHOT-07 (11) Pattern 3, Exps 7-9 in Sequence 1-9 Non-Int in PHOT-07 (11) (3)	12 Secs (48 Secs)	
									[==>(Pattern 1)]	
									[==>(Pattern 2)]	
									[==>(Pattern 3)]	[1]
									[==>(Pattern 4)]	
	8	PlCh F2	(1) PLUTO-SYSTEM	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F555W	CR-SPLIT=NO	POS TARG 1.184,0.079	Sequence 1-9 Non-Int in PHOT-07 (11) Pattern 3, Exps 7-9 in Sequence 1-9 Non-Int in PHOT-07 (11) (3)	6 Secs (24 Secs)	
									[==>(Pattern 1)]	
									[==>(Pattern 2)]	
									[==>(Pattern 3)]	[1]
									[==>(Pattern 4)]	
	9	PlCh F4	(1) PLUTO-SYSTEM	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F775W	CR-SPLIT=NO	POS TARG 1.184,0.079	Sequence 1-9 Non-Int in PHOT-07 (11) Pattern 3, Exps 7-9 in Sequence 1-9 Non-Int in PHOT-07 (11) (3)	9 Secs (36 Secs)	
									[==>(Pattern 1)]	
									[==>(Pattern 2)]	
									[==>(Pattern 3)]	[1]
									[==>(Pattern 4)]	

Proposal 13667 - PHOT-07 (11) - Observations of the Pluto System During the New Horizons Encounter Epoch

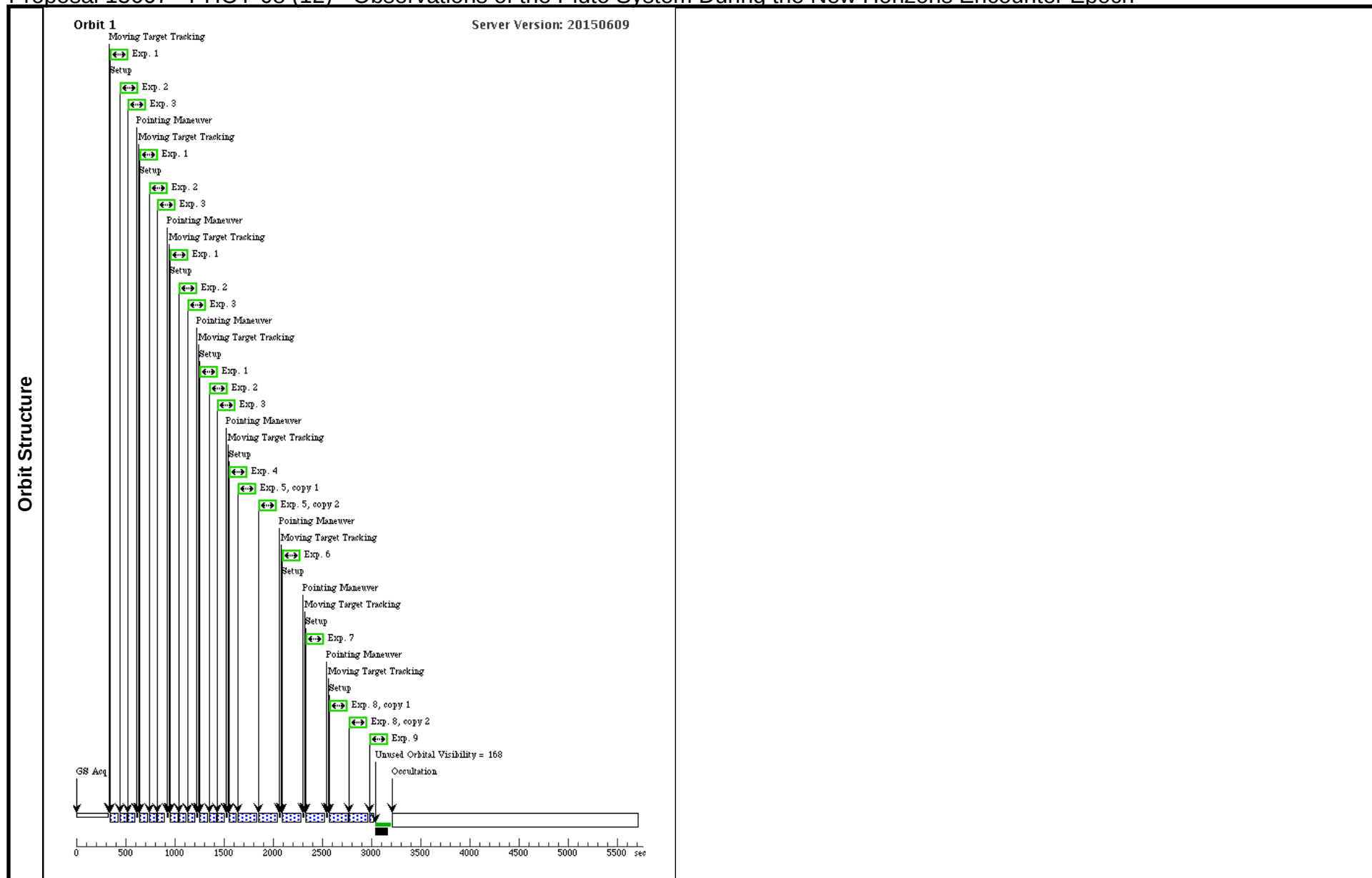


Proposal 13667 - PHOT-08 (12) - Observations of the Pluto System During the New Horizons Encounter Epoch

Visit	Proposal 13667, PHOT-08 (12), completed			Fri Aug 07 01:03:03 GMT 2015			
	Diagnostic Status: Warning						
	Scientific Instruments: WFC3/UVIS						
	Special Requirements: BETWEEN 04-JUL-2015:02:47:10 AND 04-JUL-2015:14:47:10						
	Comments: The PHOT visits are designed for high SNR photometry of Pluto and Charon. These observations are designed as a spatial scan to combine dithering and extra detected signal into a single exposure. These images need to use the onboard parallax correction but have to be implemented as a fixed time, ambush observation to get Pluto and Charon in the field. The spatial scan will incorporate the geocentric motion of Pluto to get the desired trail on the image. The Pluto observations use F435W and F555W in each visit for complete longitude coverage. This coverage is targeted for two time ranges. The first set is 12 visits covering the last full rotation of Pluto leading up to the time of closest approach of New Horizons to Pluto. These images are fixed at 30 degree longitude resolution. The other set of 12 visits are spread out to cover the full range of solar phase angle available to HST while also achieving 30 degree longitude spacing. Within these 24 visits, there are 3 other filters used, one per visit. The timing on the extra filter is set to get 8 evenly spaced longitudes (45 degree spacing) in each of the other filters. The long exposure images are normal moving target observations to get positions and photometry on the faint outer satellites. POS TARG values re-position Pluto in steps of exactly 5.5 pixels along each axis. As built, APT does not support mixing these two types of observations in one orbit. The durations for the pieces appear to fit in a single visibility window with a few minutes to spare. It is intended and expected that all exposures will fit in one window. Deviations from this need to be discussed for science impact.						
Diagnostics	(PlCh F1 (12.001)) Warning (Form): FLASH level may be too low for this exposure or a short subexposure. See extended explanation in the diagnostic browser						
	(PlCh F2 (12.002)) Warning (Form): FLASH level may be too low for this exposure or a short subexposure. See extended explanation in the diagnostic browser						
	(PlCh F5 (12.003)) Warning (Form): FLASH level may be too low for this exposure or a short subexposure. See extended explanation in the diagnostic browser						
	(Short POS 1 (12.004)) Warning (Form): FLASH level may be too low for this exposure or a short subexposure. See extended explanation in the diagnostic browser						
	(Short POS 4 (12.009)) 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
	(3)	Pattern Type=WFC3-UVIS-DITHER-BOX Coordinate Frame=POS-TARG Pattern Orientation=23.884 Purpose=DITHER Angle Between Sides=81.785 Number Of Points=4 Center Pattern=false Point Spacing=0.173 Line Spacing=0.112					(1-3)
Solar System Targets	#	Name	Level 1	Level 2	Level 3	Window	Ephem Center
	(1)	PLUTO-SYSTEM	STD=PLUTO				

Proposal 13667 - PHOT-08 (12) - Observations of the Pluto System During the New Horizons Encounter Epoch

Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1	PlCh F1	(1) PLUTO-SYSTEM	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F438W	CR-SPLIT=NO	POS TARG 1.184,079	Sequence 1-9 Non-Int in PHOT-08 (12) Pattern 3, Exps 1-3 in Sequence 1-9 Non-Int in PHOT-08 (12) (3)	12 Secs (48 Secs) [==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)] [==>(Pattern 4)]	[1]
	2	PlCh F2	(1) PLUTO-SYSTEM	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F555W	CR-SPLIT=NO	POS TARG 1.184,079	Sequence 1-9 Non-Int in PHOT-08 (12) Pattern 3, Exps 1-3 in Sequence 1-9 Non-Int in PHOT-08 (12) (3)	6 Secs (24 Secs) [==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)] [==>(Pattern 4)]	[1]
	3	PlCh F5	(1) PLUTO-SYSTEM	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F845M	CR-SPLIT=NO	POS TARG 1.184,079	Sequence 1-9 Non-Int in PHOT-08 (12) Pattern 3, Exps 1-3 in Sequence 1-9 Non-Int in PHOT-08 (12) (3)	20 Secs (80 Secs) [==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)] [==>(Pattern 4)]	[1]
	4	Short POS 1	(1) PLUTO-SYSTEM	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F350LP		POS TARG 1.184,079	Sequence 1-9 Non-Int in PHOT-08 (12)	3 Secs (3 Secs) [==>]	[1]
	5	Deep imaging POS 1 (x2)	(1) PLUTO-SYSTEM	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F350LP		POS TARG 1.184,079	Sequence 1-9 Non-Int in PHOT-08 (12)	152 Secs X 2 (304 Secs) [==>(Copy 1)] [==>(Copy 2)]	[1]
	6	Deep imaging POS 2	(1) PLUTO-SYSTEM	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F350LP		POS TARG 1.184,0298	Sequence 1-9 Non-Int in PHOT-08 (12)	152 Secs (152 Secs) [==>]	[1]
	7	Deep imaging POS 3	(1) PLUTO-SYSTEM	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F350LP		POS TARG 1.401,0093	Sequence 1-9 Non-Int in PHOT-08 (12)	152 Secs (152 Secs) [==>]	[1]
	8	Deep imaging POS 4	(1) PLUTO-SYSTEM	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F350LP		POS TARG 1.401,0312	Sequence 1-9 Non-Int in PHOT-08 (12)	152 Secs X 2 (304 Secs) [==>(Copy 1)] [==>(Copy 2)]	[1]
	9	Short POS 4	(1) PLUTO-SYSTEM	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F350LP		POS TARG 1.401,0312	Sequence 1-9 Non-Int in PHOT-08 (12)	3 Secs (3 Secs) [==>]	[1]



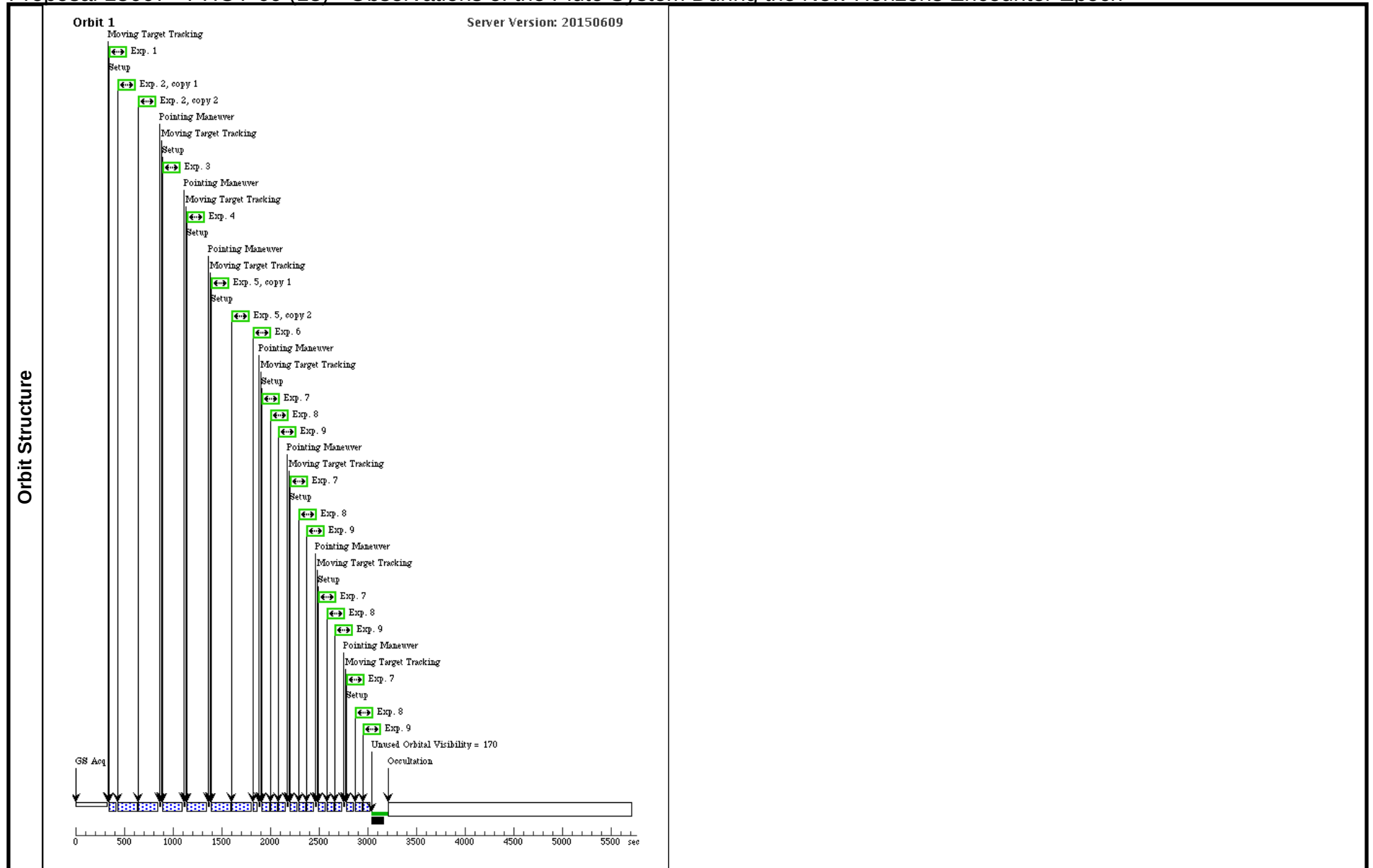
Proposal 13667 - PHOT-09 (13) - Observations of the Pluto System During the New Horizons Encounter Epoch

Visit	Proposal 13667, PHOT-09 (13), completed			Fri Aug 07 01:03:03 GMT 2015			
	Diagnostic Status: Warning						
	Scientific Instruments: WFC3/UVIS						
	Special Requirements: BETWEEN 05-JUL-2015:04:20:06 AND 05-JUL-2015:16:20:06						
	Comments: The PHOT visits are designed for high SNR photometry of Pluto and Charon. These observations are designed as a spatial scan to combine dithering and extra detected signal into a single exposure. These images need to use the onboard parallax correction but have to be implemented as a fixed time, ambush observation to get Pluto and Charon in the field. The spatial scan will incorporate the geocentric motion of Pluto to get the desired trail on the image. The Pluto observations use F435W and F555W in each visit for complete longitude coverage. This coverage is targeted for two time ranges. The first set is 12 visits covering the last full rotation of Pluto leading up to the time of closest approach of New Horizons to Pluto. These images are fixed at 30 degree longitude resolution. The other set of 12 visits are spread out to cover the full range of solar phase angle available to HST while also achieving 30 degree longitude spacing. Within these 24 visits, there are 3 other filters used, one per visit. The timing on the extra filter is set to get 8 evenly spaced longitudes (45 degree spacing) in each of the other filters. The long exposure images are normal moving target observations to get positions and photometry on the faint outer satellites. POS TARG values re-position Pluto in steps of exactly 5.5 pixels along each axis. As built, APT does not support mixing these two types of observations in one orbit. The durations for the pieces appear to fit in a single visibility window with a few minutes to spare. It is intended and expected that all exposures will fit in one window. Deviations from this need to be discussed for science impact.						
Diagnostics	(Short POS 1 (13.001)) Warning (Form): FLASH level may be too low for this exposure or a short subexposure. See extended explanation in the diagnostic browser						
	(Short POS 4 (13.006)) Warning (Form): FLASH level may be too low for this exposure or a short subexposure. See extended explanation in the diagnostic browser						
	(PlCh F1 (13.007)) Warning (Form): FLASH level may be too low for this exposure or a short subexposure. See extended explanation in the diagnostic browser						
	(PlCh F2 (13.008)) Warning (Form): FLASH level may be too low for this exposure or a short subexposure. See extended explanation in the diagnostic browser						
	(PlCh F3 (13.009)) 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			
	(3)	Pattern Type=WFC3-UVIS-DITHER-BOX Purpose=DITHER Number Of Points=4 Point Spacing=0.173 Line Spacing=0.112 Coordinate Frame=POS-TARG Pattern Orientation=23.884 Angle Between Sides=81.785 Center Pattern=false		(7-9)			
Solar System Targets	#	Name	Level 1	Level 2	Level 3	Window	Ephem Center
	(1)	PLUTO-SYSTEM	STD=PLUTO				EARTH

Proposal 13667 - PHOT-09 (13) - Observations of the Pluto System During the New Horizons Encounter Epoch

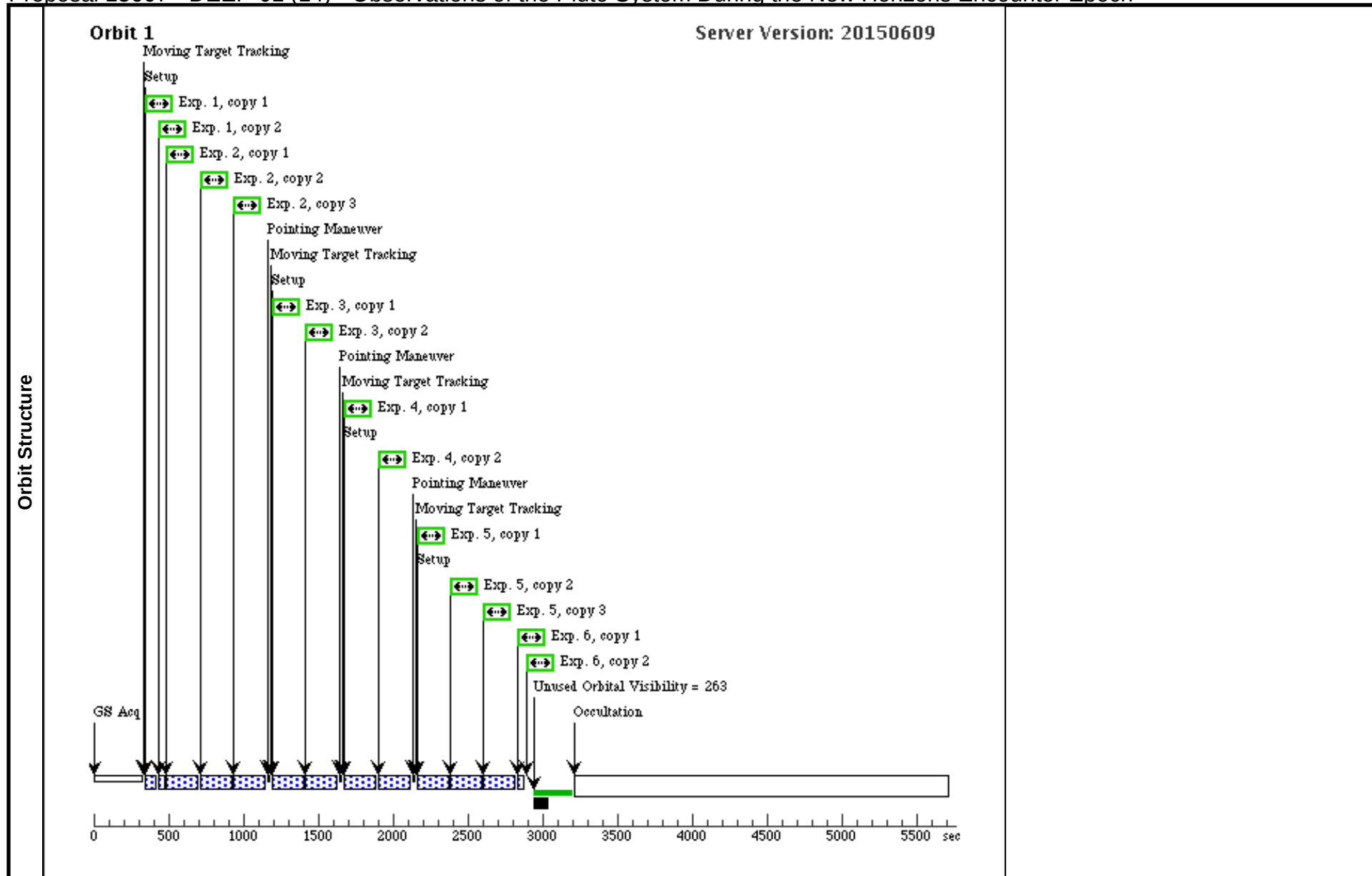
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1	Short POS 1	(1) PLUTO-SYSTEM	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F350LP		POS TARG 1.184,0.079	Sequence 1-9 Non-Int in PHOT-09 (13)	3 Secs (3 Secs) [==>]	[1]
	2	Deep imaging POS 1 (x2)	(1) PLUTO-SYSTEM	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F350LP		POS TARG 1.184,0.079	Sequence 1-9 Non-Int in PHOT-09 (13)	160 Secs X 2 (320 Secs) [==>(Copy 1)] [==>(Copy 2)]	[1]
	3	Deep imaging POS 2	(1) PLUTO-SYSTEM	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F350LP		POS TARG 1.184,0.298	Sequence 1-9 Non-Int in PHOT-09 (13)	160 Secs (160 Secs) [==>]	[1]
	4	Deep imaging POS 3	(1) PLUTO-SYSTEM	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F350LP		POS TARG 1.401,0.093	Sequence 1-9 Non-Int in PHOT-09 (13)	160 Secs (160 Secs) [==>]	[1]
	5	Deep imaging POS 4	(1) PLUTO-SYSTEM	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F350LP		POS TARG 1.401,0.312	Sequence 1-9 Non-Int in PHOT-09 (13)	160 Secs X 2 (320 Secs) [==>(Copy 1)] [==>(Copy 2)]	[1]
	6	Short POS 4	(1) PLUTO-SYSTEM	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F350LP		POS TARG 1.401,0.312	Sequence 1-9 Non-Int in PHOT-09 (13)	3 Secs (3 Secs) [==>]	[1]
	7	PlCh F1	(1) PLUTO-SYSTEM	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F438W	CR-SPLIT=NO	POS TARG 1.184,0.079	Sequence 1-9 Non-Int in PHOT-09 (13) Pattern 3, Exps 7-9 in Sequence 1-9 Non-Int in PHOT-09 (13) (3)	12 Secs (48 Secs) [==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)] [==>(Pattern 4)]	[1]
	8	PlCh F2	(1) PLUTO-SYSTEM	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F555W	CR-SPLIT=NO	POS TARG 1.184,0.079	Sequence 1-9 Non-Int in PHOT-09 (13) Pattern 3, Exps 7-9 in Sequence 1-9 Non-Int in PHOT-09 (13) (3)	6 Secs (24 Secs) [==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)] [==>(Pattern 4)]	[1]
	9	PlCh F3	(1) PLUTO-SYSTEM	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F625W	CR-SPLIT=NO	POS TARG 1.184,0.079	Sequence 1-9 Non-Int in PHOT-09 (13) Pattern 3, Exps 7-9 in Sequence 1-9 Non-Int in PHOT-09 (13) (3)	6 Secs (24 Secs) [==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)] [==>(Pattern 4)]	[1]

Proposal 13667 - PHOT-09 (13) - Observations of the Pluto System During the New Horizons Encounter Epoch



Proposal 13667 - DEEP-01 (14) - Observations of the Pluto System During the New Horizons Encounter Epoch

Visit	Proposal 13667, DEEP-01 (14), completed Fri Aug 07 01:03:03 GMT 2015									
	Diagnostic Status: Warning Scientific Instruments: WFC3/UVIS Special Requirements: BETWEEN 06-JUL-2015:05:30:00 AND 06-JUL-2015:17:30:00 Comments: The DEEP visits are constructed to maximize the SNR of the faintest satellite, Styx. The exposure time per image is set by the requirement that Pluto and Charon not bleed too much. Roll angle has been pre-checked to avoid putting satellites on diffraction spikes from Pluto or Charon. The timing has been optimized for rotational coverage over then entire observing program. This timing includes all other visits in this process. POS TARG values re-position Pluto in steps of exactly 5.5 pixels along each axis.									
Diagnostics	(Nav 1 (14.001)) Warning (Form): FLASH level may be too low for this exposure or a short subexposure. See extended explanation in the diagnostic browser (Nav 2 (14.006)) Warning (Form): FLASH level may be too low for this exposure or a short subexposure. See extended explanation in the diagnostic browser									
Solar System Targets	#	Name	Level 1	Level 2	Level 3	Window	Ephem Center			
	(1)	PLUTO-SYSTEM	STD=PLUTO				EARTH			
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1	Nav 1	(1) PLUTO-SYSTEM	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F350LP		POS TARG 1.184,0.079	Sequence 1-6 Non-Int in DEEP-01 (14)	3 Secs X 2 (6 Secs) [==>(Copy 1)] [==>(Copy 2)]	[1]
	2	Long POS 1 (x3)	(1) PLUTO-SYSTEM	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F350LP		POS TARG 1.184,0.079	Sequence 1-6 Non-Int in DEEP-01 (14)	170 Secs X 3 (510 Secs) [==>(Copy 1)] [==>(Copy 2)] [==>(Copy 3)]	[1]
	3	Long POS 2 (x2)	(1) PLUTO-SYSTEM	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F350LP		POS TARG 1.184,0.298	Sequence 1-6 Non-Int in DEEP-01 (14)	170 Secs X 2 (340 Secs) [==>(Copy 1)] [==>(Copy 2)]	[1]
	4	Long POS 3 (x2)	(1) PLUTO-SYSTEM	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F350LP		POS TARG 1.401,0.093	Sequence 1-6 Non-Int in DEEP-01 (14)	170 Secs X 2 (340 Secs) [==>(Copy 1)] [==>(Copy 2)]	[1]
	5	Long POS 4 (x3)	(1) PLUTO-SYSTEM	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F350LP		POS TARG 1.401,0.312	Sequence 1-6 Non-Int in DEEP-01 (14)	170 Secs X 3 (510 Secs) [==>(Copy 1)] [==>(Copy 2)] [==>(Copy 3)]	[1]
	6	Nav 2	(1) PLUTO-SYSTEM	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F350LP		POS TARG 1.401,0.312	Sequence 1-6 Non-Int in DEEP-01 (14)	3 Secs X 2 (6 Secs) [==>(Copy 1)] [==>(Copy 2)]	[1]



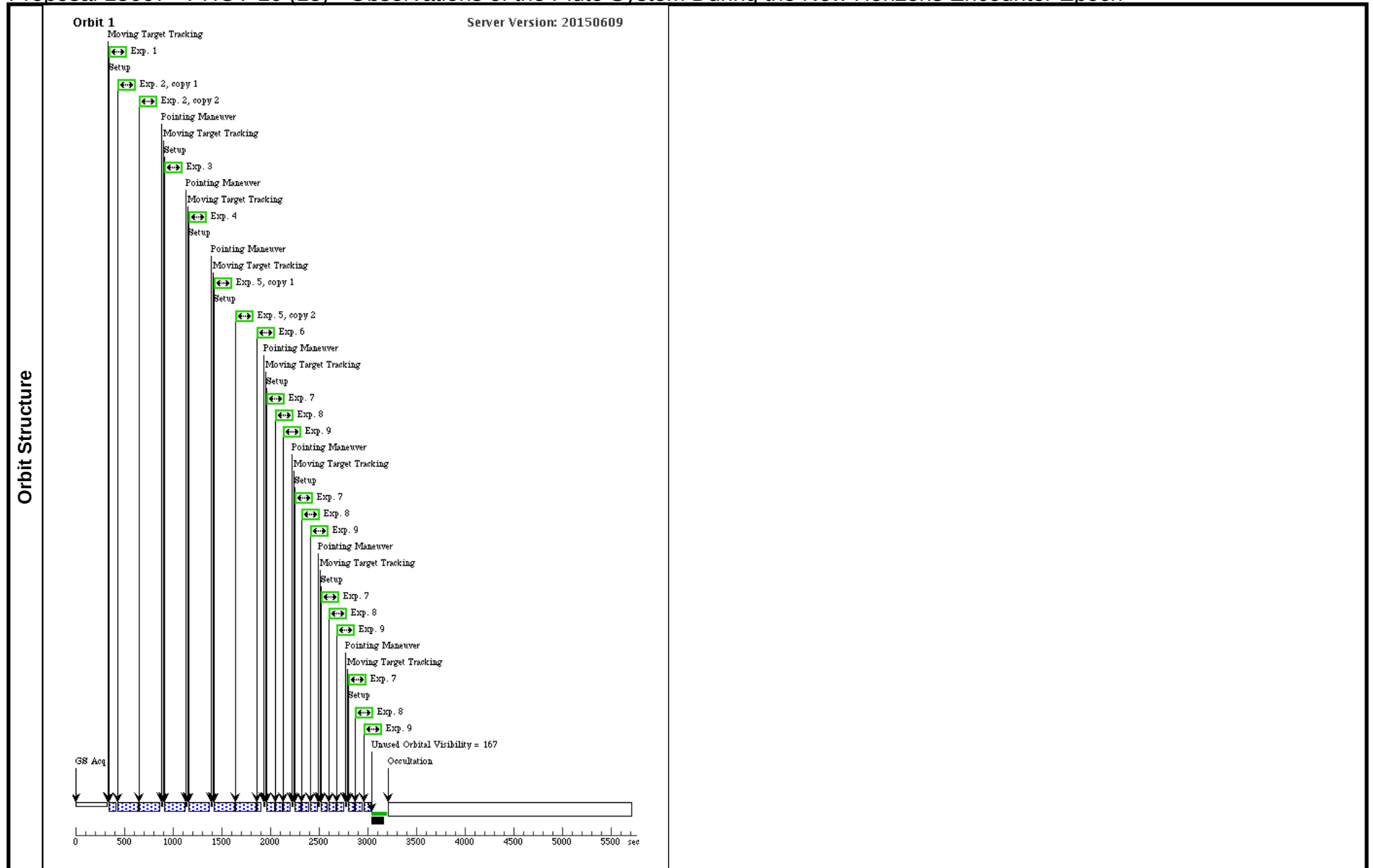
Proposal 13667 - PHOT-10 (15) - Observations of the Pluto System During the New Horizons Encounter Epoch

Visit	Proposal 13667, PHOT-10 (15), completed				Fri Aug 07 01:03:03 GMT 2015		
	Diagnostic Status: Warning						
	Scientific Instruments: WFC3/UVIS						
	Special Requirements: BETWEEN 06-JUL-2015:05:53:02 AND 06-JUL-2015:17:53:02						
	Comments: The PHOT visits are designed for high SNR photometry of Pluto and Charon. These observations are designed as a spatial scan to combine dithering and extra detected signal into a single exposure. These images need to use the onboard parallax correction but have to be implemented as a fixed time, ambush observation to get Pluto and Charon in the field. The spatial scan will incorporate the geocentric motion of Pluto to get the desired trail on the image. The Pluto observations use F435W and F555W in each visit for complete longitude coverage. This coverage is targeted for two time ranges. The first set is 12 visits covering the last full rotation of Pluto leading up to the time of closest approach of New Horizons to Pluto. These images are fixed at 30 degree longitude resolution. The other set of 12 visits are spread out to cover the full range of solar phase angle available to HST while also achieving 30 degree longitude spacing. Within these 24 visits, there are 3 other filters used, one per visit. The timing on the extra filter is set to get 8 evenly spaced longitudes (45 degree spacing) in each of the other filters. The long exposure images are normal moving target observations to get positions and photometry on the faint outer satellites. POS TARG values re-position Pluto in steps of exactly 5.5 pixels along each axis. As built, APT does not support mixing these two types of observations in one orbit. The durations for the pieces appear to fit in a single visibility window with a few minutes to spare. It is intended and expected that all exposures will fit in one window. Deviations from this need to be discussed for science impact.						
Diagnostics	(Short POS 1 (15.001)) Warning (Form): FLASH level may be too low for this exposure or a short subexposure. See extended explanation in the diagnostic browser (Short POS 4 (15.006)) Warning (Form): FLASH level may be too low for this exposure or a short subexposure. See extended explanation in the diagnostic browser (PICh F1 (15.007)) Warning (Form): FLASH level may be too low for this exposure or a short subexposure. See extended explanation in the diagnostic browser (PICh F2 (15.008)) Warning (Form): FLASH level may be too low for this exposure or a short subexposure. See extended explanation in the diagnostic browser (PICh F4 (15.009)) 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		
	(3)	Pattern Type=WFC3-UVIS-DITHER-BOX Purpose=DITHER Number Of Points=4 Point Spacing=0.173 Line Spacing=0.112	Coordinate Frame=POS-TARG Pattern Orientation=23.884 Angle Between Sides=81.785 Center Pattern=false		(7-9)		
Solar System Targets	#	Name	Level 1	Level 2	Level 3	Window	Ephem Center
	(1)	PLUTO-SYSTEM	STD=PLUTO				EARTH

Proposal 13667 - PHOT-10 (15) - Observations of the Pluto System During the New Horizons Encounter Epoch

Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1	Short POS 1	(1) PLUTO-SYSTEM	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F350LP		POS TARG 1.184,0.079	Sequence 1-9 Non-Int in PHOT-10 (15)	3 Secs (3 Secs)	
									[==>]	[1]
	2	Deep imaging POS 1 (x2)	(1) PLUTO-SYSTEM	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F350LP		POS TARG 1.184,0.079	Sequence 1-9 Non-Int in PHOT-10 (15)	168 Secs X 2 (336 Secs)	
									[==>(Copy 1)]	[1]
									[==>(Copy 2)]	
	3	Deep imaging POS 2	(1) PLUTO-SYSTEM	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F350LP		POS TARG 1.184,0.298	Sequence 1-9 Non-Int in PHOT-10 (15)	168 Secs (168 Secs)	
									[==>]	[1]
	4	Deep imaging POS 3	(1) PLUTO-SYSTEM	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F350LP		POS TARG 1.401,0.093	Sequence 1-9 Non-Int in PHOT-10 (15)	168 Secs (168 Secs)	
									[==>]	[1]
	5	Deep imaging POS 4	(1) PLUTO-SYSTEM	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F350LP		POS TARG 1.401,0.312	Sequence 1-9 Non-Int in PHOT-10 (15)	168 Secs X 2 (336 Secs)	
									[==>(Copy 1)]	[1]
									[==>(Copy 2)]	
	6	Short POS 4	(1) PLUTO-SYSTEM	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F350LP		POS TARG 1.401,0.312	Sequence 1-9 Non-Int in PHOT-10 (15)	3 Secs (3 Secs)	
									[==>]	[1]
	7	PlCh F1	(1) PLUTO-SYSTEM	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F438W	CR-SPLIT=NO	POS TARG 1.184,0.079	Sequence 1-9 Non-Int in PHOT-10 (15) Pattern 3, Exps 7-9 in Sequence 1-9 Non-Int in PHOT-10 (15) (3)	12 Secs (48 Secs)	
									[==>(Pattern 1)]	[1]
									[==>(Pattern 2)]	
									[==>(Pattern 3)]	
									[==>(Pattern 4)]	
	8	PlCh F2	(1) PLUTO-SYSTEM	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F555W	CR-SPLIT=NO	POS TARG 1.184,0.079	Sequence 1-9 Non-Int in PHOT-10 (15) Pattern 3, Exps 7-9 in Sequence 1-9 Non-Int in PHOT-10 (15) (3)	6 Secs (24 Secs)	
									[==>(Pattern 1)]	[1]
									[==>(Pattern 2)]	
									[==>(Pattern 3)]	
									[==>(Pattern 4)]	
	9	PlCh F4	(1) PLUTO-SYSTEM	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F775W	CR-SPLIT=NO	POS TARG 1.184,0.079	Sequence 1-9 Non-Int in PHOT-10 (15) Pattern 3, Exps 7-9 in Sequence 1-9 Non-Int in PHOT-10 (15) (3)	9 Secs (36 Secs)	
									[==>(Pattern 1)]	[1]
									[==>(Pattern 2)]	
									[==>(Pattern 3)]	
									[==>(Pattern 4)]	

Proposal 13667 - PHOT-10 (15) - Observations of the Pluto System During the New Horizons Encounter Epoch



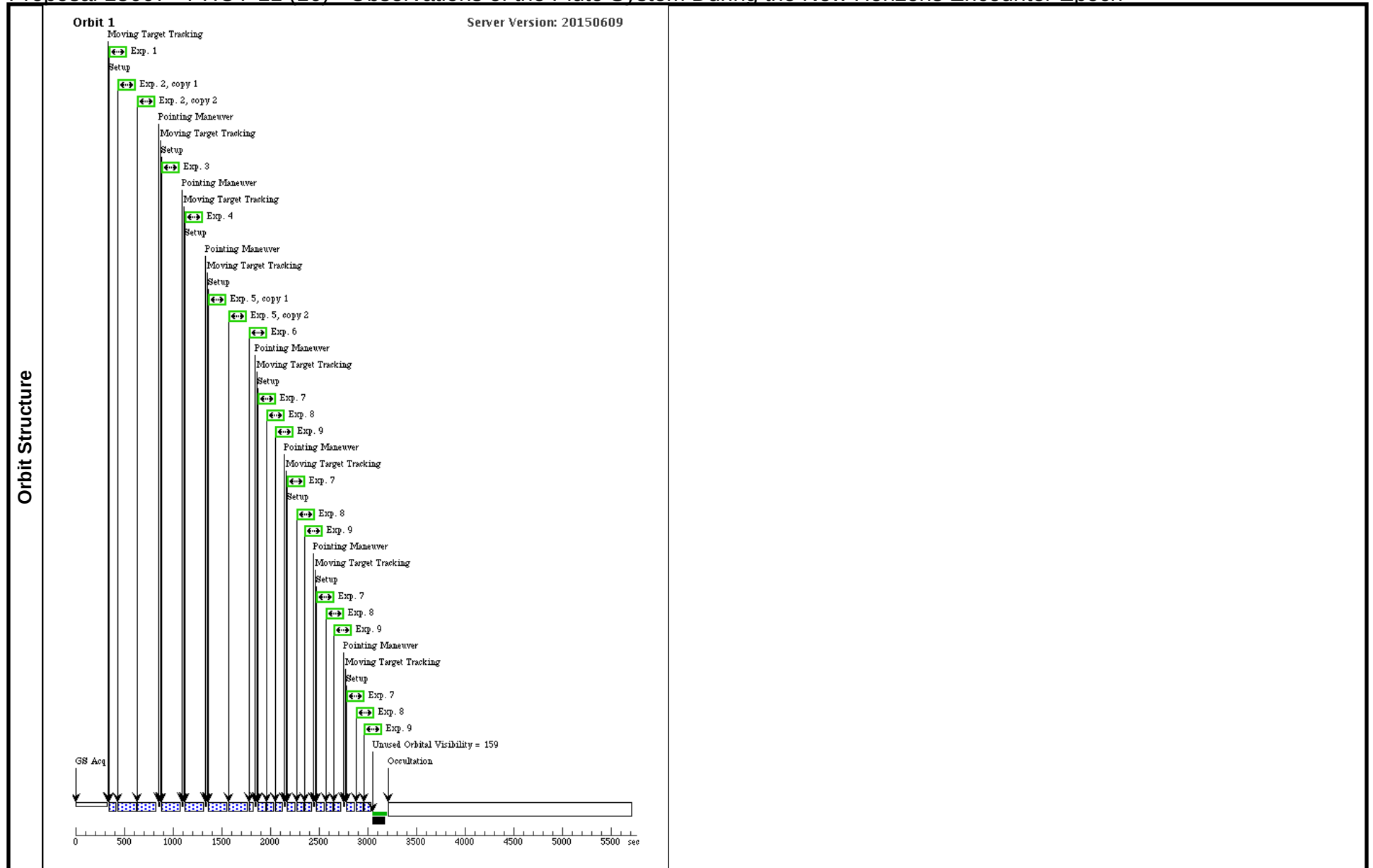
Proposal 13667 - PHOT-11 (16) - Observations of the Pluto System During the New Horizons Encounter Epoch

Visit	Proposal 13667, PHOT-11 (16), completed Fri Aug 07 01:03:03 GMT 2015					
	Diagnostic Status: Warning Scientific Instruments: WFC3/UVIS Special Requirements: BETWEEN 07-JUL-2015:07:25:58 AND 07-JUL-2015:19:25:58 Comments: <i>The PHOT visits are designed for high SNR photometry of Pluto and Charon. These observations are designed as a spatial scan to combine dithering and extra detected signal into a single exposure. These images need to use the onboard parallax correction but have to be implemented as a fixed time, ambush observation to get Pluto and Charon in the field. The spatial scan will incorporate the geocentric motion of Pluto to get the desired trail on the image.</i> <i>The Pluto observations use F435W and F555W in each visit for complete longitude coverage. This coverage is targeted for two time ranges. The first set is 12 visits covering the last full rotation of Pluto leading up to the time of closest approach of New Horizons to Pluto. These images are fixed at 30 degree longitude resolution. The other set of 12 visits are spread out to cover the full range of solar phase angle available to HST while also achieving 30 degree longitude spacing. Within these 24 visits, there are 3 other filters used, one per visit. The timing on the extra filter is set to get 8 evenly spaced longitudes (45 degree spacing) in each of the other filters.</i> <i>The long exposure images are normal moving target observations to get positions and photometry on the faint outer satellites. POS TARG values re-position Pluto in steps of exactly 5.5 pixels along each axis.</i> <i>As built, APT does not support mixing these two types of observations in one orbit. The durations for the pieces appear to fit in a single visibility window with a few minutes to spare. It is intended and expected that all exposures will fit in one window. Deviations from this need to be discussed for science impact.</i>					
Diagnostics	(Short POS 1 (16.001)) Warning (Form): FLASH level may be too low for this exposure or a short subexposure. See extended explanation in the diagnostic browser					
	(Short POS 4 (16.006)) Warning (Form): FLASH level may be too low for this exposure or a short subexposure. See extended explanation in the diagnostic browser					
	(PICCh F1 (16.007)) Warning (Form): FLASH level may be too low for this exposure or a short subexposure. See extended explanation in the diagnostic browser					
	(PICCh F2 (16.008)) Warning (Form): FLASH level may be too low for this exposure or a short subexposure. See extended explanation in the diagnostic browser					
	(PICCh F5 (16.009)) 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
	(3)	Pattern Type=WFC3-UVIS-DITHER-BOX Purpose=DITHER Number Of Points=4 Point Spacing=0.173 Line Spacing=0.112		Coordinate Frame=POS-TARG Pattern Orientation=23.884 Angle Between Sides=81.785 Center Pattern=false		(7-9)
Solar System Targets	#	Name	Level 1	Level 2	Level 3	Window
	(1)	PLUTO-SYSTEM	STD=PLUTO			EARTH

Proposal 13667 - PHOT-11 (16) - Observations of the Pluto System During the New Horizons Encounter Epoch

Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1	Short POS 1	(1) PLUTO-SYSTEM	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F350LP		POS TARG 1.184,0.079	Sequence 1-9 Non-Int in PHOT-11 (16)	3 Secs (3 Secs)	
									[==>]	[1]
	2	Deep imaging POS 1 (x2)	(1) PLUTO-SYSTEM	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F350LP		POS TARG 1.184,0.079	Sequence 1-9 Non-Int in PHOT-11 (16)	154 Secs X 2 (308 Secs)	
									[==>(Copy 1)]	[1]
									[==>(Copy 2)]	
	3	Deep imaging POS 2	(1) PLUTO-SYSTEM	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F350LP		POS TARG 1.184,0.298	Sequence 1-9 Non-Int in PHOT-11 (16)	154 Secs (154 Secs)	
									[==>]	[1]
	4	Deep imaging POS 3	(1) PLUTO-SYSTEM	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F350LP		POS TARG 1.401,0.093	Sequence 1-9 Non-Int in PHOT-11 (16)	154 Secs (154 Secs)	
									[==>]	[1]
	5	Deep imaging POS 4	(1) PLUTO-SYSTEM	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F350LP		POS TARG 1.401,0.312	Sequence 1-9 Non-Int in PHOT-11 (16)	154 Secs X 2 (308 Secs)	
									[==>(Copy 1)]	[1]
									[==>(Copy 2)]	
	6	Short POS 4	(1) PLUTO-SYSTEM	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F350LP		POS TARG 1.401,0.312	Sequence 1-9 Non-Int in PHOT-11 (16)	3 Secs (3 Secs)	
									[==>]	[1]
	7	PlCh F1	(1) PLUTO-SYSTEM	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F438W	CR-SPLIT=NO	POS TARG 1.184,0.079	Sequence 1-9 Non-Int in PHOT-11 (16) Pattern 3, Exps 7-9 in Sequence 1-9 Non-Int in PHOT-11 (16) (3)	12 Secs (48 Secs)	
									[==>(Pattern 1)]	[1]
									[==>(Pattern 2)]	
									[==>(Pattern 3)]	
									[==>(Pattern 4)]	
	8	PlCh F2	(1) PLUTO-SYSTEM	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F555W	CR-SPLIT=NO	POS TARG 1.184,0.079	Sequence 1-9 Non-Int in PHOT-11 (16) Pattern 3, Exps 7-9 in Sequence 1-9 Non-Int in PHOT-11 (16) (3)	6 Secs (24 Secs)	
									[==>(Pattern 1)]	[1]
									[==>(Pattern 2)]	
									[==>(Pattern 3)]	
									[==>(Pattern 4)]	
	9	PlCh F5	(1) PLUTO-SYSTEM	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F845M	CR-SPLIT=NO	POS TARG 1.184,0.079	Sequence 1-9 Non-Int in PHOT-11 (16) Pattern 3, Exps 7-9 in Sequence 1-9 Non-Int in PHOT-11 (16) (3)	20 Secs (80 Secs)	
									[==>(Pattern 1)]	[1]
									[==>(Pattern 2)]	
									[==>(Pattern 3)]	
									[==>(Pattern 4)]	

Proposal 13667 - PHOT-11 (16) - Observations of the Pluto System During the New Horizons Encounter Epoch



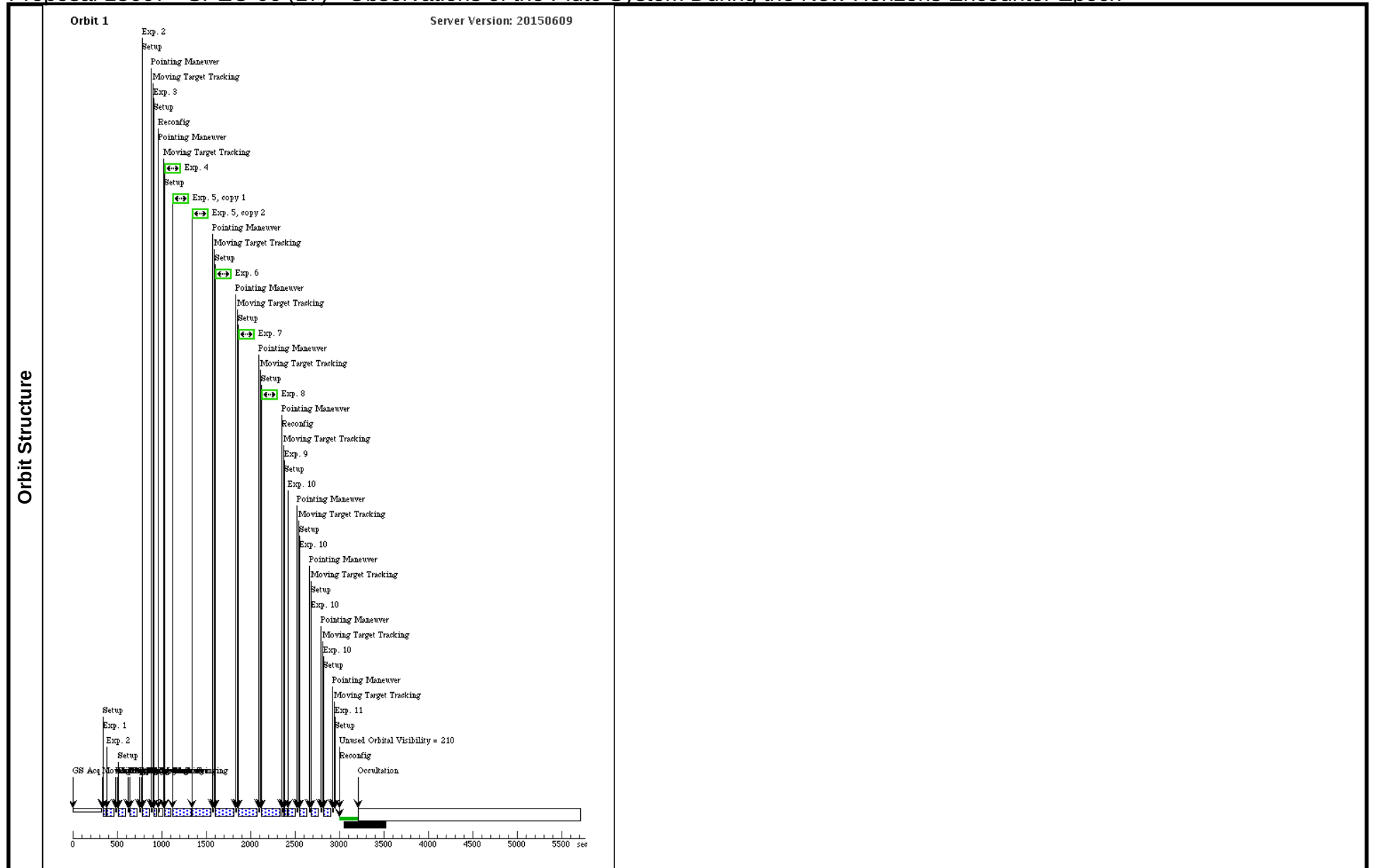
Proposal 13667 - SPEC-06 (17) - Observations of the Pluto System During the New Horizons Encounter Epoch

Visit	Proposal 13667, SPEC-06 (17), completed Fri Aug 07 01:03:04 GMT 2015				
	Diagnostic Status: Warning Scientific Instruments: WFC3/IR, WFC3/UVIS Special Requirements: ORIENT 265D TO 265 D; ORIENT 85D TO 104.5 D; BETWEEN 07-JUL-2015:22:37:00 AND 08-JUL-2015:11:37:00 Comments: This visit is designed to get near-IR grism spectra of Pluto and Charon. The special roll requirements are used to keep the spectral images from Pluto and Charon from overlapping. The timing is set by the observing cadence while also selecting a fixed sub-earth longitude for all of the SPEC visits. The timing of all visits are also optimized for the deep imaging cadence on the outer satellites to get uniform longitude coverage. The other part of the visit is to get deep optical images of the faint outer satellites. POS TARG values re-position Pluto in steps of exactly 5.5 pixels along each axis.				
Diagnostics	(Short POS 1 (17.004)) 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
	(2)	Pattern Type=WFC3-IR-DITHER-BOX-MIN Purpose=DITHER Number Of Points=4 Point Spacing=1.716 Line Spacing=1.095		Coordinate Frame=POS-TARG Pattern Orientation=18.528 Angle Between Sides=74.653 Center Pattern=false	(2), (10)
Solar System Targets	#	Name	Level 1	Level 2	Level 3
	(1)	PLUTO-SYSTEM	STD=PLUTO		Window
					Ephem Center

Proposal 13667 - SPEC-06 (17) - Observations of the Pluto System During the New Horizons Encounter Epoch

Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1	Navigation	(1) PLUTO-SYSTEM	WFC3/IR, MULTIACCUM, GRISM512	F139M	NSAMP=4; SAMP-SEQ=RAPID	GS ACQ SCENARIO BASE1B3	Sequence 1-11 Non-Int in SPEC-06 (17)	3,412,108 Secs (3,412 Secs) [==>]	[1]
	2	Spectra	(1) PLUTO-SYSTEM	WFC3/IR, MULTIACCUM, GRISM512	G141	NSAMP=7; SAMP-SEQ=STEP25		Sequence 1-11 Non-Int in SPEC-06 (17) Pattern 2, Exps 2-2 in Sequence 1-11 Non-Int in SPEC-06 (17) (2)	59,675,893 Secs (238,704 Secs) [==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)] [==>(Pattern 4)]	[1]
	Comments: Dithered slitless grism spectra. Ideally, the bracketing navigation images would correspond to the first and last dither positions in each set of four, but I'm not sure if that's the default behavior. (the reasons are to avoid pointing overheads, and also to minimize offsets). If it isn't easy to get this to happen, it's not a big deal.									
	3	Navigation	(1) PLUTO-SYSTEM	WFC3/IR, MULTIACCUM, GRISM512	F139M	NSAMP=4; SAMP-SEQ=RAPID		Sequence 1-11 Non-Int in SPEC-06 (17)	3,412,108 Secs (3,412 Secs) [==>]	[1]
	4	Short POS 1	(1) PLUTO-SYSTEM	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F350LP		POS TARG 1.184,0.079	Sequence 1-11 Non-Int in SPEC-06 (17)	3 Secs (3 Secs) [==>]	[1]
	5	Deep imaging POS 1 (x2)	(1) PLUTO-SYSTEM	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F350LP		POS TARG 1.184,0.079	Sequence 1-11 Non-Int in SPEC-06 (17)	170 Secs X 2 (340 Secs) [==>(Copy 1)] [==>(Copy 2)]	[1]
	6	Deep imaging POS 2	(1) PLUTO-SYSTEM	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F350LP		POS TARG 1.184,0.298	Sequence 1-11 Non-Int in SPEC-06 (17)	170 Secs (170 Secs) [==>]	[1]
	7	Deep imaging POS 3	(1) PLUTO-SYSTEM	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F350LP		POS TARG 1.401,0.093	Sequence 1-11 Non-Int in SPEC-06 (17)	170 Secs (170 Secs) [==>]	[1]
	8	Deep imaging POS 4	(1) PLUTO-SYSTEM	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F350LP		POS TARG 1.401,0.312	Sequence 1-11 Non-Int in SPEC-06 (17)	170 Secs (170 Secs) [==>]	[1]
	9	Navigation	(1) PLUTO-SYSTEM	WFC3/IR, MULTIACCUM, GRISM512	F139M	NSAMP=4; SAMP-SEQ=RAPID		Sequence 1-11 Non-Int in SPEC-06 (17)	3,412,108 Secs (3,412 Secs) [==>]	[1]
	10	Spectra	(1) PLUTO-SYSTEM	WFC3/IR, MULTIACCUM, GRISM512	G141	NSAMP=7; SAMP-SEQ=STEP25		Sequence 1-11 Non-Int in SPEC-06 (17) Pattern 2, Exps 10-10 in Sequence 1-11 Non-Int in SPEC-06 (17) (2)	59,675,893 Secs (238,704 Secs) [==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)] [==>(Pattern 4)]	[1]
	Comments: Dithered slitless grism spectra. Ideally, the bracketing navigation images would correspond to the first and last dither positions in each set of four, but I'm not sure if that's the default behavior. (the reasons are to avoid pointing overheads, and also to minimize offsets). If it isn't easy to get this to happen, it's not a big deal.									
	11	Navigation	(1) PLUTO-SYSTEM	WFC3/IR, MULTIACCUM, GRISM512	F139M	NSAMP=4; SAMP-SEQ=RAPID		Sequence 1-11 Non-Int in SPEC-06 (17)	3,412,108 Secs (3,412 Secs) [==>]	[1]

Proposal 13667 - SPEC-06 (17) - Observations of the Pluto System During the New Horizons Encounter Epoch

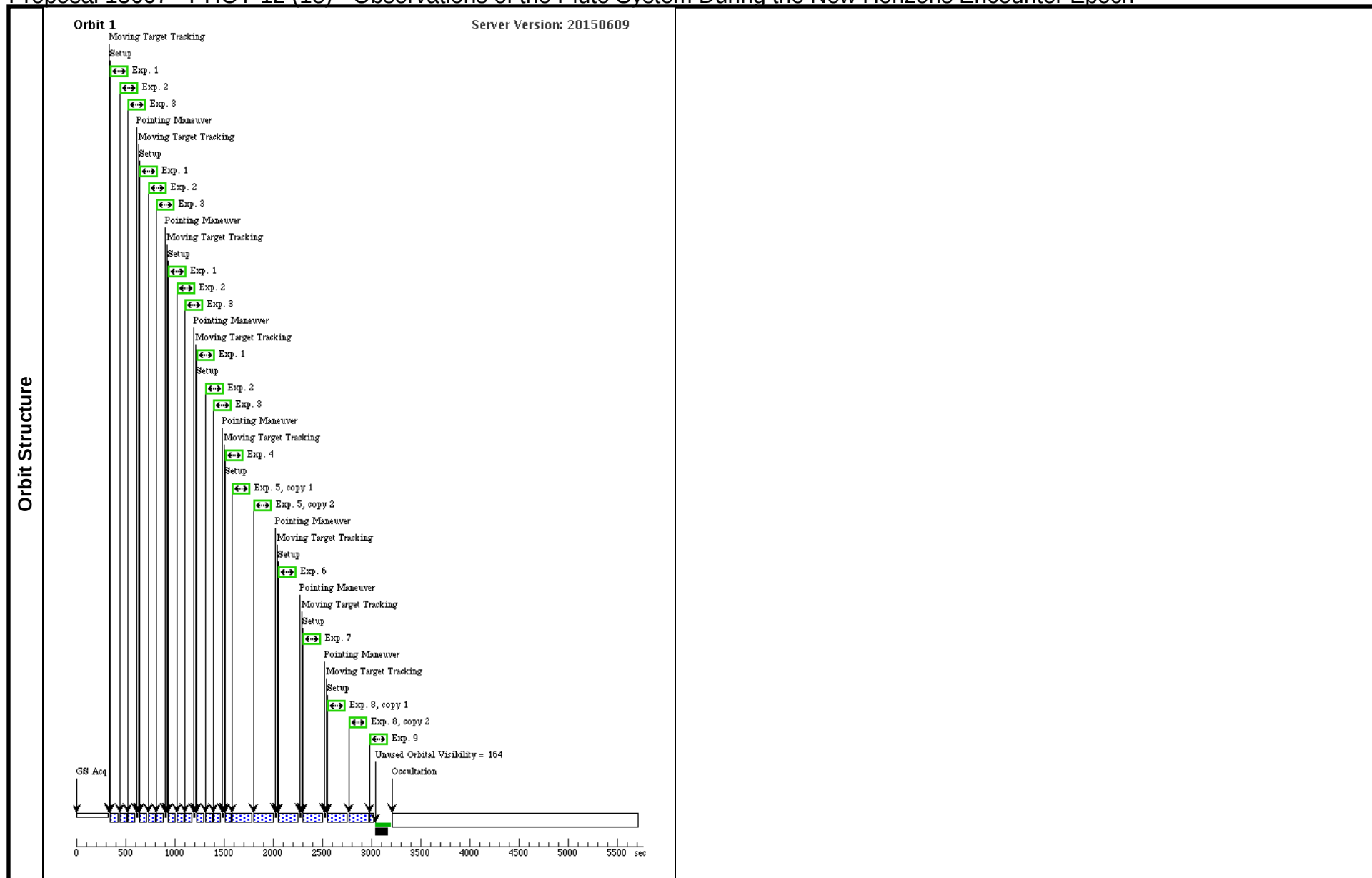


Proposal 13667 - PHOT-12 (18) - Observations of the Pluto System During the New Horizons Encounter Epoch

Visit	Proposal 13667, PHOT-12 (18), completed				Fri Aug 07 01:03:04 GMT 2015		
	Diagnostic Status: Warning						
	Scientific Instruments: WFC3/UVIS						
	Special Requirements: BETWEEN 08-JUL-2015:21:45:21 AND 09-JUL-2015:09:45:21						
	Comments: The PHOT visits are designed for high SNR photometry of Pluto and Charon. These observations are designed as a spatial scan to combine dithering and extra detected signal into a single exposure. These images need to use the onboard parallax correction but have to be implemented as a fixed time, ambush observation to get Pluto and Charon in the field. The spatial scan will incorporate the geocentric motion of Pluto to get the desired trail on the image. The Pluto observations use F435W and F555W in each visit for complete longitude coverage. This coverage is targeted for two time ranges. The first set is 12 visits covering the last full rotation of Pluto leading up to the time of closest approach of New Horizons to Pluto. These images are fixed at 30 degree longitude resolution. The other set of 12 visits are spread out to cover the full range of solar phase angle available to HST while also achieving 30 degree longitude spacing. Within these 24 visits, there are 3 other filters used, one per visit. The timing on the extra filter is set to get 8 evenly spaced longitudes (45 degree spacing) in each of the other filters. The long exposure images are normal moving target observations to get positions and photometry on the faint outer satellites. POS TARG values re-position Pluto in steps of exactly 5.5 pixels along each axis. As built, APT does not support mixing these two types of observations in one orbit. The durations for the pieces appear to fit in a single visibility window with a few minutes to spare. It is intended and expected that all exposures will fit in one window. Deviations from this need to be discussed for science impact.						
Diagnostics	(PICh F1 (18.001)) Warning (Form): FLASH level may be too low for this exposure or a short subexposure. See extended explanation in the diagnostic browser						
	(PICh F2 (18.002)) Warning (Form): FLASH level may be too low for this exposure or a short subexposure. See extended explanation in the diagnostic browser						
	(PICh F3 (18.003)) Warning (Form): FLASH level may be too low for this exposure or a short subexposure. See extended explanation in the diagnostic browser						
	(Short POS 1 (18.004)) Warning (Form): FLASH level may be too low for this exposure or a short subexposure. See extended explanation in the diagnostic browser						
	(Short POS 4 (18.009)) 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		
	(3)	Pattern Type=WFC3-UVIS-DITHER-BOX Purpose=DITHER Number Of Points=4 Point Spacing=0.173 Line Spacing=0.112	Coordinate Frame=POS-TARG Pattern Orientation=23.884 Angle Between Sides=81.785 Center Pattern=false		(1-3)		
Solar System Targets	#	Name	Level 1	Level 2	Level 3	Window	Ephem Center
	(1)	PLUTO-SYSTEM	STD=PLUTO				EARTH

Proposal 13667 - PHOT-12 (18) - Observations of the Pluto System During the New Horizons Encounter Epoch

Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1	PlCh F1	(1) PLUTO-SYSTEM	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F438W	CR-SPLIT=NO	POS TARG 1.184,079; GS ACQ SCENARIO BASE1B3	Sequence 1-9 Non-Int in PHOT-12 (18) Pattern 3, Exps 1-3 in Sequence 1-9 Non-Int in PHOT-12 (18) (3)	12 Secs (48 Secs) [==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)] [==>(Pattern 4)]	[1]
	2	PlCh F2	(1) PLUTO-SYSTEM	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F555W	CR-SPLIT=NO	POS TARG 1.184,079	Sequence 1-9 Non-Int in PHOT-12 (18) Pattern 3, Exps 1-3 in Sequence 1-9 Non-Int in PHOT-12 (18) (3)	6 Secs (24 Secs) [==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)] [==>(Pattern 4)]	[1]
	3	PlCh F3	(1) PLUTO-SYSTEM	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F625W	CR-SPLIT=NO	POS TARG 1.184,079	Sequence 1-9 Non-Int in PHOT-12 (18) Pattern 3, Exps 1-3 in Sequence 1-9 Non-Int in PHOT-12 (18) (3)	6 Secs (24 Secs) [==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)] [==>(Pattern 4)]	[1]
	4	Short POS 1	(1) PLUTO-SYSTEM	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F350LP		POS TARG 1.184,079	Sequence 1-9 Non-Int in PHOT-12 (18)	3 Secs (3 Secs) [==>]	[1]
	5	Deep imaging POS 1 (x2)	(1) PLUTO-SYSTEM	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F350LP		POS TARG 1.184,079	Sequence 1-9 Non-Int in PHOT-12 (18)	162 Secs X 2 (324 Secs) [==>(Copy 1)] [==>(Copy 2)]	[1]
	6	Deep imaging POS 2	(1) PLUTO-SYSTEM	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F350LP		POS TARG 1.184,0298	Sequence 1-9 Non-Int in PHOT-12 (18)	162 Secs (162 Secs) [==>]	[1]
	7	Deep imaging POS 3	(1) PLUTO-SYSTEM	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F350LP		POS TARG 1.401,093	Sequence 1-9 Non-Int in PHOT-12 (18)	162 Secs (162 Secs) [==>]	[1]
	8	Deep imaging POS 4	(1) PLUTO-SYSTEM	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F350LP		POS TARG 1.401,0312	Sequence 1-9 Non-Int in PHOT-12 (18)	162 Secs X 2 (324 Secs) [==>(Copy 1)] [==>(Copy 2)]	[1]
	9	Short POS 4	(1) PLUTO-SYSTEM	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F350LP		POS TARG 1.401,0312	Sequence 1-9 Non-Int in PHOT-12 (18)	3 Secs (3 Secs) [==>]	[1]



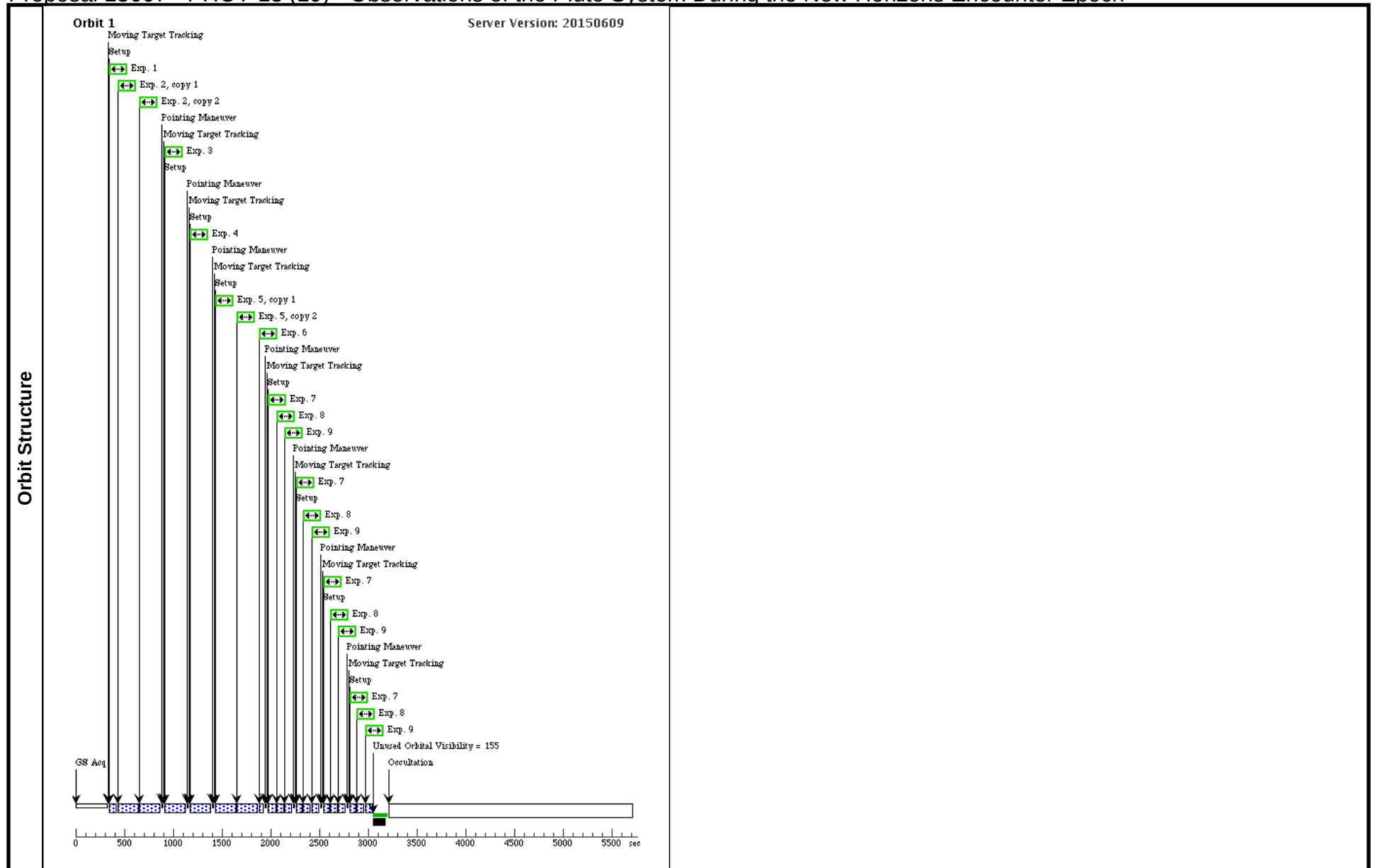
Proposal 13667 - PHOT-13 (19) - Observations of the Pluto System During the New Horizons Encounter Epoch

Visit	Proposal 13667, PHOT-13 (19), completed			Fri Aug 07 01:03:04 GMT 2015			
	Diagnostic Status: Warning						
	Scientific Instruments: WFC3/UVIS						
	Special Requirements: BETWEEN 09-JUL-2015:23:18:17 AND 10-JUL-2015:11:18:17						
	Comments: The PHOT visits are designed for high SNR photometry of Pluto and Charon. These observations are designed as a spatial scan to combine dithering and extra detected signal into a single exposure. These images need to use the onboard parallax correction but have to be implemented as a fixed time, ambush observation to get Pluto and Charon in the field. The spatial scan will incorporate the geocentric motion of Pluto to get the desired trail on the image. The Pluto observations use F435W and F555W in each visit for complete longitude coverage. This coverage is targeted for two time ranges. The first set is 12 visits covering the last full rotation of Pluto leading up to the time of closest approach of New Horizons to Pluto. These images are fixed at 30 degree longitude resolution. The other set of 12 visits are spread out to cover the full range of solar phase angle available to HST while also achieving 30 degree longitude spacing. Within these 24 visits, there are 3 other filters used, one per visit. The timing on the extra filter is set to get 8 evenly spaced longitudes (45 degree spacing) in each of the other filters. The long exposure images are normal moving target observations to get positions and photometry on the faint outer satellites. POS TARG values re-position Pluto in steps of exactly 5.5 pixels along each axis. As built, APT does not support mixing these two types of observations in one orbit. The durations for the pieces appear to fit in a single visibility window with a few minutes to spare. It is intended and expected that all exposures will fit in one window. Deviations from this need to be discussed for science impact.						
Diagnostics	(Short POS 1 (19.001)) Warning (Form): FLASH level may be too low for this exposure or a short subexposure. See extended explanation in the diagnostic browser						
	(Short POS 4 (19.006)) Warning (Form): FLASH level may be too low for this exposure or a short subexposure. See extended explanation in the diagnostic browser						
	(PlCh F1 (19.007)) Warning (Form): FLASH level may be too low for this exposure or a short subexposure. See extended explanation in the diagnostic browser						
	(PlCh F2 (19.008)) Warning (Form): FLASH level may be too low for this exposure or a short subexposure. See extended explanation in the diagnostic browser						
	(PlCh F4 (19.009)) 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			
	(3)	Pattern Type=WFC3-UVIS-DITHER-BOX Purpose=DITHER Number Of Points=4 Point Spacing=0.173 Line Spacing=0.112 Coordinate Frame=POS-TARG Pattern Orientation=23.884 Angle Between Sides=81.785 Center Pattern=false		(7-9)			
Solar System Targets	#	Name	Level 1	Level 2	Level 3	Window	Ephem Center
	(1)	PLUTO-SYSTEM	STD=PLUTO				EARTH

Proposal 13667 - PHOT-13 (19) - Observations of the Pluto System During the New Horizons Encounter Epoch

Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1	Short POS 1	(1) PLUTO-SYSTEM	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F350LP		POS TARG 1.184,0.079	Sequence 1-9 Non-Int in PHOT-13 (19)	3 Secs (3 Secs)	
									[==>]	[1]
	2	Deep imaging POS 1 (x2)	(1) PLUTO-SYSTEM	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F350LP		POS TARG 1.184,0.079	Sequence 1-9 Non-Int in PHOT-13 (19)	170 Secs X 2 (340 Secs)	
									[==>(Copy 1)]	
									[==>(Copy 2)]	[1]
	3	Deep imaging POS 2	(1) PLUTO-SYSTEM	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F350LP		POS TARG 1.184,0.298	Sequence 1-9 Non-Int in PHOT-13 (19)	170 Secs (170 Secs)	
									[==>]	[1]
	4	Deep imaging POS 3	(1) PLUTO-SYSTEM	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F350LP		POS TARG 1.401,0.093	Sequence 1-9 Non-Int in PHOT-13 (19)	170 Secs (170 Secs)	
									[==>]	[1]
	5	Deep imaging POS 4	(1) PLUTO-SYSTEM	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F350LP		POS TARG 1.401,0.312	Sequence 1-9 Non-Int in PHOT-13 (19)	170 Secs X 2 (340 Secs)	
									[==>(Copy 1)]	
									[==>(Copy 2)]	[1]
	6	Short POS 4	(1) PLUTO-SYSTEM	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F350LP		POS TARG 1.401,0.312	Sequence 1-9 Non-Int in PHOT-13 (19)	3 Secs (3 Secs)	
									[==>]	[1]
	7	PlCh F1	(1) PLUTO-SYSTEM	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F438W	CR-SPLIT=NO	POS TARG 1.184,0.079	Sequence 1-9 Non-Int in PHOT-13 (19) Pattern 3, Exps 7-9 in Sequence 1-9 Non-Int in PHOT-13 (19) (3)	12 Secs (48 Secs)	
									[==>(Pattern 1)]	
									[==>(Pattern 2)]	
									[==>(Pattern 3)]	[1]
									[==>(Pattern 4)]	
	8	PlCh F2	(1) PLUTO-SYSTEM	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F555W	CR-SPLIT=NO	POS TARG 1.184,0.079	Sequence 1-9 Non-Int in PHOT-13 (19) Pattern 3, Exps 7-9 in Sequence 1-9 Non-Int in PHOT-13 (19) (3)	6 Secs (24 Secs)	
									[==>(Pattern 1)]	
									[==>(Pattern 2)]	
									[==>(Pattern 3)]	[1]
									[==>(Pattern 4)]	
	9	PlCh F4	(1) PLUTO-SYSTEM	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F775W	CR-SPLIT=NO	POS TARG 1.184,0.079	Sequence 1-9 Non-Int in PHOT-13 (19) Pattern 3, Exps 7-9 in Sequence 1-9 Non-Int in PHOT-13 (19) (3)	9 Secs (36 Secs)	
									[==>(Pattern 1)]	
									[==>(Pattern 2)]	
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									[==>(Pattern 4)]	

Proposal 13667 - PHOT-13 (19) - Observations of the Pluto System During the New Horizons Encounter Epoch



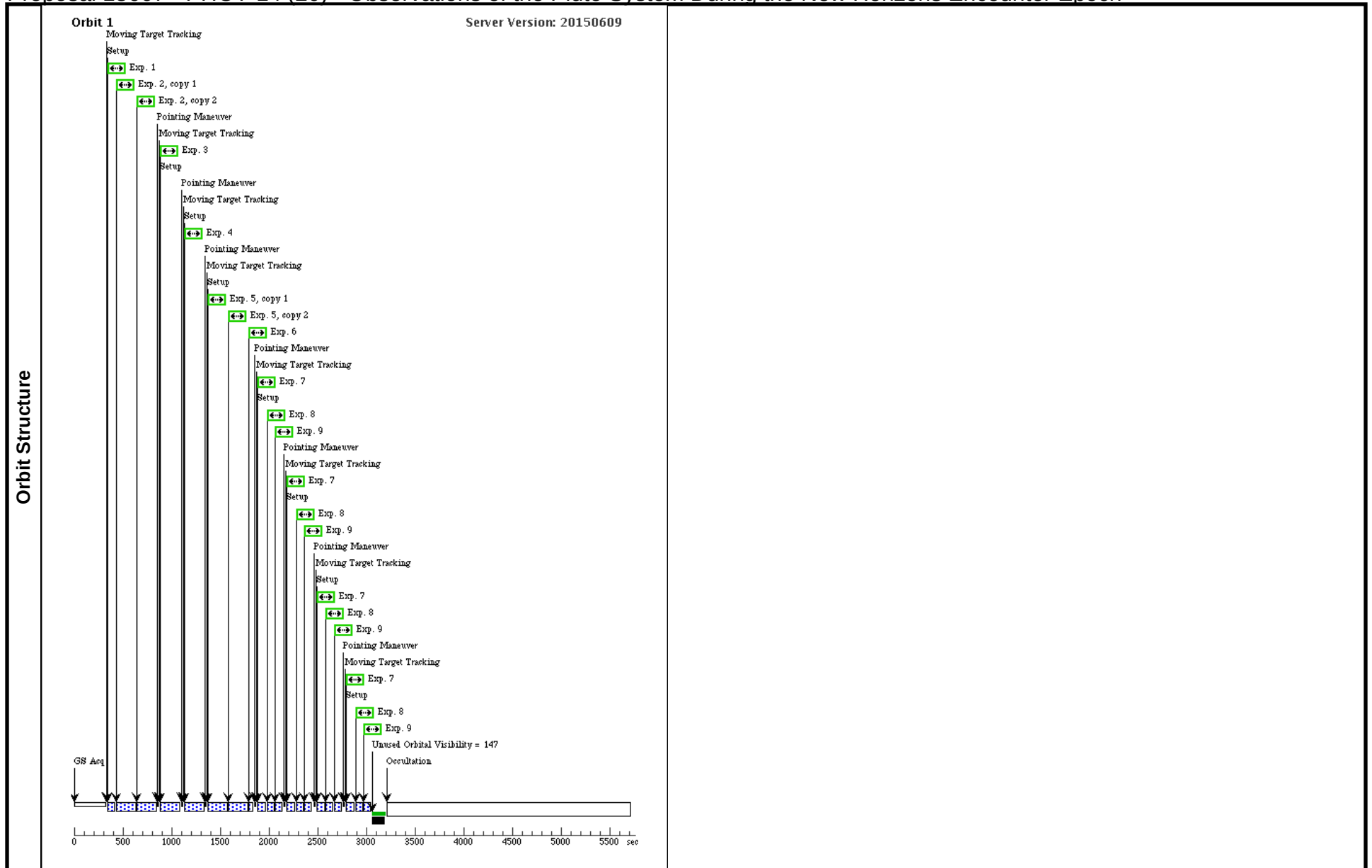
Proposal 13667 - PHOT-14 (20) - Observations of the Pluto System During the New Horizons Encounter Epoch

Visit	Proposal 13667, PHOT-14 (20), completed			Fri Aug 07 01:03:04 GMT 2015			
	Diagnostic Status: Warning						
	Scientific Instruments: WFC3/UVIS						
	Special Requirements: BETWEEN 11-JUL-2015:00:51:13 AND 11-JUL-2015:12:51:13						
	Comments: The PHOT visits are designed for high SNR photometry of Pluto and Charon. These observations are designed as a spatial scan to combine dithering and extra detected signal into a single exposure. These images need to use the onboard parallax correction but have to be implemented as a fixed time, ambush observation to get Pluto and Charon in the field. The spatial scan will incorporate the geocentric motion of Pluto to get the desired trail on the image. The Pluto observations use F435W and F555W in each visit for complete longitude coverage. This coverage is targeted for two time ranges. The first set is 12 visits covering the last full rotation of Pluto leading up to the time of closest approach of New Horizons to Pluto. These images are fixed at 30 degree longitude resolution. The other set of 12 visits are spread out to cover the full range of solar phase angle available to HST while also achieving 30 degree longitude spacing. Within these 24 visits, there are 3 other filters used, one per visit. The timing on the extra filter is set to get 8 evenly spaced longitudes (45 degree spacing) in each of the other filters. The long exposure images are normal moving target observations to get positions and photometry on the faint outer satellites. POS TARG values re-position Pluto in steps of exactly 5.5 pixels along each axis. As built, APT does not support mixing these two types of observations in one orbit. The durations for the pieces appear to fit in a single visibility window with a few minutes to spare. It is intended and expected that all exposures will fit in one window. Deviations from this need to be discussed for science impact.						
Diagnostics	(Short POS 1 (20.001)) Warning (Form): FLASH level may be too low for this exposure or a short subexposure. See extended explanation in the diagnostic browser						
	(Short POS 4 (20.006)) Warning (Form): FLASH level may be too low for this exposure or a short subexposure. See extended explanation in the diagnostic browser						
	(PICh F1 (20.007)) Warning (Form): FLASH level may be too low for this exposure or a short subexposure. See extended explanation in the diagnostic browser						
	(PICh F2 (20.008)) Warning (Form): FLASH level may be too low for this exposure or a short subexposure. See extended explanation in the diagnostic browser						
	(PICh F5 (20.009)) 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		
	(3)	Pattern Type=WFC3-UVIS-DITHER-BOX Purpose=DITHER Number Of Points=4 Point Spacing=0.173 Line Spacing=0.112	Coordinate Frame=POS-TARG Pattern Orientation=23.884 Angle Between Sides=81.785 Center Pattern=false		(7-9)		
Solar System Targets	#	Name	Level 1	Level 2	Level 3	Window	Ephem Center
	(1)	PLUTO-SYSTEM	STD=PLUTO				EARTH

Proposal 13667 - PHOT-14 (20) - Observations of the Pluto System During the New Horizons Encounter Epoch

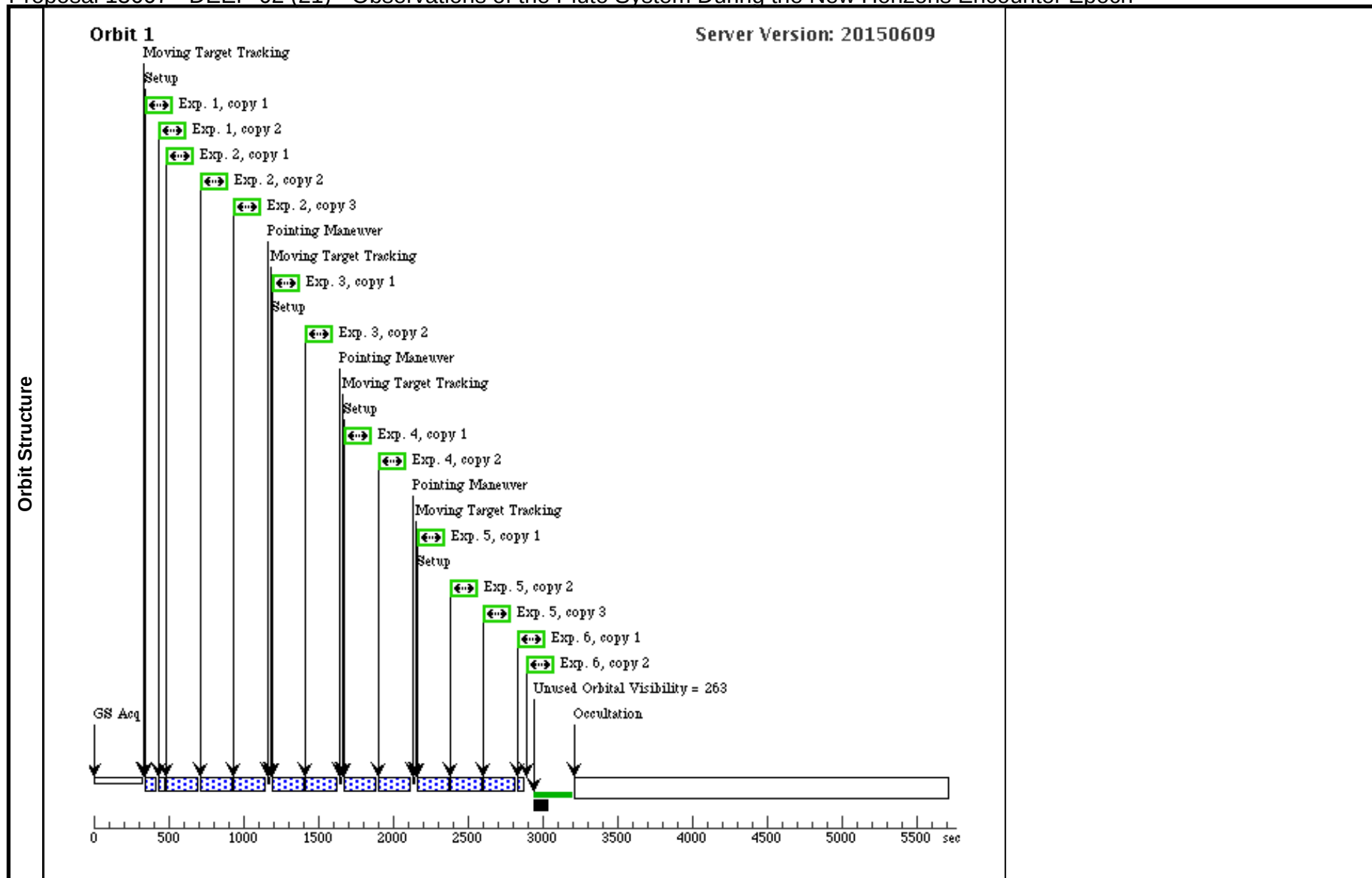
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1	Short POS 1	(1) PLUTO-SYSTEM	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F350LP		POS TARG 1.184,0.079	Sequence 1-9 Non-Int in PHOT-14 (20)	3 Secs (3 Secs)	
									[==>]	[1]
	2	Deep imaging POS 1 (x2)	(1) PLUTO-SYSTEM	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F350LP		POS TARG 1.184,0.079	Sequence 1-9 Non-Int in PHOT-14 (20)	156 Secs X 2 (312 Secs)	
									[==>(Copy 1)]	[1]
									[==>(Copy 2)]	
	3	Deep imaging POS 2	(1) PLUTO-SYSTEM	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F350LP		POS TARG 1.184,0.298	Sequence 1-9 Non-Int in PHOT-14 (20)	156 Secs (156 Secs)	
									[==>]	[1]
	4	Deep imaging POS 3	(1) PLUTO-SYSTEM	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F350LP		POS TARG 1.401,0.093	Sequence 1-9 Non-Int in PHOT-14 (20)	156 Secs (156 Secs)	
									[==>]	[1]
	5	Deep imaging POS 4	(1) PLUTO-SYSTEM	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F350LP		POS TARG 1.401,0.312	Sequence 1-9 Non-Int in PHOT-14 (20)	156 Secs X 2 (312 Secs)	
									[==>(Copy 1)]	[1]
									[==>(Copy 2)]	
	6	Short POS 4	(1) PLUTO-SYSTEM	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F350LP		POS TARG 1.401,0.312	Sequence 1-9 Non-Int in PHOT-14 (20)	3 Secs (3 Secs)	
									[==>]	[1]
	7	PlCh F1	(1) PLUTO-SYSTEM	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F438W	CR-SPLIT=NO	POS TARG 1.184,0.079	Sequence 1-9 Non-Int in PHOT-14 (20) Pattern 3, Exps 7-9 in Sequence 1-9 Non-Int in PHOT-14 (20) (3)	12 Secs (48 Secs)	
									[==>(Pattern 1)]	[1]
									[==>(Pattern 2)]	
									[==>(Pattern 3)]	
									[==>(Pattern 4)]	
	8	PlCh F2	(1) PLUTO-SYSTEM	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F555W	CR-SPLIT=NO	POS TARG 1.184,0.079	Sequence 1-9 Non-Int in PHOT-14 (20) Pattern 3, Exps 7-9 in Sequence 1-9 Non-Int in PHOT-14 (20) (3)	6 Secs (24 Secs)	
									[==>(Pattern 1)]	[1]
									[==>(Pattern 2)]	
									[==>(Pattern 3)]	
									[==>(Pattern 4)]	
	9	PlCh F5	(1) PLUTO-SYSTEM	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F845M	CR-SPLIT=NO	POS TARG 1.184,0.079	Sequence 1-9 Non-Int in PHOT-14 (20) Pattern 3, Exps 7-9 in Sequence 1-9 Non-Int in PHOT-14 (20) (3)	20 Secs (80 Secs)	
									[==>(Pattern 1)]	[1]
									[==>(Pattern 2)]	
									[==>(Pattern 3)]	
									[==>(Pattern 4)]	

Proposal 13667 - PHOT-14 (20) - Observations of the Pluto System During the New Horizons Encounter Epoch



Proposal 13667 - DEEP-02 (21) - Observations of the Pluto System During the New Horizons Encounter Epoch

Visit	Proposal 13667, DEEP-02 (21), completed Fri Aug 07 01:03:04 GMT 2015									
	Diagnostic Status: Warning Scientific Instruments: WFC3/UVIS Special Requirements: BETWEEN 11-JUL-2015:02:00:00 AND 11-JUL-2015:14:00:00 Comments: The DEEP visits are constructed to maximize the SNR of the faintest satellite, Styx. The exposure time per image is set by the requirement that Pluto and Charon not bleed too much. Roll angle has been pre-checked to avoid putting satellites on diffraction spikes from Pluto or Charon. The timing has been optimized for rotational coverage over then entire observing program. This timing includes all other visits in this process. POS TARG values re-position Pluto in steps of exactly 5.5 pixels along each axis.									
Diagnostics	(Short POS 1 (x2) (21.001)) Warning (Form): FLASH level may be too low for this exposure or a short subexposure. See extended explanation in the diagnostic browser (Short POS 4 (x2) (21.006)) Warning (Form): FLASH level may be too low for this exposure or a short subexposure. See extended explanation in the diagnostic browser									
Solar System Targets	#	Name	Level 1	Level 2	Level 3	Window	Ephem Center			
	(1)	PLUTO-SYSTEM	STD=PLUTO				EARTH			
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1	Short POS 1 (x2)	(1) PLUTO-SYSTEM	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F350LP		POS TARG 1.184,0.079	Sequence 1-6 Non-Int in DEEP-02 (21)	3 Secs X 2 (6 Secs) [==>(Copy 1)] [==>(Copy 2)]	[1]
	2	Long POS 1 (x3)	(1) PLUTO-SYSTEM	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F350LP		POS TARG 1.184,0.079	Sequence 1-6 Non-Int in DEEP-02 (21)	170 Secs X 3 (510 Secs) [==>(Copy 1)] [==>(Copy 2)] [==>(Copy 3)]	[1]
	3	Long POS 2 (x2)	(1) PLUTO-SYSTEM	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F350LP		POS TARG 1.184,0.298	Sequence 1-6 Non-Int in DEEP-02 (21)	170 Secs X 2 (340 Secs) [==>(Copy 1)] [==>(Copy 2)]	[1]
	4	Long POS 3 (x2)	(1) PLUTO-SYSTEM	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F350LP		POS TARG 1.401,0.093	Sequence 1-6 Non-Int in DEEP-02 (21)	170 Secs X 2 (340 Secs) [==>(Copy 1)] [==>(Copy 2)]	[1]
	5	Long POS 4 (x3)	(1) PLUTO-SYSTEM	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F350LP		POS TARG 1.401,0.312	Sequence 1-6 Non-Int in DEEP-02 (21)	170 Secs X 3 (510 Secs) [==>(Copy 1)] [==>(Copy 2)] [==>(Copy 3)]	[1]
	6	Short POS 4 (x2)	(1) PLUTO-SYSTEM	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F350LP		POS TARG 1.401,0.312	Sequence 1-6 Non-Int in DEEP-02 (21)	3 Secs X 2 (6 Secs) [==>(Copy 1)] [==>(Copy 2)]	[1]



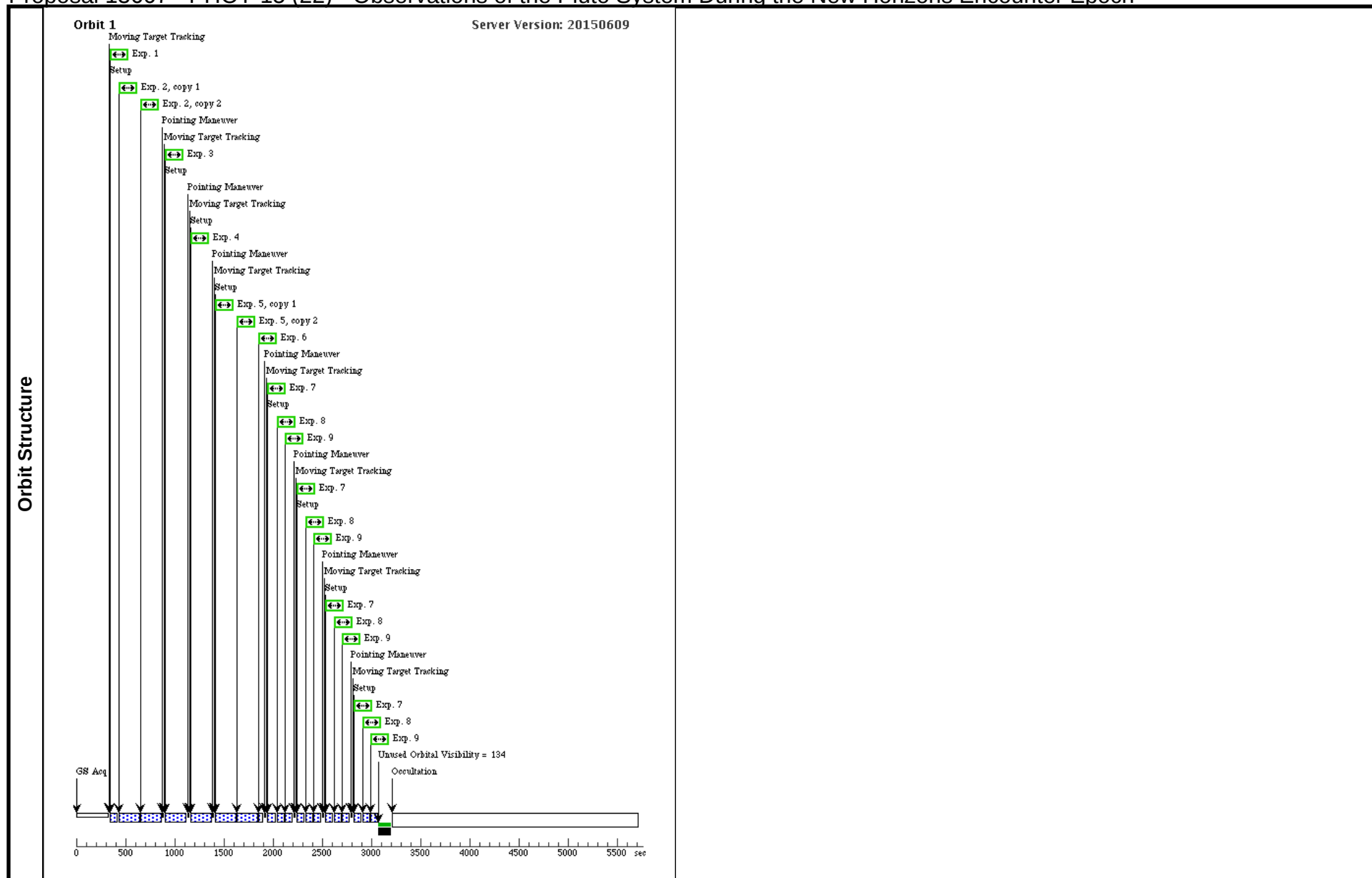
Proposal 13667 - PHOT-15 (22) - Observations of the Pluto System During the New Horizons Encounter Epoch

Visit	Proposal 13667, PHOT-15 (22), completed				Fri Aug 07 01:03:04 GMT 2015		
	Diagnostic Status: Warning						
	Scientific Instruments: WFC3/UVIS						
	Special Requirements: BETWEEN 12-JUL-2015:02:24:08 AND 12-JUL-2015:14:24:08						
	Comments: The PHOT visits are designed for high SNR photometry of Pluto and Charon. These observations are designed as a spatial scan to combine dithering and extra detected signal into a single exposure. These images need to use the onboard parallax correction but have to be implemented as a fixed time, ambush observation to get Pluto and Charon in the field. The spatial scan will incorporate the geocentric motion of Pluto to get the desired trail on the image. The Pluto observations use F435W and F555W in each visit for complete longitude coverage. This coverage is targeted for two time ranges. The first set is 12 visits covering the last full rotation of Pluto leading up to the time of closest approach of New Horizons to Pluto. These images are fixed at 30 degree longitude resolution. The other set of 12 visits are spread out to cover the full range of solar phase angle available to HST while also achieving 30 degree longitude spacing. Within these 24 visits, there are 3 other filters used, one per visit. The timing on the extra filter is set to get 8 evenly spaced longitudes (45 degree spacing) in each of the other filters. The long exposure images are normal moving target observations to get positions and photometry on the faint outer satellites. POS TARG values re-position Pluto in steps of exactly 5.5 pixels along each axis. As built, APT does not support mixing these two types of observations in one orbit. The durations for the pieces appear to fit in a single visibility window with a few minutes to spare. It is intended and expected that all exposures will fit in one window. Deviations from this need to be discussed for science impact.						
Diagnostics	(Short POS 1 (22.001)) Warning (Form): FLASH level may be too low for this exposure or a short subexposure. See extended explanation in the diagnostic browser (Short POS 4 (22.006)) Warning (Form): FLASH level may be too low for this exposure or a short subexposure. See extended explanation in the diagnostic browser (PlCh F1 (22.007)) Warning (Form): FLASH level may be too low for this exposure or a short subexposure. See extended explanation in the diagnostic browser (PlCh F2 (22.008)) Warning (Form): FLASH level may be too low for this exposure or a short subexposure. See extended explanation in the diagnostic browser (PlCh F3 (22.009)) 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		
	(3)	Pattern Type=WFC3-UVIS-DITHER-BOX Coordinate Frame=POS-TARG Pattern Orientation=23.884 Purpose=DITHER Angle Between Sides=81.785 Number Of Points=4 Center Pattern=false Point Spacing=0.173 Line Spacing=0.112			(7-9)		
Solar System Targets	#	Name	Level 1	Level 2	Level 3	Window	Ephem Center
	(1)	PLUTO-SYSTEM	STD=PLUTO				EARTH

Proposal 13667 - PHOT-15 (22) - Observations of the Pluto System During the New Horizons Encounter Epoch

Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1	Short POS 1	(1) PLUTO-SYSTEM	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F350LP		POS TARG 1.184,0.079	Sequence 1-9 Non-Int in PHOT-15 (22)	3 Secs (3 Secs)	
									[==>]	[1]
	2	Deep imaging POS 1 (x2)	(1) PLUTO-SYSTEM	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F350LP		POS TARG 1.184,0.079	Sequence 1-9 Non-Int in PHOT-15 (22)	166 Secs X 2 (332 Secs)	
									[==>(Copy 1)]	[1]
									[==>(Copy 2)]	
	3	Deep imaging POS 2	(1) PLUTO-SYSTEM	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F350LP		POS TARG 1.184,0.298	Sequence 1-9 Non-Int in PHOT-15 (22)	166 Secs (166 Secs)	
									[==>]	[1]
	4	Deep imaging POS 3	(1) PLUTO-SYSTEM	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F350LP		POS TARG 1.401,0.093	Sequence 1-9 Non-Int in PHOT-15 (22)	166 Secs (166 Secs)	
									[==>]	[1]
	5	Deep imaging POS 4	(1) PLUTO-SYSTEM	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F350LP		POS TARG 1.401,0.312	Sequence 1-9 Non-Int in PHOT-15 (22)	166 Secs X 2 (332 Secs)	
									[==>(Copy 1)]	[1]
									[==>(Copy 2)]	
	6	Short POS 4	(1) PLUTO-SYSTEM	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F350LP		POS TARG 1.401,0.312	Sequence 1-9 Non-Int in PHOT-15 (22)	3 Secs (3 Secs)	
									[==>]	[1]
	7	PlCh F1	(1) PLUTO-SYSTEM	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F438W	CR-SPLIT=NO	POS TARG 1.184,0.079	Sequence 1-9 Non-Int in PHOT-15 (22) Pattern 3, Exps 7-9 in Sequence 1-9 Non-Int in PHOT-15 (22) (3)	12 Secs (48 Secs)	
									[==>(Pattern 1)]	[1]
									[==>(Pattern 2)]	
									[==>(Pattern 3)]	
									[==>(Pattern 4)]	
	8	PlCh F2	(1) PLUTO-SYSTEM	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F555W	CR-SPLIT=NO	POS TARG 1.184,0.079	Sequence 1-9 Non-Int in PHOT-15 (22) Pattern 3, Exps 7-9 in Sequence 1-9 Non-Int in PHOT-15 (22) (3)	6 Secs (24 Secs)	
									[==>(Pattern 1)]	[1]
									[==>(Pattern 2)]	
									[==>(Pattern 3)]	
									[==>(Pattern 4)]	
	9	PlCh F3	(1) PLUTO-SYSTEM	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F625W	CR-SPLIT=NO	POS TARG 1.184,0.079	Sequence 1-9 Non-Int in PHOT-15 (22) Pattern 3, Exps 7-9 in Sequence 1-9 Non-Int in PHOT-15 (22) (3)	6 Secs (24 Secs)	
									[==>(Pattern 1)]	[1]
									[==>(Pattern 2)]	
									[==>(Pattern 3)]	
									[==>(Pattern 4)]	

Proposal 13667 - PHOT-15 (22) - Observations of the Pluto System During the New Horizons Encounter Epoch



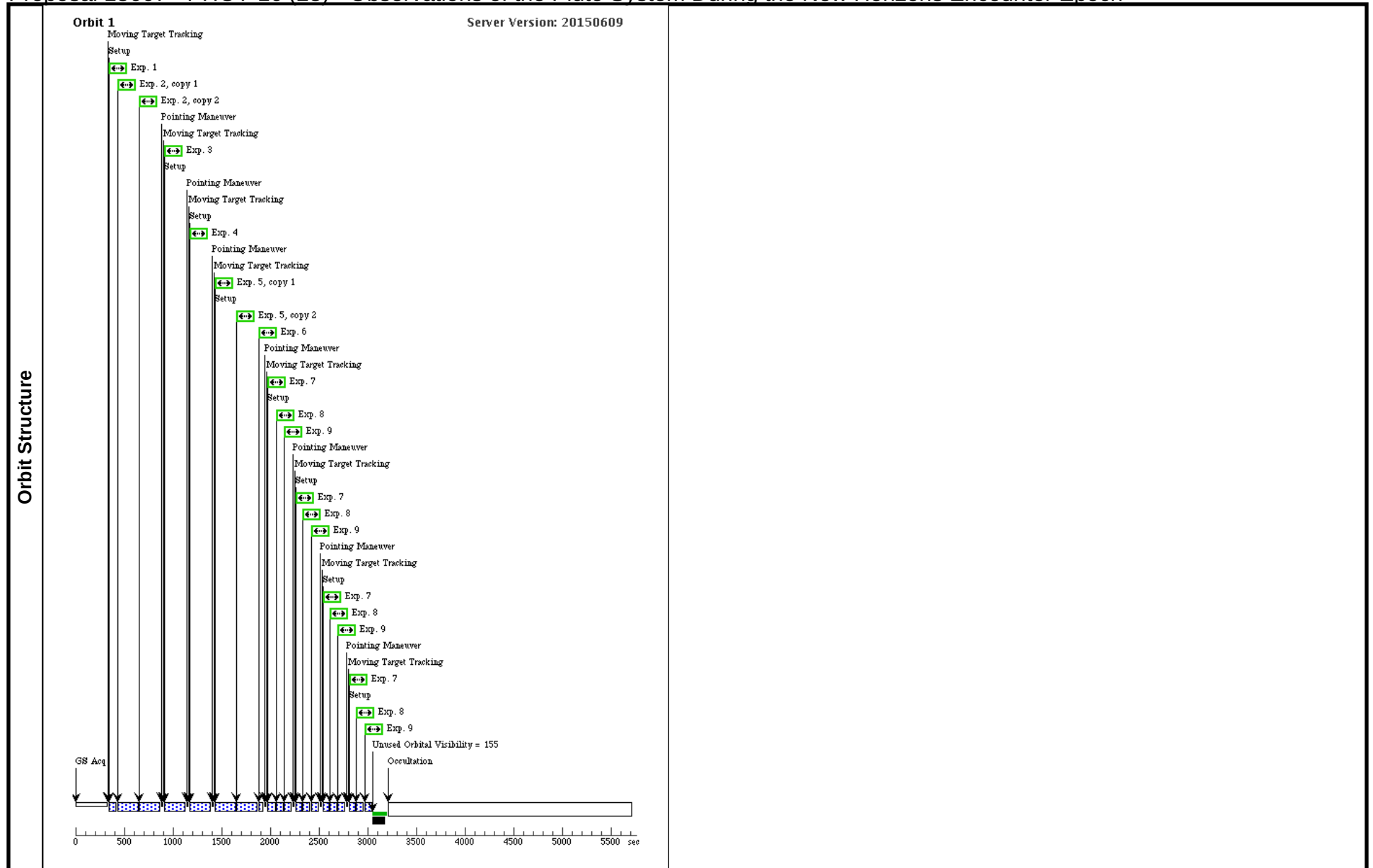
Proposal 13667 - PHOT-16 (23) - Observations of the Pluto System During the New Horizons Encounter Epoch

Visit	Proposal 13667, PHOT-16 (23), completed				Fri Aug 07 01:03:04 GMT 2015		
	Diagnostic Status: Warning						
	Scientific Instruments: WFC3/UVIS						
	Special Requirements: BETWEEN 13-JUL-2015:03:57:04 AND 13-JUL-2015:15:57:04						
	Comments: The PHOT visits are designed for high SNR photometry of Pluto and Charon. These observations are designed as a spatial scan to combine dithering and extra detected signal into a single exposure. These images need to use the onboard parallax correction but have to be implemented as a fixed time, ambush observation to get Pluto and Charon in the field. The spatial scan will incorporate the geocentric motion of Pluto to get the desired trail on the image. The Pluto observations use F435W and F555W in each visit for complete longitude coverage. This coverage is targeted for two time ranges. The first set is 12 visits covering the last full rotation of Pluto leading up to the time of closest approach of New Horizons to Pluto. These images are fixed at 30 degree longitude resolution. The other set of 12 visits are spread out to cover the full range of solar phase angle available to HST while also achieving 30 degree longitude spacing. Within these 24 visits, there are 3 other filters used, one per visit. The timing on the extra filter is set to get 8 evenly spaced longitudes (45 degree spacing) in each of the other filters. The long exposure images are normal moving target observations to get positions and photometry on the faint outer satellites. POS TARG values re-position Pluto in steps of exactly 5.5 pixels along each axis. As built, APT does not support mixing these two types of observations in one orbit. The durations for the pieces appear to fit in a single visibility window with a few minutes to spare. It is intended and expected that all exposures will fit in one window. Deviations from this need to be discussed for science impact.						
Diagnostics	(Short POS 1 (23.001)) Warning (Form): FLASH level may be too low for this exposure or a short subexposure. See extended explanation in the diagnostic browser (Short POS 4 (23.006)) Warning (Form): FLASH level may be too low for this exposure or a short subexposure. See extended explanation in the diagnostic browser (PICh F1 (23.007)) Warning (Form): FLASH level may be too low for this exposure or a short subexposure. See extended explanation in the diagnostic browser (PICh F2 (23.008)) Warning (Form): FLASH level may be too low for this exposure or a short subexposure. See extended explanation in the diagnostic browser (PICh F4 (23.009)) 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		
	(3)	Pattern Type=WFC3-UVIS-DITHER-BOX Purpose=DITHER Number Of Points=4 Point Spacing=0.173 Line Spacing=0.112	Coordinate Frame=POS-TARG Pattern Orientation=23.884 Angle Between Sides=81.785 Center Pattern=false		(7-9)		
Solar System Targets	#	Name	Level 1	Level 2	Level 3	Window	Ephem Center
	(1)	PLUTO-SYSTEM	STD=PLUTO				EARTH

Proposal 13667 - PHOT-16 (23) - Observations of the Pluto System During the New Horizons Encounter Epoch

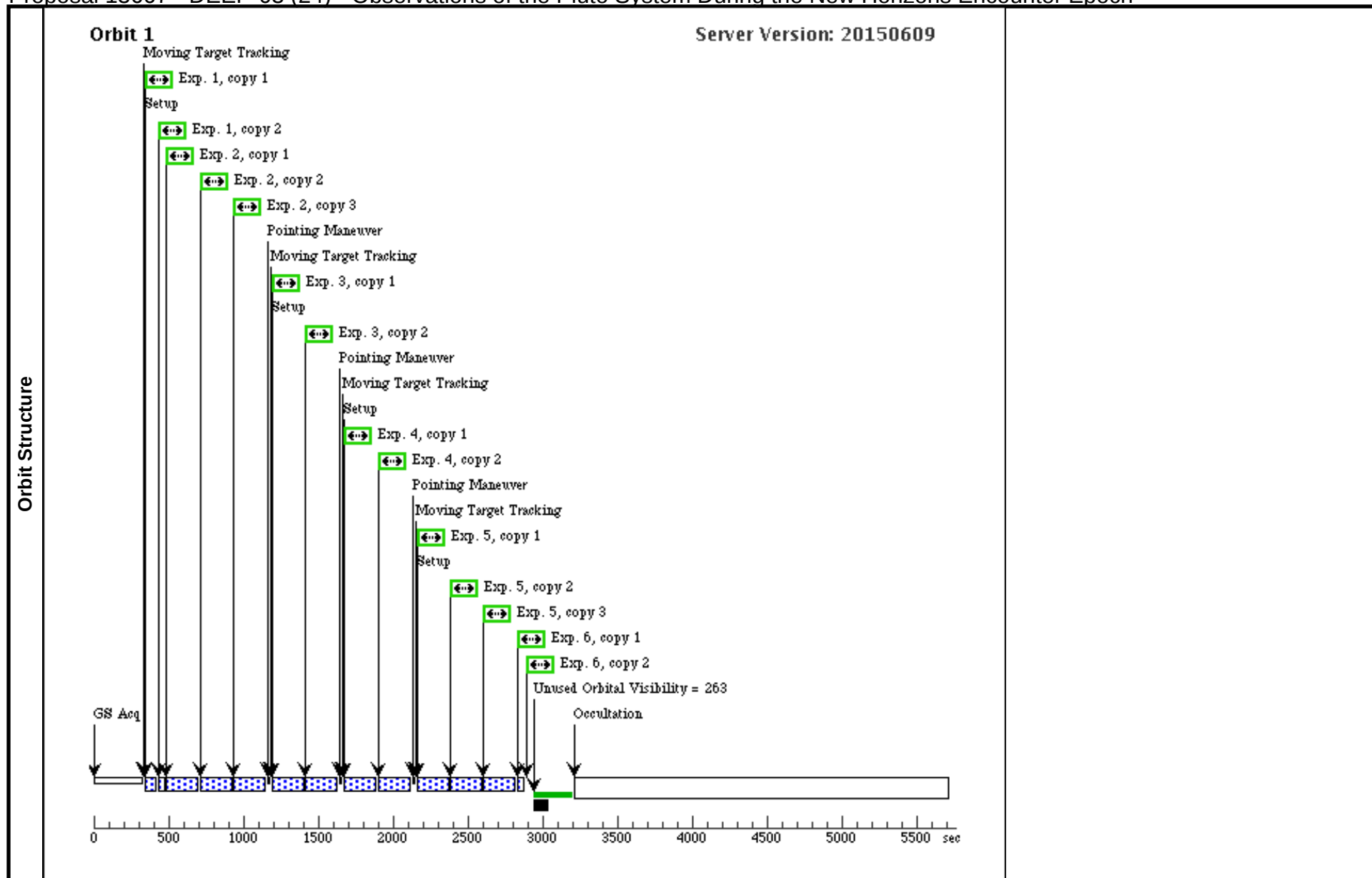
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1	Short POS 1	(1) PLUTO-SYSTEM	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F350LP		POS TARG 1.184,0.079	Sequence 1-9 Non-Int in PHOT-16 (23)	3 Secs (3 Secs)	
									[==>]	[1]
	2	Deep imaging POS 1 (x2)	(1) PLUTO-SYSTEM	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F350LP		POS TARG 1.184,0.079	Sequence 1-9 Non-Int in PHOT-16 (23)	170 Secs X 2 (340 Secs)	
									[==>(Copy 1)]	[1]
									[==>(Copy 2)]	
	3	Deep imaging POS 2	(1) PLUTO-SYSTEM	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F350LP		POS TARG 1.184,0.298	Sequence 1-9 Non-Int in PHOT-16 (23)	170 Secs (170 Secs)	
									[==>]	[1]
	4	Deep imaging POS 3	(1) PLUTO-SYSTEM	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F350LP		POS TARG 1.401,0.093	Sequence 1-9 Non-Int in PHOT-16 (23)	170 Secs (170 Secs)	
									[==>]	[1]
Exposures	5	Deep imaging POS 4	(1) PLUTO-SYSTEM	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F350LP		POS TARG 1.401,0.312	Sequence 1-9 Non-Int in PHOT-16 (23)	170 Secs X 2 (340 Secs)	
									[==>(Copy 1)]	[1]
									[==>(Copy 2)]	
	6	Short POS 4	(1) PLUTO-SYSTEM	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F350LP		POS TARG 1.401,0.312	Sequence 1-9 Non-Int in PHOT-16 (23)	3 Secs (3 Secs)	
									[==>]	[1]
	7	PlCh F1	(1) PLUTO-SYSTEM	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F438W	CR-SPLIT=NO	POS TARG 1.184,0.079	Sequence 1-9 Non-Int in PHOT-16 (23) Pattern 3, Exps 7-9 in Sequence 1-9 Non-Int in PHOT-16 (23) (3)	12 Secs (48 Secs)	
									[==>(Pattern 1)]	[1]
									[==>(Pattern 2)]	
									[==>(Pattern 3)]	
									[==>(Pattern 4)]	
Exposures	8	PlCh F2	(1) PLUTO-SYSTEM	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F555W	CR-SPLIT=NO	POS TARG 1.184,0.079	Sequence 1-9 Non-Int in PHOT-16 (23) Pattern 3, Exps 7-9 in Sequence 1-9 Non-Int in PHOT-16 (23) (3)	6 Secs (24 Secs)	
									[==>(Pattern 1)]	[1]
									[==>(Pattern 2)]	
									[==>(Pattern 3)]	
									[==>(Pattern 4)]	
	9	PlCh F4	(1) PLUTO-SYSTEM	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F775W	CR-SPLIT=NO	POS TARG 1.184,0.079	Sequence 1-9 Non-Int in PHOT-16 (23) Pattern 3, Exps 7-9 in Sequence 1-9 Non-Int in PHOT-16 (23) (3)	9 Secs (36 Secs)	
									[==>(Pattern 1)]	[1]
									[==>(Pattern 2)]	
									[==>(Pattern 3)]	
									[==>(Pattern 4)]	

Proposal 13667 - PHOT-16 (23) - Observations of the Pluto System During the New Horizons Encounter Epoch



Proposal 13667 - DEEP-03 (24) - Observations of the Pluto System During the New Horizons Encounter Epoch

Visit	Proposal 13667, DEEP-03 (24), completed Fri Aug 07 01:03:04 GMT 2015									
	Diagnostic Status: Warning Scientific Instruments: WFC3/UVIS Special Requirements: BETWEEN 13-JUL-2015:17:30:00 AND 14-JUL-2015:07:30:00 Comments: The DEEP visits are constructed to maximize the SNR of the faintest satellite, Styx. The exposure time per image is set by the requirement that Pluto and Charon not bleed too much. Roll angle has been pre-checked to avoid putting satellites on diffraction spikes from Pluto or Charon. The timing has been optimized for rotational coverage over then entire observing program. This timing includes all other visits in this process. POS TARG values re-position Pluto in steps of exactly 5.5 pixels along each axis.									
Diagnostics	(Short POS 1 (x2) (24.001)) Warning (Form): FLASH level may be too low for this exposure or a short subexposure. See extended explanation in the diagnostic browser (Short POS 4 (x2) (24.006)) Warning (Form): FLASH level may be too low for this exposure or a short subexposure. See extended explanation in the diagnostic browser									
Solar System Targets	#	Name	Level 1	Level 2	Level 3	Window	Ephem Center			
	(1)	PLUTO-SYSTEM	STD=PLUTO				EARTH			
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1	Short POS 1 (x2)	(1) PLUTO-SYSTEM	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F350LP		POS TARG 1.184,0.079; GS ACQ SCENARIO BASE1B3	Sequence 1-6 Non-Int in DEEP-03 (24)	3 Secs X 2 (6 Secs) [==>(Copy 1)] [==>(Copy 2)]	[1]
	2	Long POS 1 (x3)	(1) PLUTO-SYSTEM	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F350LP		POS TARG 1.184,0.079	Sequence 1-6 Non-Int in DEEP-03 (24)	170 Secs X 3 (510 Secs) [==>(Copy 1)] [==>(Copy 2)] [==>(Copy 3)]	[1]
	3	Long POS 2 (x2)	(1) PLUTO-SYSTEM	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F350LP		POS TARG 1.184,0.298	Sequence 1-6 Non-Int in DEEP-03 (24)	170 Secs X 2 (340 Secs) [==>(Copy 1)] [==>(Copy 2)]	[1]
	4	Long POS 3 (x2)	(1) PLUTO-SYSTEM	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F350LP		POS TARG 1.401,0.093	Sequence 1-6 Non-Int in DEEP-03 (24)	170 Secs X 2 (340 Secs) [==>(Copy 1)] [==>(Copy 2)]	[1]
	5	Long POS 4 (x3)	(1) PLUTO-SYSTEM	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F350LP		POS TARG 1.401,0.312	Sequence 1-6 Non-Int in DEEP-03 (24)	170 Secs X 3 (510 Secs) [==>(Copy 1)] [==>(Copy 2)] [==>(Copy 3)]	[1]
	6	Short POS 4 (x2)	(1) PLUTO-SYSTEM	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F350LP		POS TARG 1.401,0.312	Sequence 1-6 Non-Int in DEEP-03 (24)	3 Secs X 2 (6 Secs) [==>(Copy 1)] [==>(Copy 2)]	[1]

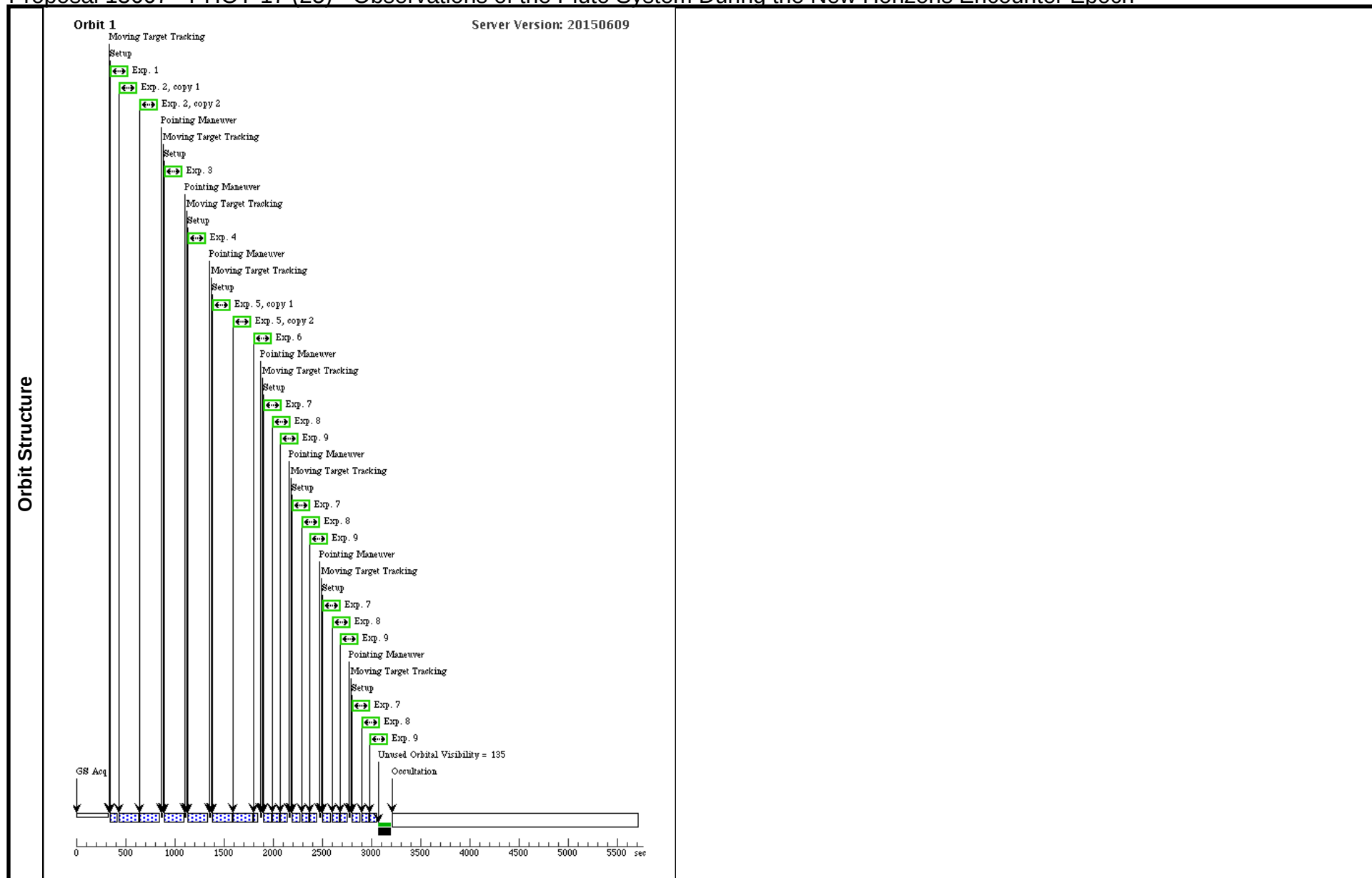


Proposal 13667 - PHOT-17 (25) - Observations of the Pluto System During the New Horizons Encounter Epoch

Visit	Proposal 13667, PHOT-17 (25), completed				Fri Aug 07 01:03:04 GMT 2015		
	Diagnostic Status: Warning						
	Scientific Instruments: WFC3/UVIS						
	Special Requirements: BETWEEN 14-JUL-2015:05:30:00 AND 14-JUL-2015:17:30:00						
	Comments: The PHOT visits are designed for high SNR photometry of Pluto and Charon. These observations are designed as a spatial scan to combine dithering and extra detected signal into a single exposure. These images need to use the onboard parallax correction but have to be implemented as a fixed time, ambush observation to get Pluto and Charon in the field. The spatial scan will incorporate the geocentric motion of Pluto to get the desired trail on the image. The Pluto observations use F435W and F555W in each visit for complete longitude coverage. This coverage is targeted for two time ranges. The first set is 12 visits covering the last full rotation of Pluto leading up to the time of closest approach of New Horizons to Pluto. These images are fixed at 30 degree longitude resolution. The other set of 12 visits are spread out to cover the full range of solar phase angle available to HST while also achieving 30 degree longitude spacing. Within these 24 visits, there are 3 other filters used, one per visit. The timing on the extra filter is set to get 8 evenly spaced longitudes (45 degree spacing) in each of the other filters. The long exposure images are normal moving target observations to get positions and photometry on the faint outer satellites. POS TARG values re-position Pluto in steps of exactly 5.5 pixels along each axis. As built, APT does not support mixing these two types of observations in one orbit. The durations for the pieces appear to fit in a single visibility window with a few minutes to spare. It is intended and expected that all exposures will fit in one window. Deviations from this need to be discussed for science impact.						
Diagnostics	(Short POS 1 (25.001)) Warning (Form): FLASH level may be too low for this exposure or a short subexposure. See extended explanation in the diagnostic browser (Short POS 4 (25.006)) Warning (Form): FLASH level may be too low for this exposure or a short subexposure. See extended explanation in the diagnostic browser (PICh F1 (25.007)) Warning (Form): FLASH level may be too low for this exposure or a short subexposure. See extended explanation in the diagnostic browser (PICh F2 (25.008)) Warning (Form): FLASH level may be too low for this exposure or a short subexposure. See extended explanation in the diagnostic browser (PICh F5 (25.009)) 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		
	(3)	Pattern Type=WFC3-UVIS-DITHER-BOX Purpose=DITHER Number Of Points=4 Point Spacing=0.173 Line Spacing=0.112	Coordinate Frame=POS-TARG Pattern Orientation=23.884 Angle Between Sides=81.785 Center Pattern=false		(7-9)		
Solar System Targets	#	Name	Level 1	Level 2	Level 3	Window	Ephem Center
	(1)	PLUTO-SYSTEM	STD=PLUTO				EARTH

Proposal 13667 - PHOT-17 (25) - Observations of the Pluto System During the New Horizons Encounter Epoch

Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1	Short POS 1	(1) PLUTO-SYSTEM	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F350LP		POS TARG 1.184,0.079	Sequence 1-9 Non-Int in PHOT-17 (25)	3 Secs (3 Secs)	
									[==>]	[1]
	2	Deep imaging POS 1 (x2)	(1) PLUTO-SYSTEM	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F350LP		POS TARG 1.184,0.079	Sequence 1-9 Non-Int in PHOT-17 (25)	158 Secs X 2 (316 Secs)	
									[==>(Copy 1)]	[1]
									[==>(Copy 2)]	
	3	Deep imaging POS 2	(1) PLUTO-SYSTEM	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F350LP		POS TARG 1.184,0.298	Sequence 1-9 Non-Int in PHOT-17 (25)	158 Secs (158 Secs)	
									[==>]	[1]
	4	Deep imaging POS 3	(1) PLUTO-SYSTEM	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F350LP		POS TARG 1.401,0.093	Sequence 1-9 Non-Int in PHOT-17 (25)	158 Secs (158 Secs)	
									[==>]	[1]
Exposures	5	Deep imaging POS 4	(1) PLUTO-SYSTEM	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F350LP		POS TARG 1.401,0.312	Sequence 1-9 Non-Int in PHOT-17 (25)	158 Secs X 2 (316 Secs)	
									[==>(Copy 1)]	[1]
									[==>(Copy 2)]	
	6	Short POS 4	(1) PLUTO-SYSTEM	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F350LP		POS TARG 1.401,0.312	Sequence 1-9 Non-Int in PHOT-17 (25)	3 Secs (3 Secs)	
									[==>]	[1]
	7	PlCh F1	(1) PLUTO-SYSTEM	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F438W	CR-SPLIT=NO	POS TARG 1.184,0.079	Sequence 1-9 Non-Int in PHOT-17 (25) Pattern 3, Exps 7-9 in Sequence 1-9 Non-Int in PHOT-17 (25) (3)	12 Secs (48 Secs)	
									[==>(Pattern 1)]	[1]
									[==>(Pattern 2)]	
									[==>(Pattern 3)]	
									[==>(Pattern 4)]	
Exposures	8	PlCh F2	(1) PLUTO-SYSTEM	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F555W	CR-SPLIT=NO	POS TARG 1.184,0.079	Sequence 1-9 Non-Int in PHOT-17 (25) Pattern 3, Exps 7-9 in Sequence 1-9 Non-Int in PHOT-17 (25) (3)	6 Secs (24 Secs)	
									[==>(Pattern 1)]	[1]
									[==>(Pattern 2)]	
									[==>(Pattern 3)]	
									[==>(Pattern 4)]	
	9	PlCh F5	(1) PLUTO-SYSTEM	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F845M	CR-SPLIT=NO	POS TARG 1.184,0.079	Sequence 1-9 Non-Int in PHOT-17 (25) Pattern 3, Exps 7-9 in Sequence 1-9 Non-Int in PHOT-17 (25) (3)	20 Secs (80 Secs)	
									[==>(Pattern 1)]	[1]
									[==>(Pattern 2)]	
									[==>(Pattern 3)]	
									[==>(Pattern 4)]	

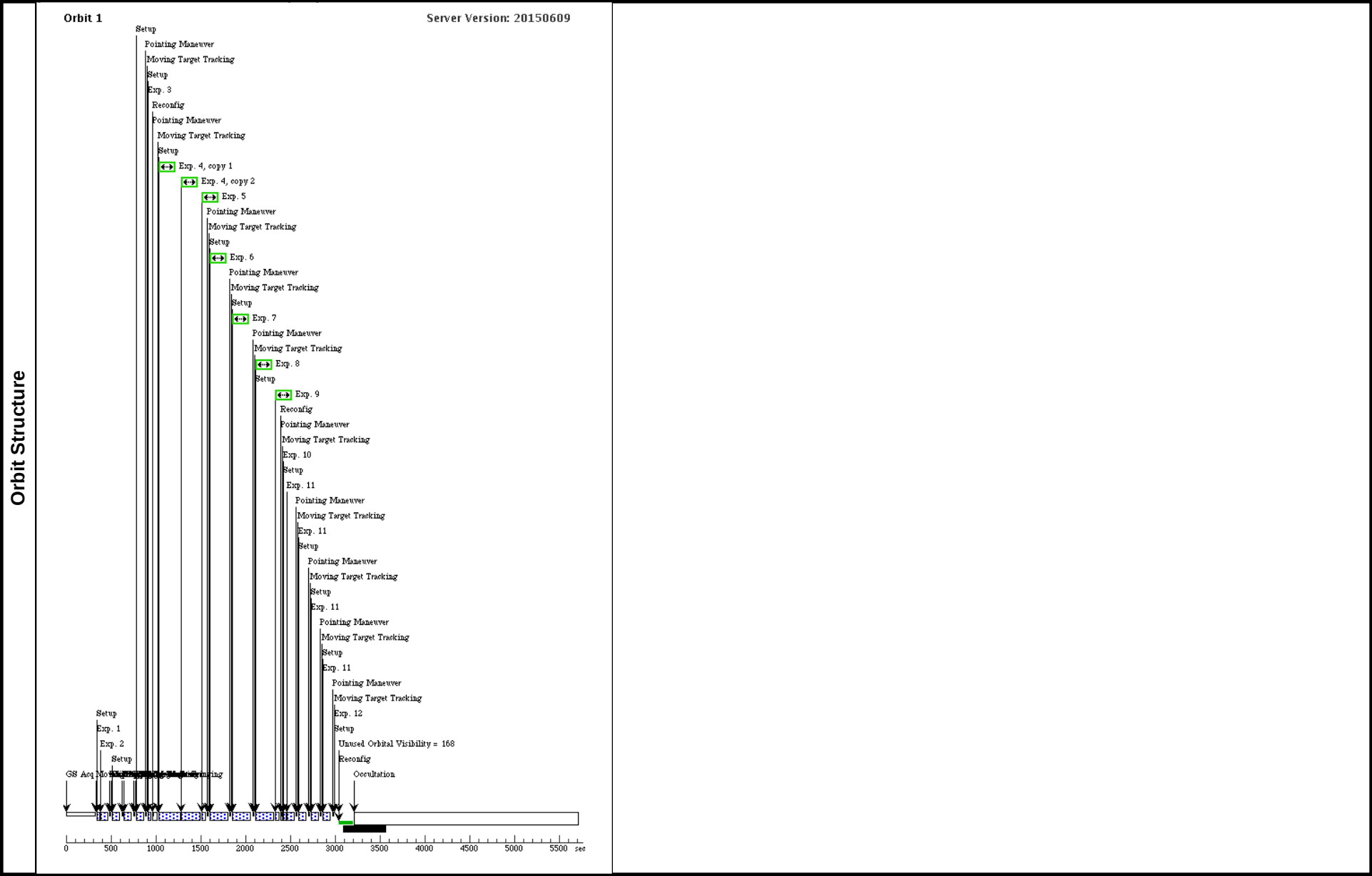


Proposal 13667 - SPEC-07 (26) - Observations of the Pluto System During the New Horizons Encounter Epoch

Visit	Proposal 13667, SPEC-07 (26), completed Fri Aug 07 01:03:05 GMT 2015				
	Diagnostic Status: Warning Scientific Instruments: WFC3/IR, WFC3/UVIS Special Requirements: ORIENT 265D TO 265 D; ORIENT 85D TO 85 D; BETWEEN 14-JUL-2015:07:55:00 AND 14-JUL-2015:19:55:00 Comments: This visit is designed to get near-IR grism spectra of Pluto and Charon. The special roll requirements are used to keep the spectral images from Pluto and Charon from overlapping. The timing is set by the observing cadence while also selecting a fixed sub-earth longitude for all of the SPEC visits. The timing of all visits are also optimized for the deep imaging cadence on the outer satellites to get uniform longitude coverage. The other part of the visit is to get deep optical images of the faint outer satellites. POS TARG values re-position Pluto in steps of exactly 5.5 pixels along each axis.				
Diagnosics	(Short POS 1 (26.005)) Warning (Form): FLASH level may be too low for this exposure or a short subexposure. See extended explanation in the diagnostic browser (Short POS 4 (26.009)) 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
	(2)	Pattern Type=WFC3-IR-DITHER-BOX-MIN Purpose=DITHER Number Of Points=4 Point Spacing=1.716 Line Spacing=1.095		Coordinate Frame=POS-TARG Pattern Orientation=18.528 Angle Between Sides=74.653 Center Pattern=false	(2), (11)
Solar System Targets	#	Name	Level 1	Level 2	Level 3
	(1)	PLUTO-SYSTEM	STD=PLUTO		Window
					Ephem Center

Proposal 13667 - SPEC-07 (26) - Observations of the Pluto System During the New Horizons Encounter Epoch

Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1	Navigation	(1) PLUTO-SYSTEM	WFC3/IR, MULTIACCUM, GRISM512	F139M	NSAMP=4; SAMP-SEQ=RAPID	GS ACQ SCENARIO BASE1B3	Sequence 1-12 Non-Int in SPEC-07 (26)	3,412,108 Secs (3,412 Secs) [==>]	[1]
	2	Spectra	(1) PLUTO-SYSTEM	WFC3/IR, MULTIACCUM, GRISM512	G141	NSAMP=7; SAMP-SEQ=STEP25		Sequence 1-12 Non-Int in SPEC-07 (26) Pattern 2, Exps 2-2 in Sequence 1-12 Non-Int in SPEC-07 (26) (2)	59,675,893 Secs (238,704 Secs) [==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)] [==>(Pattern 4)]	[1]
	Comments: Dithered slitless grism spectra. Ideally, the bracketing navigation images would correspond to the first and last dither positions in each set of four, but I'm not sure if that's the default behavior. (the reasons are to avoid pointing overheads, and also to minimize offsets). If it isn't easy to get this to happen, it's not a big deal.									
	3	Navigation	(1) PLUTO-SYSTEM	WFC3/IR, MULTIACCUM, GRISM512	F139M	NSAMP=4; SAMP-SEQ=RAPID		Sequence 1-12 Non-Int in SPEC-07 (26)	3,412,108 Secs (3,412 Secs) [==>]	[1]
	4	Deep imaging POS 1 (x2)	(1) PLUTO-SYSTEM	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F350LP		POS TARG 1.184,0.079	Sequence 1-12 Non-Int in SPEC-07 (26)	170 Secs X 2 (340 Secs) [==>(Copy 1)] [==>(Copy 2)]	[1]
	5	Short POS 1	(1) PLUTO-SYSTEM	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F350LP		POS TARG 1.184,0.079	Sequence 1-12 Non-Int in SPEC-07 (26)	3 Secs (3 Secs) [==>]	[1]
	6	Deep imaging POS 2	(1) PLUTO-SYSTEM	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F350LP		POS TARG 1.184,0.298	Sequence 1-12 Non-Int in SPEC-07 (26)	165 Secs (165 Secs) [==>]	[1]
	7	Deep imaging POS 3	(1) PLUTO-SYSTEM	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F350LP		POS TARG 1.401,0.093	Sequence 1-12 Non-Int in SPEC-07 (26)	165 Secs (165 Secs) [==>]	[1]
	8	Deep imaging POS 4	(1) PLUTO-SYSTEM	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F350LP		POS TARG 1.401,0.312	Sequence 1-12 Non-Int in SPEC-07 (26)	165 Secs (165 Secs) [==>]	[1]
	9	Short POS 4	(1) PLUTO-SYSTEM	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F350LP		POS TARG 1.401,0.312	Sequence 1-12 Non-Int in SPEC-07 (26)	3 Secs (3 Secs) [==>]	[1]
	10	Navigation	(1) PLUTO-SYSTEM	WFC3/IR, MULTIACCUM, GRISM512	F139M	NSAMP=4; SAMP-SEQ=RAPID		Sequence 1-12 Non-Int in SPEC-07 (26)	3,412,108 Secs (3,412 Secs) [==>]	[1]
	11	Spectra	(1) PLUTO-SYSTEM	WFC3/IR, MULTIACCUM, GRISM512	G141	NSAMP=7; SAMP-SEQ=STEP25		Sequence 1-12 Non-Int in SPEC-07 (26) Pattern 2, Exps 11-11 in Sequence 1-12 Non-Int in SPEC-07 (26) (2)	59,675,893 Secs (238,704 Secs) [==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)] [==>(Pattern 4)]	[1]
	Comments: Dithered slitless grism spectra. Ideally, the bracketing navigation images would correspond to the first and last dither positions in each set of four, but I'm not sure if that's the default behavior. (the reasons are to avoid pointing overheads, and also to minimize offsets). If it isn't easy to get this to happen, it's not a big deal.									
	12	Navigation	(1) PLUTO-SYSTEM	WFC3/IR, MULTIACCUM, GRISM512	F139M	NSAMP=4; SAMP-SEQ=RAPID		Sequence 1-12 Non-Int in SPEC-07 (26)	3,412,108 Secs (3,412 Secs) [==>]	[1]

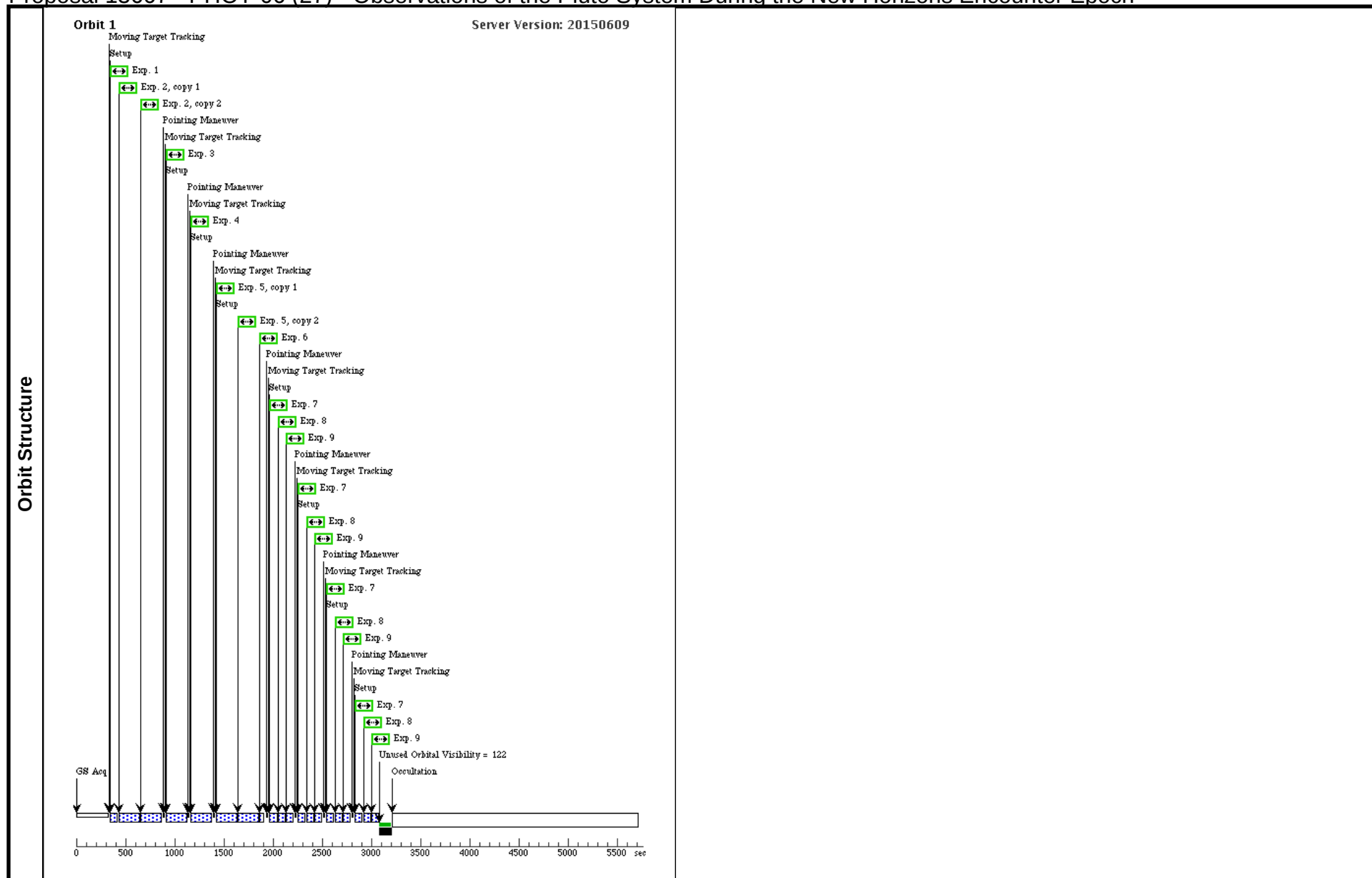


Proposal 13667 - PHOT-06 (27) - Observations of the Pluto System During the New Horizons Encounter Epoch

Visit	Proposal 13667, PHOT-06 (27), completed				Fri Aug 07 01:03:05 GMT 2015		
	Diagnostic Status: Warning						
	Scientific Instruments: WFC3/UVIS						
	Special Requirements: BETWEEN 14-JUL-2015:18:16:28 AND 15-JUL-2015:07:00:00						
	Comments: The PHOT visits are designed for high SNR photometry of Pluto and Charon. These observations are designed as a spatial scan to combine dithering and extra detected signal into a single exposure. These images need to use the onboard parallax correction but have to be implemented as a fixed time, ambush observation to get Pluto and Charon in the field. The spatial scan will incorporate the geocentric motion of Pluto to get the desired trail on the image. The Pluto observations use F435W and F555W in each visit for complete longitude coverage. This coverage is targeted for two time ranges. The first set is 12 visits covering the last full rotation of Pluto leading up to the time of closest approach of New Horizons to Pluto. These images are fixed at 30 degree longitude resolution. The other set of 12 visits are spread out to cover the full range of solar phase angle available to HST while also achieving 30 degree longitude spacing. Within these 24 visits, there are 3 other filters used, one per visit. The timing on the extra filter is set to get 8 evenly spaced longitudes (45 degree spacing) in each of the other filters. The long exposure images are normal moving target observations to get positions and photometry on the faint outer satellites. POS TARG values re-position Pluto in steps of exactly 5.5 pixels along each axis. As built, APT does not support mixing these two types of observations in one orbit. The durations for the pieces appear to fit in a single visibility window with a few minutes to spare. It is intended and expected that all exposures will fit in one window. Deviations from this need to be discussed for science impact.						
Diagnostics	(Short POS 1 (27.001)) Warning (Form): FLASH level may be too low for this exposure or a short subexposure. See extended explanation in the diagnostic browser (Short POS 4 (27.006)) Warning (Form): FLASH level may be too low for this exposure or a short subexposure. See extended explanation in the diagnostic browser (PICh F1 (27.007)) Warning (Form): FLASH level may be too low for this exposure or a short subexposure. See extended explanation in the diagnostic browser (PICh F2 (27.008)) Warning (Form): FLASH level may be too low for this exposure or a short subexposure. See extended explanation in the diagnostic browser (PICh F3 (27.009)) 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		
	(3)	Pattern Type=WFC3-UVIS-DITHER-BOX Purpose=DITHER Number Of Points=4 Point Spacing=0.173 Line Spacing=0.112	Coordinate Frame=POS-TARG Pattern Orientation=23.884 Angle Between Sides=81.785 Center Pattern=false		(7-9)		
Solar System Targets	#	Name	Level 1	Level 2	Level 3	Window	Ephem Center
	(1)	PLUTO-SYSTEM	STD=PLUTO				EARTH

Proposal 13667 - PHOT-06 (27) - Observations of the Pluto System During the New Horizons Encounter Epoch

Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1	Short POS 1	(1) PLUTO-SYSTEM	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F350LP		POS TARG 1.184,0.079; GS ACQ SCENARIO BASE1B3	Sequence 1-9 Non-Int in PHOT-06 (27)	3 Secs (3 Secs) [==>]	[1]
	2	Deep imaging POS 1 (x2)	(1) PLUTO-SYSTEM	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F350LP		POS TARG 1.184,0.079	Sequence 1-9 Non-Int in PHOT-06 (27)	168 Secs X 2 (336 Secs) [==>(Copy 1)] [==>(Copy 2)]	[1]
	3	Deep imaging POS 2	(1) PLUTO-SYSTEM	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F350LP		POS TARG 1.184,0.298	Sequence 1-9 Non-Int in PHOT-06 (27)	168 Secs (168 Secs) [==>]	[1]
	4	Deep imaging POS 3	(1) PLUTO-SYSTEM	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F350LP		POS TARG 1.401,0.093	Sequence 1-9 Non-Int in PHOT-06 (27)	168 Secs (168 Secs) [==>]	[1]
	5	Deep imaging POS 4	(1) PLUTO-SYSTEM	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F350LP		POS TARG 1.401,0.312	Sequence 1-9 Non-Int in PHOT-06 (27)	168 Secs X 2 (336 Secs) [==>(Copy 1)] [==>(Copy 2)]	[1]
	6	Short POS 4	(1) PLUTO-SYSTEM	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F350LP		POS TARG 1.401,0.312	Sequence 1-9 Non-Int in PHOT-06 (27)	3 Secs (3 Secs) [==>]	[1]
	7	PlCh F1	(1) PLUTO-SYSTEM	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F438W	CR-SPLIT=NO	POS TARG 1.184,0.079	Sequence 1-9 Non-Int in PHOT-06 (27) Pattern 3, Exps 7-9 in Sequence 1-9 Non-Int in PHOT-06 (27) (3)	12 Secs (48 Secs) [==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)] [==>(Pattern 4)]	[1]
	8	PlCh F2	(1) PLUTO-SYSTEM	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F555W	CR-SPLIT=NO	POS TARG 1.184,0.079	Sequence 1-9 Non-Int in PHOT-06 (27) Pattern 3, Exps 7-9 in Sequence 1-9 Non-Int in PHOT-06 (27) (3)	6 Secs (24 Secs) [==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)] [==>(Pattern 4)]	[1]
	9	PlCh F3	(1) PLUTO-SYSTEM	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F625W	CR-SPLIT=NO	POS TARG 1.184,0.079	Sequence 1-9 Non-Int in PHOT-06 (27) Pattern 3, Exps 7-9 in Sequence 1-9 Non-Int in PHOT-06 (27) (3)	6 Secs (24 Secs) [==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)] [==>(Pattern 4)]	[1]



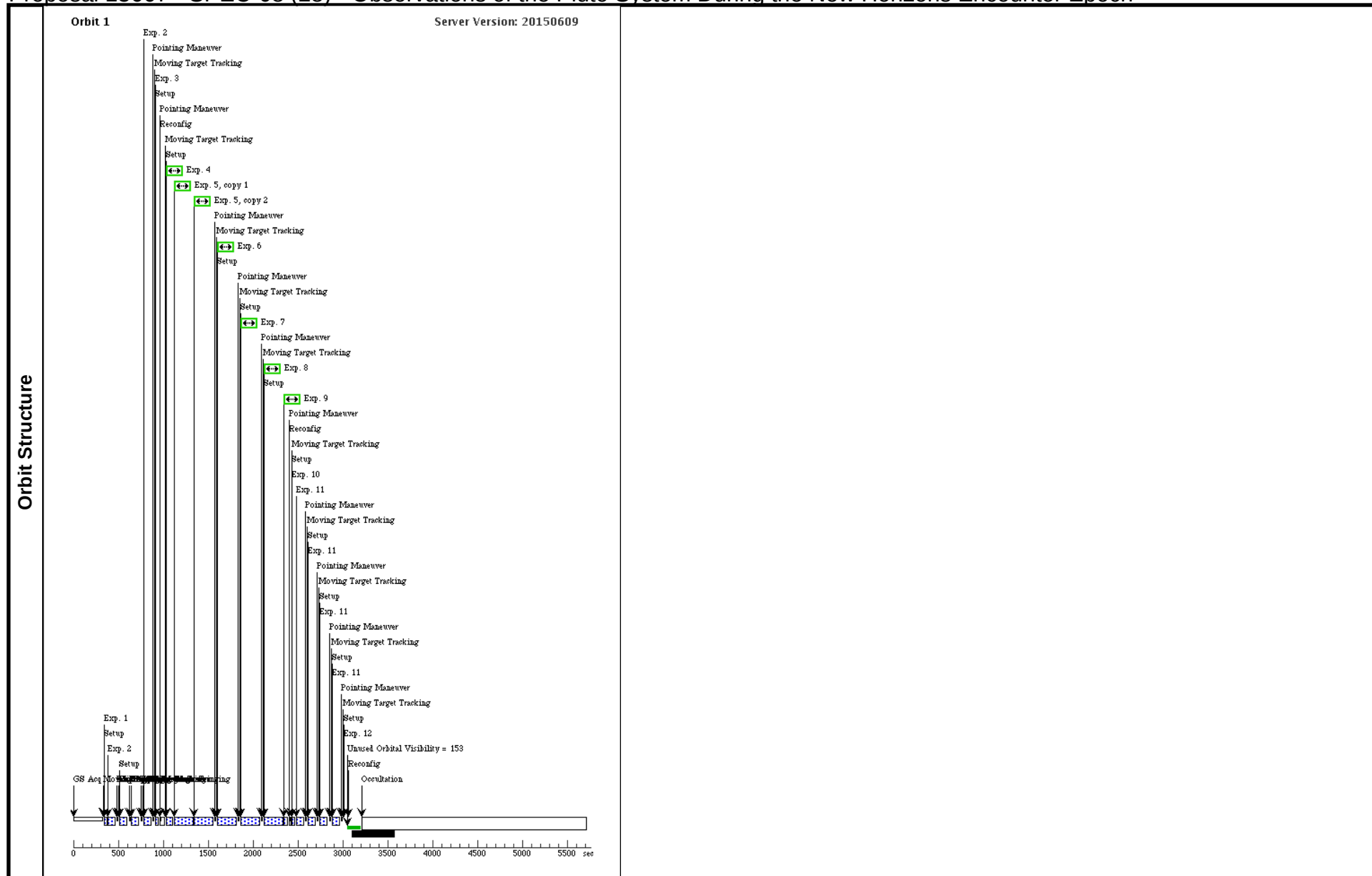
Proposal 13667 - SPEC-08 (28) - Observations of the Pluto System During the New Horizons Encounter Epoch

Visit	Proposal 13667, SPEC-08 (28), completed Fri Aug 07 01:03:05 GMT 2015				
	Diagnostic Status: Warning Scientific Instruments: WFC3/IR, WFC3/UVIS Special Requirements: ORIENT 265D TO 265 D; ORIENT 85D TO 85 D; BETWEEN 20-JUL-2015:17:12:00 AND 21-JUL-2015:05:12:00 Comments: This visit is designed to get near-IR grism spectra of Pluto and Charon. The special roll requirements are used to keep the spectral images from Pluto and Charon from overlapping. The timing is set by the observing cadence while also selecting a fixed sub-earth longitude for all of the SPEC visits. The timing of all visits are also optimized for the deep imaging cadence on the outer satellites to get uniform longitude coverage. The other part of the visit is to get deep optical images of the faint outer satellites. POS TARG values re-position Pluto in steps of exactly 5.5 pixels along each axis.				
Diagnosics	(Short POS 1 (28.004)) Warning (Form): FLASH level may be too low for this exposure or a short subexposure. See extended explanation in the diagnostic browser (Short POS 4 (28.009)) 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
	(2)	Pattern Type=WFC3-IR-DITHER-BOX-MIN Purpose=DITHER Number Of Points=4 Point Spacing=1.716 Line Spacing=1.095		Coordinate Frame=POS-TARG Pattern Orientation=18.528 Angle Between Sides=74.653 Center Pattern=false	(2), (11)
Solar System Targets	#	Name	Level 1	Level 2	Level 3
	(1)	PLUTO-SYSTEM	STD=PLUTO		Window
					Ephem Center

Proposal 13667 - SPEC-08 (28) - Observations of the Pluto System During the New Horizons Encounter Epoch

Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1	Navigation	(1) PLUTO-SYSTEM	WFC3/IR, MULTIACCUM, GRISM512	F139M	NSAMP=4; SAMP-SEQ=RAPID		Sequence 1-12 Non-Int in SPEC-08 (28)	3,412,108 Secs (3,412 Secs) [==>]	[1]
	2	Spectra	(1) PLUTO-SYSTEM	WFC3/IR, MULTIACCUM, GRISM512	G141	NSAMP=7; SAMP-SEQ=STEP25		Sequence 1-12 Non-Int in SPEC-08 (28) Pattern 2, Exps 2-2 in Sequence 1-12 Non-Int in SPEC-08 (28) (2)	59,675,893 Secs (238,704 Secs) [==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)] [==>(Pattern 4)]	[1]
	Comments: Dithered slitless grism spectra. Ideally, the bracketing navigation images would correspond to the first and last dither positions in each set of four, but I'm not sure if that's the default behavior. (the reasons are to avoid pointing overheads, and also to minimize offsets). If it isn't easy to get this to happen, it's not a big deal.									
	3	Navigation	(1) PLUTO-SYSTEM	WFC3/IR, MULTIACCUM, GRISM512	F139M	NSAMP=4; SAMP-SEQ=RAPID		Sequence 1-12 Non-Int in SPEC-08 (28)	3,412,108 Secs (3,412 Secs) [==>]	[1]
	4	Short POS 1	(1) PLUTO-SYSTEM	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F350LP		POS TARG 1.184,0.079	Sequence 1-12 Non-Int in SPEC-08 (28)	3 Secs (3 Secs) [==>]	[1]
	5	Deep imaging POS 1 (x2)	(1) PLUTO-SYSTEM	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F350LP		POS TARG 1.184,0.079	Sequence 1-12 Non-Int in SPEC-08 (28)	170 Secs X 2 (340 Secs) [==>(Copy 1)] [==>(Copy 2)]	[1]
	6	Deep imaging POS 2	(1) PLUTO-SYSTEM	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F350LP		POS TARG 1.184,0.298	Sequence 1-12 Non-Int in SPEC-08 (28)	170 Secs (170 Secs) [==>]	[1]
	7	Deep imaging POS 3	(1) PLUTO-SYSTEM	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F350LP		POS TARG 1.401,0.093	Sequence 1-12 Non-Int in SPEC-08 (28)	170 Secs (170 Secs) [==>]	[1]
	8	Deep imaging POS 4	(1) PLUTO-SYSTEM	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F350LP		POS TARG 1.401,0.312	Sequence 1-12 Non-Int in SPEC-08 (28)	170 Secs (170 Secs) [==>]	[1]
	9	Short POS 4	(1) PLUTO-SYSTEM	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F350LP		POS TARG 1.401,0.312	Sequence 1-12 Non-Int in SPEC-08 (28)	3 Secs (3 Secs) [==>]	[1]
	10	Navigation	(1) PLUTO-SYSTEM	WFC3/IR, MULTIACCUM, GRISM512	F139M	NSAMP=4; SAMP-SEQ=RAPID		Sequence 1-12 Non-Int in SPEC-08 (28)	3,412,108 Secs (3,412 Secs) [==>]	[1]
	11	Spectra	(1) PLUTO-SYSTEM	WFC3/IR, MULTIACCUM, GRISM512	G141	NSAMP=7; SAMP-SEQ=STEP25		Sequence 1-12 Non-Int in SPEC-08 (28) Pattern 2, Exps 11-11 in Sequence 1-12 Non-Int in SPEC-08 (28) (2)	59,675,893 Secs (238,704 Secs) [==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)] [==>(Pattern 4)]	[1]
	Comments: Dithered slitless grism spectra. Ideally, the bracketing navigation images would correspond to the first and last dither positions in each set of four, but I'm not sure if that's the default behavior. (the reasons are to avoid pointing overheads, and also to minimize offsets). If it isn't easy to get this to happen, it's not a big deal.									
	12	Navigation	(1) PLUTO-SYSTEM	WFC3/IR, MULTIACCUM, GRISM512	F139M	NSAMP=4; SAMP-SEQ=RAPID		Sequence 1-12 Non-Int in SPEC-08 (28)	3,412,108 Secs (3,412 Secs) [==>]	[1]

Proposal 13667 - SPEC-08 (28) - Observations of the Pluto System During the New Horizons Encounter Epoch



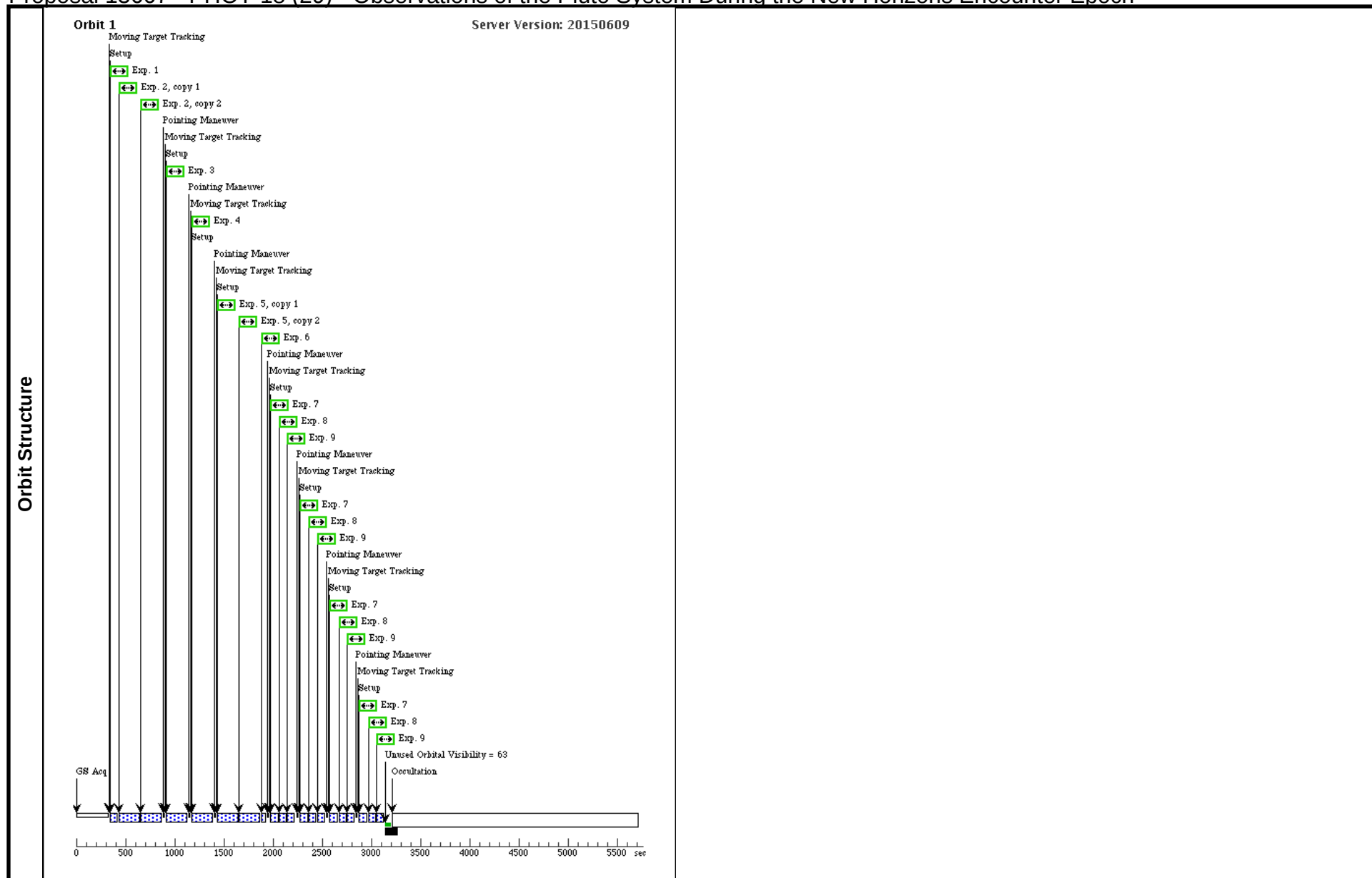
Proposal 13667 - PHOT-18 (29) - Observations of the Pluto System During the New Horizons Encounter Epoch

Visit	Proposal 13667, PHOT-18 (29), completed Fri Aug 07 01:03:05 GMT 2015					
	Diagnostic Status: Warning Scientific Instruments: WFC3/UVIS Special Requirements: BETWEEN 21-JUL-2015:03:33:37 AND 21-JUL-2015:15:33:37 Comments: <i>The PHOT visits are designed for high SNR photometry of Pluto and Charon. These observations are designed as a spatial scan to combine dithering and extra detected signal into a single exposure. These images need to use the onboard parallax correction but have to be implemented as a fixed time, ambush observation to get Pluto and Charon in the field. The spatial scan will incorporate the geocentric motion of Pluto to get the desired trail on the image.</i> <i>The Pluto observations use F435W and F555W in each visit for complete longitude coverage. This coverage is targeted for two time ranges. The first set is 12 visits covering the last full rotation of Pluto leading up to the time of closest approach of New Horizons to Pluto. These images are fixed at 30 degree longitude resolution. The other set of 12 visits are spread out to cover the full range of solar phase angle available to HST while also achieving 30 degree longitude spacing. Within these 24 visits, there are 3 other filters used, one per visit. The timing on the extra filter is set to get 8 evenly spaced longitudes (45 degree spacing) in each of the other filters.</i> <i>The long exposure images are normal moving target observations to get positions and photometry on the faint outer satellites. POS TARG values re-position Pluto in steps of exactly 5.5 pixels along each axis.</i> <i>As built, APT does not support mixing these two types of observations in one orbit. The durations for the pieces appear to fit in a single visibility window with a few minutes to spare. It is intended and expected that all exposures will fit in one window. Deviations from this need to be discussed for science impact.</i>					
Diagnostics	(Short POS 1 (29.001)) Warning (Form): FLASH level may be too low for this exposure or a short subexposure. See extended explanation in the diagnostic browser					
	(Short POS 4 (29.006)) Warning (Form): FLASH level may be too low for this exposure or a short subexposure. See extended explanation in the diagnostic browser					
	(PICCh F1 (29.007)) Warning (Form): FLASH level may be too low for this exposure or a short subexposure. See extended explanation in the diagnostic browser					
	(PICCh F2 (29.008)) Warning (Form): FLASH level may be too low for this exposure or a short subexposure. See extended explanation in the diagnostic browser					
	(PICCh F5 (29.009)) 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
	(3)	Pattern Type=WFC3-UVIS-DITHER-BOX Purpose=DITHER Number Of Points=4 Point Spacing=0.173 Line Spacing=0.112		Coordinate Frame=POS-TARG Pattern Orientation=23.884 Angle Between Sides=81.785 Center Pattern=false		(7-9)
Solar System Targets	#	Name	Level 1	Level 2	Level 3	Window
	(1)	PLUTO-SYSTEM	STD=PLUTO			EARTH

Proposal 13667 - PHOT-18 (29) - Observations of the Pluto System During the New Horizons Encounter Epoch

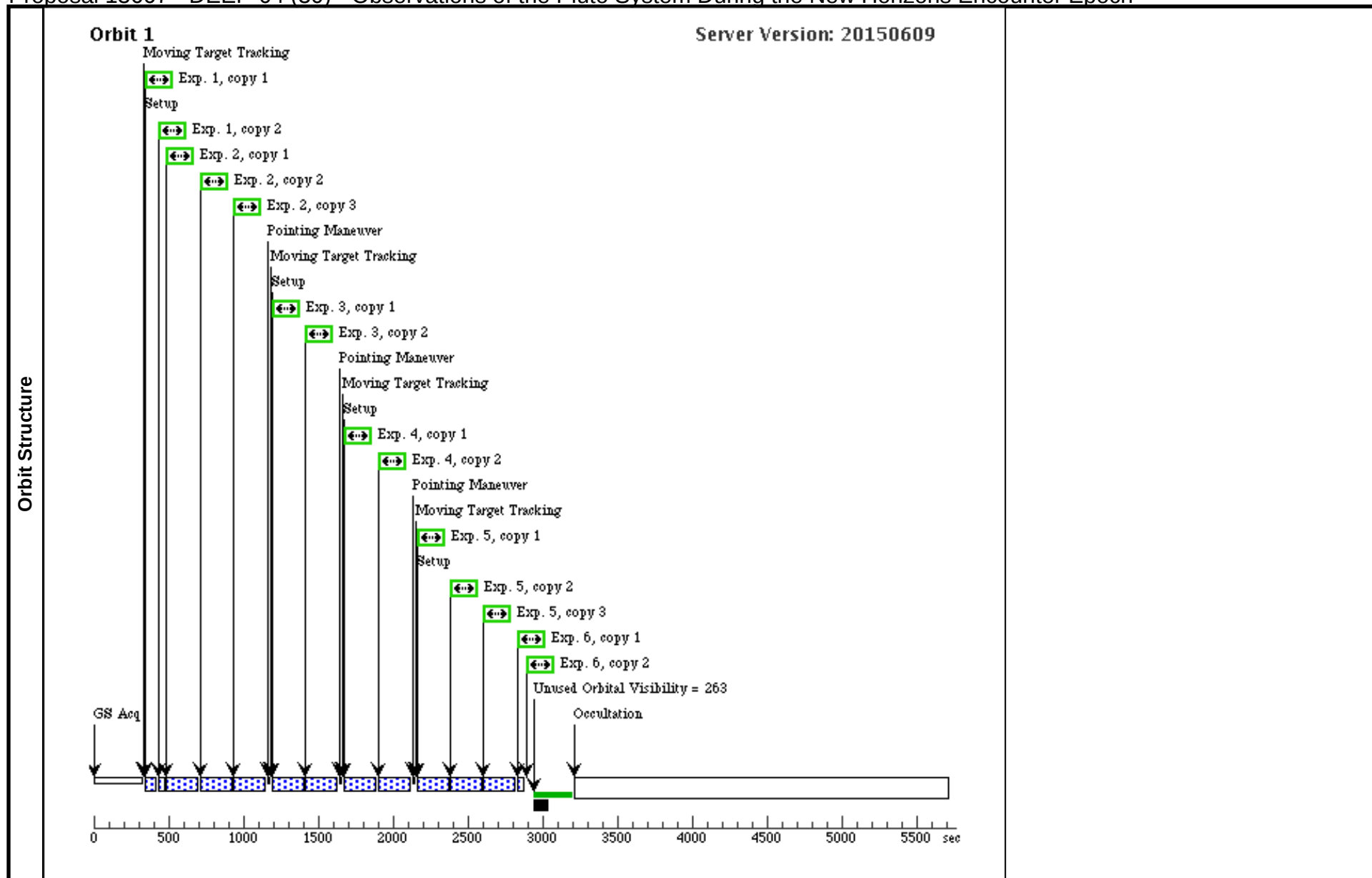
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1	Short POS 1	(1) PLUTO-SYSTEM	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F350LP		POS TARG 1.184,0.079	Sequence 1-9 Non-Int in PHOT-18 (29)	3 Secs (3 Secs)	
									[==>]	[1]
	2	Deep imaging POS 1 (x2)	(1) PLUTO-SYSTEM	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F350LP		POS TARG 1.184,0.079	Sequence 1-9 Non-Int in PHOT-18 (29)	170 Secs X 2 (340 Secs)	
									[==>(Copy 1)]	
									[==>(Copy 2)]	[1]
	3	Deep imaging POS 2	(1) PLUTO-SYSTEM	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F350LP		POS TARG 1.184,0.298	Sequence 1-9 Non-Int in PHOT-18 (29)	170 Secs (170 Secs)	
									[==>]	[1]
	4	Deep imaging POS 3	(1) PLUTO-SYSTEM	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F350LP		POS TARG 1.401,0.093	Sequence 1-9 Non-Int in PHOT-18 (29)	170 Secs (170 Secs)	
									[==>]	[1]
	5	Deep imaging POS 4	(1) PLUTO-SYSTEM	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F350LP		POS TARG 1.401,0.312	Sequence 1-9 Non-Int in PHOT-18 (29)	170 Secs X 2 (340 Secs)	
									[==>(Copy 1)]	
									[==>(Copy 2)]	[1]
	6	Short POS 4	(1) PLUTO-SYSTEM	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F350LP		POS TARG 1.401,0.312	Sequence 1-9 Non-Int in PHOT-18 (29)	3 Secs (3 Secs)	
									[==>]	[1]
	7	PlCh F1	(1) PLUTO-SYSTEM	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F438W	CR-SPLIT=NO	POS TARG 1.184,0.079	Sequence 1-9 Non-Int in PHOT-18 (29) Pattern 3, Exps 7-9 in Sequence 1-9 Non-Int in PHOT-18 (29) (3)	12 Secs (48 Secs)	
									[==>(Pattern 1)]	
									[==>(Pattern 2)]	
									[==>(Pattern 3)]	[1]
									[==>(Pattern 4)]	
	8	PlCh F2	(1) PLUTO-SYSTEM	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F555W	CR-SPLIT=NO	POS TARG 1.184,0.079	Sequence 1-9 Non-Int in PHOT-18 (29) Pattern 3, Exps 7-9 in Sequence 1-9 Non-Int in PHOT-18 (29) (3)	6 Secs (24 Secs)	
									[==>(Pattern 1)]	
									[==>(Pattern 2)]	
									[==>(Pattern 3)]	[1]
									[==>(Pattern 4)]	
	9	PlCh F5	(1) PLUTO-SYSTEM	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F845M	CR-SPLIT=NO	POS TARG 1.184,0.079	Sequence 1-9 Non-Int in PHOT-18 (29) Pattern 3, Exps 7-9 in Sequence 1-9 Non-Int in PHOT-18 (29) (3)	20 Secs (80 Secs)	
									[==>(Pattern 1)]	
									[==>(Pattern 2)]	
									[==>(Pattern 3)]	[1]
									[==>(Pattern 4)]	

Proposal 13667 - PHOT-18 (29) - Observations of the Pluto System During the New Horizons Encounter Epoch



Proposal 13667 - DEEP-04 (30) - Observations of the Pluto System During the New Horizons Encounter Epoch

Visit	Proposal 13667, DEEP-04 (30), completed Fri Aug 07 01:03:05 GMT 2015									
	Diagnostic Status: Warning Scientific Instruments: WFC3/UVIS Special Requirements: BETWEEN 22-JUL-2015:18:00:00 AND 23-JUL-2015:06:00:00 Comments: The DEEP visits are constructed to maximize the SNR of the faintest satellite, Styx. The exposure time per image is set by the requirement that Pluto and Charon not bleed too much. Roll angle has been pre-checked to avoid putting satellites on diffraction spikes from Pluto or Charon. The timing has been optimized for rotational coverage over then entire observing program. This timing includes all other visits in this process. POS TARG values re-position Pluto in steps of exactly 5.5 pixels along each axis.									
Diagnostics	(Short POS 1 (x2) (30.001)) Warning (Form): FLASH level may be too low for this exposure or a short subexposure. See extended explanation in the diagnostic browser (Short POS 4 (x2) (30.006)) Warning (Form): FLASH level may be too low for this exposure or a short subexposure. See extended explanation in the diagnostic browser									
Solar System Targets	#	Name	Level 1	Level 2	Level 3	Window	Ephem Center			
	(1)	PLUTO-SYSTEM	STD=PLUTO				EARTH			
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1	Short POS 1 (x2)	(1) PLUTO-SYSTEM	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F350LP		POS TARG 1.184,0.079	Sequence 1-6 Non-Int in DEEP-04 (30)	3 Secs X 2 (6 Secs) [==>(Copy 1)] [==>(Copy 2)]	[1]
	2	Long POS 1 (x3)	(1) PLUTO-SYSTEM	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F350LP		POS TARG 1.184,0.079	Sequence 1-6 Non-Int in DEEP-04 (30)	170 Secs X 3 (510 Secs) [==>(Copy 1)] [==>(Copy 2)] [==>(Copy 3)]	[1]
	3	Long POS 2 (x2)	(1) PLUTO-SYSTEM	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F350LP		POS TARG 1.184,0.298	Sequence 1-6 Non-Int in DEEP-04 (30)	170 Secs X 2 (340 Secs) [==>(Copy 1)] [==>(Copy 2)]	[1]
	4	Long POS 3 (x2)	(1) PLUTO-SYSTEM	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F350LP		POS TARG 1.401,0.093	Sequence 1-6 Non-Int in DEEP-04 (30)	170 Secs X 2 (340 Secs) [==>(Copy 1)] [==>(Copy 2)]	[1]
	5	Long POS 4 (x3)	(1) PLUTO-SYSTEM	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F350LP		POS TARG 1.401,0.312	Sequence 1-6 Non-Int in DEEP-04 (30)	170 Secs X 3 (510 Secs) [==>(Copy 1)] [==>(Copy 2)] [==>(Copy 3)]	[1]
	6	Short POS 4 (x2)	(1) PLUTO-SYSTEM	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F350LP		POS TARG 1.401,0.312	Sequence 1-6 Non-Int in DEEP-04 (30)	3 Secs X 2 (6 Secs) [==>(Copy 1)] [==>(Copy 2)]	[1]



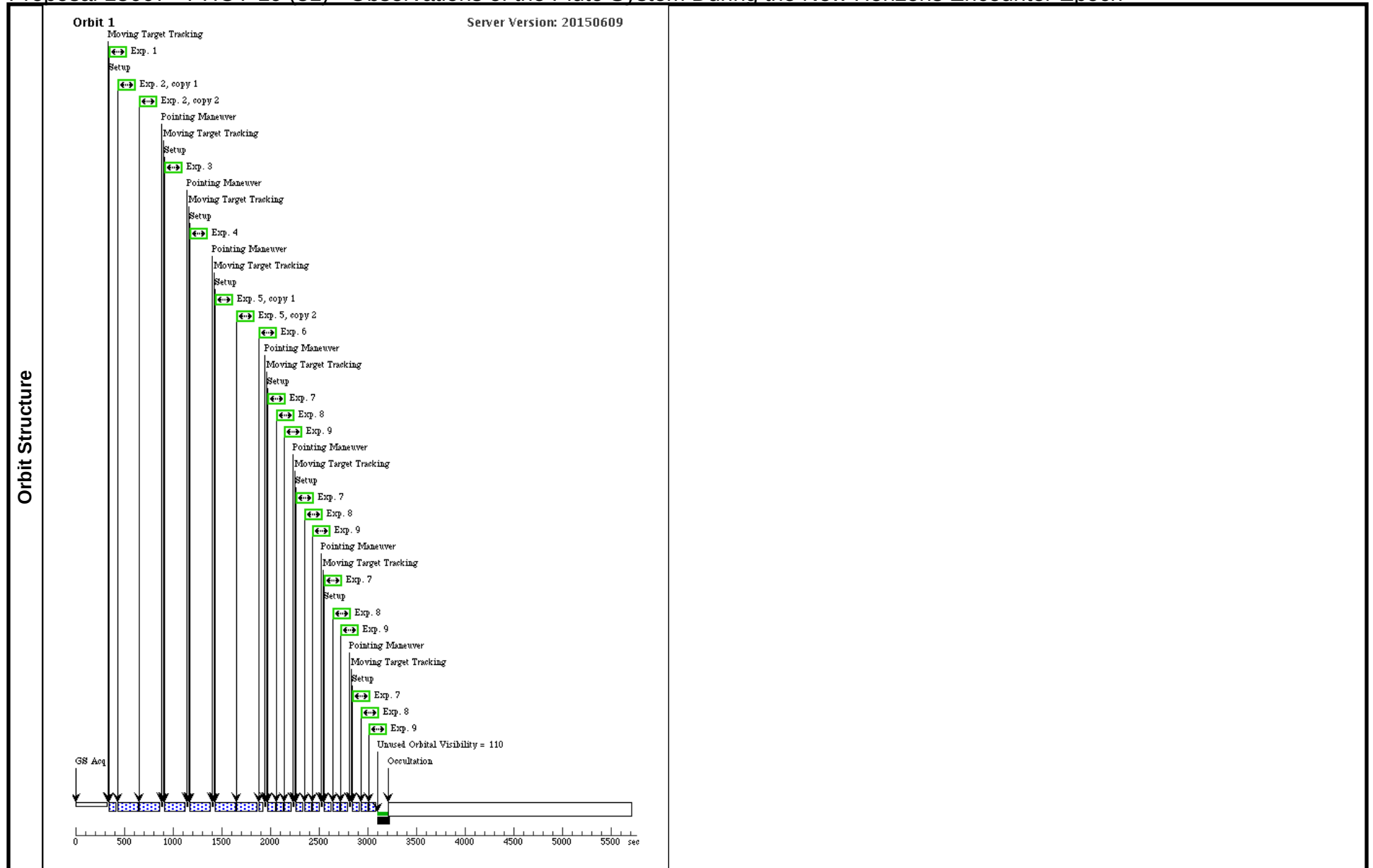
Proposal 13667 - PHOT-19 (31) - Observations of the Pluto System During the New Horizons Encounter Epoch

Visit	Proposal 13667, PHOT-19 (31), completed				Fri Aug 07 01:03:05 GMT 2015		
	Diagnostic Status: Warning						
	Scientific Instruments: WFC3/UVIS						
	Special Requirements: BETWEEN 25-JUL-2015:22:31:48 AND 26-JUL-2015:10:31:48						
	Comments: The PHOT visits are designed for high SNR photometry of Pluto and Charon. These observations are designed as a spatial scan to combine dithering and extra detected signal into a single exposure. These images need to use the onboard parallax correction but have to be implemented as a fixed time, ambush observation to get Pluto and Charon in the field. The spatial scan will incorporate the geocentric motion of Pluto to get the desired trail on the image. The Pluto observations use F435W and F555W in each visit for complete longitude coverage. This coverage is targeted for two time ranges. The first set is 12 visits covering the last full rotation of Pluto leading up to the time of closest approach of New Horizons to Pluto. These images are fixed at 30 degree longitude resolution. The other set of 12 visits are spread out to cover the full range of solar phase angle available to HST while also achieving 30 degree longitude spacing. Within these 24 visits, there are 3 other filters used, one per visit. The timing on the extra filter is set to get 8 evenly spaced longitudes (45 degree spacing) in each of the other filters. The long exposure images are normal moving target observations to get positions and photometry on the faint outer satellites. POS TARG values re-position Pluto in steps of exactly 5.5 pixels along each axis. As built, APT does not support mixing these two types of observations in one orbit. The durations for the pieces appear to fit in a single visibility window with a few minutes to spare. It is intended and expected that all exposures will fit in one window. Deviations from this need to be discussed for science impact.						
Diagnostics	(Short POS 1 (31.001)) Warning (Form): FLASH level may be too low for this exposure or a short subexposure. See extended explanation in the diagnostic browser (Short POS 4 (31.006)) Warning (Form): FLASH level may be too low for this exposure or a short subexposure. See extended explanation in the diagnostic browser (PICh F1 (31.007)) Warning (Form): FLASH level may be too low for this exposure or a short subexposure. See extended explanation in the diagnostic browser (PICh F2 (31.008)) Warning (Form): FLASH level may be too low for this exposure or a short subexposure. See extended explanation in the diagnostic browser (PICh F3 (31.009)) 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		
	(3)	Pattern Type=WFC3-UVIS-DITHER-BOX Purpose=DITHER Number Of Points=4 Point Spacing=0.173 Line Spacing=0.112	Coordinate Frame=POS-TARG Pattern Orientation=23.884 Angle Between Sides=81.785 Center Pattern=false		(7-9)		
Solar System Targets	#	Name	Level 1	Level 2	Level 3	Window	Ephem Center
	(1)	PLUTO-SYSTEM	STD=PLUTO				EARTH

Proposal 13667 - PHOT-19 (31) - Observations of the Pluto System During the New Horizons Encounter Epoch

Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1	Short POS 1	(1) PLUTO-SYSTEM	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F350LP		POS TARG 1.184,0.079	Sequence 1-9 Non-Int in PHOT-19 (31)	3 Secs (3 Secs)	
									[==>]	[1]
	2	Deep imaging POS 1 (x2)	(1) PLUTO-SYSTEM	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F350LP		POS TARG 1.184,0.079	Sequence 1-9 Non-Int in PHOT-19 (31)	170 Secs X 2 (340 Secs)	
									[==>(Copy 1)]	[1]
									[==>(Copy 2)]	
	3	Deep imaging POS 2	(1) PLUTO-SYSTEM	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F350LP		POS TARG 1.184,0.298	Sequence 1-9 Non-Int in PHOT-19 (31)	170 Secs (170 Secs)	
									[==>]	[1]
	4	Deep imaging POS 3	(1) PLUTO-SYSTEM	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F350LP		POS TARG 1.401,0.093	Sequence 1-9 Non-Int in PHOT-19 (31)	170 Secs (170 Secs)	
									[==>]	[1]
	5	Deep imaging POS 4	(1) PLUTO-SYSTEM	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F350LP		POS TARG 1.401,0.312	Sequence 1-9 Non-Int in PHOT-19 (31)	170 Secs X 2 (340 Secs)	
									[==>(Copy 1)]	[1]
									[==>(Copy 2)]	
	6	Short POS 4	(1) PLUTO-SYSTEM	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F350LP		POS TARG 1.401,0.312	Sequence 1-9 Non-Int in PHOT-19 (31)	3 Secs (3 Secs)	
									[==>]	[1]
	7	PlCh F1	(1) PLUTO-SYSTEM	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F438W	CR-SPLIT=NO	POS TARG 1.184,0.079	Sequence 1-9 Non-Int in PHOT-19 (31) Pattern 3, Exps 7-9 in Sequence 1-9 Non-Int in PHOT-19 (31) (3)	12 Secs (48 Secs)	
									[==>(Pattern 1)]	[1]
									[==>(Pattern 2)]	
									[==>(Pattern 3)]	
									[==>(Pattern 4)]	
	8	PlCh F2	(1) PLUTO-SYSTEM	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F555W	CR-SPLIT=NO	POS TARG 1.184,0.079	Sequence 1-9 Non-Int in PHOT-19 (31) Pattern 3, Exps 7-9 in Sequence 1-9 Non-Int in PHOT-19 (31) (3)	6 Secs (24 Secs)	
									[==>(Pattern 1)]	[1]
									[==>(Pattern 2)]	
									[==>(Pattern 3)]	
									[==>(Pattern 4)]	
	9	PlCh F3	(1) PLUTO-SYSTEM	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F625W	CR-SPLIT=NO	POS TARG 1.184,0.079	Sequence 1-9 Non-Int in PHOT-19 (31) Pattern 3, Exps 7-9 in Sequence 1-9 Non-Int in PHOT-19 (31) (3)	6 Secs (24 Secs)	
									[==>(Pattern 1)]	[1]
									[==>(Pattern 2)]	
									[==>(Pattern 3)]	
									[==>(Pattern 4)]	

Proposal 13667 - PHOT-19 (31) - Observations of the Pluto System During the New Horizons Encounter Epoch



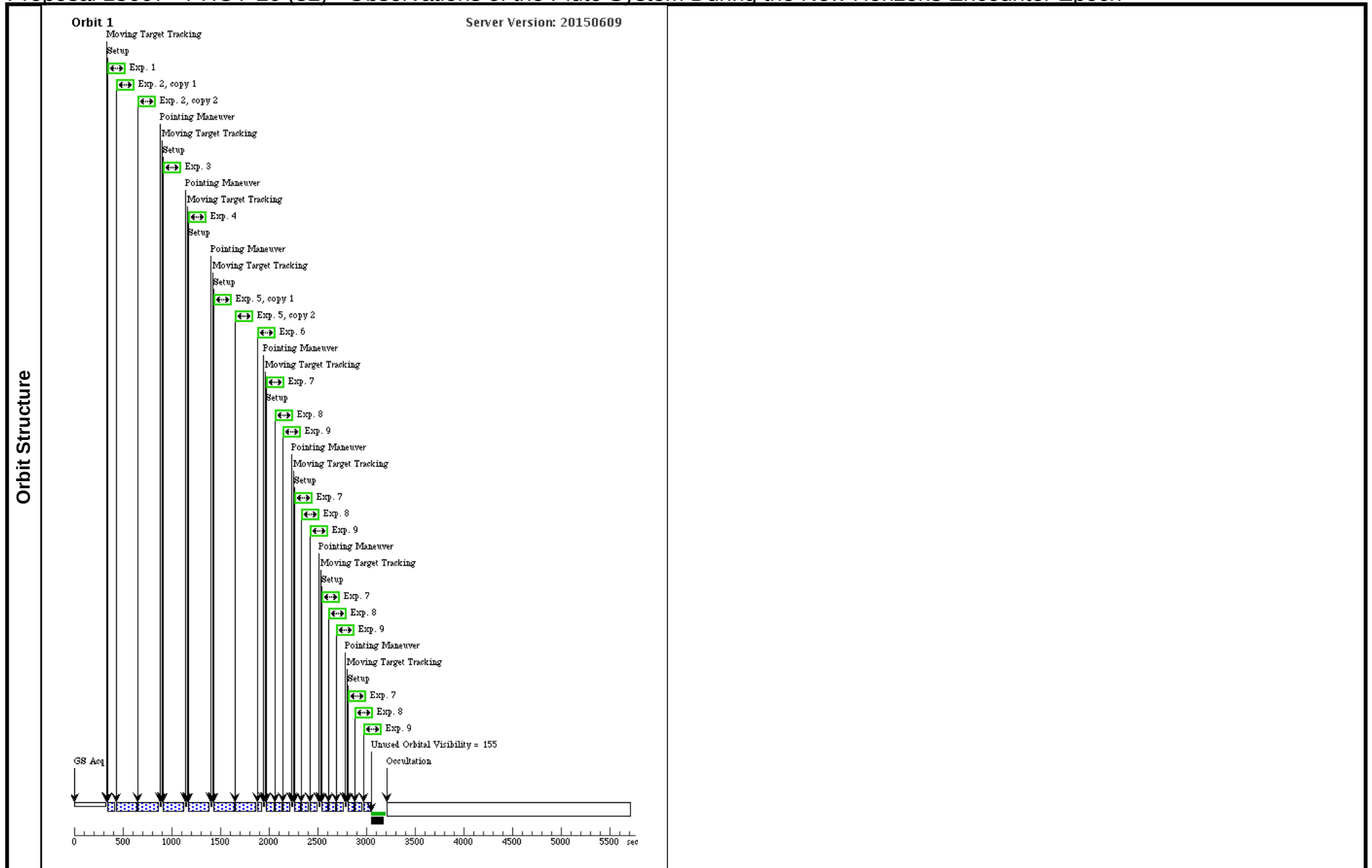
Proposal 13667 - PHOT-20 (32) - Observations of the Pluto System During the New Horizons Encounter Epoch

Visit	Proposal 13667, PHOT-20 (32), completed			Fri Aug 07 01:03:05 GMT 2015			
	Diagnostic Status: Warning						
	Scientific Instruments: WFC3/UVIS						
	Special Requirements: BETWEEN 03-AUG-2015:23:41:42 AND 04-AUG-2015:11:41:42						
	Comments: The PHOT visits are designed for high SNR photometry of Pluto and Charon. These observations are designed as a spatial scan to combine dithering and extra detected signal into a single exposure. These images need to use the onboard parallax correction but have to be implemented as a fixed time, ambush observation to get Pluto and Charon in the field. The spatial scan will incorporate the geocentric motion of Pluto to get the desired trail on the image. The Pluto observations use F435W and F555W in each visit for complete longitude coverage. This coverage is targeted for two time ranges. The first set is 12 visits covering the last full rotation of Pluto leading up to the time of closest approach of New Horizons to Pluto. These images are fixed at 30 degree longitude resolution. The other set of 12 visits are spread out to cover the full range of solar phase angle available to HST while also achieving 30 degree longitude spacing. Within these 24 visits, there are 3 other filters used, one per visit. The timing on the extra filter is set to get 8 evenly spaced longitudes (45 degree spacing) in each of the other filters. The long exposure images are normal moving target observations to get positions and photometry on the faint outer satellites. POS TARG values re-position Pluto in steps of exactly 5.5 pixels along each axis. As built, APT does not support mixing these two types of observations in one orbit. The durations for the pieces appear to fit in a single visibility window with a few minutes to spare. It is intended and expected that all exposures will fit in one window. Deviations from this need to be discussed for science impact.						
Diagnostics	(Short POS 1 (32.001)) Warning (Form): FLASH level may be too low for this exposure or a short subexposure. See extended explanation in the diagnostic browser						
	(Short POS 4 (32.006)) Warning (Form): FLASH level may be too low for this exposure or a short subexposure. See extended explanation in the diagnostic browser						
	(PlCh F1 (32.007)) Warning (Form): FLASH level may be too low for this exposure or a short subexposure. See extended explanation in the diagnostic browser						
	(PlCh F2 (32.008)) Warning (Form): FLASH level may be too low for this exposure or a short subexposure. See extended explanation in the diagnostic browser						
	(PlCh F4 (32.009)) 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		
	(3)	Pattern Type=WFC3-UVIS-DITHER-BOX Purpose=DITHER Number Of Points=4 Point Spacing=0.173 Line Spacing=0.112	Coordinate Frame=POS-TARG Pattern Orientation=23.884 Angle Between Sides=81.785 Center Pattern=false		(7-9)		
Solar System Targets	#	Name	Level 1	Level 2	Level 3	Window	Ephem Center
	(1)	PLUTO-SYSTEM	STD=PLUTO				EARTH

Proposal 13667 - PHOT-20 (32) - Observations of the Pluto System During the New Horizons Encounter Epoch

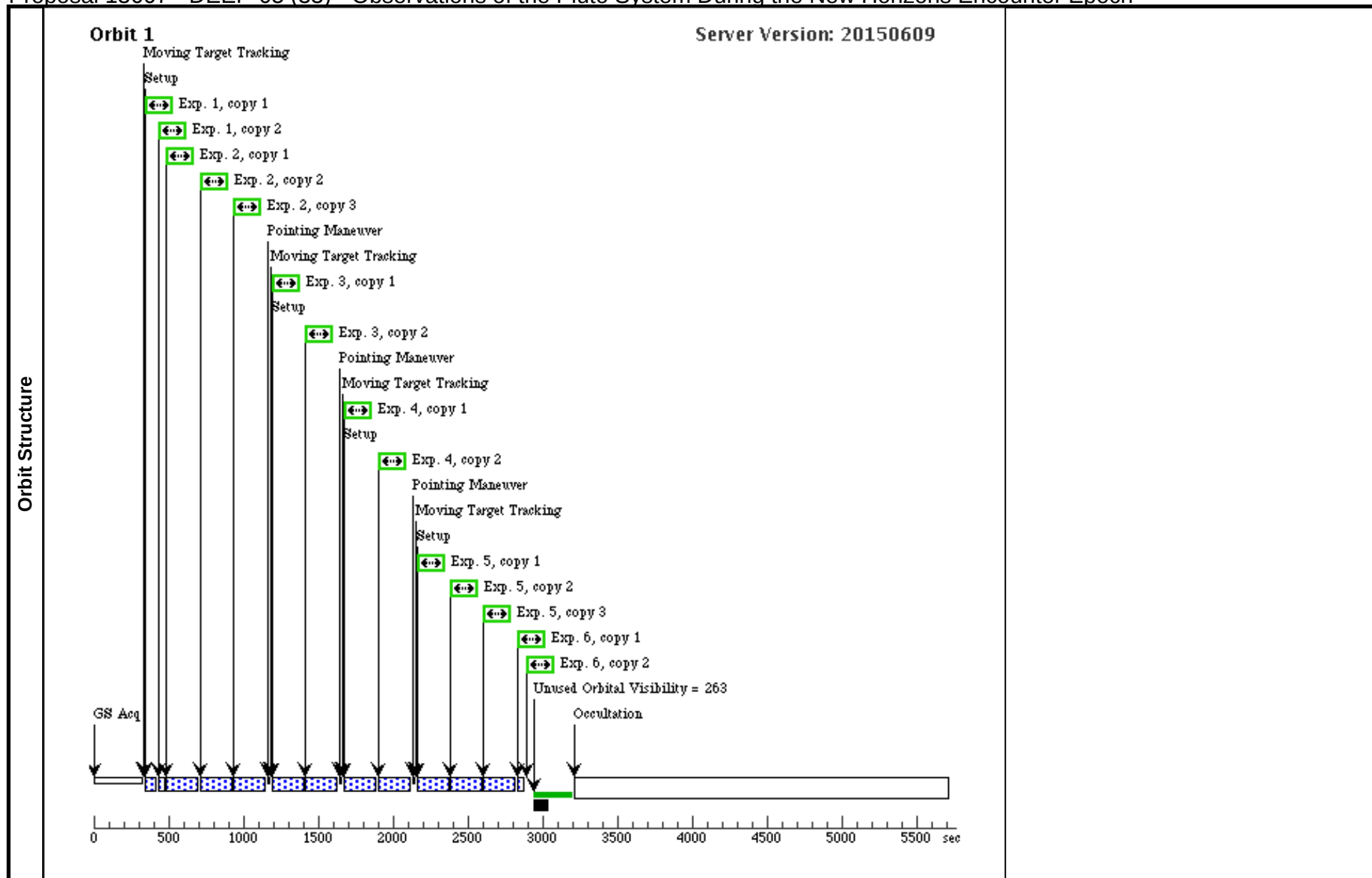
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1	Short POS 1	(1) PLUTO-SYSTEM	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F350LP		POS TARG 1.184,0.079	Sequence 1-9 Non-Int in PHOT-20 (32)	3 Secs (3 Secs)	
									[==>]	[1]
	2	Deep imaging POS 1 (x2)	(1) PLUTO-SYSTEM	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F350LP		POS TARG 1.184,0.079	Sequence 1-9 Non-Int in PHOT-20 (32)	170 Secs X 2 (340 Secs)	
									[==>(Copy 1)]	[1]
									[==>(Copy 2)]	
	3	Deep imaging POS 2	(1) PLUTO-SYSTEM	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F350LP		POS TARG 1.184,0.298	Sequence 1-9 Non-Int in PHOT-20 (32)	170 Secs (170 Secs)	
									[==>]	[1]
	4	Deep imaging POS 3	(1) PLUTO-SYSTEM	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F350LP		POS TARG 1.401,0.093	Sequence 1-9 Non-Int in PHOT-20 (32)	170 Secs (170 Secs)	
									[==>]	[1]
	5	Deep imaging POS 4	(1) PLUTO-SYSTEM	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F350LP		POS TARG 1.401,0.312	Sequence 1-9 Non-Int in PHOT-20 (32)	170 Secs X 2 (340 Secs)	
									[==>(Copy 1)]	[1]
									[==>(Copy 2)]	
	6	Short POS 4	(1) PLUTO-SYSTEM	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F350LP		POS TARG 1.401,0.312	Sequence 1-9 Non-Int in PHOT-20 (32)	3 Secs (3 Secs)	
									[==>]	[1]
	7	PlCh F1	(1) PLUTO-SYSTEM	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F438W	CR-SPLIT=NO	POS TARG 1.184,0.079	Sequence 1-9 Non-Int in PHOT-20 (32) Pattern 3, Exps 7-9 in Sequence 1-9 Non-Int in PHOT-20 (32) (3)	12 Secs (48 Secs)	
									[==>(Pattern 1)]	[1]
									[==>(Pattern 2)]	
									[==>(Pattern 3)]	
									[==>(Pattern 4)]	
	8	PlCh F2	(1) PLUTO-SYSTEM	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F555W	CR-SPLIT=NO	POS TARG 1.184,0.079	Sequence 1-9 Non-Int in PHOT-20 (32) Pattern 3, Exps 7-9 in Sequence 1-9 Non-Int in PHOT-20 (32) (3)	6 Secs (24 Secs)	
									[==>(Pattern 1)]	[1]
									[==>(Pattern 2)]	
									[==>(Pattern 3)]	
									[==>(Pattern 4)]	
	9	PlCh F4	(1) PLUTO-SYSTEM	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F775W	CR-SPLIT=NO	POS TARG 1.184,0.079	Sequence 1-9 Non-Int in PHOT-20 (32) Pattern 3, Exps 7-9 in Sequence 1-9 Non-Int in PHOT-20 (32) (3)	9 Secs (36 Secs)	
									[==>(Pattern 1)]	[1]
									[==>(Pattern 2)]	
									[==>(Pattern 3)]	
									[==>(Pattern 4)]	

Proposal 13667 - PHOT-20 (32) - Observations of the Pluto System During the New Horizons Encounter Epoch



Proposal 13667 - DEEP-05 (33) - Observations of the Pluto System During the New Horizons Encounter Epoch

Visit	Proposal 13667, DEEP-05 (33), scheduled Fri Aug 07 01:03:05 GMT 2015									
	Diagnostic Status: Warning Scientific Instruments: WFC3/UVIS Special Requirements: BETWEEN 10-AUG-2015:18:00:00 AND 11-AUG-2015:06:00:00 Comments: The DEEP visits are constructed to maximize the SNR of the faintest satellite, Styx. The exposure time per image is set by the requirement that Pluto and Charon not bleed too much. Roll angle has been pre-checked to avoid putting satellites on diffraction spikes from Pluto or Charon. The timing has been optimized for rotational coverage over then entire observing program. This timing includes all other visits in this process. POS TARG values re-position Pluto in steps of exactly 5.5 pixels along each axis.									
Diagnostics	(Short POS 1 (x2) (33.001)) Warning (Form): FLASH level may be too low for this exposure or a short subexposure. See extended explanation in the diagnostic browser (Short POS 4 (x2) (33.006)) Warning (Form): FLASH level may be too low for this exposure or a short subexposure. See extended explanation in the diagnostic browser									
Solar System Targets	#	Name	Level 1	Level 2	Level 3	Window	Ephem Center			
	(1)	PLUTO-SYSTEM	STD=PLUTO				EARTH			
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1	Short POS 1 (x2)	(1) PLUTO-SYSTEM	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F350LP		POS TARG 1.184,0.079	Sequence 1-6 Non-Int in DEEP-05 (33)	3 Secs X 2 (6 Secs) [==>(Copy 1)] [==>(Copy 2)]	[1]
	2	Long POS 1 (x3)	(1) PLUTO-SYSTEM	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F350LP		POS TARG 1.184,0.079	Sequence 1-6 Non-Int in DEEP-05 (33)	170 Secs X 3 (510 Secs) [==>(Copy 1)] [==>(Copy 2)] [==>(Copy 3)]	[1]
	3	Long POS 2 (x2)	(1) PLUTO-SYSTEM	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F350LP		POS TARG 1.184,0.298	Sequence 1-6 Non-Int in DEEP-05 (33)	170 Secs X 2 (340 Secs) [==>(Copy 1)] [==>(Copy 2)]	[1]
	4	Long POS 3 (x2)	(1) PLUTO-SYSTEM	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F350LP		POS TARG 1.401,0.093	Sequence 1-6 Non-Int in DEEP-05 (33)	170 Secs X 2 (340 Secs) [==>(Copy 1)] [==>(Copy 2)]	[1]
	5	Long POS 4 (x3)	(1) PLUTO-SYSTEM	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F350LP		POS TARG 1.401,0.312	Sequence 1-6 Non-Int in DEEP-05 (33)	170 Secs X 3 (510 Secs) [==>(Copy 1)] [==>(Copy 2)] [==>(Copy 3)]	[1]
	6	Short POS 4 (x2)	(1) PLUTO-SYSTEM	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F350LP		POS TARG 1.401,0.312	Sequence 1-6 Non-Int in DEEP-05 (33)	3 Secs X 2 (6 Secs) [==>(Copy 1)] [==>(Copy 2)]	[1]



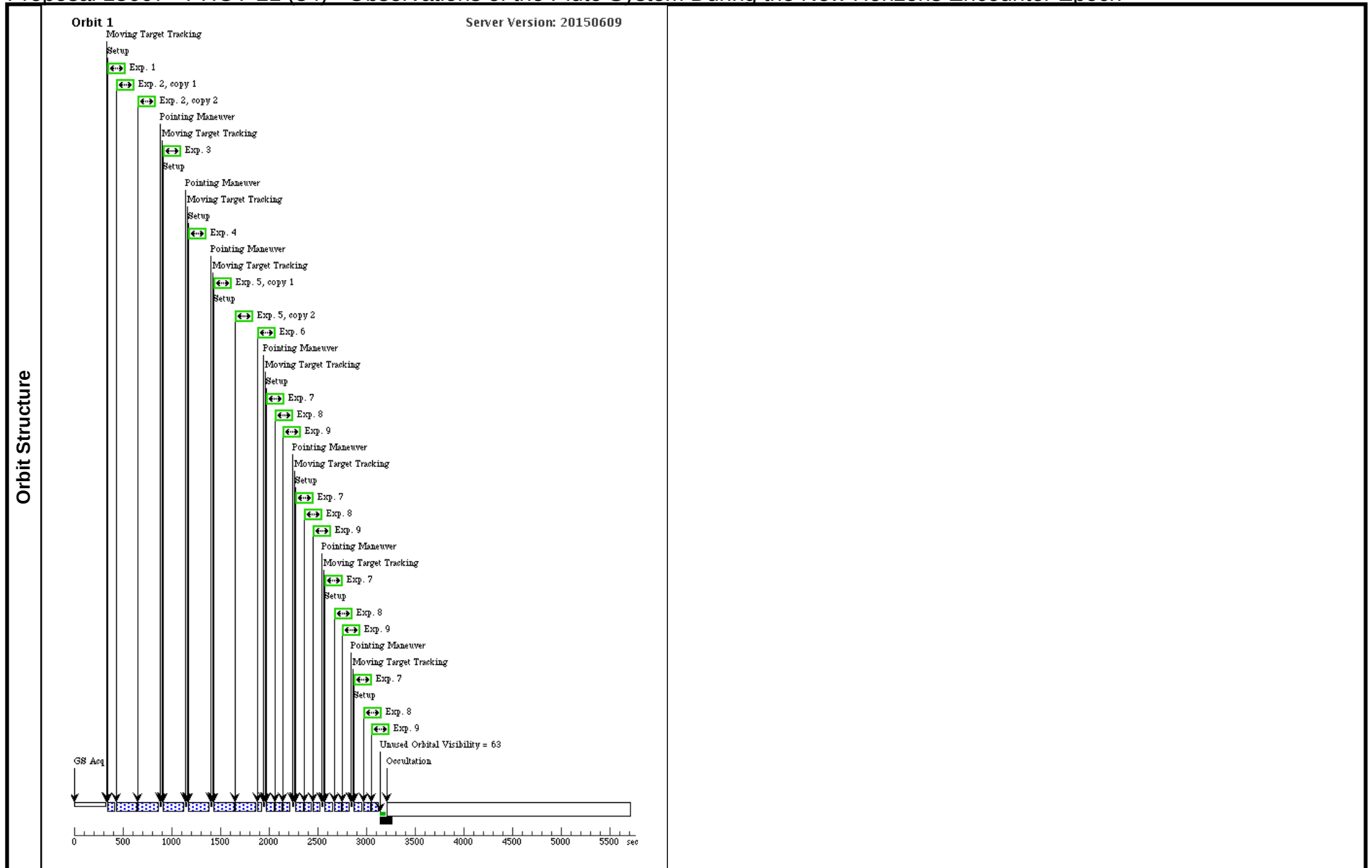
Proposal 13667 - PHOT-21 (34) - Observations of the Pluto System During the New Horizons Encounter Epoch

Visit	Proposal 13667, PHOT-21 (34), scheduling			Fri Aug 07 01:03:05 GMT 2015			
	Diagnostic Status: Warning						
	Scientific Instruments: WFC3/UVIS						
	Special Requirements: BETWEEN 17-AUG-2015:19:49:47 AND 18-AUG-2015:07:49:47						
	Comments: The PHOT visits are designed for high SNR photometry of Pluto and Charon. These observations are designed as a spatial scan to combine dithering and extra detected signal into a single exposure. These images need to use the onboard parallax correction but have to be implemented as a fixed time, ambush observation to get Pluto and Charon in the field. The spatial scan will incorporate the geocentric motion of Pluto to get the desired trail on the image. The Pluto observations use F435W and F555W in each visit for complete longitude coverage. This coverage is targeted for two time ranges. The first set is 12 visits covering the last full rotation of Pluto leading up to the time of closest approach of New Horizons to Pluto. These images are fixed at 30 degree longitude resolution. The other set of 12 visits are spread out to cover the full range of solar phase angle available to HST while also achieving 30 degree longitude spacing. Within these 24 visits, there are 3 other filters used, one per visit. The timing on the extra filter is set to get 8 evenly spaced longitudes (45 degree spacing) in each of the other filters. The long exposure images are normal moving target observations to get positions and photometry on the faint outer satellites. POS TARG values re-position Pluto in steps of exactly 5.5 pixels along each axis. As built, APT does not support mixing these two types of observations in one orbit. The durations for the pieces appear to fit in a single visibility window with a few minutes to spare. It is intended and expected that all exposures will fit in one window. Deviations from this need to be discussed for science impact.						
Diagnostics	(Short POS 1 (34.001)) Warning (Form): FLASH level may be too low for this exposure or a short subexposure. See extended explanation in the diagnostic browser						
	(Short POS 4 (34.006)) Warning (Form): FLASH level may be too low for this exposure or a short subexposure. See extended explanation in the diagnostic browser						
	(PlCh F1 (34.007)) Warning (Form): FLASH level may be too low for this exposure or a short subexposure. See extended explanation in the diagnostic browser						
	(PlCh F2 (34.008)) Warning (Form): FLASH level may be too low for this exposure or a short subexposure. See extended explanation in the diagnostic browser						
	(PlCh F5 (34.009)) 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		
	(3)	Pattern Type=WFC3-UVIS-DITHER-BOX Purpose=DITHER Number Of Points=4 Point Spacing=0.173 Line Spacing=0.112	Coordinate Frame=POS-TARG Pattern Orientation=23.884 Angle Between Sides=81.785 Center Pattern=false		(7-9)		
Solar System Targets	#	Name	Level 1	Level 2	Level 3	Window	Ephem Center
	(1)	PLUTO-SYSTEM	STD=PLUTO				EARTH

Proposal 13667 - PHOT-21 (34) - Observations of the Pluto System During the New Horizons Encounter Epoch

Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1	Short POS 1	(1) PLUTO-SYSTEM	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F350LP		POS TARG 1.184,0.079	Sequence 1-9 Non-Int in PHOT-21 (34)	3 Secs (3 Secs)	
									[==>]	[1]
	2	Deep imaging POS 1 (x2)	(1) PLUTO-SYSTEM	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F350LP		POS TARG 1.184,0.079	Sequence 1-9 Non-Int in PHOT-21 (34)	170 Secs X 2 (340 Secs)	
									[==>(Copy 1)]	
									[==>(Copy 2)]	[1]
	3	Deep imaging POS 2	(1) PLUTO-SYSTEM	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F350LP		POS TARG 1.184,0.298	Sequence 1-9 Non-Int in PHOT-21 (34)	170 Secs (170 Secs)	
									[==>]	[1]
	4	Deep imaging POS 3	(1) PLUTO-SYSTEM	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F350LP		POS TARG 1.401,0.093	Sequence 1-9 Non-Int in PHOT-21 (34)	170 Secs (170 Secs)	
									[==>]	[1]
	5	Deep imaging POS 4	(1) PLUTO-SYSTEM	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F350LP		POS TARG 1.401,0.312	Sequence 1-9 Non-Int in PHOT-21 (34)	170 Secs X 2 (340 Secs)	
									[==>(Copy 1)]	
									[==>(Copy 2)]	[1]
	6	Short POS 4	(1) PLUTO-SYSTEM	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F350LP		POS TARG 1.401,0.312	Sequence 1-9 Non-Int in PHOT-21 (34)	3 Secs (3 Secs)	
									[==>]	[1]
	7	PlCh F1	(1) PLUTO-SYSTEM	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F438W	CR-SPLIT=NO	POS TARG 1.184,0.079	Sequence 1-9 Non-Int in PHOT-21 (34)	12 Secs (48 Secs)	
								Pattern 3, Exps 7-9 in Sequence 1-9 Non-Int in PHOT-21 (34) (3)	[==>(Pattern 1)]	
									[==>(Pattern 2)]	
									[==>(Pattern 3)]	[1]
									[==>(Pattern 4)]	
	8	PlCh F2	(1) PLUTO-SYSTEM	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F555W	CR-SPLIT=NO	POS TARG 1.184,0.079	Sequence 1-9 Non-Int in PHOT-21 (34)	6 Secs (24 Secs)	
								Pattern 3, Exps 7-9 in Sequence 1-9 Non-Int in PHOT-21 (34) (3)	[==>(Pattern 1)]	
									[==>(Pattern 2)]	
									[==>(Pattern 3)]	[1]
									[==>(Pattern 4)]	
	9	PlCh F5	(1) PLUTO-SYSTEM	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F845M	CR-SPLIT=NO	POS TARG 1.184,0.079	Sequence 1-9 Non-Int in PHOT-21 (34)	20 Secs (80 Secs)	
								Pattern 3, Exps 7-9 in Sequence 1-9 Non-Int in PHOT-21 (34) (3)	[==>(Pattern 1)]	
									[==>(Pattern 2)]	
									[==>(Pattern 3)]	[1]
									[==>(Pattern 4)]	

Proposal 13667 - PHOT-21 (34) - Observations of the Pluto System During the New Horizons Encounter Epoch



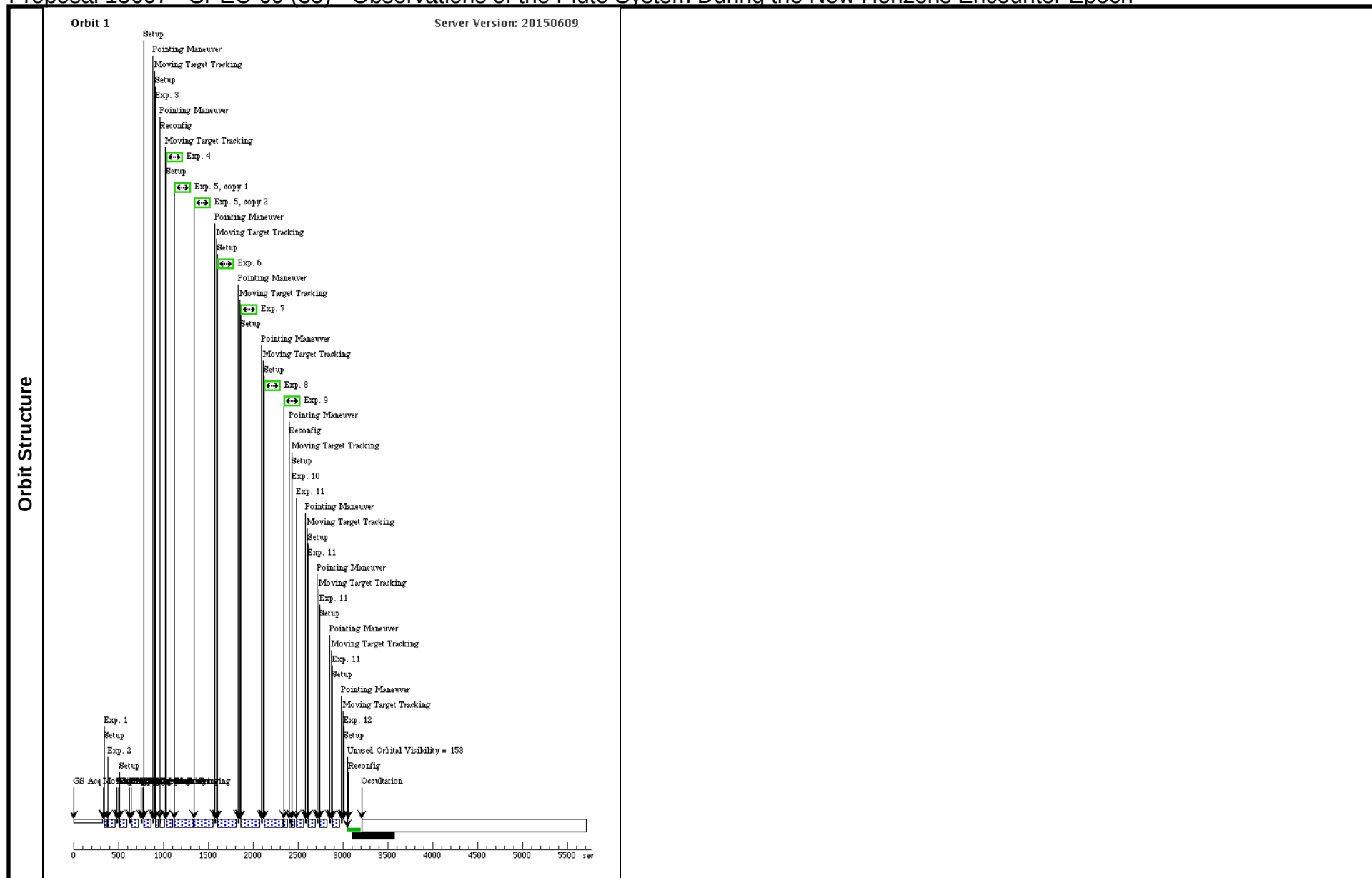
Proposal 13667 - SPEC-09 (35) - Observations of the Pluto System During the New Horizons Encounter Epoch

Visit	Proposal 13667, SPEC-09 (35), scheduling Fri Aug 07 01:03:05 GMT 2015				
	Diagnostic Status: Warning Scientific Instruments: WFC3/IR, WFC3/UVIS Special Requirements: ORIENT 265D TO 265 D; ORIENT 85D TO 85 D; BETWEEN 21-AUG-2015:15:40:00 AND 22-AUG-2015:03:40:00 Comments: This visit is designed to get near-IR grism spectra of Pluto and Charon. The special roll requirements are used to keep the spectral images from Pluto and Charon from overlapping. The timing is set by the observing cadence while also selecting a fixed sub-earth longitude for all of the SPEC visits. The timing of all visits are also optimized for the deep imaging cadence on the outer satellites to get uniform longitude coverage. The other part of the visit is to get deep optical images of the faint outer satellites. POS TARG values re-position Pluto in steps of exactly 5.5 pixels along each axis.				
Diagnostics	(Short POS 1 (35.004)) Warning (Form): FLASH level may be too low for this exposure or a short subexposure. See extended explanation in the diagnostic browser (Short POS 4 (35.009)) 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
	(2)	Pattern Type=WFC3-IR-DITHER-BOX-MIN Purpose=DITHER Number Of Points=4 Point Spacing=1.716 Line Spacing=1.095		Coordinate Frame=POS-TARG Pattern Orientation=18.528 Angle Between Sides=74.653 Center Pattern=false	(2), (11)
Solar System Targets	#	Name	Level 1	Level 2	Level 3
	(1)	PLUTO-SYSTEM	STD=PLUTO		
Window					
Ephem Center					
EARTH					

Proposal 13667 - SPEC-09 (35) - Observations of the Pluto System During the New Horizons Encounter Epoch

Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1	Navigation	(1) PLUTO-SYSTEM	WFC3/IR, MULTIACCUM, GRISM512	F139M	NSAMP=4; SAMP-SEQ=RAPID		Sequence 1-12 Non-Int in SPEC-09 (35)	3,412,108 Secs (3,412 Secs) [==>]	[1]
	2	Spectra	(1) PLUTO-SYSTEM	WFC3/IR, MULTIACCUM, GRISM512	G141	NSAMP=7; SAMP-SEQ=STEP25		Sequence 1-12 Non-Int in SPEC-09 (35) Pattern 2, Exps 2-2 in Sequence 1-12 Non-Int in SPEC-09 (35) (2)	59,675,893 Secs (238,704 Secs) [==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)] [==>(Pattern 4)]	[1]
	Comments: Dithered slitless grism spectra. Ideally, the bracketing navigation images would correspond to the first and last dither positions in each set of four, but I'm not sure if that's the default behavior. (the reasons are to avoid pointing overheads, and also to minimize offsets). If it isn't easy to get this to happen, it's not a big deal.									
	3	Navigation	(1) PLUTO-SYSTEM	WFC3/IR, MULTIACCUM, GRISM512	F139M	NSAMP=4; SAMP-SEQ=RAPID		Sequence 1-12 Non-Int in SPEC-09 (35)	3,412,108 Secs (3,412 Secs) [==>]	[1]
	4	Short POS 1	(1) PLUTO-SYSTEM	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F350LP		POS TARG 1.184,0.079	Sequence 1-12 Non-Int in SPEC-09 (35)	3 Secs (3 Secs) [==>]	[1]
	5	Deep imaging POS 1 (x2)	(1) PLUTO-SYSTEM	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F350LP		POS TARG 1.184,0.079	Sequence 1-12 Non-Int in SPEC-09 (35)	170 Secs X 2 (340 Secs) [==>(Copy 1)] [==>(Copy 2)]	[1]
	6	Deep imaging POS 2	(1) PLUTO-SYSTEM	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F350LP		POS TARG 1.184,0.298	Sequence 1-12 Non-Int in SPEC-09 (35)	170 Secs (170 Secs) [==>]	[1]
	7	Deep imaging POS 3	(1) PLUTO-SYSTEM	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F350LP		POS TARG 1.401,0.093	Sequence 1-12 Non-Int in SPEC-09 (35)	170 Secs (170 Secs) [==>]	[1]
	8	Deep imaging POS 4	(1) PLUTO-SYSTEM	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F350LP		POS TARG 1.401,0.312	Sequence 1-12 Non-Int in SPEC-09 (35)	170 Secs (170 Secs) [==>]	[1]
	9	Short POS 4	(1) PLUTO-SYSTEM	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F350LP		POS TARG 1.401,0.312	Sequence 1-12 Non-Int in SPEC-09 (35)	3 Secs (3 Secs) [==>]	[1]
	10	Navigation	(1) PLUTO-SYSTEM	WFC3/IR, MULTIACCUM, GRISM512	F139M	NSAMP=4; SAMP-SEQ=RAPID		Sequence 1-12 Non-Int in SPEC-09 (35)	3,412,108 Secs (3,412 Secs) [==>]	[1]
	11	Spectra	(1) PLUTO-SYSTEM	WFC3/IR, MULTIACCUM, GRISM512	G141	NSAMP=7; SAMP-SEQ=STEP25		Sequence 1-12 Non-Int in SPEC-09 (35) Pattern 2, Exps 11-11 in Sequence 1-12 Non-Int in SPEC-09 (35) (2)	59,675,893 Secs (238,704 Secs) [==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)] [==>(Pattern 4)]	[1]
	Comments: Dithered slitless grism spectra. Ideally, the bracketing navigation images would correspond to the first and last dither positions in each set of four, but I'm not sure if that's the default behavior. (the reasons are to avoid pointing overheads, and also to minimize offsets). If it isn't easy to get this to happen, it's not a big deal.									
	12	Navigation	(1) PLUTO-SYSTEM	WFC3/IR, MULTIACCUM, GRISM512	F139M	NSAMP=4; SAMP-SEQ=RAPID		Sequence 1-12 Non-Int in SPEC-09 (35)	3,412,108 Secs (3,412 Secs) [==>]	[1]

Proposal 13667 - SPEC-09 (35) - Observations of the Pluto System During the New Horizons Encounter Epoch



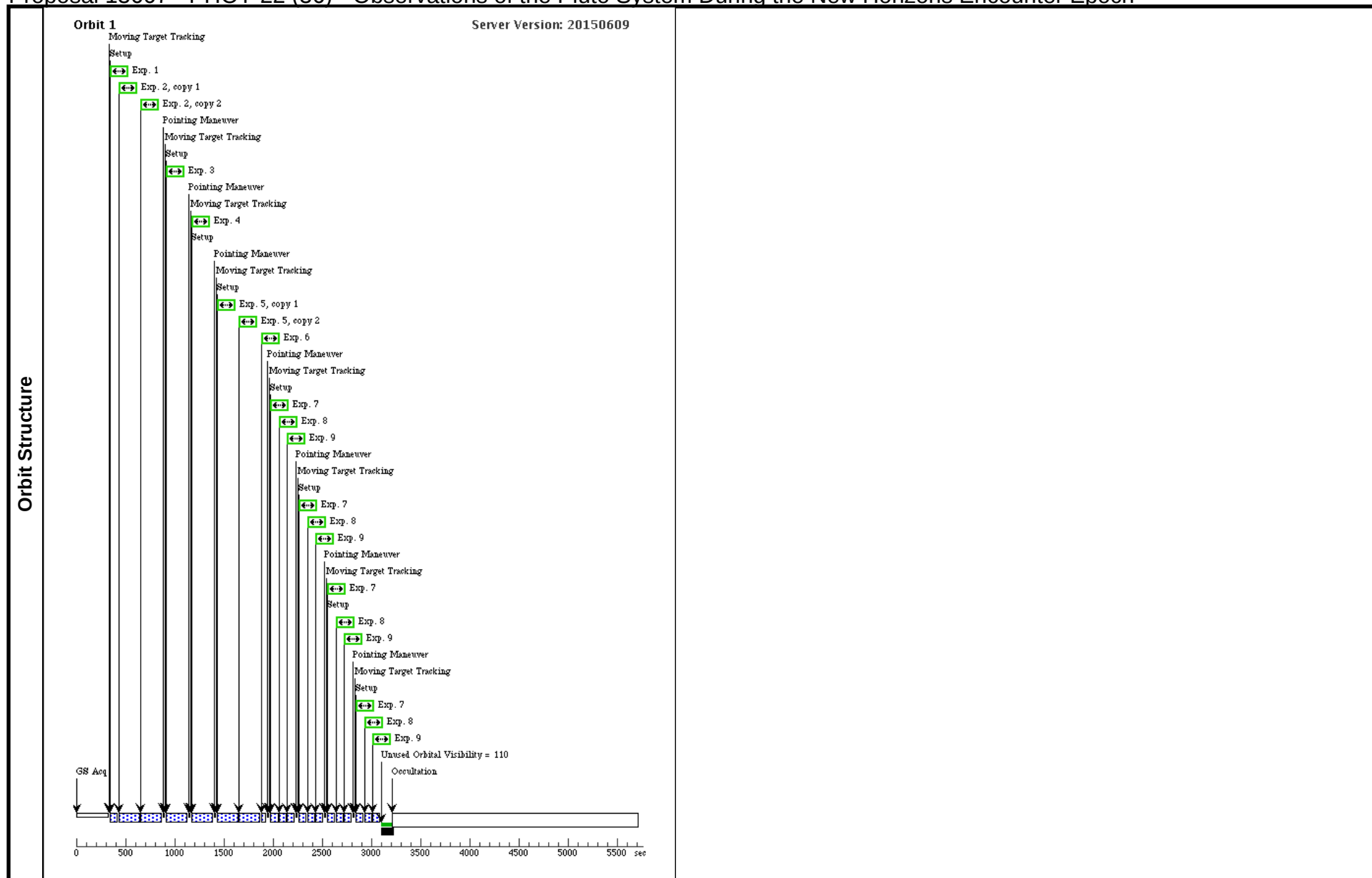
Proposal 13667 - PHOT-22 (36) - Observations of the Pluto System During the New Horizons Encounter Epoch

Visit	Proposal 13667, PHOT-22 (36), implementation Fri Aug 07 01:03:06 GMT 2015					
	Diagnostic Status: Warning Scientific Instruments: WFC3/UVIS Special Requirements: BETWEEN 09-SEP-2015:04:21:17 AND 09-SEP-2015:16:21:17 Comments: The PHOT visits are designed for high SNR photometry of Pluto and Charon. These observations are designed as a spatial scan to combine dithering and extra detected signal into a single exposure. These images need to use the onboard parallax correction but have to be implemented as a fixed time, ambush observation to get Pluto and Charon in the field. The spatial scan will incorporate the geocentric motion of Pluto to get the desired trail on the image. The Pluto observations use F435W and F555W in each visit for complete longitude coverage. This coverage is targeted for two time ranges. The first set is 12 visits covering the last full rotation of Pluto leading up to the time of closest approach of New Horizons to Pluto. These images are fixed at 30 degree longitude resolution. The other set of 12 visits are spread out to cover the full range of solar phase angle available to HST while also achieving 30 degree longitude spacing. Within these 24 visits, there are 3 other filters used, one per visit. The timing on the extra filter is set to get 8 evenly spaced longitudes (45 degree spacing) in each of the other filters. The long exposure images are normal moving target observations to get positions and photometry on the faint outer satellites. POS TARG values re-position Pluto in steps of exactly 5.5 pixels along each axis. As built, APT does not support mixing these two types of observations in one orbit. The durations for the pieces appear to fit in a single visibility window with a few minutes to spare. It is intended and expected that all exposures will fit in one window. Deviations from this need to be discussed for science impact.					
Diagnostics	(Short POS 1 (36.001)) Warning (Form): FLASH level may be too low for this exposure or a short subexposure. See extended explanation in the diagnostic browser (Short POS 4 (36.006)) Warning (Form): FLASH level may be too low for this exposure or a short subexposure. See extended explanation in the diagnostic browser (PICCh F1 (36.007)) Warning (Form): FLASH level may be too low for this exposure or a short subexposure. See extended explanation in the diagnostic browser (PICCh F2 (36.008)) Warning (Form): FLASH level may be too low for this exposure or a short subexposure. See extended explanation in the diagnostic browser (PICCh F3 (36.009)) 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
	(3)	Pattern Type=WFC3-UVIS-DITHER-BOX Purpose=DITHER Number Of Points=4 Point Spacing=0.173 Line Spacing=0.112		Coordinate Frame=POS-TARG Pattern Orientation=23.884 Angle Between Sides=81.785 Center Pattern=false		(7-9)
Solar System Targets	#	Name	Level 1	Level 2	Level 3	Window
	(1)	PLUTO-SYSTEM	STD=PLUTO			EARTH

Proposal 13667 - PHOT-22 (36) - Observations of the Pluto System During the New Horizons Encounter Epoch

Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1	Short POS 1	(1) PLUTO-SYSTEM	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F350LP		POS TARG 1.184,0.079	Sequence 1-9 Non-Int in PHOT-22 (36)	3 Secs (3 Secs)	
									[==>]	[1]
	2	Deep imaging POS 1 (x2)	(1) PLUTO-SYSTEM	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F350LP		POS TARG 1.184,0.079	Sequence 1-9 Non-Int in PHOT-22 (36)	170 Secs X 2 (340 Secs)	
									[==>(Copy 1)]	
									[==>(Copy 2)]	[1]
	3	Deep imaging POS 2	(1) PLUTO-SYSTEM	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F350LP		POS TARG 1.184,0.298	Sequence 1-9 Non-Int in PHOT-22 (36)	170 Secs (170 Secs)	
									[==>]	[1]
	4	Deep imaging POS 3	(1) PLUTO-SYSTEM	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F350LP		POS TARG 1.401,0.093	Sequence 1-9 Non-Int in PHOT-22 (36)	170 Secs (170 Secs)	
									[==>]	[1]
	5	Deep imaging POS 4	(1) PLUTO-SYSTEM	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F350LP		POS TARG 1.401,0.312	Sequence 1-9 Non-Int in PHOT-22 (36)	170 Secs X 2 (340 Secs)	
									[==>(Copy 1)]	
									[==>(Copy 2)]	[1]
	6	Short POS 4	(1) PLUTO-SYSTEM	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F350LP		POS TARG 1.401,0.312	Sequence 1-9 Non-Int in PHOT-22 (36)	3 Secs (3 Secs)	
									[==>]	[1]
	7	PlCh F1	(1) PLUTO-SYSTEM	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F438W	CR-SPLIT=NO	POS TARG 1.184,0.079	Sequence 1-9 Non-Int in PHOT-22 (36) Pattern 3, Exps 7-9 in Sequence 1-9 Non-Int in PHOT-22 (36) (3)	12 Secs (48 Secs)	
									[==>(Pattern 1)]	
									[==>(Pattern 2)]	
									[==>(Pattern 3)]	[1]
									[==>(Pattern 4)]	
	8	PlCh F2	(1) PLUTO-SYSTEM	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F555W	CR-SPLIT=NO	POS TARG 1.184,0.079	Sequence 1-9 Non-Int in PHOT-22 (36) Pattern 3, Exps 7-9 in Sequence 1-9 Non-Int in PHOT-22 (36) (3)	6 Secs (24 Secs)	
									[==>(Pattern 1)]	
									[==>(Pattern 2)]	
									[==>(Pattern 3)]	[1]
									[==>(Pattern 4)]	
	9	PlCh F3	(1) PLUTO-SYSTEM	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F625W	CR-SPLIT=NO	POS TARG 1.184,0.079	Sequence 1-9 Non-Int in PHOT-22 (36) Pattern 3, Exps 7-9 in Sequence 1-9 Non-Int in PHOT-22 (36) (3)	6 Secs (24 Secs)	
									[==>(Pattern 1)]	
									[==>(Pattern 2)]	
									[==>(Pattern 3)]	[1]
									[==>(Pattern 4)]	

Proposal 13667 - PHOT-22 (36) - Observations of the Pluto System During the New Horizons Encounter Epoch



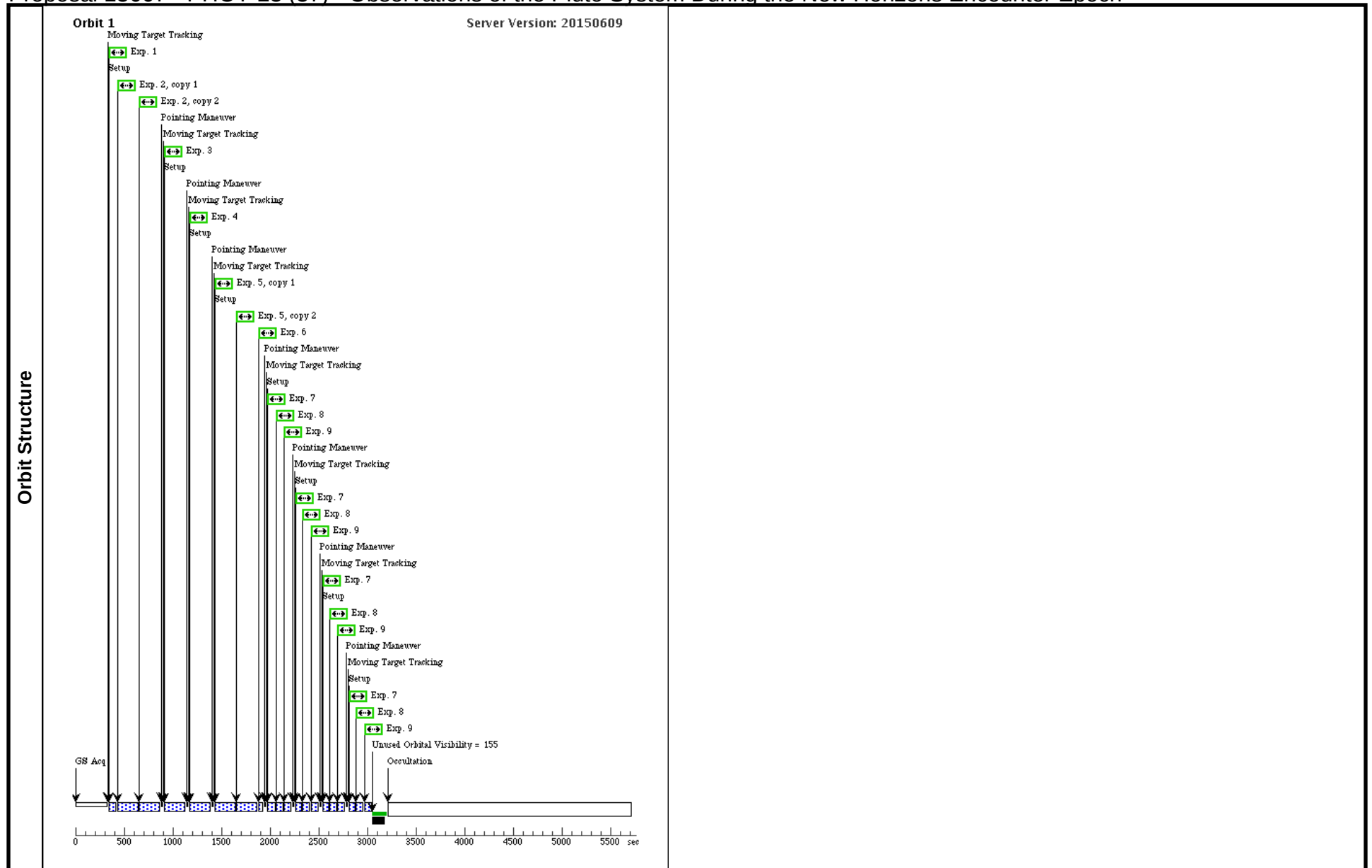
Proposal 13667 - PHOT-23 (37) - Observations of the Pluto System During the New Horizons Encounter Epoch

Visit	Proposal 13667, PHOT-23 (37), implementation Fri Aug 07 01:03:06 GMT 2015					
	Diagnostic Status: Warning Scientific Instruments: WFC3/UVIS Special Requirements: BETWEEN 13-SEP-2015:10:33:01 AND 13-SEP-2015:22:33:01 Comments: The PHOT visits are designed for high SNR photometry of Pluto and Charon. These observations are designed as a spatial scan to combine dithering and extra detected signal into a single exposure. These images need to use the onboard parallax correction but have to be implemented as a fixed time, ambush observation to get Pluto and Charon in the field. The spatial scan will incorporate the geocentric motion of Pluto to get the desired trail on the image. The Pluto observations use F435W and F555W in each visit for complete longitude coverage. This coverage is targeted for two time ranges. The first set is 12 visits covering the last full rotation of Pluto leading up to the time of closest approach of New Horizons to Pluto. These images are fixed at 30 degree longitude resolution. The other set of 12 visits are spread out to cover the full range of solar phase angle available to HST while also achieving 30 degree longitude spacing. Within these 24 visits, there are 3 other filters used, one per visit. The timing on the extra filter is set to get 8 evenly spaced longitudes (45 degree spacing) in each of the other filters. The long exposure images are normal moving target observations to get positions and photometry on the faint outer satellites. POS TARG values re-position Pluto in steps of exactly 5.5 pixels along each axis. As built, APT does not support mixing these two types of observations in one orbit. The durations for the pieces appear to fit in a single visibility window with a few minutes to spare. It is intended and expected that all exposures will fit in one window. Deviations from this need to be discussed for science impact.					
Diagnostics	(Short POS 1 (37.001)) Warning (Form): FLASH level may be too low for this exposure or a short subexposure. See extended explanation in the diagnostic browser					
	(Short POS 4 (37.006)) Warning (Form): FLASH level may be too low for this exposure or a short subexposure. See extended explanation in the diagnostic browser					
	(PICCh F1 (37.007)) Warning (Form): FLASH level may be too low for this exposure or a short subexposure. See extended explanation in the diagnostic browser					
	(PICCh F2 (37.008)) Warning (Form): FLASH level may be too low for this exposure or a short subexposure. See extended explanation in the diagnostic browser					
	(PICCh F4 (37.009)) 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
	(3)	Pattern Type=WFC3-UVIS-DITHER-BOX Purpose=DITHER Number Of Points=4 Point Spacing=0.173 Line Spacing=0.112		Coordinate Frame=POS-TARG Pattern Orientation=23.884 Angle Between Sides=81.785 Center Pattern=false		(7-9)
Solar System Targets	#	Name	Level 1	Level 2	Level 3	Window
	(1)	PLUTO-SYSTEM	STD=PLUTO			EARTH

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Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1	Short POS 1	(1) PLUTO-SYSTEM	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F350LP		POS TARG 1.184,0.079	Sequence 1-9 Non-Int in PHOT-23 (37)	3 Secs (3 Secs)	
									[==>]	[1]
	2	Deep imaging POS 1 (x2)	(1) PLUTO-SYSTEM	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F350LP		POS TARG 1.184,0.079	Sequence 1-9 Non-Int in PHOT-23 (37)	170 Secs X 2 (340 Secs)	
									[==>(Copy 1)]	[1]
									[==>(Copy 2)]	
	3	Deep imaging POS 2	(1) PLUTO-SYSTEM	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F350LP		POS TARG 1.184,0.298	Sequence 1-9 Non-Int in PHOT-23 (37)	170 Secs (170 Secs)	
									[==>]	[1]
	4	Deep imaging POS 3	(1) PLUTO-SYSTEM	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F350LP		POS TARG 1.401,0.093	Sequence 1-9 Non-Int in PHOT-23 (37)	170 Secs (170 Secs)	
									[==>]	[1]
	5	Deep imaging POS 4	(1) PLUTO-SYSTEM	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F350LP		POS TARG 1.401,0.312	Sequence 1-9 Non-Int in PHOT-23 (37)	170 Secs X 2 (340 Secs)	
									[==>(Copy 1)]	[1]
									[==>(Copy 2)]	
	6	Short POS 4	(1) PLUTO-SYSTEM	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F350LP		POS TARG 1.401,0.312	Sequence 1-9 Non-Int in PHOT-23 (37)	3 Secs (3 Secs)	
									[==>]	[1]
	7	PlCh F1	(1) PLUTO-SYSTEM	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F438W	CR-SPLIT=NO	POS TARG 1.184,0.079	Sequence 1-9 Non-Int in PHOT-23 (37) Pattern 3, Exps 7-9 in Sequence 1-9 Non-Int in PHOT-23 (37) (3)	12 Secs (48 Secs)	
									[==>(Pattern 1)]	[1]
									[==>(Pattern 2)]	
									[==>(Pattern 3)]	
									[==>(Pattern 4)]	
	8	PlCh F2	(1) PLUTO-SYSTEM	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F555W	CR-SPLIT=NO	POS TARG 1.184,0.079	Sequence 1-9 Non-Int in PHOT-23 (37) Pattern 3, Exps 7-9 in Sequence 1-9 Non-Int in PHOT-23 (37) (3)	6 Secs (24 Secs)	
									[==>(Pattern 1)]	[1]
									[==>(Pattern 2)]	
									[==>(Pattern 3)]	
									[==>(Pattern 4)]	
	9	PlCh F4	(1) PLUTO-SYSTEM	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F775W	CR-SPLIT=NO	POS TARG 1.184,0.079	Sequence 1-9 Non-Int in PHOT-23 (37) Pattern 3, Exps 7-9 in Sequence 1-9 Non-Int in PHOT-23 (37) (3)	9 Secs (36 Secs)	
									[==>(Pattern 1)]	[1]
									[==>(Pattern 2)]	
									[==>(Pattern 3)]	
									[==>(Pattern 4)]	

Proposal 13667 - PHOT-23 (37) - Observations of the Pluto System During the New Horizons Encounter Epoch



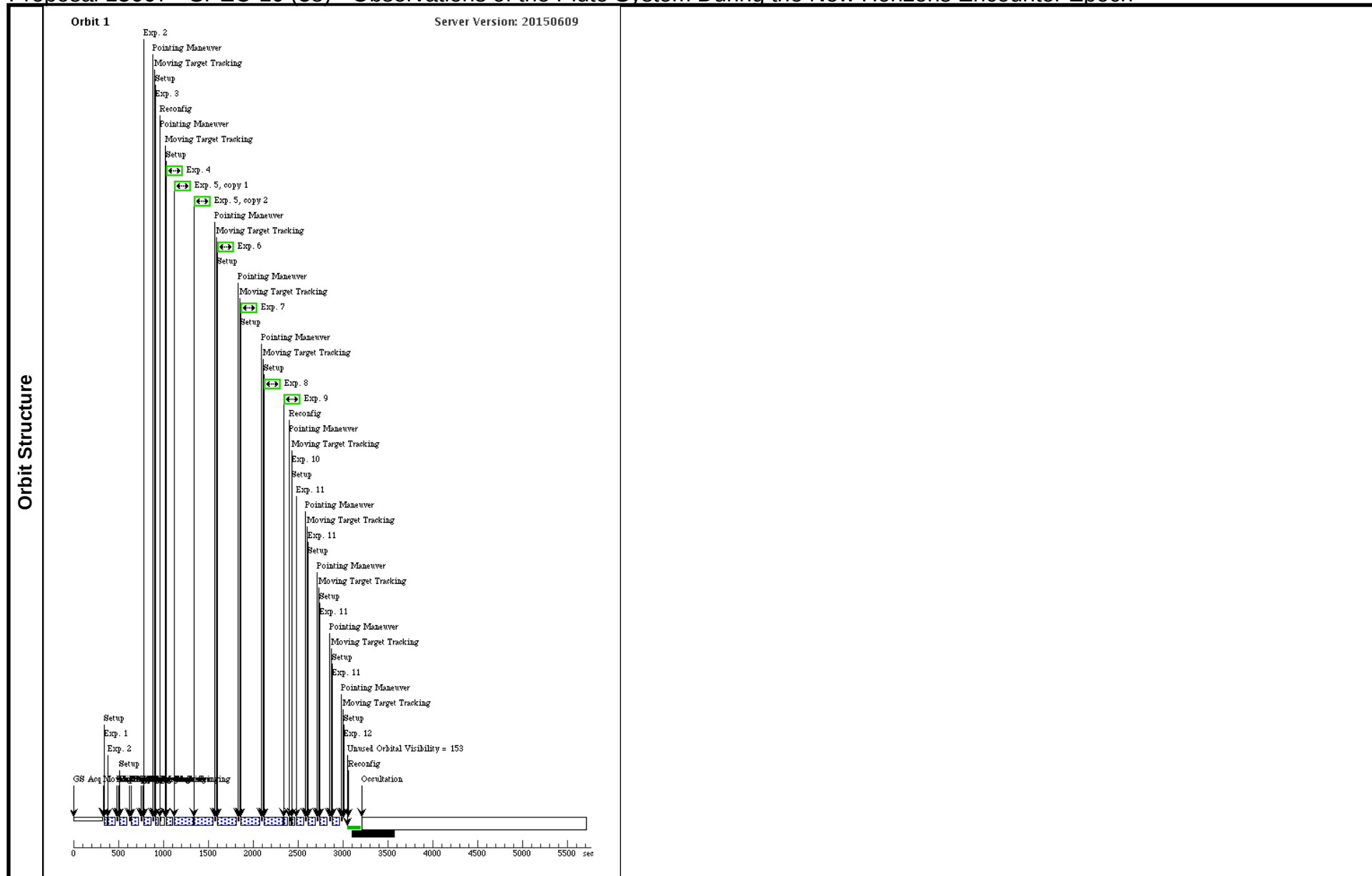
Proposal 13667 - SPEC-10 (38) - Observations of the Pluto System During the New Horizons Encounter Epoch

Visit	Proposal 13667, SPEC-10 (38), implementation Fri Aug 07 01:03:06 GMT 2015				
	Diagnostic Status: Warning Scientific Instruments: WFC3/IR, WFC3/UVIS Special Requirements: ORIENT 265D TO 265 D; ORIENT 85D TO 85 D; BETWEEN 16-SEP-2015:04:51:00 AND 16-SEP-2015:16:51:00 <i>Comments: This visit is designed to get near-IR grism spectra of Pluto and Charon. The special roll requirements are used to keep the spectral images from Pluto and Charon from overlapping. The timing is set by the observing cadence while also selecting a fixed sub-earth longitude for all of the SPEC visits. The timing of all visits are also optimized for the deep imaging cadence on the outer satellites to get uniform longitude coverage.</i> <i>The other part of the visit is to get deep optical images of the faint outer satellites. POS TARG values re-position Pluto in steps of exactly 5.5 pixels along each axis.</i>				
Diagnosics	(Short POS 1 (38.004)) Warning (Form): FLASH level may be too low for this exposure or a short subexposure. See extended explanation in the diagnostic browser (Short POS 4 (38.009)) 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
	(2)	Pattern Type=WFC3-IR-DITHER-BOX-MIN Purpose=DITHER Number Of Points=4 Point Spacing=1.716 Line Spacing=1.095		Coordinate Frame=POS-TARG Pattern Orientation=18.528 Angle Between Sides=74.653 Center Pattern=false	(2), (11)
Solar System Targets	#	Name	Level 1	Level 2	Level 3
	(1)	PLUTO-SYSTEM	STD=PLUTO		Window
					Ephem Center

Proposal 13667 - SPEC-10 (38) - Observations of the Pluto System During the New Horizons Encounter Epoch

Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1	Navigation	(1) PLUTO-SYSTEM	WFC3/IR, MULTIACCUM, GRISM512	F139M	NSAMP=4; SAMP-SEQ=RAPID	GS ACQ SCENARIO BASE1B3	Sequence 1-12 Non-Int in SPEC-10 (38)	3,412,108 Secs (3,412 Secs) [==>]	[1]
	2	Spectra	(1) PLUTO-SYSTEM	WFC3/IR, MULTIACCUM, GRISM512	G141	NSAMP=7; SAMP-SEQ=STEP25		Sequence 1-12 Non-Int in SPEC-10 (38) Pattern 2, Exps 2-2 in Sequence 1-12 Non-Int in SPEC-10 (38) (2)	59,675,893 Secs (238,704 Secs) [==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)] [==>(Pattern 4)]	[1]
	Comments: Dithered slitless grism spectra. Ideally, the bracketing navigation images would correspond to the first and last dither positions in each set of four, but I'm not sure if that's the default behavior. (the reasons are to avoid pointing overheads, and also to minimize offsets). If it isn't easy to get this to happen, it's not a big deal.									
	3	Navigation	(1) PLUTO-SYSTEM	WFC3/IR, MULTIACCUM, GRISM512	F139M	NSAMP=4; SAMP-SEQ=RAPID		Sequence 1-12 Non-Int in SPEC-10 (38)	3,412,108 Secs (3,412 Secs) [==>]	[1]
	4	Short POS 1	(1) PLUTO-SYSTEM	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F350LP		POS TARG 1.184,0.079	Sequence 1-12 Non-Int in SPEC-10 (38)	3 Secs (3 Secs) [==>]	[1]
	5	Deep imaging POS 1 (x2)	(1) PLUTO-SYSTEM	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F350LP		POS TARG 1.184,0.079	Sequence 1-12 Non-Int in SPEC-10 (38)	170 Secs X 2 (340 Secs) [==>(Copy 1)] [==>(Copy 2)]	[1]
	6	Deep imaging POS 2	(1) PLUTO-SYSTEM	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F350LP		POS TARG 1.184,0.298	Sequence 1-12 Non-Int in SPEC-10 (38)	170 Secs (170 Secs) [==>]	[1]
	7	Deep imaging POS 3	(1) PLUTO-SYSTEM	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F350LP		POS TARG 1.401,0.093	Sequence 1-12 Non-Int in SPEC-10 (38)	170 Secs (170 Secs) [==>]	[1]
	8	Deep imaging POS 4	(1) PLUTO-SYSTEM	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F350LP		POS TARG 1.401,0.312	Sequence 1-12 Non-Int in SPEC-10 (38)	170 Secs (170 Secs) [==>]	[1]
	9	Short POS 4	(1) PLUTO-SYSTEM	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F350LP		POS TARG 1.401,0.312	Sequence 1-12 Non-Int in SPEC-10 (38)	3 Secs (3 Secs) [==>]	[1]
	10	Navigation	(1) PLUTO-SYSTEM	WFC3/IR, MULTIACCUM, GRISM512	F139M	NSAMP=4; SAMP-SEQ=RAPID		Sequence 1-12 Non-Int in SPEC-10 (38)	3,412,108 Secs (3,412 Secs) [==>]	[1]
	11	Spectra	(1) PLUTO-SYSTEM	WFC3/IR, MULTIACCUM, GRISM512	G141	NSAMP=7; SAMP-SEQ=STEP25		Sequence 1-12 Non-Int in SPEC-10 (38) Pattern 2, Exps 11-1 in Sequence 1-12 Non-Int in SPEC-10 (38) (2)	59,675,893 Secs (238,704 Secs) [==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)] [==>(Pattern 4)]	[1]
	Comments: Dithered slitless grism spectra. Ideally, the bracketing navigation images would correspond to the first and last dither positions in each set of four, but I'm not sure if that's the default behavior. (the reasons are to avoid pointing overheads, and also to minimize offsets). If it isn't easy to get this to happen, it's not a big deal.									
	12	Navigation	(1) PLUTO-SYSTEM	WFC3/IR, MULTIACCUM, GRISM512	F139M	NSAMP=4; SAMP-SEQ=RAPID		Sequence 1-12 Non-Int in SPEC-10 (38)	3,412,108 Secs (3,412 Secs) [==>]	[1]

Proposal 13667 - SPEC-10 (38) - Observations of the Pluto System During the New Horizons Encounter Epoch



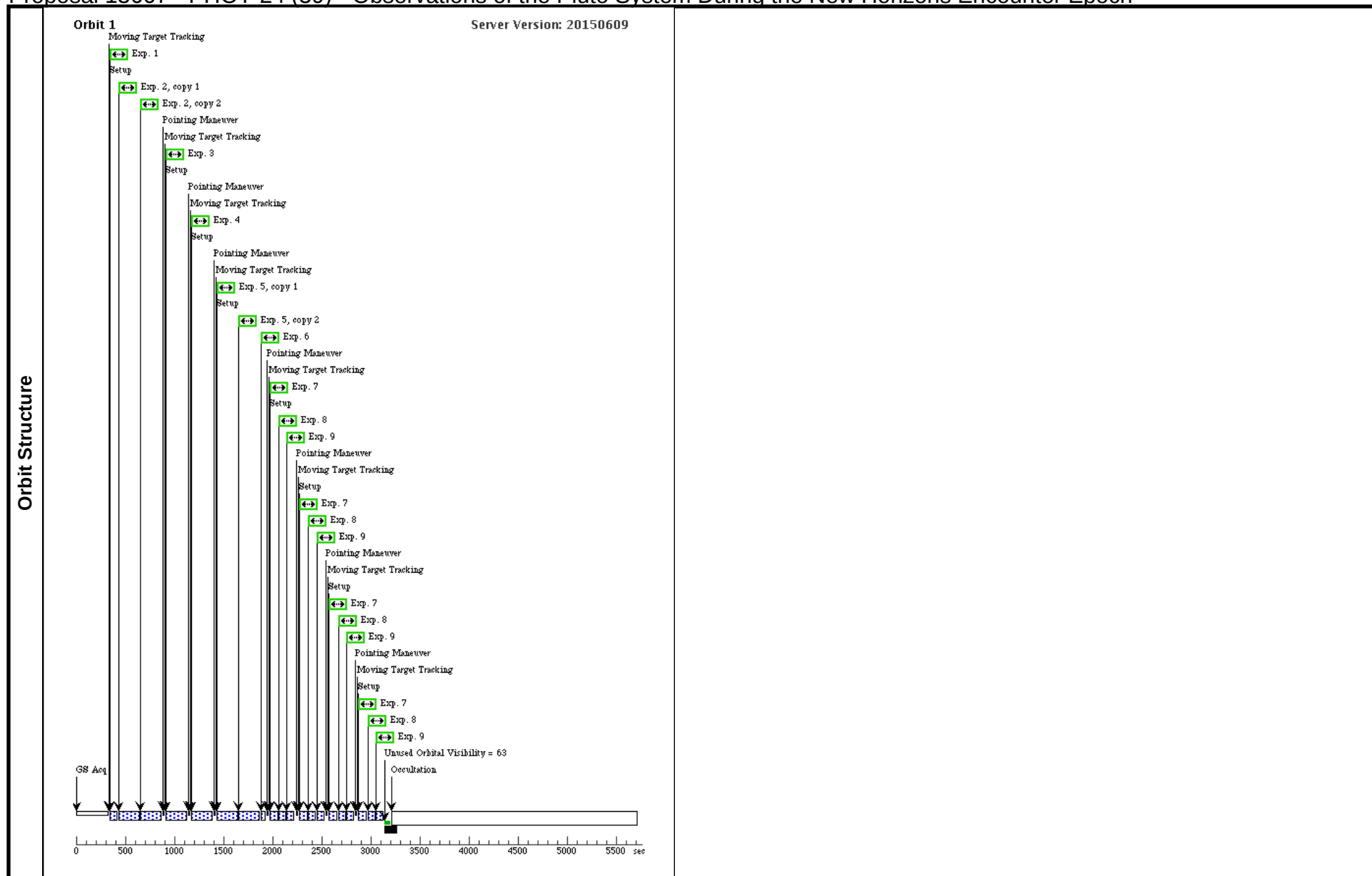
Proposal 13667 - PHOT-24 (39) - Observations of the Pluto System During the New Horizons Encounter Epoch

Visit	Proposal 13667, PHOT-24 (39), implementation				Fri Aug 07 01:03:06 GMT 2015		
	Diagnostic Status: Warning						
	Scientific Instruments: WFC3/UVIS						
	Special Requirements: BETWEEN 03-OCT-2015:15:58:40 AND 04-OCT-2015:03:58:40						
	Comments: The PHOT visits are designed for high SNR photometry of Pluto and Charon. These observations are designed as a spatial scan to combine dithering and extra detected signal into a single exposure. These images need to use the onboard parallax correction but have to be implemented as a fixed time, ambush observation to get Pluto and Charon in the field. The spatial scan will incorporate the geocentric motion of Pluto to get the desired trail on the image. The Pluto observations use F435W and F555W in each visit for complete longitude coverage. This coverage is targeted for two time ranges. The first set is 12 visits covering the last full rotation of Pluto leading up to the time of closest approach of New Horizons to Pluto. These images are fixed at 30 degree longitude resolution. The other set of 12 visits are spread out to cover the full range of solar phase angle available to HST while also achieving 30 degree longitude spacing. Within these 24 visits, there are 3 other filters used, one per visit. The timing on the extra filter is set to get 8 evenly spaced longitudes (45 degree spacing) in each of the other filters. The long exposure images are normal moving target observations to get positions and photometry on the faint outer satellites. POS TARG values re-position Pluto in steps of exactly 5.5 pixels along each axis. As built, APT does not support mixing these two types of observations in one orbit. The durations for the pieces appear to fit in a single visibility window with a few minutes to spare. It is intended and expected that all exposures will fit in one window. Deviations from this need to be discussed for science impact.						
Diagnostics	(Short POS 1 (39.001)) Warning (Form): FLASH level may be too low for this exposure or a short subexposure. See extended explanation in the diagnostic browser						
	(Short POS 4 (39.006)) Warning (Form): FLASH level may be too low for this exposure or a short subexposure. See extended explanation in the diagnostic browser						
	(PICCh F1 (39.007)) Warning (Form): FLASH level may be too low for this exposure or a short subexposure. See extended explanation in the diagnostic browser						
	(PICCh F2 (39.008)) Warning (Form): FLASH level may be too low for this exposure or a short subexposure. See extended explanation in the diagnostic browser						
	(PICCh F5 (39.009)) 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		
	(3)	Pattern Type=WFC3-UVIS-DITHER-BOX Purpose=DITHER Number Of Points=4 Point Spacing=0.173 Line Spacing=0.112	Coordinate Frame=POS-TARG Pattern Orientation=23.884 Angle Between Sides=81.785 Center Pattern=false		(7-9)		
Solar System Targets	#	Name	Level 1	Level 2	Level 3	Window	Ephem Center
	(1)	PLUTO-SYSTEM	STD=PLUTO				EARTH

Proposal 13667 - PHOT-24 (39) - Observations of the Pluto System During the New Horizons Encounter Epoch

Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1	Short POS 1	(1) PLUTO-SYSTEM	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F350LP		POS TARG 1.184,0.079	Sequence 1-9 Non-Int in PHOT-24 (39)	3 Secs (3 Secs)	
									[==>]	[1]
	2	Deep imaging POS 1 (x2)	(1) PLUTO-SYSTEM	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F350LP		POS TARG 1.184,0.079	Sequence 1-9 Non-Int in PHOT-24 (39)	170 Secs X 2 (340 Secs)	
									[==>(Copy 1)]	[1]
									[==>(Copy 2)]	
	3	Deep imaging POS 2	(1) PLUTO-SYSTEM	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F350LP		POS TARG 1.184,0.298	Sequence 1-9 Non-Int in PHOT-24 (39)	170 Secs (170 Secs)	
									[==>]	[1]
	4	Deep imaging POS 3	(1) PLUTO-SYSTEM	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F350LP		POS TARG 1.401,0.093	Sequence 1-9 Non-Int in PHOT-24 (39)	170 Secs (170 Secs)	
									[==>]	[1]
Exposures	5	Deep imaging POS 4	(1) PLUTO-SYSTEM	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F350LP		POS TARG 1.401,0.312	Sequence 1-9 Non-Int in PHOT-24 (39)	170 Secs X 2 (340 Secs)	
									[==>(Copy 1)]	[1]
									[==>(Copy 2)]	
	6	Short POS 4	(1) PLUTO-SYSTEM	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F350LP		POS TARG 1.401,0.312	Sequence 1-9 Non-Int in PHOT-24 (39)	3 Secs (3 Secs)	
									[==>]	[1]
	7	PlCh F1	(1) PLUTO-SYSTEM	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F438W	CR-SPLIT=NO	POS TARG 1.184,0.079	Sequence 1-9 Non-Int in PHOT-24 (39) Pattern 3, Exps 7-9 in Sequence 1-9 Non-Int in PHOT-24 (39) (3)	12 Secs (48 Secs)	
									[==>(Pattern 1)]	[1]
									[==>(Pattern 2)]	
									[==>(Pattern 3)]	
									[==>(Pattern 4)]	
Exposures	8	PlCh F2	(1) PLUTO-SYSTEM	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F555W	CR-SPLIT=NO	POS TARG 1.184,0.079	Sequence 1-9 Non-Int in PHOT-24 (39) Pattern 3, Exps 7-9 in Sequence 1-9 Non-Int in PHOT-24 (39) (3)	6 Secs (24 Secs)	
									[==>(Pattern 1)]	[1]
									[==>(Pattern 2)]	
									[==>(Pattern 3)]	
									[==>(Pattern 4)]	
	9	PlCh F5	(1) PLUTO-SYSTEM	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F845M	CR-SPLIT=NO	POS TARG 1.184,0.079	Sequence 1-9 Non-Int in PHOT-24 (39) Pattern 3, Exps 7-9 in Sequence 1-9 Non-Int in PHOT-24 (39) (3)	20 Secs (80 Secs)	
									[==>(Pattern 1)]	[1]
									[==>(Pattern 2)]	
									[==>(Pattern 3)]	
									[==>(Pattern 4)]	

Proposal 13667 - PHOT-24 (39) - Observations of the Pluto System During the New Horizons Encounter Epoch



Proposal 13667 - SPEC-11 (40) - Observations of the Pluto System During the New Horizons Encounter Epoch

Visit	Proposal 13667, SPEC-11 (40), implementation Fri Aug 07 01:03:06 GMT 2015				
	Diagnostic Status: Warning Scientific Instruments: WFC3/IR, WFC3/UVIS Special Requirements: ORIENT 265D TO 265 D; ORIENT 85D TO 85 D; BETWEEN 24-OCT-2015:11:06:00 AND 25-OCT-2015:00:36:00 <i>Comments: This visit is designed to get near-IR grism spectra of Pluto and Charon. The special roll requirements are used to keep the spectral images from Pluto and Charon from overlapping. The timing is set by the observing cadence while also selecting a fixed sub-earth longitude for all of the SPEC visits. The timing of all visits are also optimized for the deep imaging cadence on the outer satellites to get uniform longitude coverage.</i> <i>The other part of the visit is to get deep optical images of the faint outer satellites. POS TARG values re-position Pluto in steps of exactly 5.5 pixels along each axis.</i>				
Diagnostics	(Short POS 1 (x2) (40.004)) Warning (Form): FLASH level may be too low for this exposure or a short subexposure. See extended explanation in the diagnostic browser (Short POS 4 (40.009)) 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
	(2)	Pattern Type=WFC3-IR-DITHER-BOX-MIN Purpose=DITHER Number Of Points=4 Point Spacing=1.716 Line Spacing=1.095		Coordinate Frame=POS-TARG Pattern Orientation=18.528 Angle Between Sides=74.653 Center Pattern=false	(2), (11)
Solar System Targets	#	Name	Level 1	Level 2	Level 3
	(1)	PLUTO-SYSTEM	STD=PLUTO		
		Window		Ephem Center	
				EARTH	

Proposal 13667 - SPEC-11 (40) - Observations of the Pluto System During the New Horizons Encounter Epoch

Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1	Navigation	(1) PLUTO-SYSTEM	WFC3/IR, MULTIACCUM, GRISM512	F139M	NSAMP=4; SAMP-SEQ=RAPID		Sequence 1-12 Non-Int in SPEC-11 (40)	3,412,108 Secs (3,412 Secs) [==>]	[1]
	2	Spectra	(1) PLUTO-SYSTEM	WFC3/IR, MULTIACCUM, GRISM512	G141	NSAMP=7; SAMP-SEQ=STEP25		Sequence 1-12 Non-Int in SPEC-11 (40) Pattern 2, Exps 2-2 in Sequence 1-12 Non-Int in SPEC-11 (40) (2)	59,675,893 Secs (238,704 Secs) [==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)] [==>(Pattern 4)]	[1]
	Comments: Dithered slitless grism spectra. Ideally, the bracketing navigation images would correspond to the first and last dither positions in each set of four, but I'm not sure if that's the default behavior. (the reasons are to avoid pointing overheads, and also to minimize offsets). If it isn't easy to get this to happen, it's not a big deal.									
	3	Navigation	(1) PLUTO-SYSTEM	WFC3/IR, MULTIACCUM, GRISM512	F139M	NSAMP=4; SAMP-SEQ=RAPID		Sequence 1-12 Non-Int in SPEC-11 (40)	3,412,108 Secs (3,412 Secs) [==>]	[1]
	4	Short POS 1 (x2)	(1) PLUTO-SYSTEM	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F350LP		POS TARG 1.184,0.079	Sequence 1-12 Non-Int in SPEC-11 (40)	3 Secs (3 Secs) [==>]	[1]
	5	Deep imaging POS 1 (x2)	(1) PLUTO-SYSTEM	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F350LP		POS TARG 1.184,0.079	Sequence 1-12 Non-Int in SPEC-11 (40)	170 Secs X 2 (340 Secs) [==>(Copy 1)] [==>(Copy 2)]	[1]
	6	Deep imaging POS 2	(1) PLUTO-SYSTEM	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F350LP		POS TARG 1.184,0.298	Sequence 1-12 Non-Int in SPEC-11 (40)	170 Secs (170 Secs) [==>]	[1]
	7	Deep imaging POS 3	(1) PLUTO-SYSTEM	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F350LP		POS TARG 1.401,0.093	Sequence 1-12 Non-Int in SPEC-11 (40)	170 Secs (170 Secs) [==>]	[1]
	8	Deep imaging POS 4	(1) PLUTO-SYSTEM	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F350LP		POS TARG 1.401,0.312	Sequence 1-12 Non-Int in SPEC-11 (40)	170 Secs (170 Secs) [==>]	[1]
	9	Short POS 4	(1) PLUTO-SYSTEM	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F350LP		POS TARG 1.401,0.312	Sequence 1-12 Non-Int in SPEC-11 (40)	3 Secs (3 Secs) [==>]	[1]
	10	Navigation	(1) PLUTO-SYSTEM	WFC3/IR, MULTIACCUM, GRISM512	F139M	NSAMP=4; SAMP-SEQ=RAPID		Sequence 1-12 Non-Int in SPEC-11 (40)	3,412,108 Secs (3,412 Secs) [==>]	[1]
	11	Spectra	(1) PLUTO-SYSTEM	WFC3/IR, MULTIACCUM, GRISM512	G141	NSAMP=7; SAMP-SEQ=STEP25		Sequence 1-12 Non-Int in SPEC-11 (40) Pattern 2, Exps 11-11 in Sequence 1-12 Non-Int in SPEC-11 (40) (2)	59,675,893 Secs (238,704 Secs) [==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)] [==>(Pattern 4)]	[1]
	Comments: Dithered slitless grism spectra. Ideally, the bracketing navigation images would correspond to the first and last dither positions in each set of four, but I'm not sure if that's the default behavior. (the reasons are to avoid pointing overheads, and also to minimize offsets). If it isn't easy to get this to happen, it's not a big deal.									
	12	Navigation	(1) PLUTO-SYSTEM	WFC3/IR, MULTIACCUM, GRISM512	F139M	NSAMP=4; SAMP-SEQ=RAPID		Sequence 1-12 Non-Int in SPEC-11 (40)	3,412,108 Secs (3,412 Secs) [==>]	[1]

Proposal 13667 - SPEC-11 (40) - Observations of the Pluto System During the New Horizons Encounter Epoch

