



15140 - Resolving the Connection Between Superluminous Supernovae and Star Formation in Dwarf Galaxies

Cycle: 25, 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) PTF09AS	WFC3/UVIS	1	26-Jul-2017 12:12:43.0	yes
02	(17) PTF09ATU	ACS/WFC	2	26-Jul-2017 12:12:44.0	yes
03	(2) PTF10BFZ	WFC3/UVIS	1	26-Jul-2017 12:12:45.0	yes
04	(3) PTF10BJP	WFC3/UVIS	1	26-Jul-2017 12:12:45.0	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>
05	(5) PTF10NMN	WFC3/UVIS	1	26-Jul-2017 12:12:46.0	yes
06	(4) PTF10HGI	WFC3/UVIS	2	26-Jul-2017 12:12:47.0	yes
07	(6) PTF10UHF	WFC3/UVIS	1	26-Jul-2017 12:12:47.0	yes
08	(7) PTF10VQV	ACS/WFC	1	26-Jul-2017 12:12:48.0	yes
09	(8) PTF10VWG	WFC3/UVIS	2	26-Jul-2017 12:12:49.0	yes
10	(9) PTF10AAGC	WFC3/UVIS	1	26-Jul-2017 12:12:50.0	yes
11	(18) PTF12HNI	WFC3/UVIS	1	26-Jul-2017 12:12:50.0	yes
12	(19) PTF12GTY	WFC3/UVIS	1	26-Jul-2017 12:12:51.0	yes
13	(10) PTF12MXX	WFC3/UVIS	2	26-Jul-2017 12:12:51.0	yes
14	(11) IPTF13AJG	ACS/WFC	2	26-Jul-2017 12:12:52.0	yes
15	(12) IPTF13BDL	ACS/WFC	1	26-Jul-2017 12:12:53.0	yes
16	(13) IPTF13BJZ	WFC3/UVIS	1	26-Jul-2017 12:12:53.0	yes
17	(14) IPTF13CJQ	ACS/WFC	1	26-Jul-2017 12:12:54.0	yes
18	(15) IPTF13DCC	ACS/WFC	1	26-Jul-2017 12:12:55.0	yes
19	(16) IPTF13EHE	WFC3/UVIS	1	26-Jul-2017 12:12:55.0	yes
20	(20) IPTF14TB	ACS/WFC	2	26-Jul-2017 12:12:56.0	yes
21	(21) IPTF14DCK	ACS/WFC	1	26-Jul-2017 12:12:57.0	yes
22	(22) IPTF14DEK	WFC3/UVIS	1	26-Jul-2017 12:12:57.0	yes

28 Total Orbits Used

ABSTRACT

Hydrogen-poor superluminous supernovae (SLSN-I) are a rare class of transients with peak luminosities 10-100x those of ordinary SNe and unique spectra. Now a decade after their first discoveries (and even with > 50 objects found), fundamental questions like their energy sources and progenitors are still unknown. A strong clue comes from their host galaxy environments: SLSN-I show an overwhelming preference for low-mass, low-metallicity dwarf galaxies, many of which are also undergoing a starburst. Whether this is purely a metallicity effect or also require extreme star formation conditions is debated, but the latter scenario predicts a correlation between the local SN environments and the host galaxy star formation as

traced by UV light. This prediction is testable with resolved HST imaging and precise astrometry, though initial studies have been inconclusive due to small number statistics. Here we propose to remedy this by obtaining resolved rest-frame UV imaging of 22 SLSN-I host galaxies from the Palomar Transient Factory SLSN sample, which will nearly triple the sample with HST imaging compared to previous studies and allow this question to be settled with robust statistics. At the current discovery rate of SLSNe, a similar improvement will not be possible until the LSST era.

OBSERVING DESCRIPTION

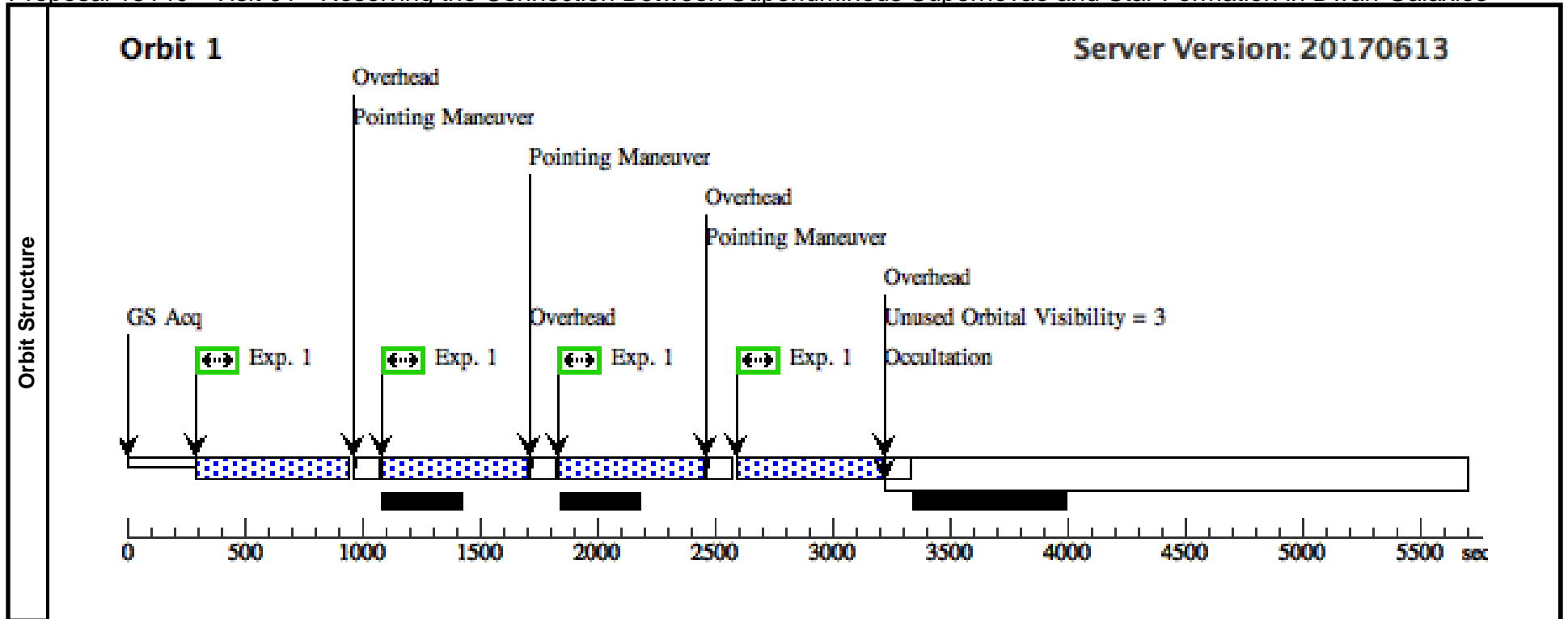
We seek to image host galaxies of superluminous supernovae in the rest-frame UV. Each host galaxy is observed in a single filter, for either one or two orbits total depending on brightness. The choice of filter is dictated by the redshift of the supernova, ranging from F336W for the nearest targets, to F606W for the highest-redshift one.

Our targets are faint, so we use the CTE-optimized apertures: WFC1-CTE for the ACS targets and UVIS2-C512C-CTE or UVIS2-C1K1C-CTE (depending on target size) for the UVIS targets, to mitigate against CTE losses. We use the standard 4-point dither pattern provided for WFC3/UVIS and ACS/WFC for better cosmic ray rejection and PSF subsampling. UVIS observations have the recommended number of flash electrons added to ensure the background is ~ 12 electrons/pix.

Proposal 15140 - Visit 01 - Resolving the Connection Between Superluminous Supernovae and Star Formation in Dwarf Galaxies

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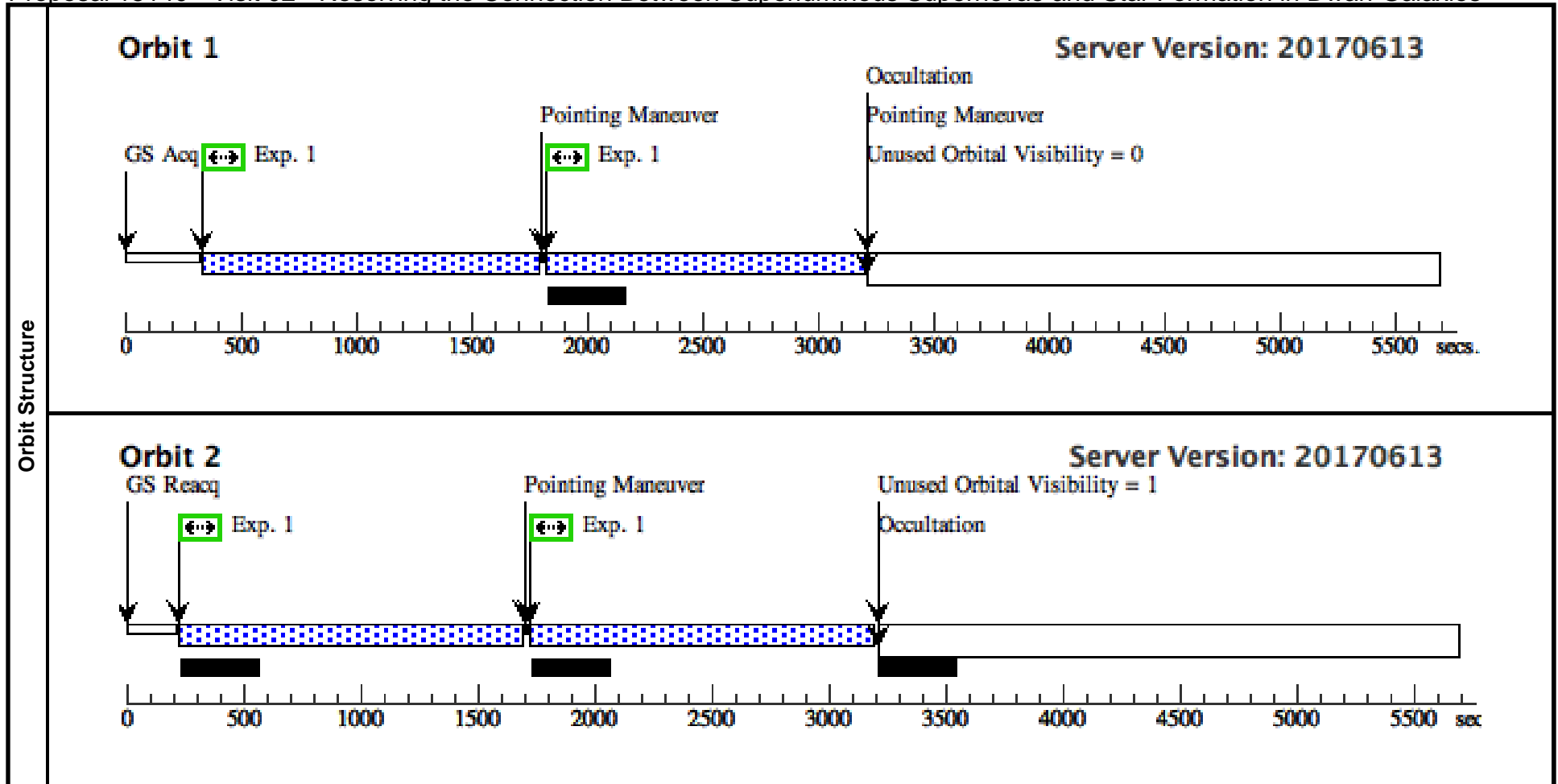
Visit	Proposal 15140, Visit 01, implementation Diagnostic Status: No Diagnostics Scientific Instruments: WFC3/UVIS Special Requirements: (none)										
	Patterns	#	Primary Pattern				Secondary Pattern			Exposures	
		(2)	Pattern Type=WFC3-UVIS-DITHER-BOX Purpose=DITHER Number Of Points=4 Point Spacing=0.173 Line Spacing=0.112	Coordinate Frame=POS-TARG Pattern Orientation=23.884 Angle Between Sides=81.785 Center Pattern=false						(1)	
Fixed Targets	#	Name	Target Coordinates		Targ. Coord. Corrections		Fluxes		Miscellaneous		
	(1)	PTF09AS	RA: 12 59 15.7800 (194.8157500d) Dec: +27 16 38.50 (27.27736d) Equinox: J2000					V=22.4		Reference Frame: ICRS	
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]		Orbit
	1		(1) PTF09AS	WFC3/UVIS, ACCUM, UVIS2-C512C-CTE	F336W	FLASH=11		Pattern 2, Exps 1-1 in Visit 01 (2)	619 Secs (2476 Secs)		[1]
									[=>(Pattern 1)]		
									[=>(Pattern 2)]		
									[=>(Pattern 3)]		
									[=>(Pattern 4)]		



Proposal 15140 - Visit 02 - Resolving the Connection Between Superluminous Supernovae and Star Formation in Dwarf Galaxies

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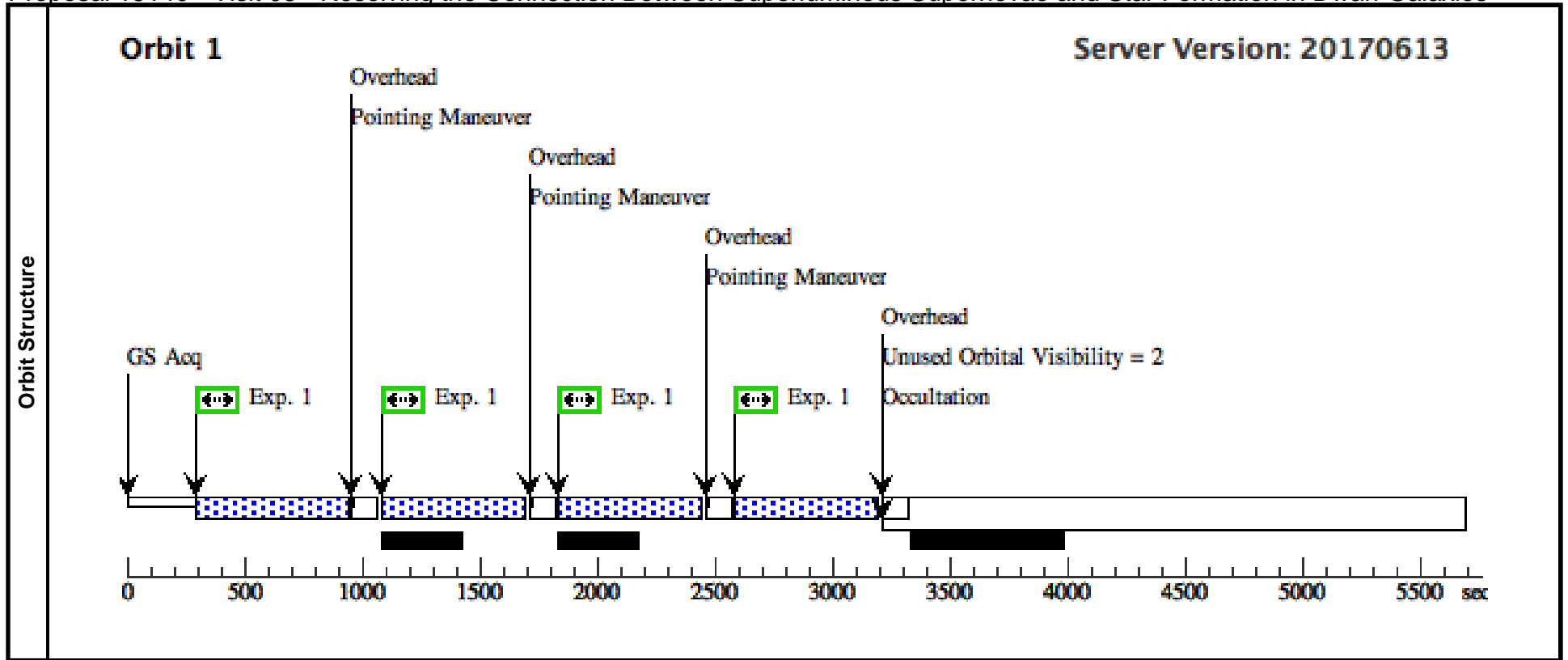
Visit	Proposal 15140, Visit 02, implementation Diagnostic Status: No Diagnostics Scientific Instruments: ACS/WFC Special Requirements: (none)										
	Patterns	#	Primary Pattern				Secondary Pattern			Exposures	
		(1)	Pattern Type=ACS-WFC-DITHER-BOX Purpose=DITHER Number Of Points=4 Point Spacing=0.262 Line Spacing=0.192	Coordinate Frame=POS-TARG Pattern Orientation=18.39 Angle Between Sides=68.14 Center Pattern=false				(1)			
Fixed Targets	#	Name	Target Coordinates		Targ. Coord. Corrections		Fluxes		Miscellaneous		
	(17)	PTF09ATU	RA: 16 30 24.5500 (247.6022917d) Dec: +23 38 25.00 (23.64028d) Equinox: J2000				V=26.5		Reference Frame: ICRS		
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]		Orbit
	1		(17) PTF09ATU	ACS/WFC, ACCUM, WFC1-CTE	F435W			Pattern 1, Exps 1-1 i n Visit 02 (1)	1300 Secs (5204 Secs)		
									[=>1253 Secs (Pattern 1)]		[1]
									[=>1253 Secs (Pattern 2)]		
									[=>1349 Secs (Pattern 3)]		
									[=>1349 Secs (Pattern 4)]		[2]



Proposal 15140 - Visit 03 - Resolving the Connection Between Superluminous Supernovae and Star Formation in Dwarf Galaxies

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Visit	Proposal 15140, Visit 03, implementation Diagnostic Status: No Diagnostics Scientific Instruments: WFC3/UVIS Special Requirements: (none)										
	Patterns	#	Primary Pattern				Secondary Pattern			Exposures	
		(2)	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)
Fixed Targets	#	Name	Target Coordinates		Targ. Coord. Corrections		Fluxes		Miscellaneous		
	(2)	PTF10BFZ	RA: 12 54 41.2700 (193.6719583d) Dec: +15 24 17.00 (15.40472d) Equinox: J2000				V=22.5			Reference Frame: ICRS	
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]		Orbit
	1		(2) PTF10BFZ	WFC3/UVIS, ACCUM, UVIS2-C512C-CTE	F336W	FLASH=12		Pattern 2, Exps 1-1 in Visit 03 (2)	617 Secs (2468 Secs)		[1]
									[=>(Pattern 1)]		
									[=>(Pattern 2)]		
									[=>(Pattern 3)]		
									[=>(Pattern 4)]		



Proposal 15140 - Visit 04 - Resolving the Connection Between Superluminous Supernovae and Star Formation in Dwarf Galaxies

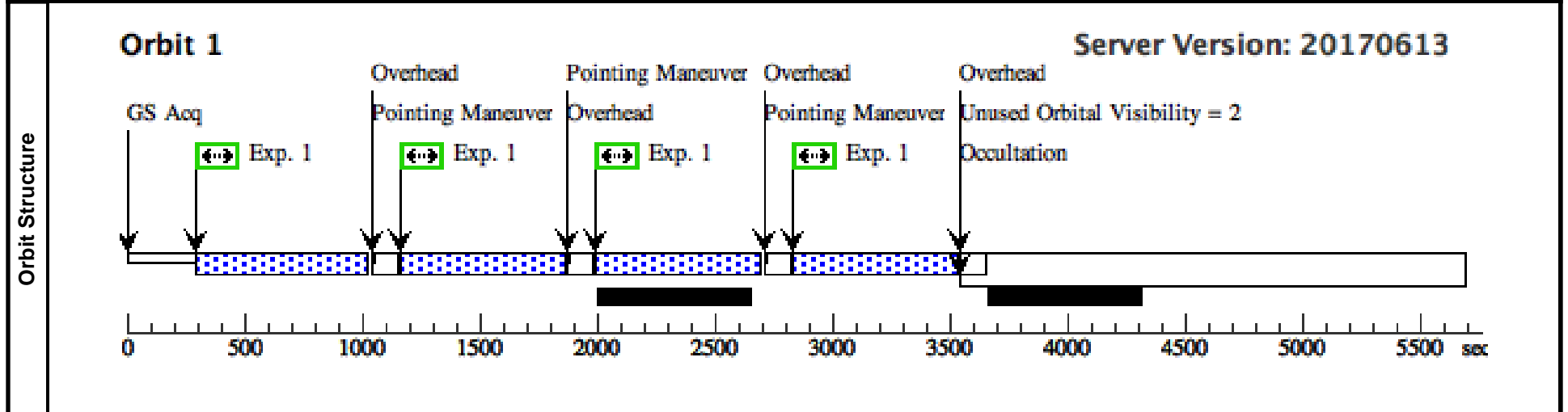
Wed Jul 26 16:12:59 GMT 2017

Visit	Proposal 15140, Visit 04, implementation		
	Diagnostic Status: No Diagnostics		
	Scientific Instruments: WFC3/UVIS		
	Special Requirements: (none)		

Patterns	#	Primary Pattern	Secondary Pattern	Exposures
	(2)	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	

Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
	(3)	PTF10BJP	RA: 10 06 34.3000 (151.6429167d) Dec: +67 59 19.00 (67.98861d) Equinox: J2000		V=23.5	Reference Frame: ICRS

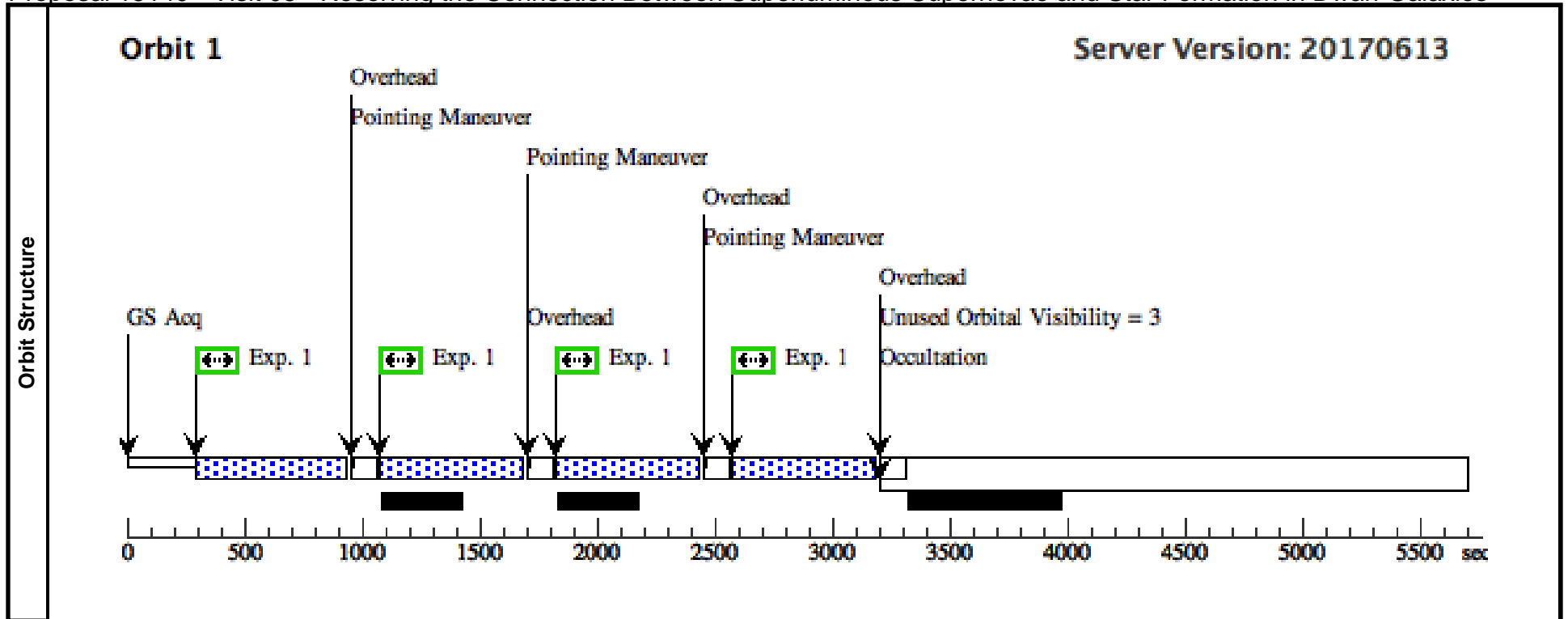
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1		(3) PTF10BJP	WFC3/UVIS, ACCUM, UVIS2-C512C-CTE	F390W	FLASH=7			Pattern 2, Exps 1-1 in Visit 04 (2)	701 Secs (2804 Secs)
									[=>(Pattern 1)] [=>(Pattern 2)] [=>(Pattern 3)] [=>(Pattern 4)]	



Proposal 15140 - Visit 05 - Resolving the Connection Between Superluminous Supernovae and Star Formation in Dwarf Galaxies

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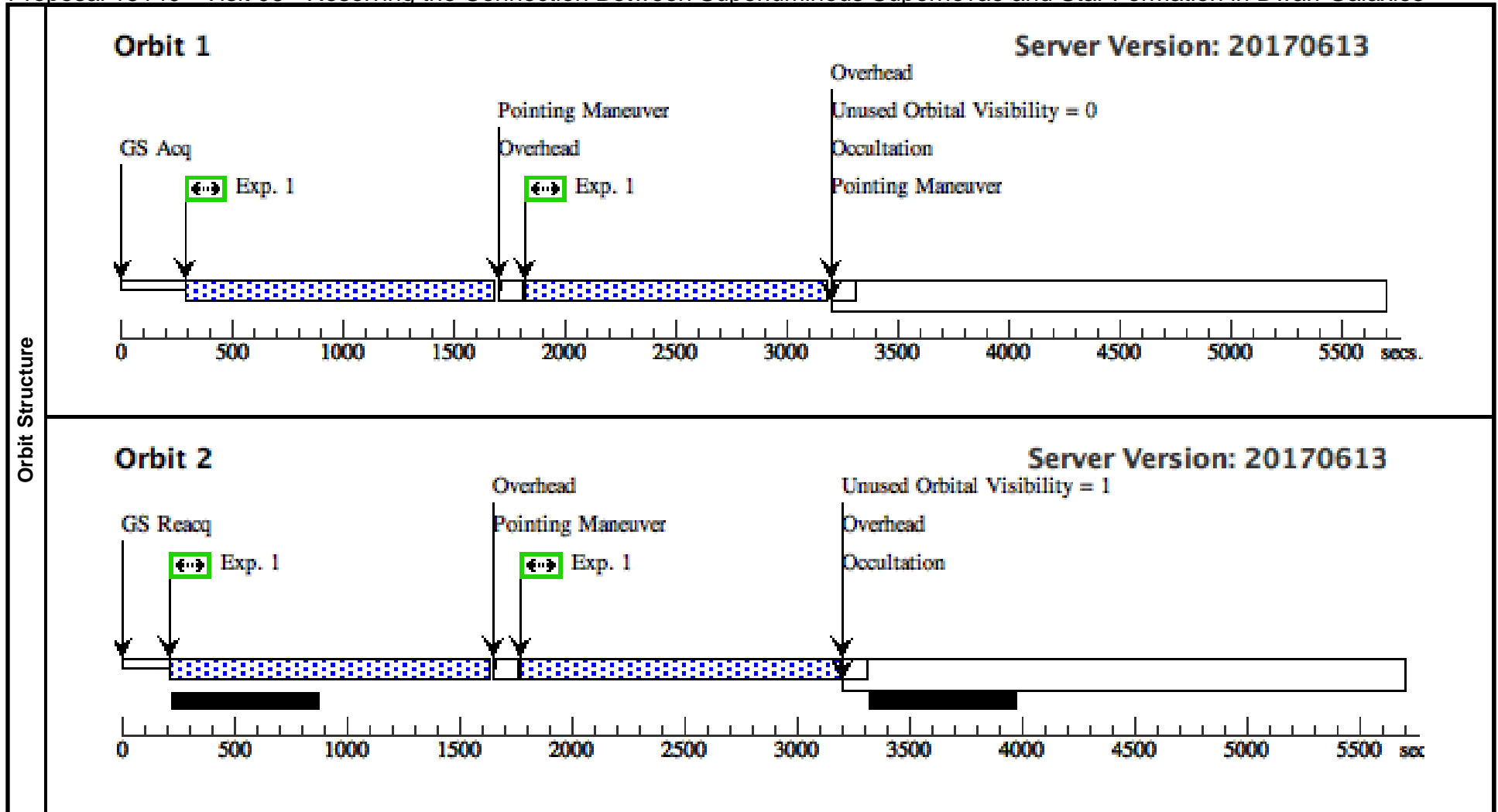
Visit	Proposal 15140, Visit 05, implementation Diagnostic Status: No Diagnostics Scientific Instruments: WFC3/UVIS Special Requirements: (none)										
	Patterns	#	Primary Pattern				Secondary Pattern			Exposures	
		(2)	Pattern Type=WFC3-UVIS-DITHER-BOX Purpose=DITHER Number Of Points=4 Point Spacing=0.173 Line Spacing=0.112	Coordinate Frame=POS-TARG Pattern Orientation=23.884 Angle Between Sides=81.785 Center Pattern=false						(1)	
Fixed Targets	#	Name	Target Coordinates		Targ. Coord. Corrections		Fluxes		Miscellaneous		
	(5)	PTF10NMN	RA: 15 50 2.7900 (237.5116250d) Dec: -07 24 42.10 (-7.41169d) Equinox: J2000				V=22.9		Reference Frame: ICRS		
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]		Orbit
	1		(5) PTF10NMN	WFC3/UVIS, ACCUM, UVIS2-C512C-CTE	F336W	FLASH=12	GS ACQ SCENARIO BASE1B3	Pattern 2, Exps 1-1 in Visit 05 (2)	614 Secs (2456 Secs)		[1]
									[=>(Pattern 1)]		
									[=>(Pattern 2)]		
									[=>(Pattern 3)]		
									[=>(Pattern 4)]		



Proposal 15140 - Visit 06 - Resolving the Connection Between Superluminous Supernovae and Star Formation in Dwarf Galaxies

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Visit	Proposal 15140, Visit 06, implementation Diagnostic Status: No Diagnostics Scientific Instruments: WFC3/UVIS Special Requirements: (none)										
	Patterns	#	Primary Pattern				Secondary Pattern			Exposures	
		(2)	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)	
Fixed Targets	#	Name	Target Coordinates		Targ. Coord. Corrections		Fluxes		Miscellaneous		
	(4)	PTF10HGI	RA: 16 37 47.0400 (249.4460000d) Dec: +06 12 32.30 (6.20897d) Equinox: J2000				V=24.1		Reference Frame: ICRS		
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]		Orbit
	1		(4) PTF10HGI	WFC3/UVIS, ACCUM, UVIS2-C512C-CTE	F336W	FLASH=8		Pattern 2, Exps 1-1 in Visit 06 (2)	1200 Secs (5570 Secs)		
									[=>1365 Secs (Pattern 1)]		[1]
									[=>1365 Secs (Pattern 2)]		
									[=>1420 Secs (Pattern 3)]		
									[=>1420 Secs (Pattern 4)]		[2]



Proposal 15140 - Visit 07 - Resolving the Connection Between Superluminous Supernovae and Star Formation in Dwarf Galaxies

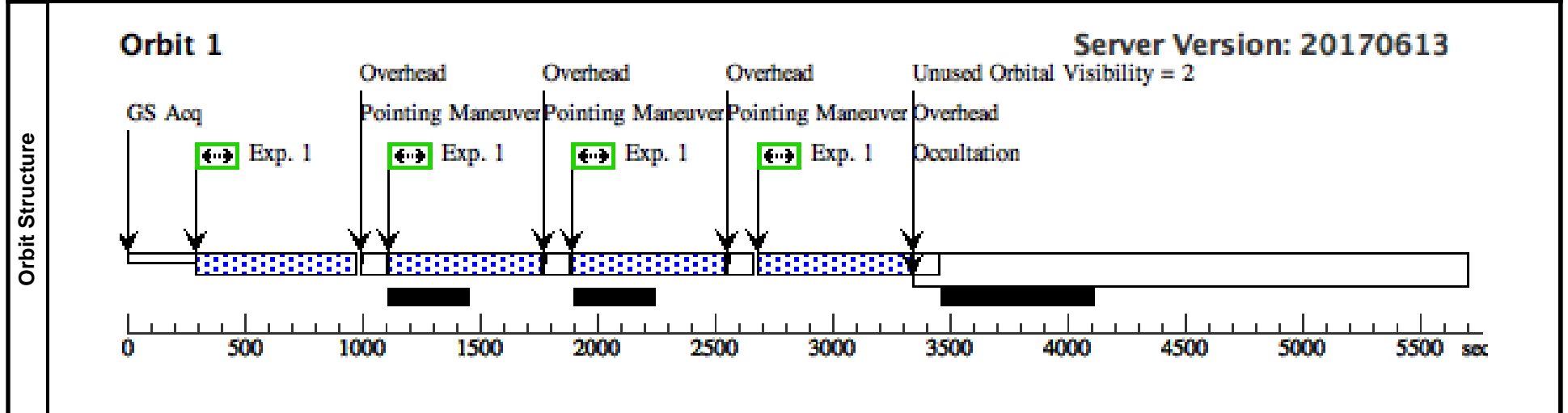
Wed Jul 26 16:12:59 GMT 2017

Visit	Proposal 15140, Visit 07, implementation		
	Diagnostic Status: No Diagnostics		
	Scientific Instruments: WFC3/UVIS		
	Special Requirements: (none)		

Patterns	#	Primary Pattern	Secondary Pattern	Exposures
	(2)	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	

Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
	(6)	PTF10UHF	RA: 16 52 46.6800 (253.1945000d) Dec: +47 36 22.00 (47.60611d) Equinox: J2000		V=20.1	Reference Frame: ICRS

Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1		(6) PTF10UHF	WFC3/UVIS, ACCUM, UVIS2-C1K1C-CTE	F390W	FLASH=8			Pattern 2, Exps 1-1 in Visit 07 (2)	650 Secs (2600 Secs) [=>(Pattern 1)] [=>(Pattern 2)] [=>(Pattern 3)] [=>(Pattern 4)]



Proposal 15140 - Visit 08 - Resolving the Connection Between Superluminous Supernovae and Star Formation in Dwarf Galaxies

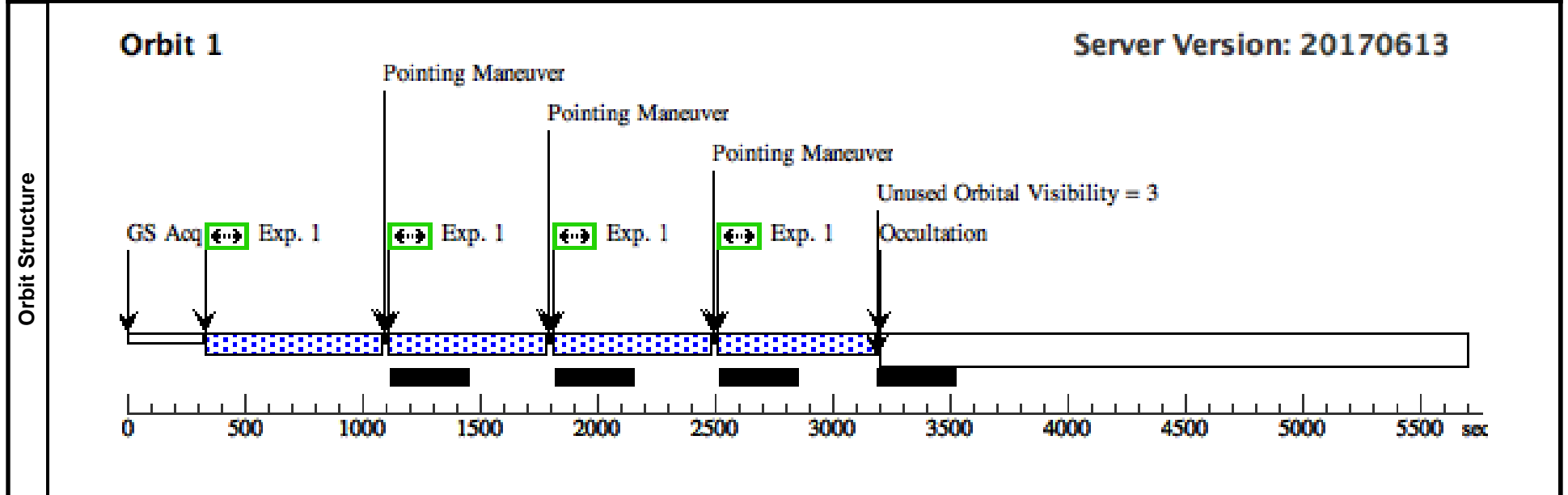
Wed Jul 26 16:12:59 GMT 2017

Visit	Proposal 15140, Visit 08, implementation		
	Diagnostic Status: No Diagnostics		
	Scientific Instruments: ACS/WFC		
	Special Requirements: (none)		

Patterns	#	Primary Pattern	Secondary Pattern	Exposures
	(1)	Pattern Type=ACS-WFC-DITHER-BOX Purpose=DITHER Number Of Points=4 Point Spacing=0.262 Line Spacing=0.192	Coordinate Frame=POS-TARG Pattern Orientation=18.39 Angle Between Sides=68.14 Center Pattern=false	

Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
	(7)	PTF10VQV	RA: 03 03 6.8400 (45.7785000d) Dec: -01 32 34.90 (-1.54303d) Equinox: J2000		V=23.9	Reference Frame: ICRS

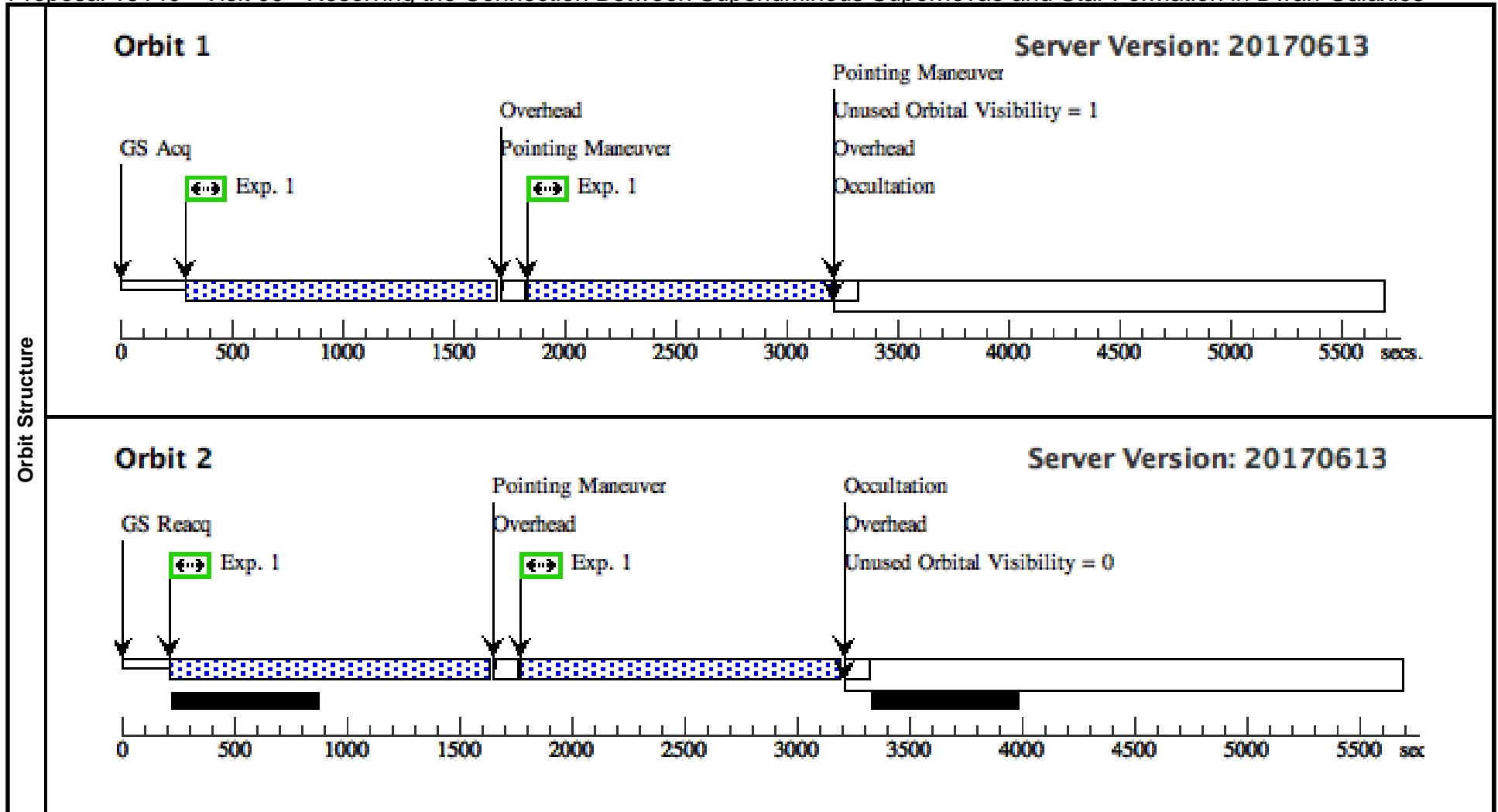
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1		(7) PTF10VQV	ACS/WFC, ACCUM, WFC1-CTE	F435W				Pattern 1, Exps 1-1 in Visit 08 (1)	543 Secs (2172 Secs)
									[==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)] [==>(Pattern 4)]	[1]



Proposal 15140 - Visit 09 - Resolving the Connection Between Superluminous Supernovae and Star Formation in Dwarf Galaxies

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Visit	Proposal 15140, Visit 09, implementation Diagnostic Status: No Diagnostics Scientific Instruments: WFC3/UVIS Special Requirements: (none)										
	Patterns	#	Primary Pattern				Secondary Pattern			Exposures	
		(2)	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)	
Fixed Targets	#	Name	Target Coordinates		Targ. Coord. Corrections		Fluxes		Miscellaneous		
	(8)	PTF10VWG	RA: 18 59 32.8600 (284.8869167d) Dec: +19 24 25.70 (19.40714d) Equinox: J2000				V=24.7		Reference Frame: ICRS		
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]		Orbit
	1		(8) PTF10VWG	WFC3/UVIS, ACCUM, UVIS2-C512C-CTE	F336W	FLASH=9		Pattern 2, Exps 1-1 in Visit 09 (2)	1200 Secs (5592 Secs)		
									[=>1370 Secs (Pattern 1)]		[1]
									[=>1370 Secs (Pattern 2)]		
									[=>1426 Secs (Pattern 3)]		
									[=>1426 Secs (Pattern 4)]		[2]



Proposal 15140 - Visit 10 - Resolving the Connection Between Superluminous Supernovae and Star Formation in Dwarf Galaxies

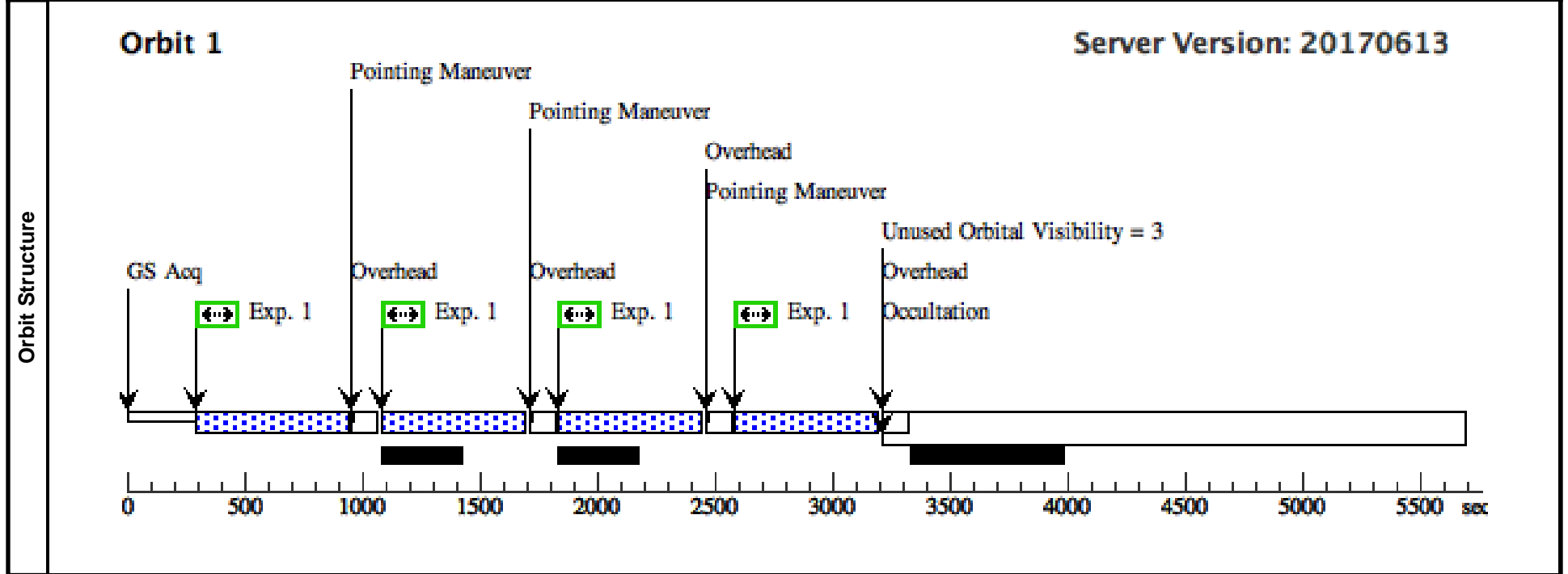
Wed Jul 26 16:12:59 GMT 2017

Visit	Proposal 15140, Visit 10, implementation		
	Diagnostic Status: No Diagnostics		
	Scientific Instruments: WFC3/UVIS		
	Special Requirements: (none)		

Patterns	#	Primary Pattern	Secondary Pattern	Exposures
	(2)	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	

Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
	(9)	PTF10AAGC	RA: 09 39 56.9300 (144.9872083d) Dec: +21 43 16.90 (21.72136d) Equinox: J2000		V=22.3	Reference Frame: ICRS

Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1		(9) PTF10AAGC	WFC3/UVIS, ACCUM, UVIS2-C512C-CTE	F336W	FLASH=12			Pattern 2, Exps 1-1 in Visit 10 (2)	617 Secs (2468 Secs)



Proposal 15140 - Visit 11 - Resolving the Connection Between Superluminous Supernovae and Star Formation in Dwarf Galaxies

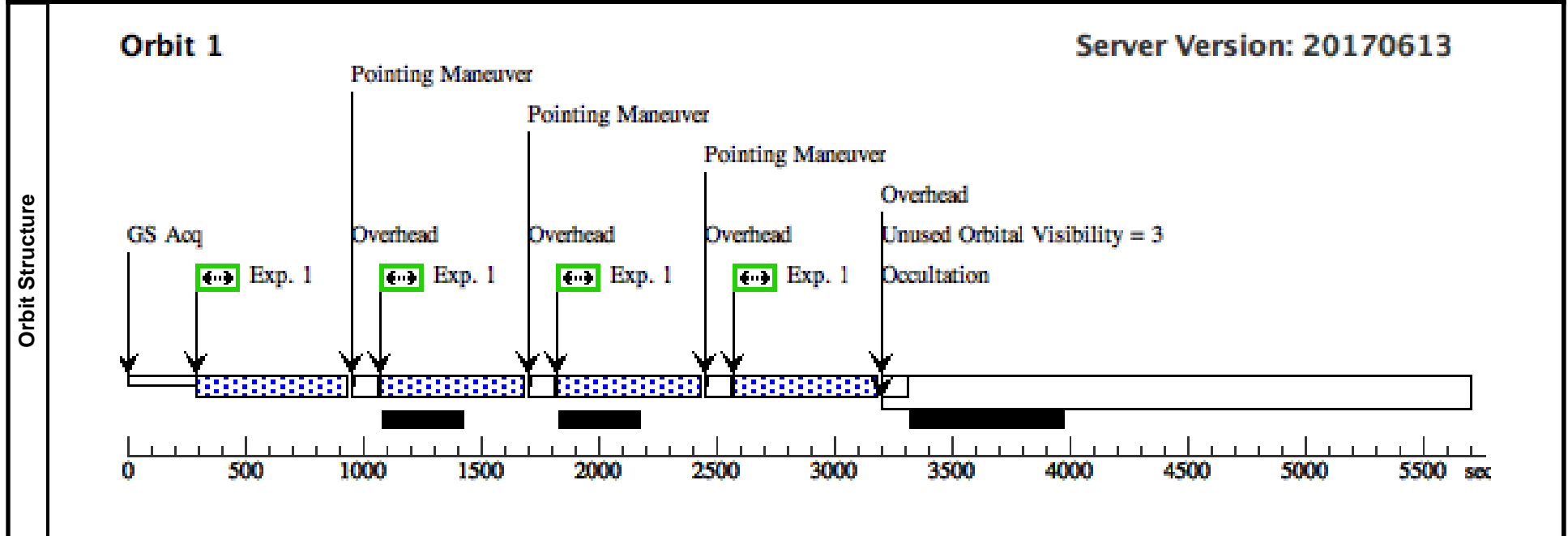
Wed Jul 26 16:12:59 GMT 2017

Visit	Proposal 15140, Visit 11, implementation		
	Diagnostic Status: No Diagnostics		
	Scientific Instruments: WFC3/UVIS		
	Special Requirements: (none)		

Patterns	#	Primary Pattern	Secondary Pattern	Exposures
	(2)	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	

Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
	(18)	PTF12HNI	RA: 22 31 55.8600 (337.9827500d) Dec: -06 47 49.00 (-6.79694d) Equinox: J2000		V=20.0	Reference Frame: ICRS

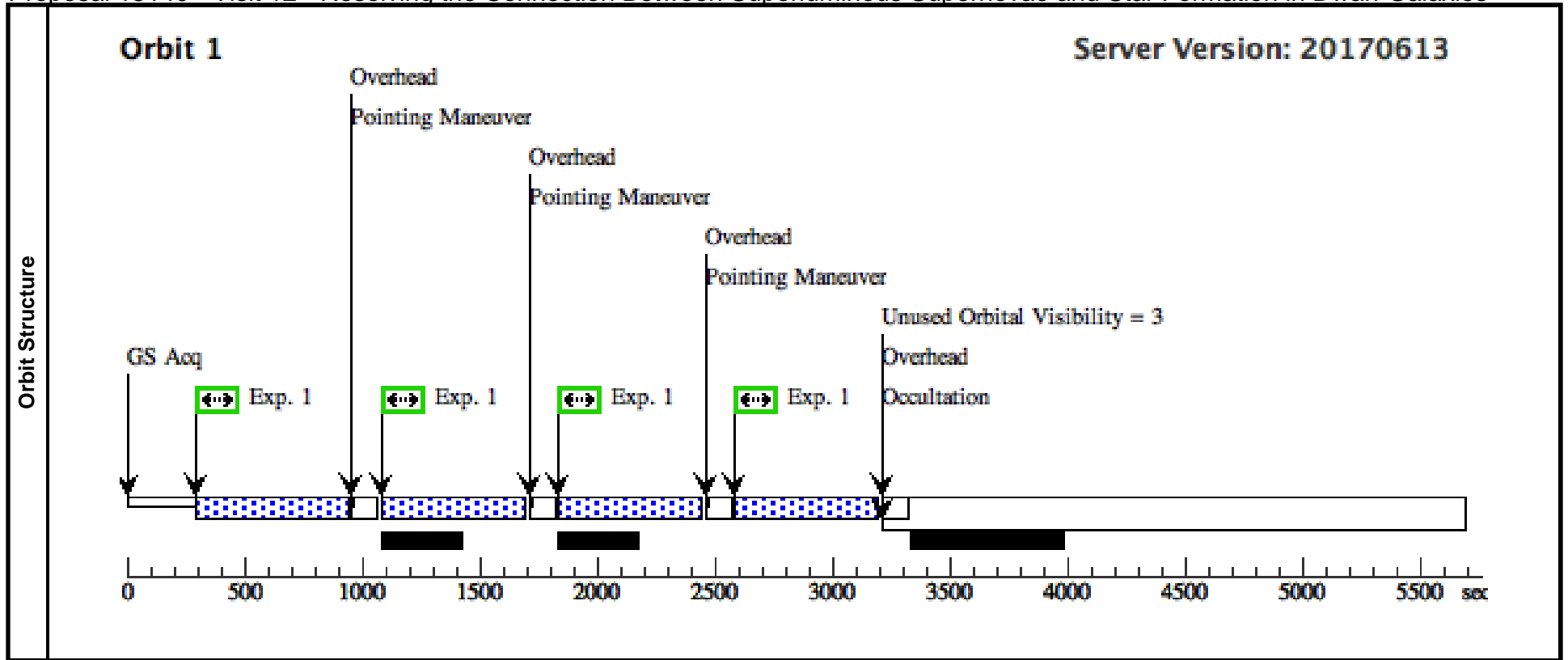
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1		(18) PTF12HNI	WFC3/UVIS, ACCUM, UVIS2-C512C-CTE	F336W	FLASH=11			Pattern 2, Exps 1-1 in Visit 11 (2)	614 Secs (2456 Secs)
									[==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)] [==>(Pattern 4)]	[1]



Proposal 15140 - Visit 12 - Resolving the Connection Between Superluminous Supernovae and Star Formation in Dwarf Galaxies

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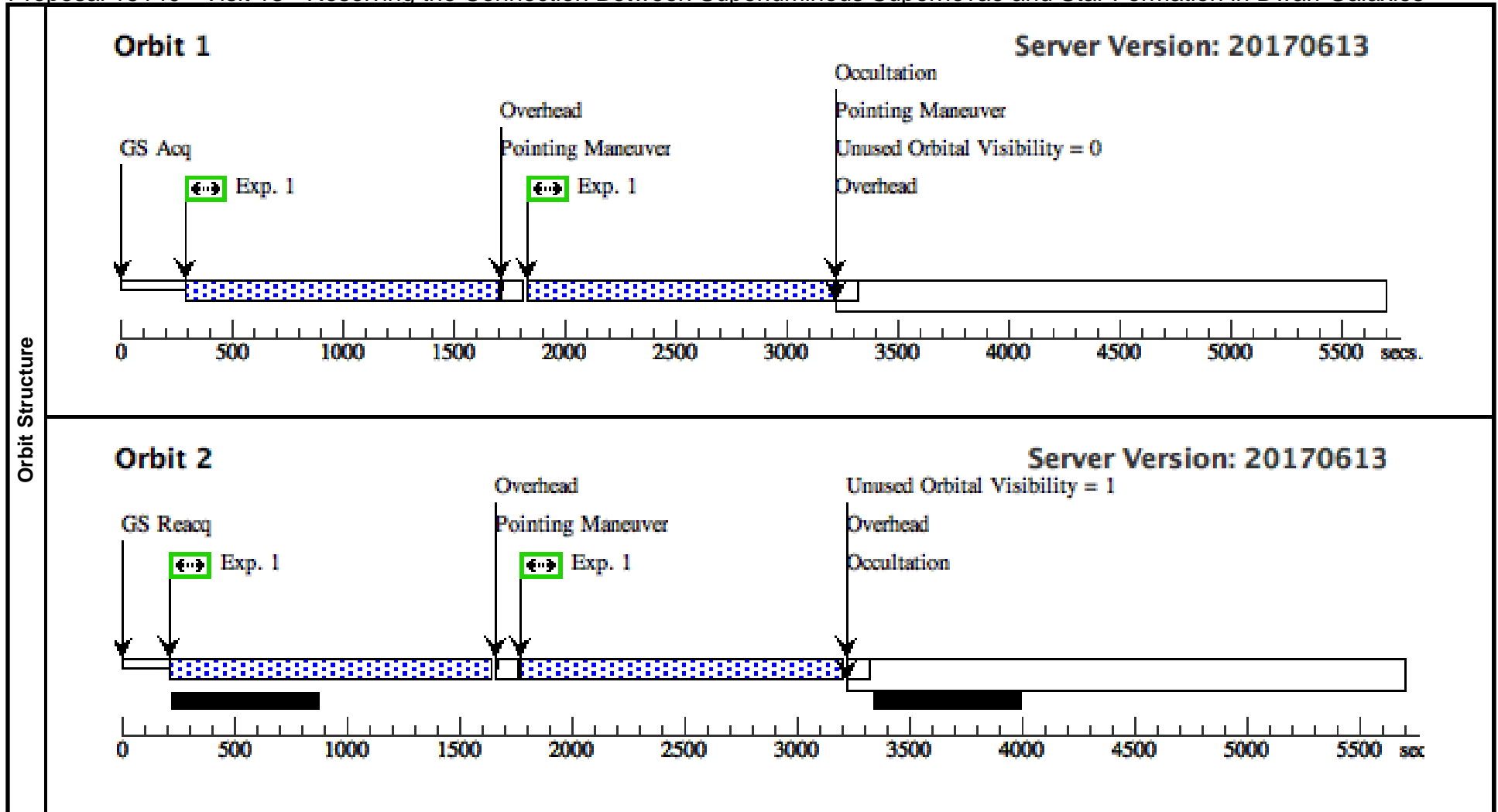
Visit	Proposal 15140, Visit 12, implementation Diagnostic Status: No Diagnostics Scientific Instruments: WFC3/UVIS Special Requirements: (none)									
	Patterns	#	Primary Pattern				Secondary Pattern			Exposures
		(2)	Pattern Type=WFC3-UVIS-DITHER-BOX Purpose=DITHER Number Of Points=4 Point Spacing=0.173 Line Spacing=0.112	Coordinate Frame=POS-TARG Pattern Orientation=23.884 Angle Between Sides=81.785 Center Pattern=false						
Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous				
	(19)	PTF12GTY	RA: 16 01 15.2300 (240.3134583d) Dec: +21 23 17.40 (21.38817d) Equinox: J2000		V=23.2	Reference Frame: ICRS				
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1		(19) PTF12GTY	WFC3/UVIS, ACCUM, UVIS2-C512C-CTE	F336W	FLASH=11		Pattern 2, Exps 1-1 in Visit 12 (2)	617 Secs (2468 Secs) [=>(Pattern 1)] [=>(Pattern 2)] [=>(Pattern 3)] [=>(Pattern 4)]	[1]



Proposal 15140 - Visit 13 - Resolving the Connection Between Superluminous Supernovae and Star Formation in Dwarf Galaxies

Wed Jul 26 16:12:59 GMT 2017

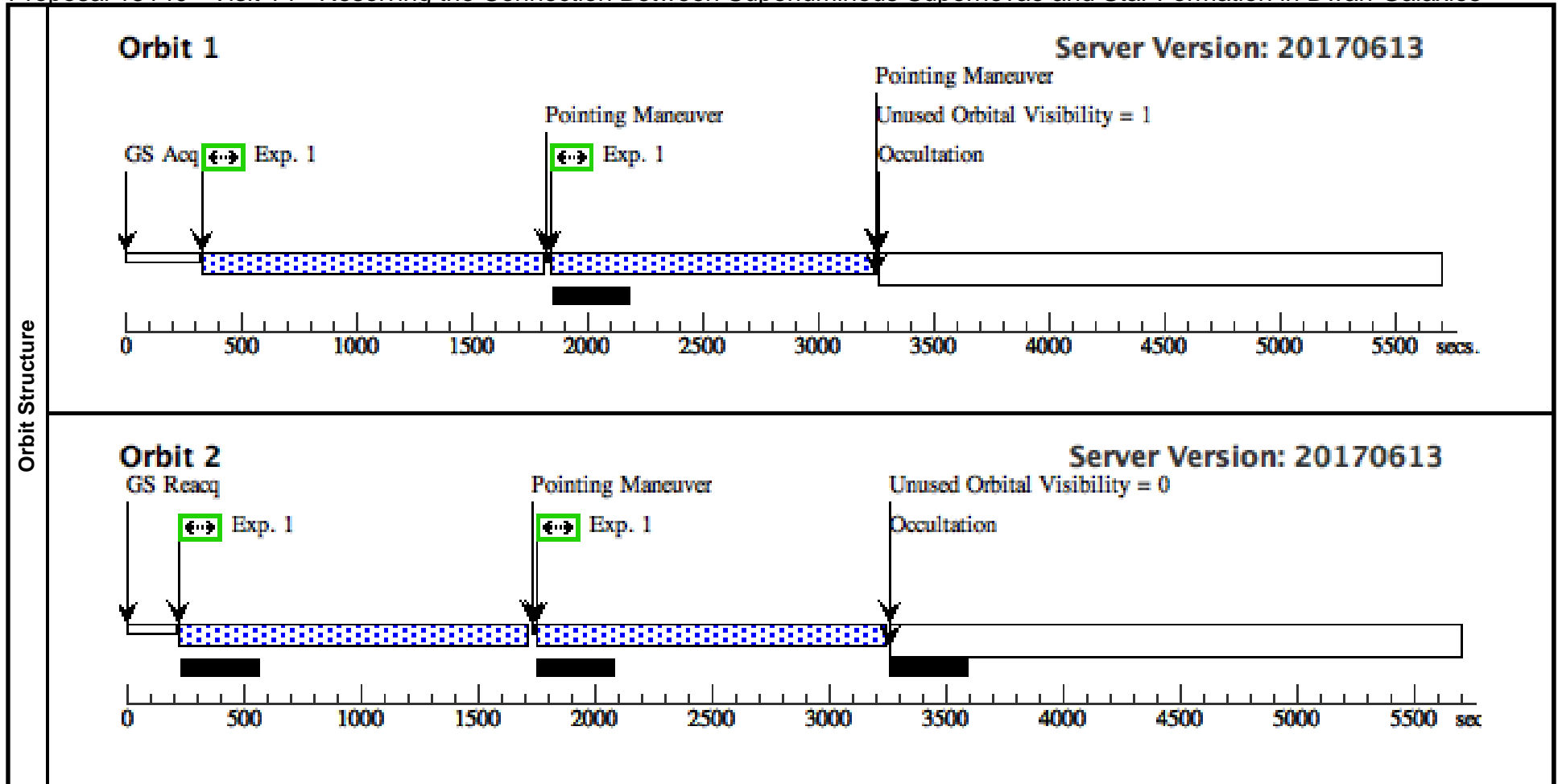
Visit	Proposal 15140, Visit 13, implementation Diagnostic Status: No Diagnostics Scientific Instruments: WFC3/UVIS Special Requirements: (none)									
	Patterns	#	Primary Pattern	Secondary Pattern	Exposures					
	(2)	Pattern Type=WFC3-UVIS-DITHER-BOX Purpose=DITHER Number Of Points=4 Point Spacing=0.173 Line Spacing=0.112	Coordinate Frame=POS-TARG Pattern Orientation=23.884 Angle Between Sides=81.785 Center Pattern=false		(1)					
Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous				
	(10)	PTF12MXX	RA: 22 30 16.6800 (337.5695000d) Dec: +27 58 21.90 (27.97275d) Equinox: J2000		V=25.2	Reference Frame: ICRS				
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1		(10) PTF12MXX	WFC3/UVIS, ACCUM, UVIS2-C512C-CTE	F390W			Pattern 2, Exps 1-1 in Visit 13 (2)	1200 Secs (5622 Secs)	
									[==>1378 Secs (Pattern 1)]	[1]
									[==>1378 Secs (Pattern 2)]	
								[==>1433 Secs (Pattern 3)]		
								[==>1433 Secs (Pattern 4)]	[2]	



Proposal 15140 - Visit 14 - Resolving the Connection Between Superluminous Supernovae and Star Formation in Dwarf Galaxies

Wed Jul 26 16:12:59 GMT 2017

Visit	Proposal 15140, Visit 14, implementation Diagnostic Status: No Diagnostics Scientific Instruments: ACS/WFC Special Requirements: (none)									
	Patterns	#	Primary Pattern	Secondary Pattern	Exposures					
	(1)	Pattern Type=ACS-WFC-DITHER-BOX Purpose=DITHER Number Of Points=4 Point Spacing=0.262 Line Spacing=0.192	Coordinate Frame=POS-TARG Pattern Orientation=18.39 Angle Between Sides=68.14 Center Pattern=false		(1)					
Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous				
	(11)	IPTF13AJG	RA: 16 39 3.9500 (249.7664583d) Dec: +37 01 38.40 (37.02733d) Equinox: J2000		V=26.4	Reference Frame: ICRS				
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1		(11) IPTF13AJG	ACS/WFC, ACCUM, WFC1-CTE	F555W			Pattern 1, Exps 1-1 in Visit 14 (1)	1200 Secs (5290 Secs)	
									[==>1274 Secs (Pattern 1)]	[1]
									[==>1274 Secs (Pattern 2)]	
									[==>1371 Secs (Pattern 3)]	
									[==>1371 Secs (Pattern 4)]	[2]



Proposal 15140 - Visit 15 - Resolving the Connection Between Superluminous Supernovae and Star Formation in Dwarf Galaxies

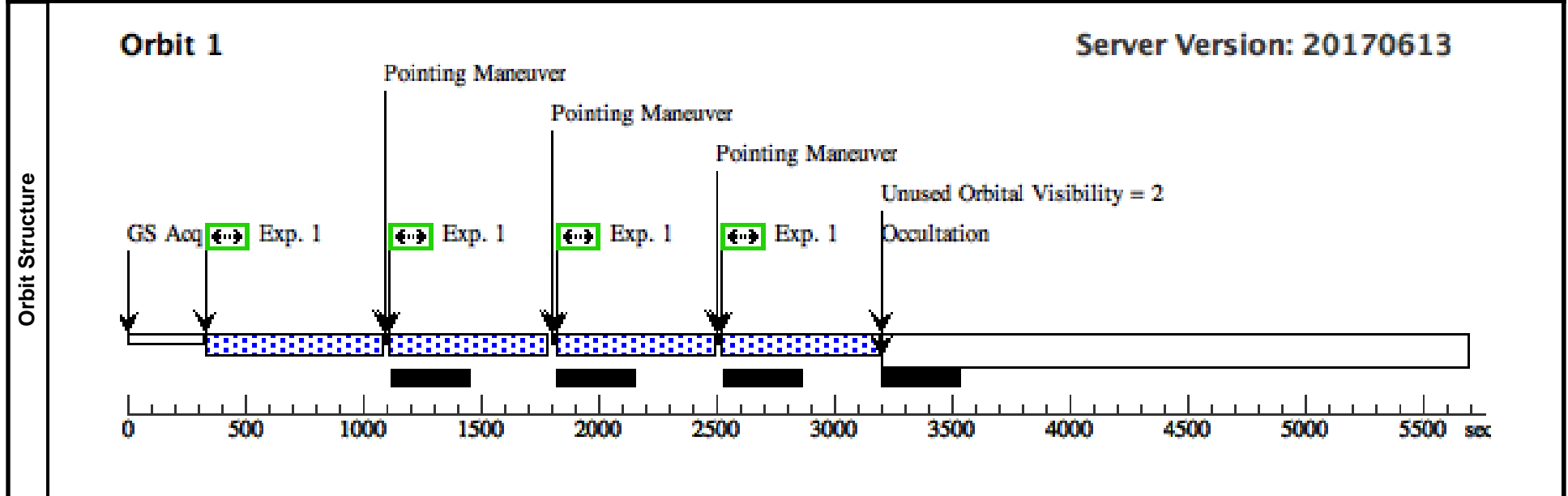
Wed Jul 26 16:13:00 GMT 2017

Visit	Proposal 15140, Visit 15, implementation		
	Diagnostic Status: No Diagnostics		
	Scientific Instruments: ACS/WFC		
	Special Requirements: (none)		

Patterns	#	Primary Pattern	Secondary Pattern	Exposures
	(1)	Pattern Type=ACS-WFC-DITHER-BOX Purpose=DITHER Number Of Points=4 Point Spacing=0.262 Line Spacing=0.192	Coordinate Frame=POS-TARG Pattern Orientation=18.39 Angle Between Sides=68.14 Center Pattern=false	

Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
	(12)	IPTF13BDL	RA: 12 36 56.1400 (189.2339167d) Dec: +13 07 45.50 (13.12931d) Equinox: J2000		V=23.5	Reference Frame: ICRS

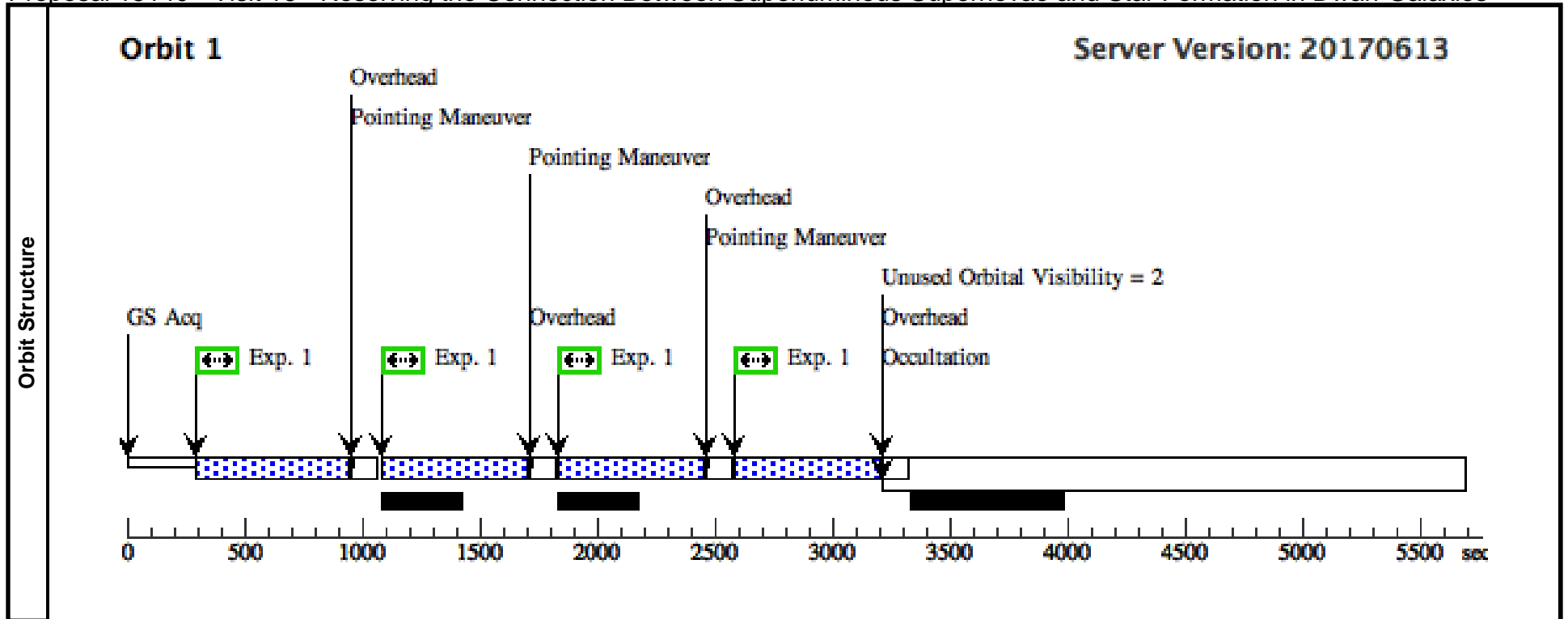
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1		(12) IPTF13BDL	ACS/WFC, ACCUM, WFC1-CTE	F435W			GS ACQ SCENARI O BASE1B3	Pattern 1, Exps 1-1 i n Visit 15 (1)	545 Secs (2180 Secs) [=>(Pattern 1)] [=>(Pattern 2)] [=>(Pattern 3)] [=>(Pattern 4)]



Proposal 15140 - Visit 16 - Resolving the Connection Between Superluminous Supernovae and Star Formation in Dwarf Galaxies

Wed Jul 26 16:13:00 GMT 2017

Visit	Proposal 15140, Visit 16, implementation Diagnostic Status: No Diagnostics Scientific Instruments: WFC3/UVIS Special Requirements: (none)										
	Patterns	#	Primary Pattern				Secondary Pattern			Exposures	
		(2)	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)
Fixed Targets	#	Name	Target Coordinates		Targ. Coord. Corrections		Fluxes		Miscellaneous		
	(13)	IPTF13BJZ	RA: 10 38 19.8300 (159.5826250d) Dec: +24 24 51.30 (24.41425d) Equinox: J2000				V=23.9			Reference Frame: ICRS	
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]		Orbit
	1		(13) IPTF13BJZ	WFC3/UVIS, ACCUM, UVIS2-C512C-CTE	F390W	FLASH=8		Pattern 2, Exps 1-1 in Visit 16 (2)	618 Secs (2472 Secs)	[==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)] [==>(Pattern 4)]	[1]



Proposal 15140 - Visit 17 - Resolving the Connection Between Superluminous Supernovae and Star Formation in Dwarf Galaxies

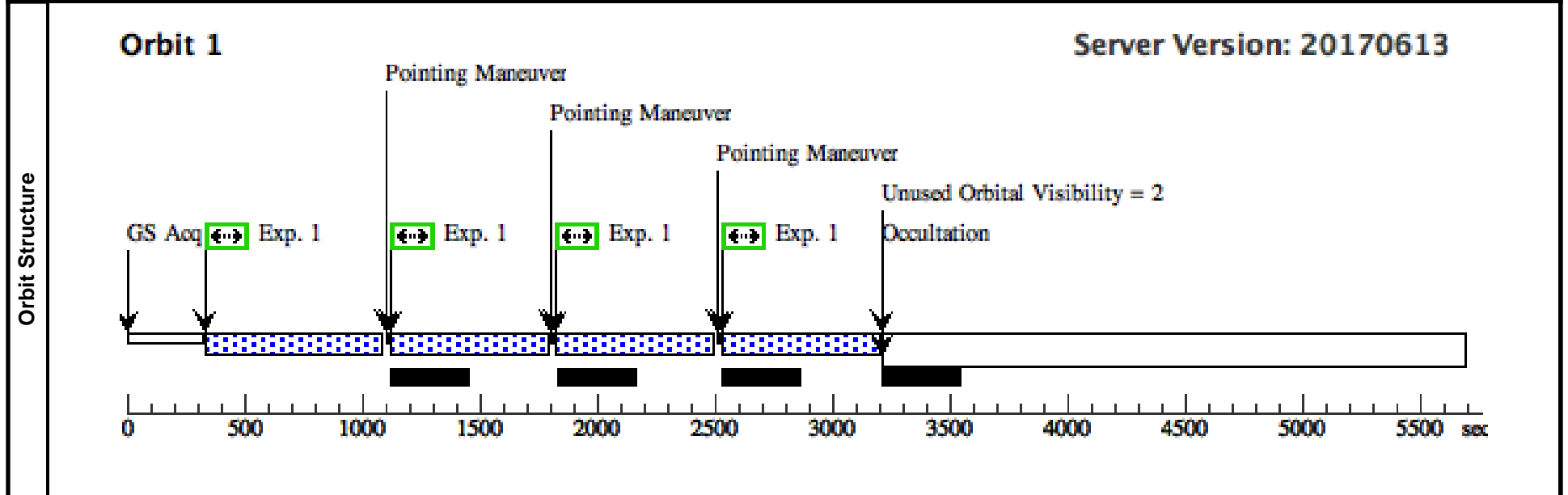
Wed Jul 26 16:13:00 GMT 2017

Visit	Proposal 15140, Visit 17, implementation		
	Diagnostic Status: No Diagnostics		
	Scientific Instruments: ACS/WFC		
	Special Requirements: (none)		

Patterns	#	Primary Pattern	Secondary Pattern	Exposures
	(1)	Pattern Type=ACS-WFC-DITHER-BOX Purpose=DITHER Number Of Points=4 Point Spacing=0.262 Line Spacing=0.192	Coordinate Frame=POS-TARG Pattern Orientation=18.39 Angle Between Sides=68.14 Center Pattern=false	

Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
	(14)	IPTF13CJQ	RA: 00 14 27.1800 (3.6132500d) Dec: +24 17 8.80 (24.28578d) Equinox: J2000		V=23.5	Reference Frame: ICRS

Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1		(14) IPTF13CJQ	ACS/WFC, ACCUM, WFC1-CTE	F435W				Pattern 1, Exps 1-1 in Visit 17 (1)	547 Secs (2188 Secs)
									[==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)] [==>(Pattern 4)]	[1]



Proposal 15140 - Visit 18 - Resolving the Connection Between Superluminous Supernovae and Star Formation in Dwarf Galaxies

Wed Jul 26 16:13:00 GMT 2017

Visit	Proposal 15140, Visit 18, implementation Diagnostic Status: No Diagnostics Scientific Instruments: ACS/WFC Special Requirements: (none)									
	Patterns	# (1)	Primary Pattern Pattern Type=ACS-WFC-DITHER-BOX Purpose=DITHER Number Of Points=4 Point Spacing=0.262 Line Spacing=0.192	Secondary Pattern Coordinate Frame=POS-TARG Pattern Orientation=18.39 Angle Between Sides=68.14 Center Pattern=false	Exposures (1)					
Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous				
	(15)	IPTF13DCC	RA: 02 57 2.5000 (44.2604167d) Dec: -00 18 44.00 (-.31222d) Equinox: J2000		V=23.6	Reference Frame: ICRS				
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1		(15) IPTF13DCC	ACS/WFC, ACCUM, WFC1-CTE	F435W			Pattern 1, Exps 1-1 in Visit 18 (1)	543 Secs (2172 Secs)	
									[==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)] [==>(Pattern 4)]	[1]
Orbit Structure	<div style="display: flex; justify-content: space-between;"> Orbit 1 Server Version: 20170613 </div> <p>The diagram illustrates the orbit structure over a 5500-second period. Key events include:</p> <ul style="list-style-type: none"> GS Acq: Green box with a double-headed arrow at approximately 300 seconds. Exp. 1: Four green boxes with double-headed arrows at approximately 400, 1100, 1800, and 2500 seconds. Pointing Maneuver: Three vertical arrows pointing down at approximately 1100, 1800, and 2500 seconds. Occultation: A vertical arrow pointing down at approximately 3200 seconds. Unused Orbital Visibility = 3: A vertical arrow pointing down at approximately 3500 seconds. <p>The timeline is marked with a scale from 0 to 5500 seconds in increments of 500. A blue and white checkered bar highlights the period from approximately 400 to 3200 seconds.</p>									

Proposal 15140 - Visit 19 - Resolving the Connection Between Superluminous Supernovae and Star Formation in Dwarf Galaxies

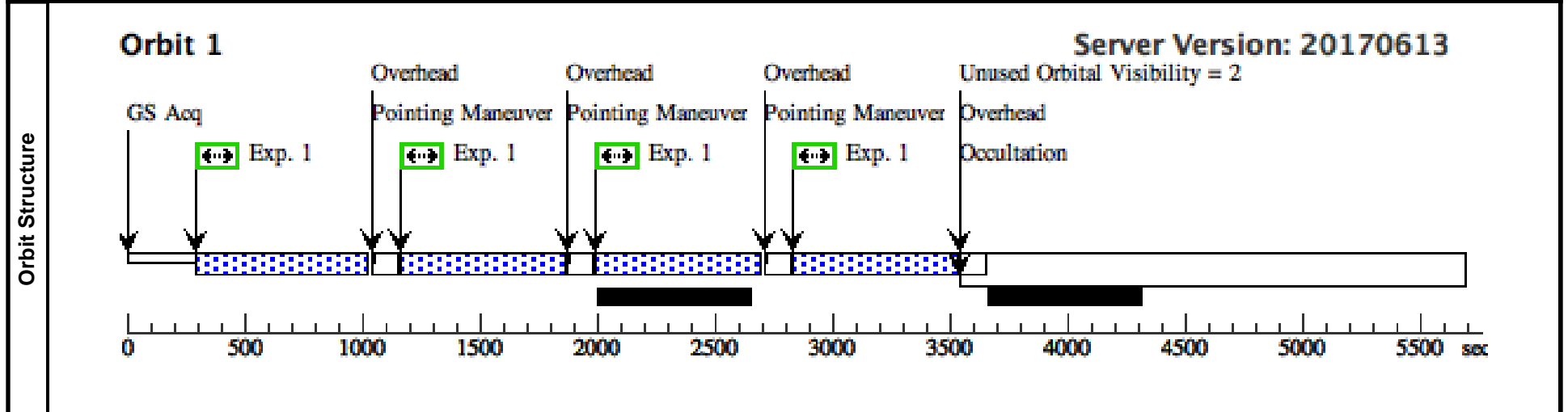
Wed Jul 26 16:13:00 GMT 2017

Visit	Proposal 15140, Visit 19, implementation		
	Diagnostic Status: No Diagnostics		
	Scientific Instruments: WFC3/UVIS		
	Special Requirements: (none)		

Patterns	#	Primary Pattern	Secondary Pattern	Exposures
	(2)	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	

Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
	(16)	IPTF13EHE	RA: 06 53 21.5000 (103.3395833d) Dec: +67 07 56.00 (67.13222d) Equinox: J2000		V=23.8	Reference Frame: ICRS

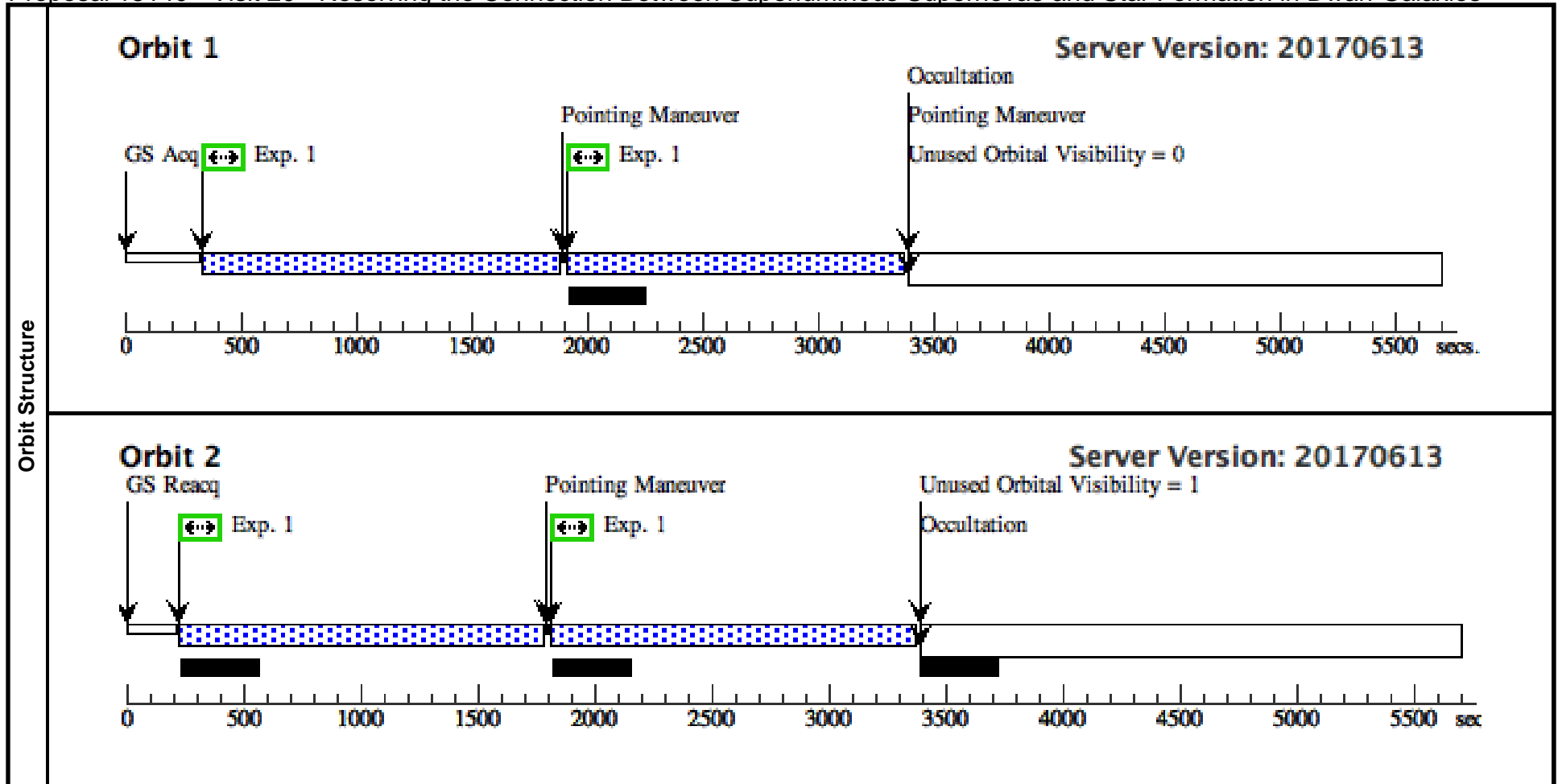
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1		(16) IPTF13EHE	WFC3/UVIS, ACCUM, UVIS2-C512C-CTE	F390W	FLASH=7			Pattern 2, Exps 1-1 in Visit 19 (2)	701 Secs (2804 Secs)
									[=>(Pattern 1)] [=>(Pattern 2)] [=>(Pattern 3)] [=>(Pattern 4)]	



Proposal 15140 - Visit 20 - Resolving the Connection Between Superluminous Supernovae and Star Formation in Dwarf Galaxies

Wed Jul 26 16:13:00 GMT 2017

Visit	Proposal 15140, Visit 20, implementation Diagnostic Status: No Diagnostics Scientific Instruments: ACS/WFC Special Requirements: (none)										
	Patterns	#	Primary Pattern				Secondary Pattern			Exposures	
		(1)	Pattern Type=ACS-WFC-DITHER-BOX Purpose=DITHER Number Of Points=4 Point Spacing=0.262 Line Spacing=0.192	Coordinate Frame=POS-TARG Pattern Orientation=18.39 Angle Between Sides=68.14 Center Pattern=false							(1)
Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections			Fluxes	Miscellaneous			
	(20)	IPTF14TB	RA: 10 21 38.2200 (155.4092500d) Dec: +52 14 23.60 (52.23989d) Equinox: J2000				V=25.0	Reference Frame: ICRS			
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]		Orbit
	1		(20) IPTF14TB	ACS/WFC, ACCUM, WFC1-CTE	F606W		GS ACQ SCENARI O BASE1B3	Pattern 1, Exps 1-1 i n Visit 20 (1)	1200 Secs (5556 Secs)		
									[==>1341.0 Secs (Pattern 1)]		[1]
									[==>1341.0 Secs (Pattern 2)]		
									[==>1437.0 Secs (Pattern 3)]		
									[==>1437.0 Secs (Pattern 4)]		[2]



Proposal 15140 - Visit 21 - Resolving the Connection Between Superluminous Supernovae and Star Formation in Dwarf Galaxies

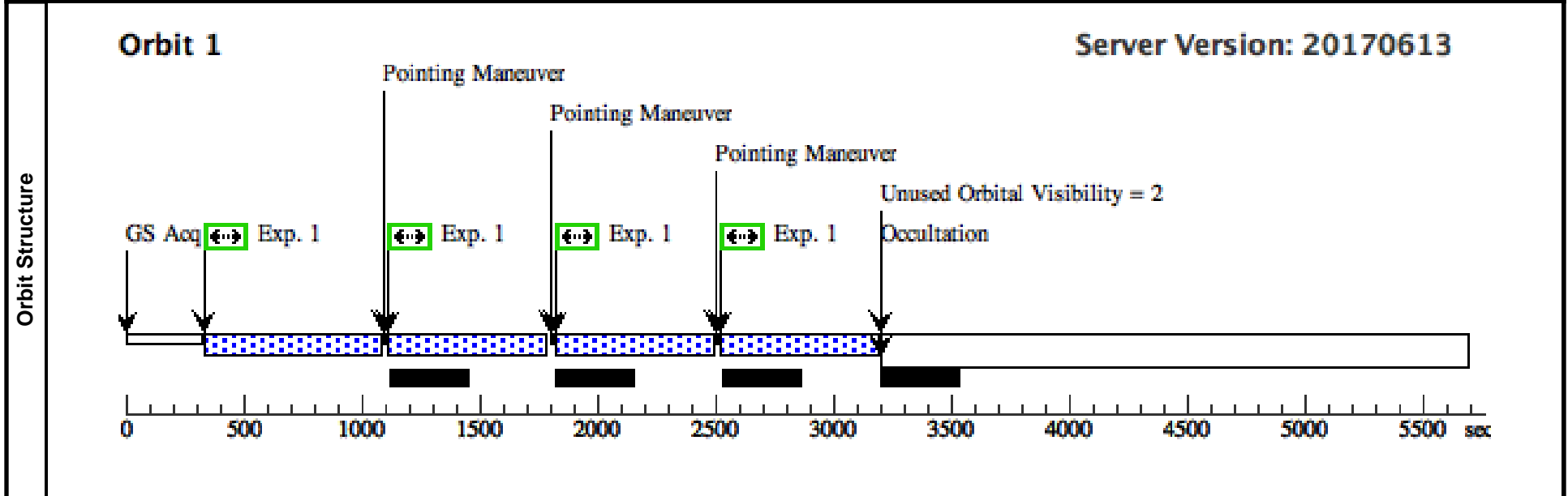
Wed Jul 26 16:13:00 GMT 2017

Visit	Proposal 15140, Visit 21, implementation		
	Diagnostic Status: No Diagnostics		
	Scientific Instruments: ACS/WFC		
	Special Requirements: (none)		

Patterns	#	Primary Pattern	Secondary Pattern	Exposures
	(1)	Pattern Type=ACS-WFC-DITHER-BOX Purpose=DITHER Number Of Points=4 Point Spacing=0.262 Line Spacing=0.192	Coordinate Frame=POS-TARG Pattern Orientation=18.39 Angle Between Sides=68.14 Center Pattern=false	

Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
	(21)	IPTF14DCK	RA: 15 32 6.7500 (233.0281250d) Dec: +12 27 18.80 (12.45522d) Equinox: J2000		V=24.0	Reference Frame: ICRS

Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1		(21) IPTF14DCK	ACS/WFC, ACCUM, WFC1-CTE	F475W				Pattern 1, Exps 1-1 in Visit 21 (1)	545 Secs (2180 Secs)
									[==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)] [==>(Pattern 4)]	[1]



Proposal 15140 - Visit 22 - Resolving the Connection Between Superluminous Supernovae and Star Formation in Dwarf Galaxies

Wed Jul 26 16:13:00 GMT 2017

Visit	Proposal 15140, Visit 22, implementation		
	Diagnostic Status: No Diagnostics		
	Scientific Instruments: WFC3/UVIS		
	Special Requirements: (none)		

Patterns	#	Primary Pattern	Secondary Pattern	Exposures
	(2)	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)

Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
	(22)	IPTF14DEK	RA: 16 17 27.4200 (244.3642500d) Dec: +18 40 45.50 (18.67931d) Equinox: J2000		V=21.8	Reference Frame: ICRS

Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1		(22) IPTF14DEK	WFC3/UVIS, ACCUM, UVIS2-C512C-CTE	F390W	FLASH=7		Pattern 2, Exps 1-1 in Visit 22 (2)	619 Secs (2476 Secs)	
									[==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)] [==>(Pattern 4)]	[1]

