



15340 - The HST-pNFL program: Mapping the Fluorescent Emission of Galactic Outflows

Cycle: 25, Proposal Category: GO

(UV Initiative)

(Availability Mode: SUPPORTED)

INVESTIGATORS

<i>Name</i>	<i>Institution</i>	<i>E-Mail</i>
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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) GALEX-J115747.0+583503	WFC3/UVIS	1	16-Nov-2018 15:00:42.0	yes
02	(1) GALEX-J115747.0+583503	WFC3/UVIS	1	16-Nov-2018 15:00:43.0	yes
03	(1) GALEX-J115747.0+583503	WFC3/UVIS	1	16-Nov-2018 15:00:44.0	yes
04	(2) GALEX-J161832.6+274352	WFC3/UVIS	1	16-Nov-2018 15:00:44.0	yes
05	(2) GALEX-J161832.6+274352	WFC3/UVIS	1	16-Nov-2018 15:00:45.0	yes
06	(2) GALEX-J161832.6+274352	WFC3/UVIS	1	16-Nov-2018 15:00:46.0	yes
07	(3) GALEX-J121014.3+443958	WFC3/UVIS	1	16-Nov-2018 15:00:46.0	yes
08	(3) GALEX-J121014.3+443958	WFC3/UVIS	1	16-Nov-2018 15:00:47.0	yes
09	(3) GALEX-J121014.3+443958	WFC3/UVIS	1	16-Nov-2018 15:00:48.0	yes
59	(3) GALEX-J121014.3+443958	WFC3/UVIS	1	16-Nov-2018 15:00:48.0	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>
10	(4) GALEX-J083101.8+040318	WFC3/UVIS	1	16-Nov-2018 15:00:49.0	yes
11	(4) GALEX-J083101.8+040318	WFC3/UVIS	1	16-Nov-2018 15:00:50.0	yes
12	(4) GALEX-J083101.8+040318	WFC3/UVIS	1	16-Nov-2018 15:00:50.0	yes
13	(1) GALEX-J115747.0+583503	COS/FUV COS/NUV	2	16-Nov-2018 15:00:51.0	yes
14	(2) GALEX-J161832.6+274352	COS/FUV COS/NUV	1	16-Nov-2018 15:00:52.0	yes
15	(3) GALEX-J121014.3+443958	COS/FUV COS/NUV	1	16-Nov-2018 15:00:52.0	yes
16	(4) GALEX-J083101.8+040318	COS/FUV COS/NUV	2	16-Nov-2018 15:00:53.0	yes
17	(5) GALEX-J083101.8+040317	COS/FUV COS/NUV	2	16-Nov-2018 15:00:54.0	yes
18	(3) GALEX-J121014.3+443958	COS/FUV COS/NUV	1	16-Nov-2018 15:00:55.0	yes

22 Total Orbits Used

ABSTRACT

Galactic outflows associated with star formation are believed to play a crucial role in the evolution of galaxies and the IGM. Most of our knowledge about outflows has come from "down-the-barrel" UV absorption spectroscopy of star-forming galaxies. However, absorption-line data alone provide only indirect information about the radial structure of the gas flows, which introduces large systematic uncertainties in some of the most important quantities, such as the outflow rate, the mass loading factor, and the momentum, metal, and energy fluxes. Recent spectroscopic observations of star-forming galaxies with large (projected physical) apertures have revealed non-resonant (fluorescent) emission in the UV, e.g., FeII* and SiII*, that can be naturally produced by spatially extended emission from the same outflowing material traced in absorption. Encouraged by the most recent observations of FeII* emission by the SDSS-IV/eBOSS survey (Zhu et al. 2015), we propose a pilot program to use narrow-band filter UVIS F280N images to map the extended FeII* 2626 and 2613 fluorescent emission in a carefully-chosen sample of 4 starburst galaxies at $z=0.065$, and COS G130M to obtain down-the-barrel spectra for SiII absorption and SiII* emission. This HST pilot program can provide unique information about the spatial structure of galactic outflows and can potentially lead to a revolution in our understanding of outflow physics and its impact on galaxies and

Proposal 15340 (STScI Edit Number: 0, Created: Friday, November 16, 2018 at 3:00:55 PM Eastern Standard Time) - Overview the IGM.

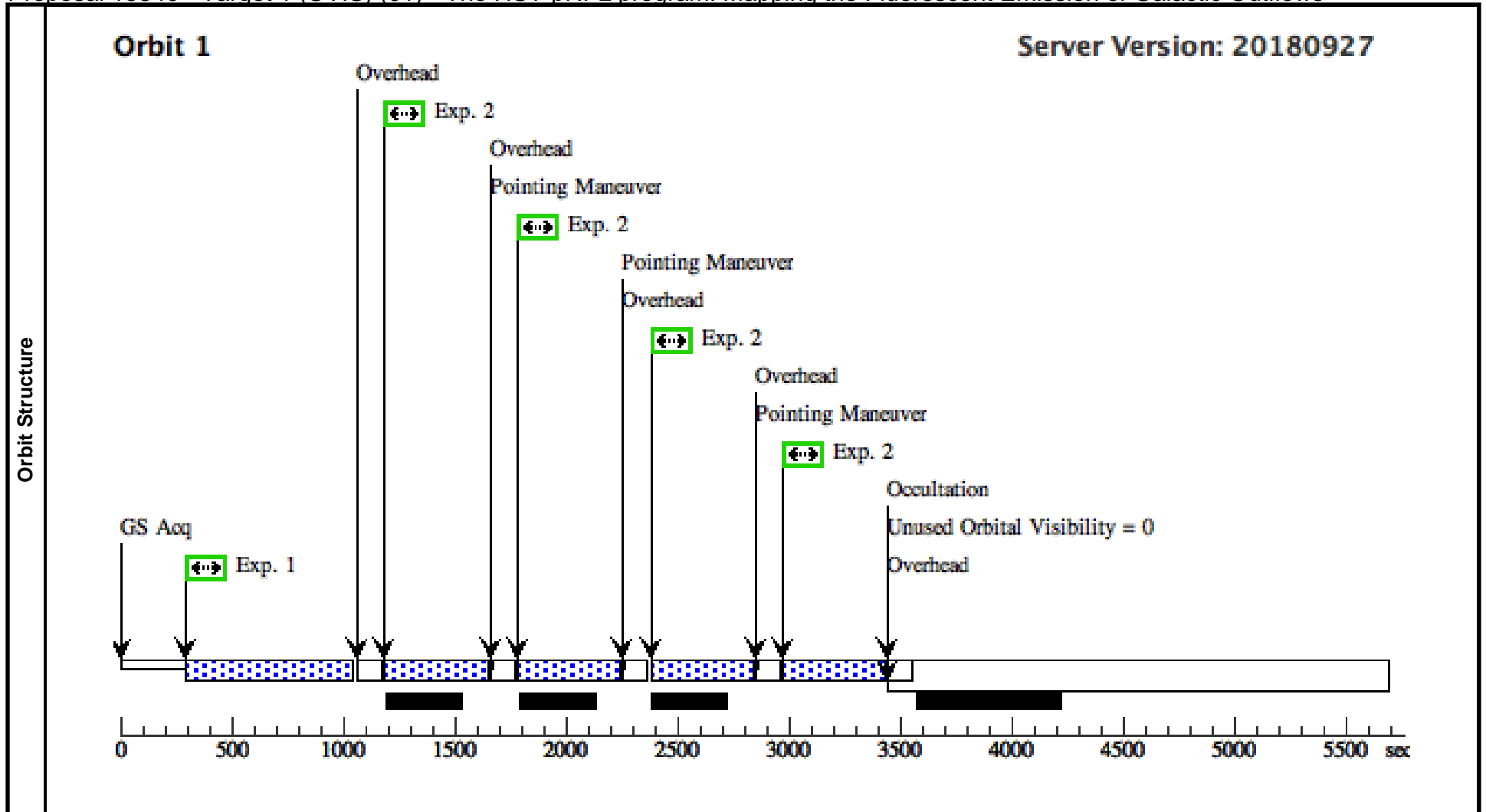
OBSERVING DESCRIPTION

We have carefully selected 4 starburst systems to map the fluorescent emission halo. We will use WFC3 UVIS F280N narrow band to observe Fe II* 2613, 2626, and F343N and F395N for the continuum. In addition, we will use COS/FUV G130M to obtain FUV spectra of Si II* 1194. The combination of these observations will provide us with the direct constraints of outflow geometry for the first time.

Proposal 15340 - Target 1 (UVIS) (01) - The HST-pNFL program: Mapping the Fluorescent Emission of Galactic Outflows

Fri Nov 16 20:00:55 GMT 2018

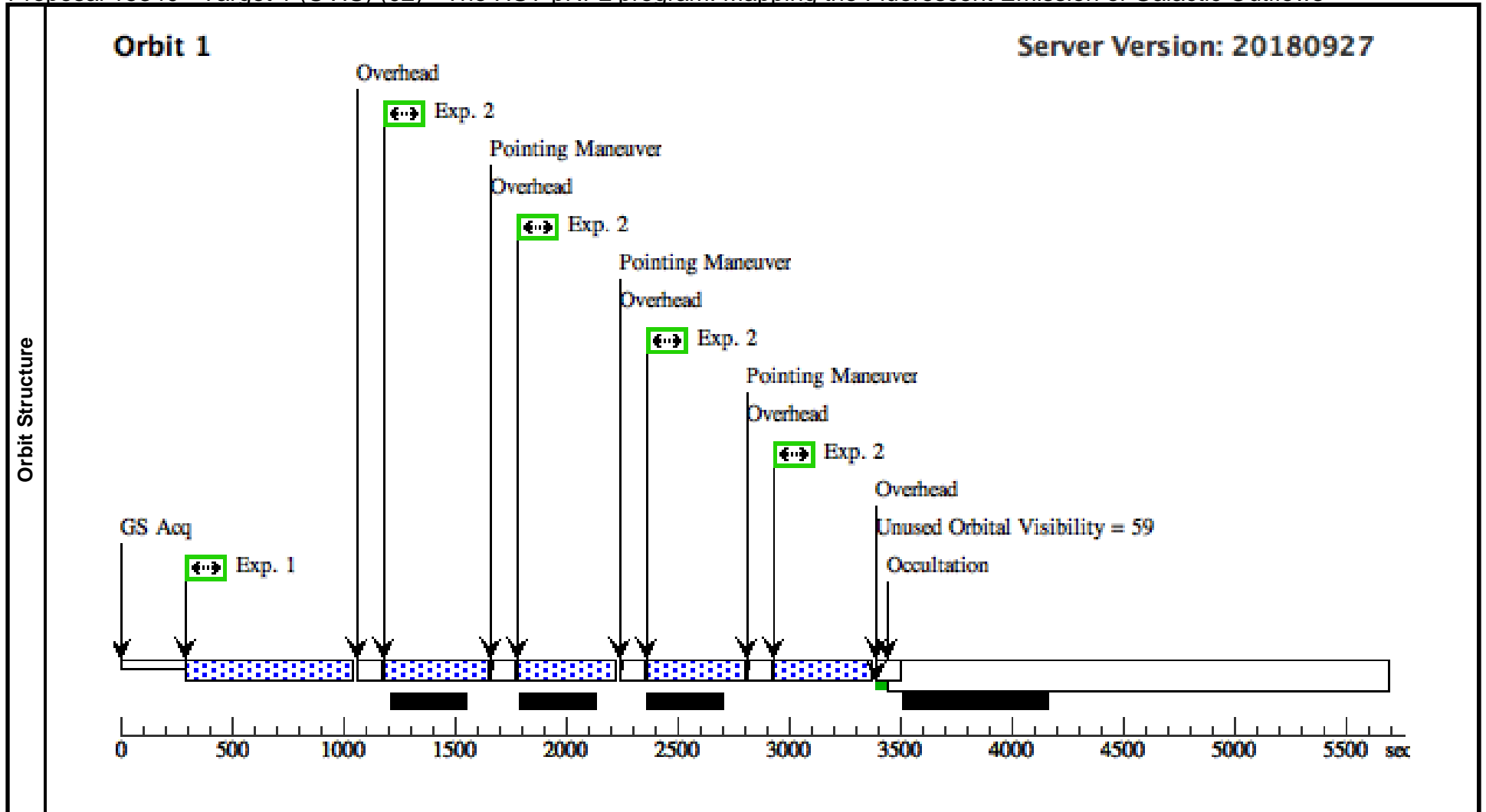
Visit	Proposal 15340, Target 1 (UVIS) (01), completed Diagnostic Status: No Diagnostics Scientific Instruments: WFC3/UVIS Special Requirements: (none)									
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	(1)	Pattern Type=WFC3-UVIS-DITHER- BOX Purpose=DITHER Number Of Points=4 Point Spacing=0.173 Line Spacing=0.112	Coordinate Frame=POS-TARG Pattern Orientation=23.884 Angle Between Sides=81.785 Center Pattern=false		(2)					
Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous				
	(1)	GALEX-J115747.0+583503	RA: 11 57 47.1700 (179.4465417d) Dec: +58 35 3.00 (58.58417d) Equinox: J2000	Redshift: 0.065	V=16.94+/-0.05	Reference Frame: ICRS				
	Comments: This object was generated by the targetselector and retrieved from the GALEX database. Category=GALAXY Description=[STARBURST] Extended=YES									
Exposures	#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1	(WFC3UVI S.im.100983 5)	(1) GALEX-J115747 .0+583503	WFC3/UVIS, ACCUM, UVIS	F343N	FLASH=11			720 Secs (720 Secs)	
								[==>]	[1]	
2	(WFC3UVI S.im.100983 2)	(1) GALEX-J115747 .0+583503	WFC3/UVIS, ACCUM, UVIS	F280N	FLASH=12			Pattern 1, Exps 2-2 in Target 1 (UVIS) (01) (1)	460 Secs (1840 Secs)	
								[==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)] [==>(Pattern 4)]	[1]	
	Comments: Target: [extended source] Source diameter (arcsec): 20.0 Spectrum: Non-stellar Objects Starburst SB2 Kinney Recalibrated [911.0, 25592.0] Extinction E(B-V): Milky Way Diffuse (Rv=3.1) = 0.02 applied before normalization Normalization: Renormalized to abmag = 25.0 in filter Galax/NUV Redshift: z=0.065 Emission Lines: None									



Proposal 15340 - Target 1 (UVIS) (02) - The HST-pNFL program: Mapping the Fluorescent Emission of Galactic Outflows

Fri Nov 16 20:00:55 GMT 2018

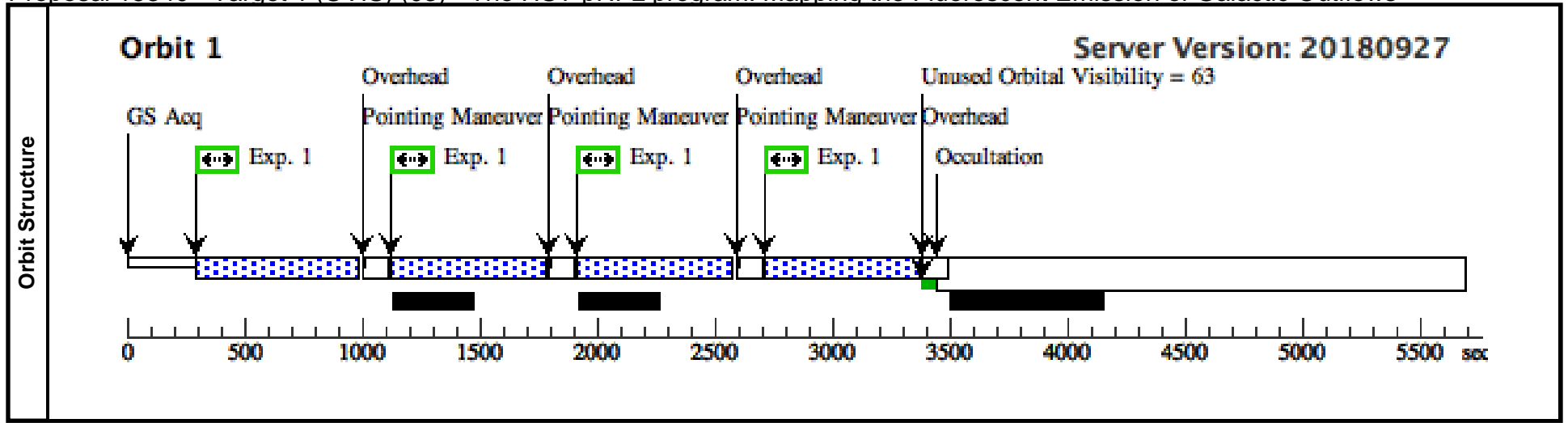
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Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous				
	(1)	GALEX-J115747.0+583503	RA: 11 57 47.1700 (179.4465417d) Dec: +58 35 3.00 (58.58417d) Equinox: J2000	Redshift: 0.065	V=16.94+/-0.05	Reference Frame: ICRS				
	Comments: This object was generated by the targetselector and retrieved from the GALEX database. Category=GALAXY Description=[STARBURST] Extended=YES									
Exposures	#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1	(WFC3UVI S.im.100983 5)	(1) GALEX-J115747.0+583503	WFC3/UVIS, ACCUM, UVIS	F395N	FLASH=11			720 Secs (720 Secs)	
									[==>]	[1]
	2	(WFC3UVI S.im.100983 2)	(1) GALEX-J115747.0+583503	WFC3/UVIS, ACCUM, UVIS	F280N	FLASH=12		Pattern 1, Exps 2-2 in Target 1 (UVIS) (0 2) (1)	440 Secs (1760 Secs)	
									[==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)] [==>(Pattern 4)]	[1]
	Comments: Target: [extended source] Source diameter (arcsec): 20.0 Spectrum: Non-stellar Objects Starburst SB2 Kinney Recalibrated [911.0, 25592.0] Extinction E(B-V): Milky Way Diffuse (Rv=3.1) = 0.02 applied before normalization Normalization: Renormalized to abmag = 25.0 in filter Galax/NUV Redshift: z=0.065 Emission Lines: None									



Proposal 15340 - Target 1 (UVIS) (03) - The HST-pNFL program: Mapping the Fluorescent Emission of Galactic Outflows

Fri Nov 16 20:00:55 GMT 2018

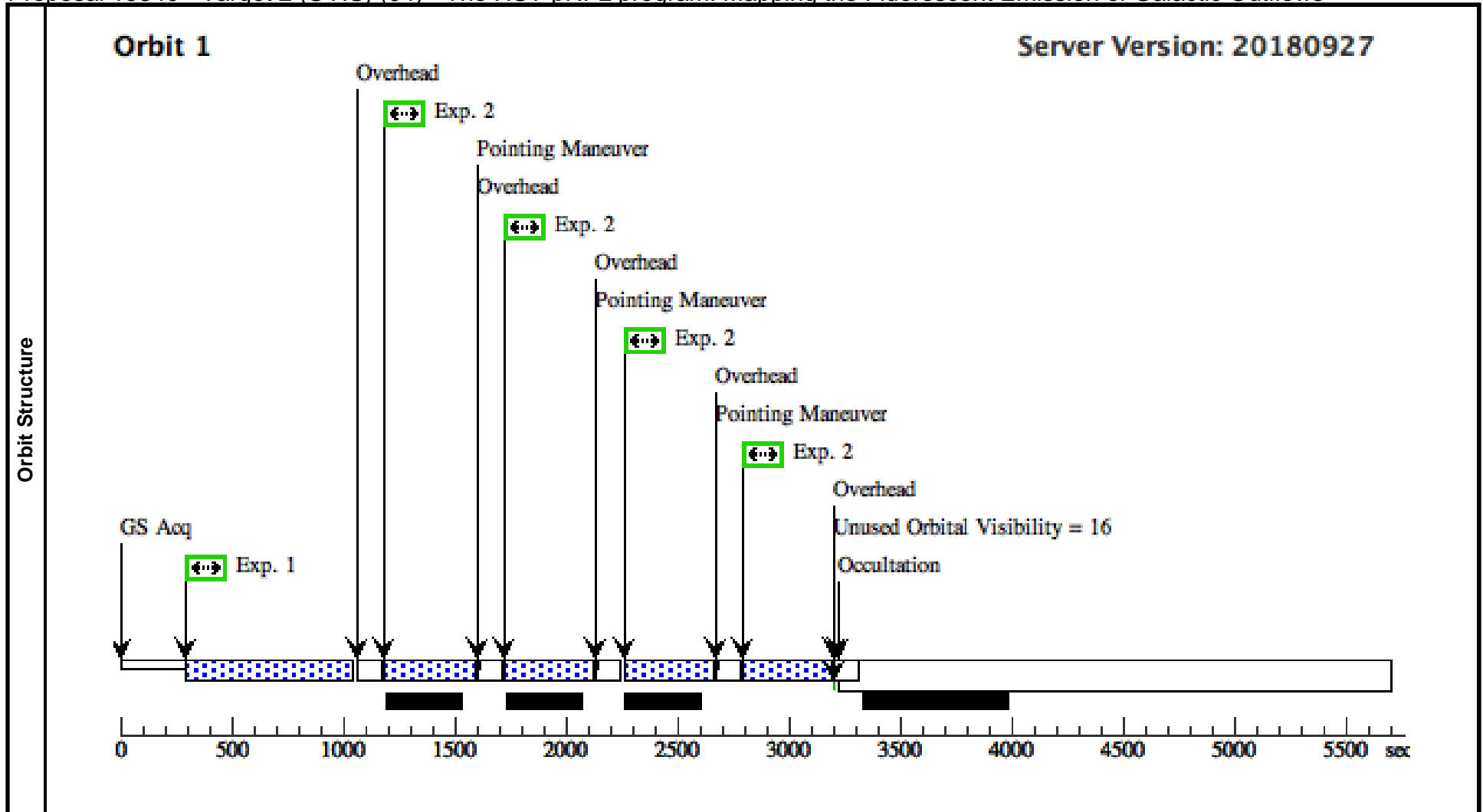
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Fixed Targets	#	Name	Target Coordinates		Targ. Coord. Corrections		Fluxes	Miscellaneous			
	(1)	GALEX-J115747.0+583503	RA: 11 57 47.1700 (179.4465417d) Dec: +58 35 3.00 (58.58417d) Equinox: J2000		Redshift: 0.065		V=16.94+/-0.05	Reference Frame: ICRS			
Comments: This object was generated by the targetselector and retrieved from the GALEX database. Category=GALAXY Description=[STARBURST] Extended=YES											
Exposures	#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]		Orbit
	1	(WFC3UVI S.im.100983 2)	(1) GALEX-J115747.0+583503	WFC3/UVIS, ACCUM, UVIS	F280N	FLASH=12		Pattern 1, Exps 1-1 in Target 1 (UVIS) (03) (1)	660 Secs (2640 Secs) [==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)] [==>(Pattern 4)]		[1]
Comments: Target: [extended source] Source diameter (arcsec): 20.0 Spectrum: Non-stellar Objects Starburst SB2 Kinney Recalibrated [911.0, 25592.0] Extinction E(B-V): Milky Way Diffuse (Rv=3.1) = 0.02 applied before normalization Normalization: Renormalized to abmag = 25.0 in filter Galex/NUV Redshift: z=0.065 Emission Lines: None											



Proposal 15340 - Target 2 (UVIS) (04) - The HST-pNFL program: Mapping the Fluorescent Emission of Galactic Outflows

Fri Nov 16 20:00:55 GMT 2018

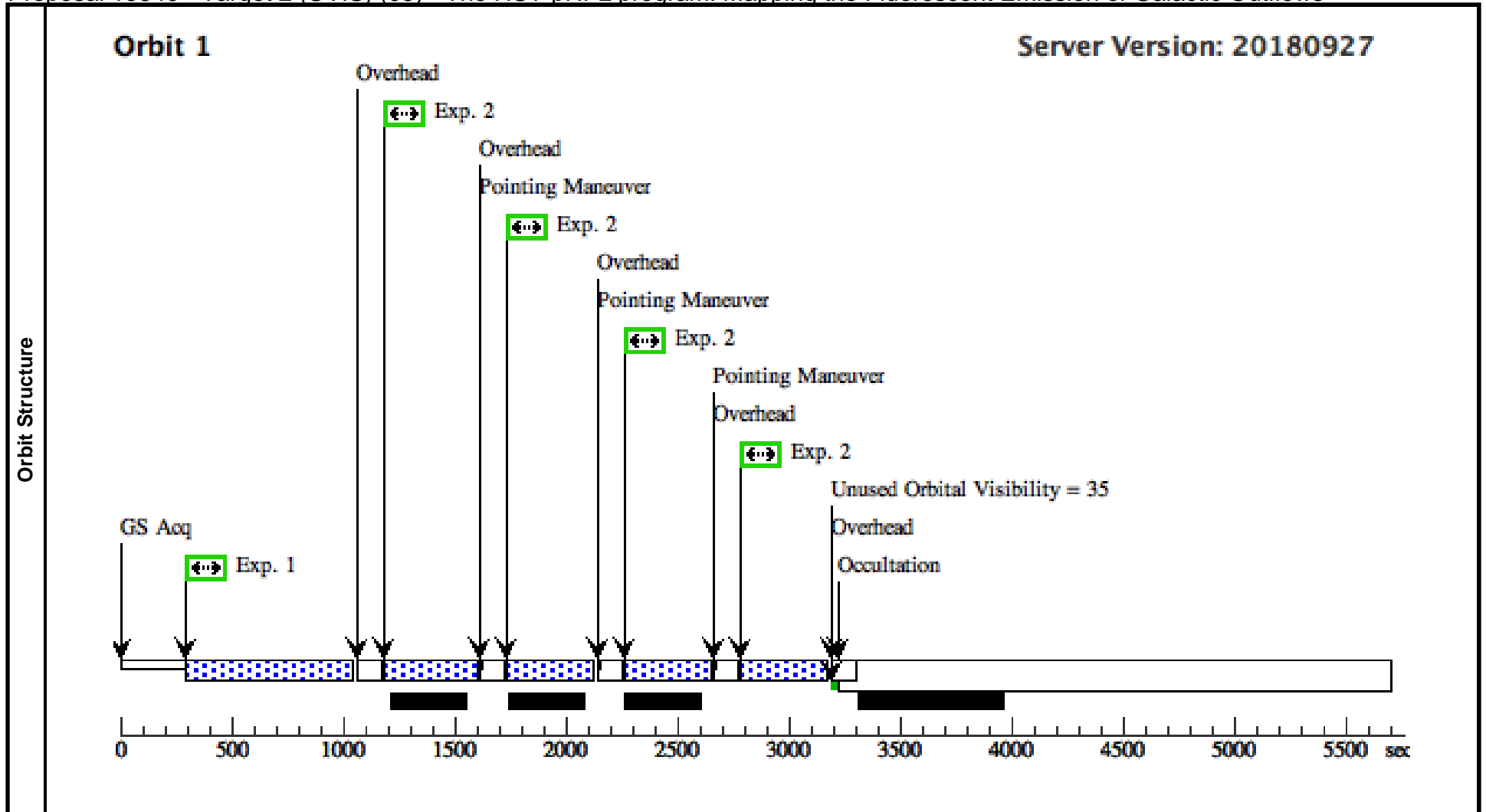
Visit	Proposal 15340, Target 2 (UVIS) (04), completed Diagnostic Status: No Diagnostics Scientific Instruments: WFC3/UVIS Special Requirements: (none)									
	Patterns	#	Primary Pattern	Secondary Pattern	Exposures					
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Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous				
	(2)	GALEX-J161832.6+274352	RA: 16 18 32.6442 (244.6360175d) Dec: +27 43 52.40 (27.73122d) Equinox: J2000	Redshift: 0.065	V=16.74+/-0.05	Reference Frame: ICRS				
	<i>Comments: This object was generated by the targetselector and retrieved from the GALEX database.</i> Category=GALAXY Description=[STARBURST] Extended=YES									
Exposures	#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1	(WFC3UVI S.im.100983 5)	(2) GALEX-J161832 .6+274352	WFC3/UVIS, ACCUM, UVIS	F343N	FLASH=11			720 Secs (720 Secs)	[1]
	2	(WFC3UVI S.im.100983 2)	(2) GALEX-J161832 .6+274352	WFC3/UVIS, ACCUM, UVIS	F280N	FLASH=12		Pattern 1, Exps 2-2 in Target 2 (UVIS) (04) (1)	400 Secs (1600 Secs) [==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)] [==>(Pattern 4)]	[1]
	<i>Comments: Target: [extended source]</i> Source diameter (arcsec): 20.0 Spectrum: Non-stellar Objects Starburst SB2 Kinney Recalibrated [911.0, 25592.0] Extinction E(B-V): Milky Way Diffuse (Rv=3.1) = 0.02 applied before normalization Normalization: Renormalized to abmag = 25.0 in filter Galax/NUV Redshift: z=0.065 Emission Lines: None									



Proposal 15340 - Target 2 (UVIS) (05) - The HST-pNFL program: Mapping the Fluorescent Emission of Galactic Outflows

Fri Nov 16 20:00:56 GMT 2018

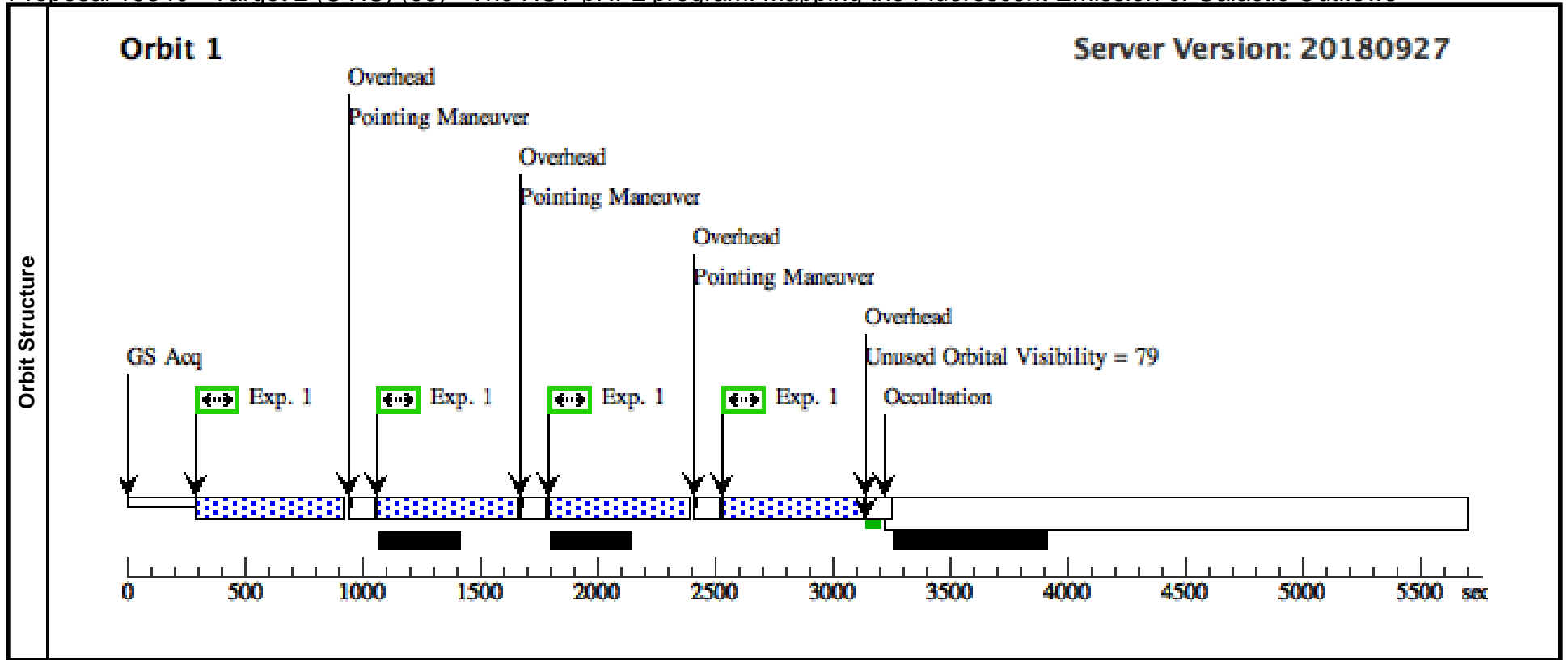
Visit	Proposal 15340, Target 2 (UVIS) (05), completed Diagnostic Status: No Diagnostics Scientific Instruments: WFC3/UVIS Special Requirements: (none)										
	Patterns	#	Primary Pattern				Secondary Pattern			Exposures	
(1)		Pattern Type=WFC3-UVIS-DITHER-BOX Purpose=DITHER Number Of Points=4 Point Spacing=0.173 Line Spacing=0.112				Coordinate Frame=POS-TARG Pattern Orientation=23.884 Angle Between Sides=81.785 Center Pattern=false			(2)		
Fixed Targets	#	Name	Target Coordinates		Targ. Coord. Corrections		Fluxes	Miscellaneous			
	(2)	GALEX-J161832.6+274352	RA: 16 18 32.6442 (244.6360175d) Dec: +27 43 52.40 (27.73122d) Equinox: J2000		Redshift: 0.065		V=16.74+/-0.05	Reference Frame: ICRS			
Comments: This object was generated by the targetselector and retrieved from the GALEX database. Category=GALAXY Description=[STARBURST] Extended=YES											
Exposures	#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]		Orbit
	1	(WFC3UVI S.im.100983 5)	(2) GALEX-J161832 .6+274352	WFC3/UVIS, ACCUM, UVIS	F395N	FLASH=11			720 Secs (720 Secs)		
[==>]											
2	(WFC3UVI S.im.100983 2)	(2) GALEX-J161832 .6+274352	WFC3/UVIS, ACCUM, UVIS	F280N	FLASH=12			Pattern 1, Exps 2-2 in Target 2 (UVIS) (0 5) (1)	390 Secs (1560 Secs)		
[==>(Pattern 1)]											
[==>(Pattern 2)]											
[==>(Pattern 3)]											
[==>(Pattern 4)]											
Comments: Target: [extended source] Source diameter (arcsec): 20.0 Spectrum: Non-stellar Objects Starburst SB2 Kinney Recalibrated [911.0, 25592.0] Extinction E(B-V): Milky Way Diffuse (Rv=3.1) = 0.02 applied before normalization Normalization: Renormalized to abmag = 25.0 in filter Galax/NUV Redshift: z=0.065 Emission Lines: None											



Proposal 15340 - Target 2 (UVIS) (06) - The HST-pNFL program: Mapping the Fluorescent Emission of Galactic Outflows

Fri Nov 16 20:00:56 GMT 2018

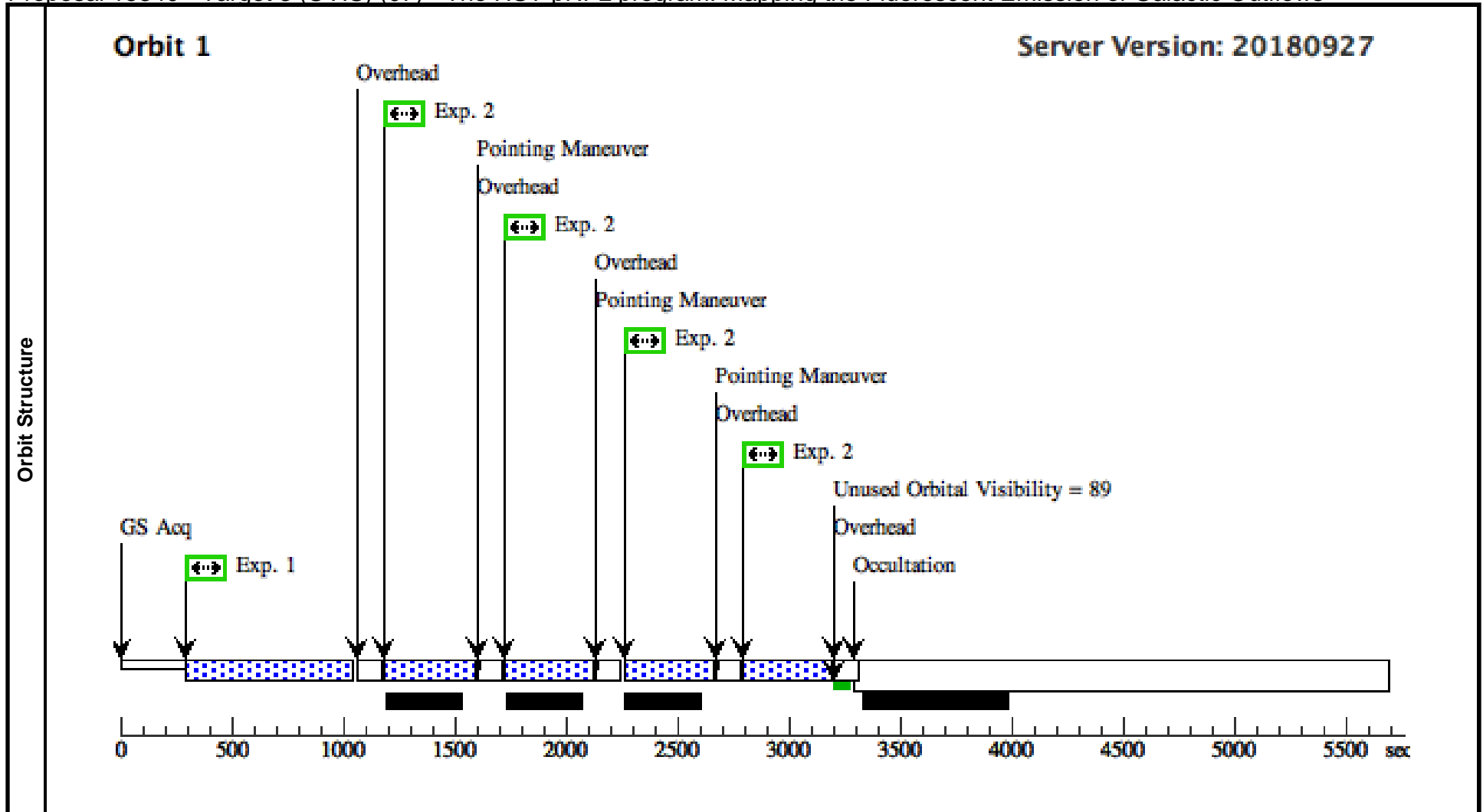
Visit	Proposal 15340, Target 2 (UVIS) (06), completed Diagnostic Status: No Diagnostics Scientific Instruments: WFC3/UVIS Special Requirements: (none)										
	Patterns	#	Primary Pattern				Secondary Pattern				Exposures
(1)		Pattern Type=WFC3-UVIS-DITHER-BOX Purpose=DITHER Number Of Points=4 Point 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)	GALEX-J161832.6+274352	RA: 16 18 32.6442 (244.6360175d) Dec: +27 43 52.40 (27.73122d) Equinox: J2000		Redshift: 0.065		V=16.74+/-0.05		Reference Frame: ICRS		
Comments: This object was generated by the targetselector and retrieved from the GALEX database. Category=GALAXY Description=[STARBURST] Extended=YES											
Exposures	#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]		Orbit
	1	(WFC3UVIS.im.1009832)	(2) GALEX-J161832.6+274352	WFC3/UVIS, ACCUM, UVIS	F280N	FLASH=12		Pattern 1, Exps 1-1 in Target 2 (UVIS) (06) (1)	600 Secs (2400 Secs) [==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)] [==>(Pattern 4)]		[1]
Comments: Target: [extended source] Source diameter (arcsec): 20.0 Spectrum: Non-stellar Objects Starburst SB2 Kinney Recalibrated [911.0, 25592.0] Extinction E(B-V): Milky Way Diffuse (Rv=3.1) = 0.02 applied before normalization Normalization: Renormalized to abmag = 25.0 in filter Galex/NUV Redshift: z=0.065 Emission Lines: None											



Proposal 15340 - Target 3 (UVIS) (07) - The HST-pNFL program: Mapping the Fluorescent Emission of Galactic Outflows

Fri Nov 16 20:00:56 GMT 2018

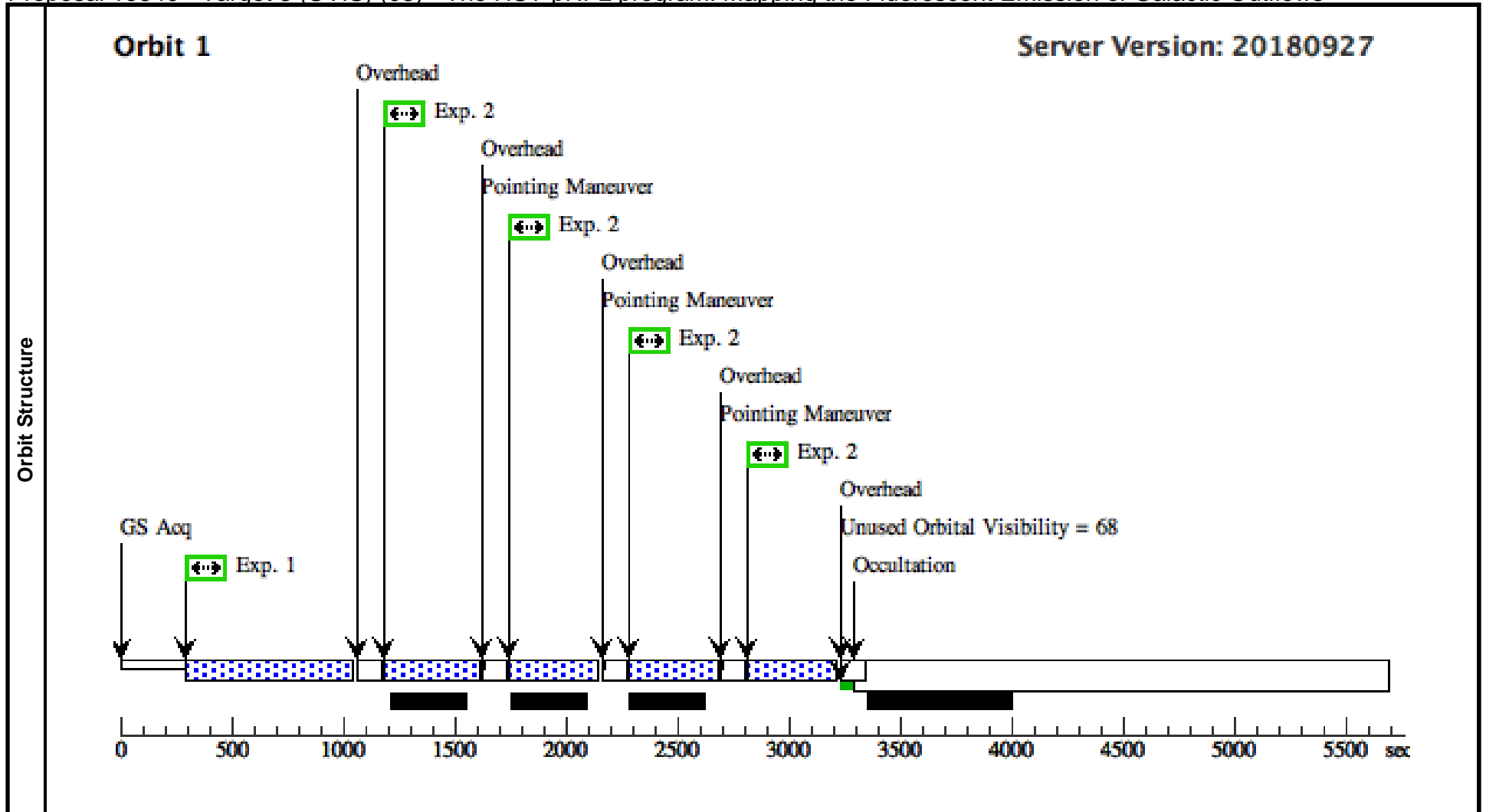
Visit	Proposal 15340, Target 3 (UVIS) (07), scheduled Diagnostic Status: No Diagnostics Scientific Instruments: WFC3/UVIS Special Requirements: (none)										
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(1)		Pattern Type=WFC3-UVIS-DITHER-BOX Purpose=DITHER Number Of Points=4 Point Spacing=0.173 Line Spacing=0.112				Coordinate Frame=POS-TARG Pattern Orientation=23.884 Angle Between Sides=81.785 Center Pattern=false				(2)	
Fixed Targets	#	Name	Target Coordinates		Targ. Coord. Corrections		Fluxes		Miscellaneous		
	(3)	GALEX-J121014.3+443958	RA: 12 10 14.4500 (182.5602083d) Dec: +44 39 56.80 (44.66578d) Equinox: J2000		Redshift: 0.065		V=16.95+/-0.05		Reference Frame: ICRS		
Comments: This object was generated by the targetselector and retrieved from the GALEX database. Category=GALAXY Description=[STARBURST] Extended=YES											
Exposures	#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]		Orbit
	1	(WFC3UVI S.im.100983 5)	(3) GALEX-J121014 .3+443958	WFC3/UVIS, ACCUM, UVIS	F343N	FLASH=11			720 Secs (720 Secs)		
[==>]											
2	(WFC3UVI S.im.100983 2)	(3) GALEX-J121014 .3+443958	WFC3/UVIS, ACCUM, UVIS	F280N	FLASH=12			Pattern 1, Exps 2-2 in Target 3 (UVIS) (07) (1)	400 Secs (1600 Secs)		
[==>(Pattern 1)]											
[==>(Pattern 2)]											
[==>(Pattern 3)]											
[==>(Pattern 4)]											
Comments: Target: [extended source] Source diameter (arcsec): 20.0 Spectrum: Non-stellar Objects Starburst SB2 Kinney Recalibrated [911.0, 25592.0] Extinction E(B-V): Milky Way Diffuse (Rv=3.1) = 0.02 applied before normalization Normalization: Renormalized to abmag = 25.0 in filter Galax/NUV Redshift: z=0.065 Emission Lines: None											



Proposal 15340 - Target 3 (UVIS) (08) - The HST-pNFL program: Mapping the Fluorescent Emission of Galactic Outflows

Fri Nov 16 20:00:56 GMT 2018

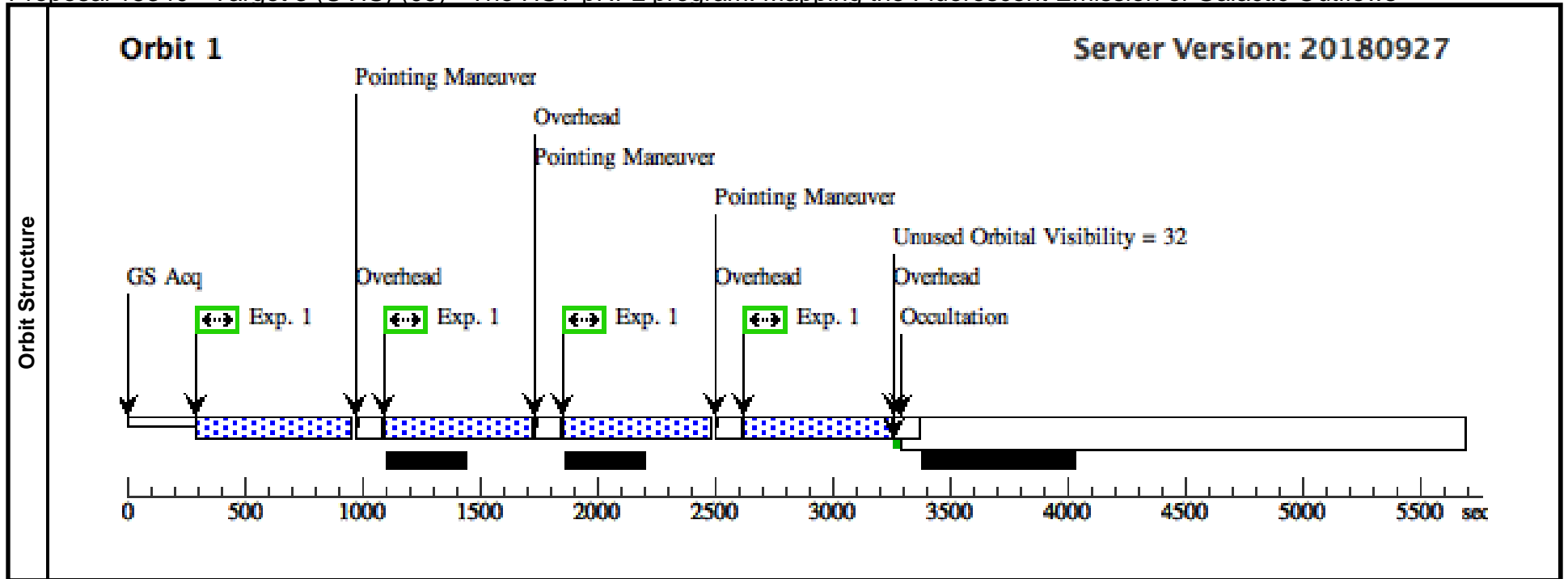
Visit	Proposal 15340, Target 3 (UVIS) (08), scheduled Diagnostic Status: No Diagnostics Scientific Instruments: WFC3/UVIS Special Requirements: (none)										
	Patterns	#	Primary Pattern				Secondary Pattern			Exposures	
(1)		Pattern Type=WFC3-UVIS-DITHER-BOX Purpose=DITHER Number Of Points=4 Point Spacing=0.173 Line Spacing=0.112				Coordinate Frame=POS-TARG Pattern Orientation=23.884 Angle Between Sides=81.785 Center Pattern=false			(2)		
Fixed Targets	#	Name	Target Coordinates		Targ. Coord. Corrections		Fluxes	Miscellaneous			
	(3)	GALEX-J121014.3+443958	RA: 12 10 14.4500 (182.5602083d) Dec: +44 39 56.80 (44.66578d) Equinox: J2000		Redshift: 0.065		V=16.95+/-0.05	Reference Frame: ICRS			
Comments: This object was generated by the targetselector and retrieved from the GALEX database. Category=GALAXY Description=[STARBURST] Extended=YES											
Exposures	#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]		Orbit
	1	(WFC3UVI S.im.100983 5)	(3) GALEX-J121014 .3+443958	WFC3/UVIS, ACCUM, UVIS	F395N	FLASH=11			720 Secs (720 Secs)		
[==>]											
2	(WFC3UVI S.im.100983 2)	(3) GALEX-J121014 .3+443958	WFC3/UVIS, ACCUM, UVIS	F280N	FLASH=12			Pattern 1, Exps 2-2 in Target 3 (UVIS) (08) (1)	400 Secs (1600 Secs)		
[==>(Pattern 1)]											
[==>(Pattern 2)]											
[==>(Pattern 3)]											
[==>(Pattern 4)]											
Comments: Target: [extended source] Source diameter (arcsec): 20.0 Spectrum: Non-stellar Objects Starburst SB2 Kinney Recalibrated [911.0, 25592.0] Extinction E(B-V): Milky Way Diffuse (Rv=3.1) = 0.02 applied before normalization Normalization: Renormalized to abmag = 25.0 in filter Galax/NUV Redshift: z=0.065 Emission Lines: None											



Proposal 15340 - Target 3 (UVIS) (09) - The HST-pNFL program: Mapping the Fluorescent Emission of Galactic Outflows

Fri Nov 16 20:00:56 GMT 2018

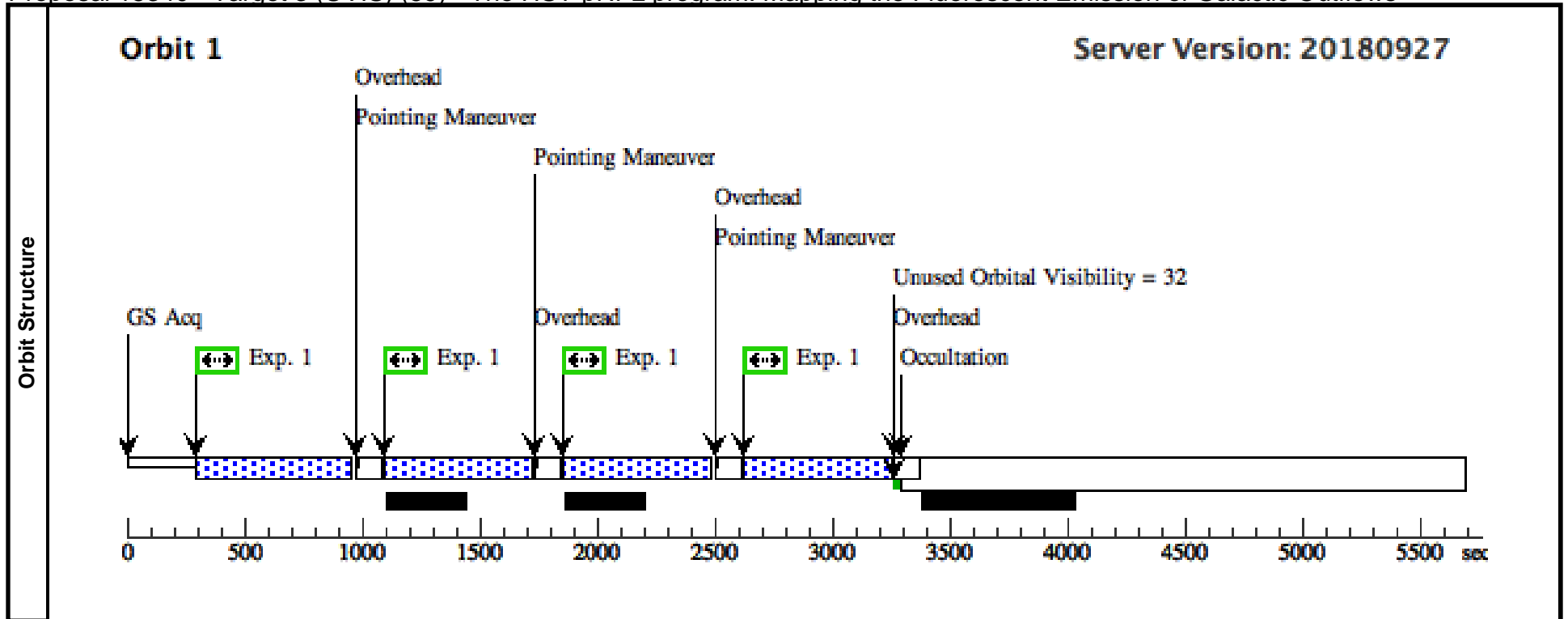
Visit	Proposal 15340, Target 3 (UVIS) (09), completed Diagnostic Status: No Diagnostics Scientific Instruments: WFC3/UVIS Special Requirements: (none)										
	Patterns	#	Primary Pattern				Secondary Pattern			Exposures	
(1)		Pattern Type=WFC3-UVIS-DITHER-BOX Purpose=DITHER Number Of Points=4 Point 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			
	(3)	GALEX-J121014.3+443958	RA: 12 10 14.4500 (182.5602083d) Dec: +44 39 56.80 (44.66578d) Equinox: J2000		Redshift: 0.065		V=16.95+/-0.05	Reference Frame: ICRS			
Comments: This object was generated by the targetselector and retrieved from the GALEX database. Category=GALAXY Description=[STARBURST] Extended=YES											
Exposures	#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]		Orbit
	1	(WFC3UVIS.im.1009832)	(3) GALEX-J121014.3+443958	WFC3/UVIS, ACCUM, UVIS	F280N	FLASH=12		Pattern 1, Exps 1-1 in Target 3 (UVIS) (09) (1)	630 Secs (2520 Secs)		[1]
Comments: Target: [extended source] Source diameter (arcsec): 20.0 Spectrum: Non-stellar Objects Starburst SB2 Kinney Recalibrated [911.0, 25592.0] Extinction E(B-V): Milky Way Diffuse (Rv=3.1) = 0.02 applied before normalization Normalization: Renormalized to abmag = 25.0 in filter Galex/NUV Redshift: z=0.065 Emission Lines: None											



Proposal 15340 - Target 3 (UVIS) (59) - The HST-pNFL program: Mapping the Fluorescent Emission of Galactic Outflows

Fri Nov 16 20:00:56 GMT 2018

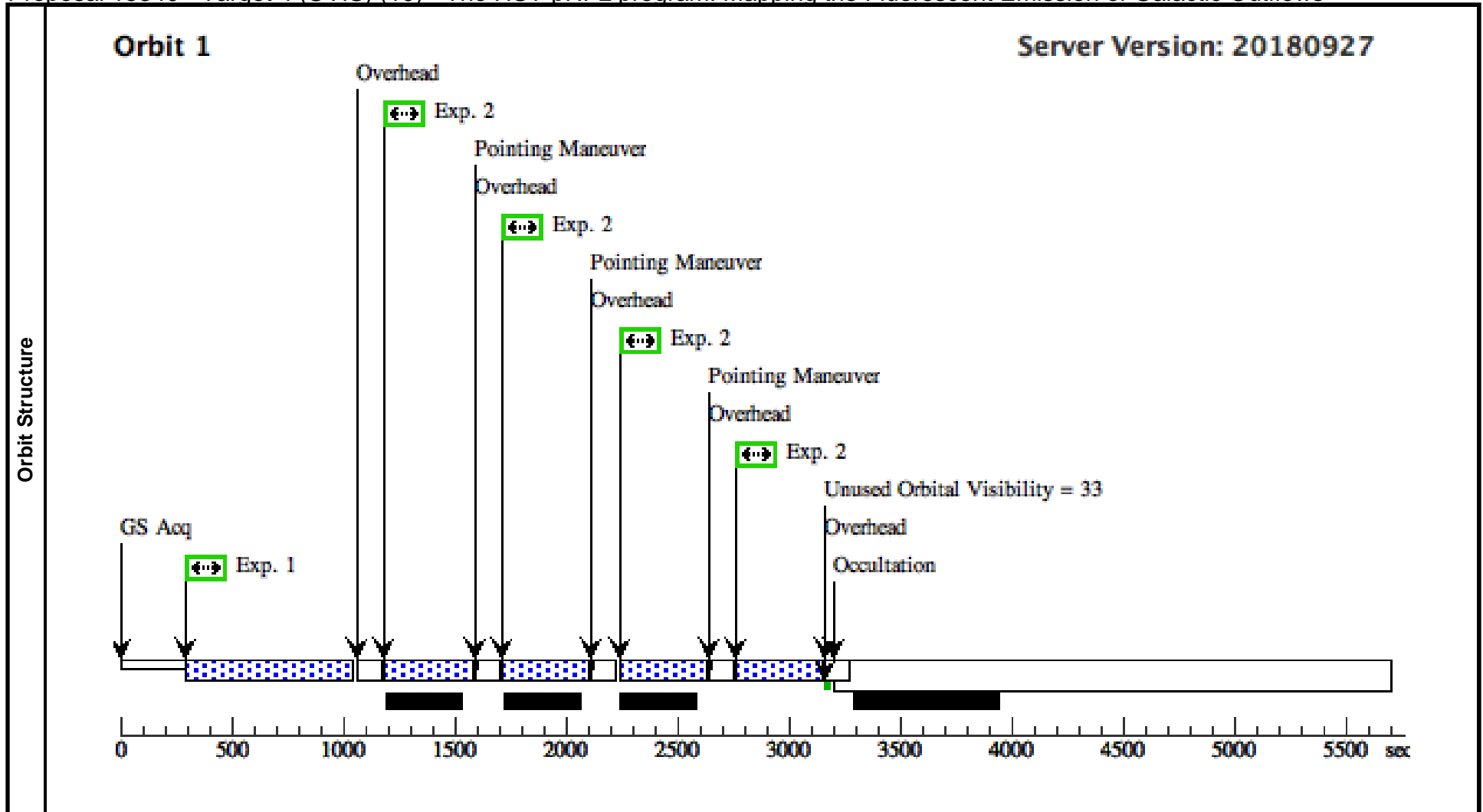
Visit	Proposal 15340, Target 3 (UVIS) (59) Diagnostic Status: No Diagnostics Scientific Instruments: WFC3/UVIS Special Requirements: (none) <i>Comments: HOPR repeat of visit 09</i>										
	Patterns	#	Primary Pattern				Secondary Pattern			Exposures	
(1)		Pattern Type=WFC3-UVIS-DITHER-BOX Purpose=DITHER 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			
	(3)	GALEX-J121014.3+443958	RA: 12 10 14.4500 (182.5602083d) Dec: +44 39 56.80 (44.66578d) Equinox: J2000		Redshift: 0.065		V=16.95+/-0.05	Reference Frame: ICRS			
<i>Comments: This object was generated by the targetselector and retrieved from the GALEX database.</i> Category=GALAXY Description=[STARBURST] Extended=YES											
Exposures	#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]		Orbit
	1	(WFC3UVIS.im.1009832)	(3) GALEX-J121014.3+443958	WFC3/UVIS, ACCUM, UVIS	F280N	FLASH=12		Pattern 1, Exps 1-1 in Target 3 (UVIS) (59) (1)	630 Secs (2520 Secs)		[1]
<i>Comments: Target: [extended source]</i> Source diameter (arcsec): 20.0 Spectrum: Non-stellar Objects Starburst SB2 Kinney Recalibrated [911.0, 25592.0] Extinction E(B-V): Milky Way Diffuse (Rv=3.1) = 0.02 applied before normalization Normalization: Renormalized to abmag = 25.0 in filter GaleX/NUV Redshift: z=0.065 Emission Lines: None											



Proposal 15340 - Target 4 (UVIS) (10) - The HST-pNFL program: Mapping the Fluorescent Emission of Galactic Outflows

Fri Nov 16 20:00:56 GMT 2018

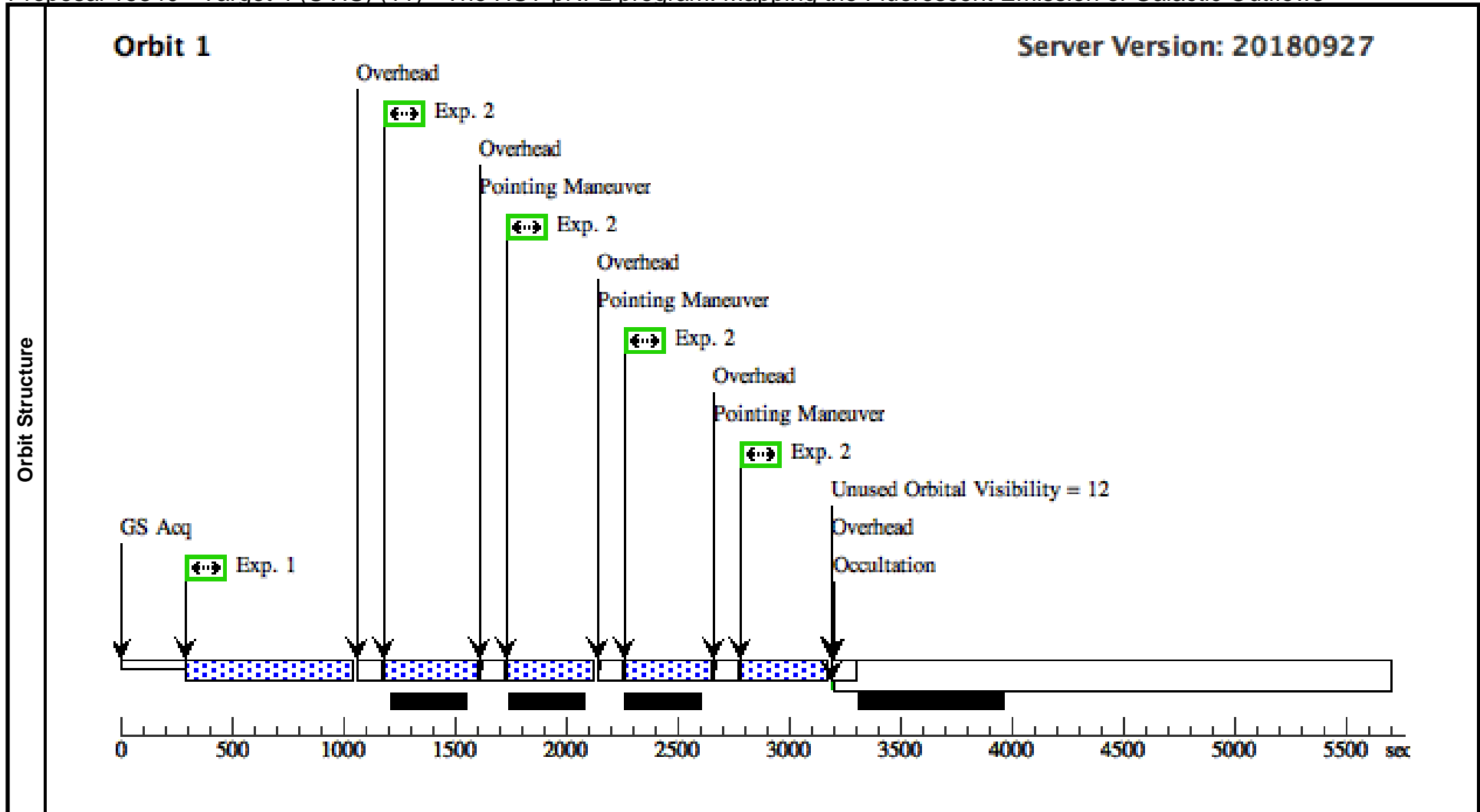
Visit	Proposal 15340, Target 4 (UVIS) (10), completed Diagnostic Status: No Diagnostics Scientific Instruments: WFC3/UVIS Special Requirements: (none)										
	Patterns	#	Primary Pattern				Secondary Pattern			Exposures	
(1)		Pattern Type=WFC3-UVIS-DITHER-BOX Purpose=DITHER Number Of Points=4 Point Spacing=0.173 Line Spacing=0.112				Coordinate Frame=POS-TARG Pattern Orientation=23.884 Angle Between Sides=81.785 Center Pattern=false			(2)		
Fixed Targets	#	Name	Target Coordinates		Targ. Coord. Corrections		Fluxes	Miscellaneous			
	(4)	GALEX-J083101.8+040318	RA: 08 31 1.9500 (127.7581250d) Dec: +04 03 18.80 (4.05522d) Equinox: J2000		Redshift: 0.065		V=17.10+/-0.05	Reference Frame: ICRS			
Comments: This object was generated by the targetselector and retrieved from the GALEX database. Category=GALAXY Description=[INTERACTING GALAXY, STARBURST] Extended=YES											
Exposures	#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]		Orbit
	1	(WFC3UVI S.im.100983 5)	(4) GALEX-J083101.8+040318	WFC3/UVIS, ACCUM, UVIS	F343N	FLASH=11			720 Secs (720 Secs)		
[==>]											
2	(WFC3UVI S.im.100983 2)	(4) GALEX-J083101.8+040318	WFC3/UVIS, ACCUM, UVIS	F280N	FLASH=12			Pattern 1, Exps 2-2 in Target 4 (UVIS) (10) (1)	390 Secs (1560 Secs)		
[==>(Pattern 1)]											
[==>(Pattern 2)]											
[==>(Pattern 3)]											
[==>(Pattern 4)]											
Comments: Target: [extended source] Source diameter (arcsec): 20.0 Spectrum: Non-stellar Objects Starburst SB2 Kinney Recalibrated [911.0, 25592.0] Extinction E(B-V): Milky Way Diffuse (Rv=3.1) = 0.02 applied before normalization Normalization: Renormalized to abmag = 25.0 in filter Galax/NUV Redshift: z=0.065 Emission Lines: None											



Proposal 15340 - Target 4 (UVIS) (11) - The HST-pNFL program: Mapping the Fluorescent Emission of Galactic Outflows

Fri Nov 16 20:00:56 GMT 2018

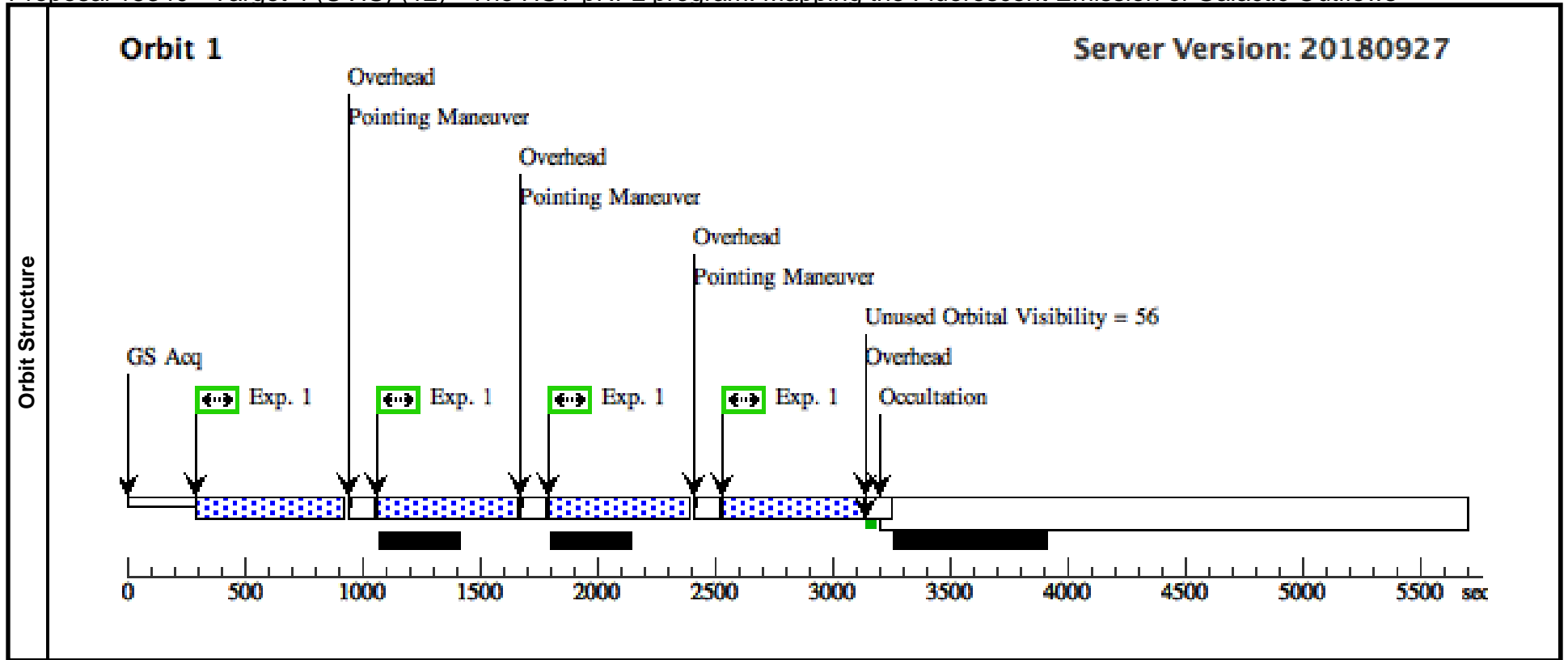
Visit	Proposal 15340, Target 4 (UVIS) (11), scheduling Diagnostic Status: No Diagnostics Scientific Instruments: WFC3/UVIS Special Requirements: (none)										
	Patterns	#	Primary Pattern				Secondary Pattern			Exposures	
(1)		Pattern Type=WFC3-UVIS-DITHER-BOX Purpose=DITHER Number Of Points=4 Point Spacing=0.173 Line Spacing=0.112				Coordinate Frame=POS-TARG Pattern Orientation=23.884 Angle Between Sides=81.785 Center Pattern=false			(2)		
Fixed Targets	#	Name	Target Coordinates		Targ. Coord. Corrections		Fluxes	Miscellaneous			
	(4)	GALEX-J083101.8+040318	RA: 08 31 1.9500 (127.7581250d) Dec: +04 03 18.80 (4.05522d) Equinox: J2000		Redshift: 0.065		V=17.10+/-0.05	Reference Frame: ICRS			
Comments: This object was generated by the targetselector and retrieved from the GALEX database. Category=GALAXY Description=[INTERACTING GALAXY, STARBURST] Extended=YES											
Exposures	#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]		Orbit
	1	(WFC3UVI S.im.100983 5)	(4) GALEX-J083101.8+040318	WFC3/UVIS, ACCUM, UVIS	F395N	FLASH=11			720 Secs (720 Secs)		
[==>]											
2	(WFC3UVI S.im.100983 2)	(4) GALEX-J083101.8+040318	WFC3/UVIS, ACCUM, UVIS	F280N	FLASH=12			Pattern 1, Exps 2-2 in Target 4 (UVIS) (1) (1)	390 Secs (1560 Secs)		
[==>(Pattern 1)]											
[==>(Pattern 2)]											
[==>(Pattern 3)]											
[==>(Pattern 4)]											
Comments: Target: [extended source] Source diameter (arcsec): 20.0 Spectrum: Non-stellar Objects Starburst SB2 Kinney Recalibrated [911.0, 25592.0] Extinction E(B-V): Milky Way Diffuse (Rv=3.1) = 0.02 applied before normalization Normalization: Renormalized to abmag = 25.0 in filter Galax/NUV Redshift: z=0.065 Emission Lines: None											



Proposal 15340 - Target 4 (UVIS) (12) - The HST-pNFL program: Mapping the Fluorescent Emission of Galactic Outflows

Fri Nov 16 20:00:56 GMT 2018

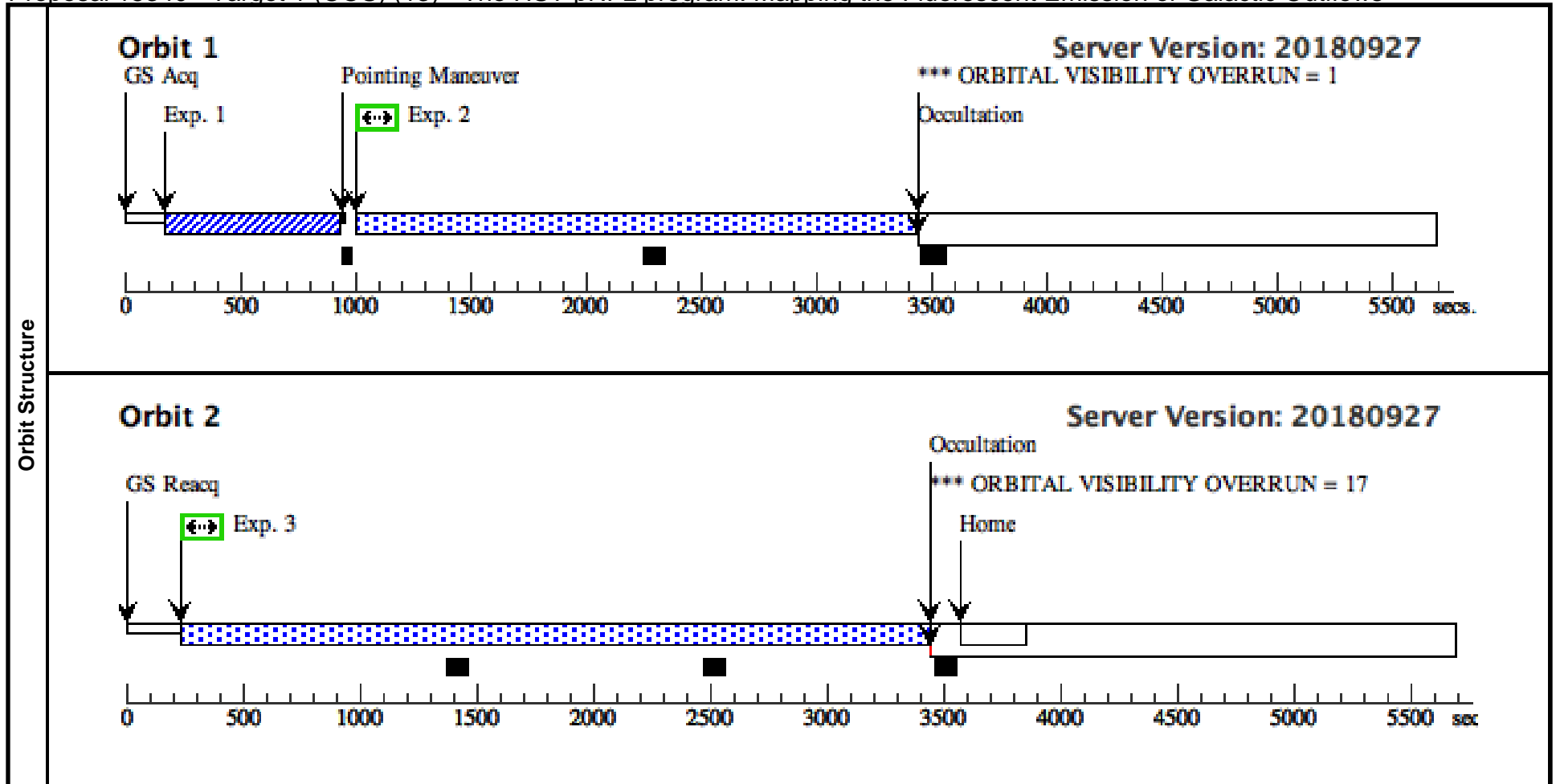
Visit	Proposal 15340, Target 4 (UVIS) (12), scheduling Diagnostic Status: No Diagnostics Scientific Instruments: WFC3/UVIS Special Requirements: (none)										
	Patterns	#	Primary Pattern				Secondary Pattern			Exposures	
(1)		Pattern Type=WFC3-UVIS-DITHER-BOX Purpose=DITHER Number Of Points=4 Point 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)	GALEX-J083101.8+040318	RA: 08 31 1.9500 (127.7581250d) Dec: +04 03 18.80 (4.05522d) Equinox: J2000		Redshift: 0.065		V=17.10+/-0.05	Reference Frame: ICRS			
Comments: This object was generated by the targetselector and retrieved from the GALEX database. Category=GALAXY Description=[INTERACTING GALAXY, STARBURST] Extended=YES											
Exposures	#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]		Orbit
	1	(WFC3UVIS.im.1009832)	(4) GALEX-J083101.8+040318	WFC3/UVIS, ACCUM, UVIS	F280N	FLASH=12		Pattern 1, Exps 1-1 in Target 4 (UVIS) (12) (1)	600 Secs (2400 Secs)		[1]
Comments: Target: [extended source] Source diameter (arcsec): 20.0 Spectrum: Non-stellar Objects Starburst SB2 Kinney Recalibrated [911.0, 25592.0] Extinction E(B-V): Milky Way Diffuse (Rv=3.1) = 0.02 applied before normalization Normalization: Renormalized to abmag = 25.0 in filter Galex/NUV Redshift: z=0.065 Emission Lines: None											



Proposal 15340 - Target 1 (COS) (13) - The HST-pNFL program: Mapping the Fluorescent Emission of Galactic Outflows

Fri Nov 16 20:00:56 GMT 2018

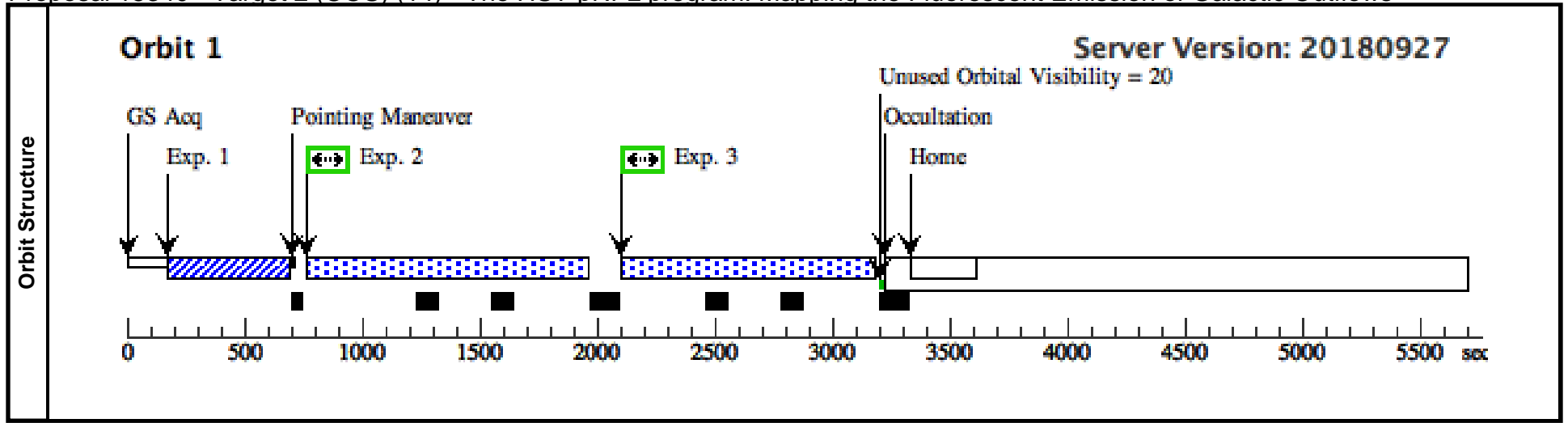
Visit	Proposal 15340, Target 1 (COS) (13), completed Diagnostic Status: Warning Scientific Instruments: COS/FUV, COS/NUV Special Requirements: (none)										
	(Target 1 (COS) (13)) Warning (Form): For the best data quality, it is strongly recommended that the maximum number of allowed FP-POS positions is used when observing at a given COS CENWAVE setting. See full description for details. (Target 1 (COS) (13)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN (Target 1 (COS) (13)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN (Exposure 2 (Target 1 (COS) (13))) Warning (Form): COS FUV PSA science exposures with extended targets have special calibration limitations. See "Errors and Warnings" for more details. (Exposure 3 (Target 1 (COS) (13))) Warning (Form): COS FUV PSA science exposures with extended targets have special calibration limitations. See "Errors and Warnings" for more details. (Exposure 3 (Target 1 (COS) (13))) Warning (Form): Sensitive exposures should have an ETC run number provided.										
Diagnostics											
Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous					
	(1)	GALEX-J115747.0+583503	RA: 11 57 47.1700 (179.4465417d) Dec: +58 35 3.00 (58.58417d) Equinox: J2000	Redshift: 0.065	V=16.94+/-0.05	Reference Frame: ICRS					
Comments: This object was generated by the targetselector and retrieved from the GALEX database. Category=GALAXY Description=[STARBURST] Extended=YES											
Exposures	#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit	
	1	(COS.ta.100 9910)	(1) GALEX-J115747.0+583503	COS/NUV, ACQ/IMAGE, PSA	MIRRORA				270 Secs (270 Secs)		
									[==>]	[1]	
	2	(COS.sp.100 9905)	(1) GALEX-J115747.0+583503	COS/FUV, TIME-TAG, PSA	G130M 1291 A	BUFFER-TIME=1100; SEGMENT=BOTH; FP-POS=3; FLASH=YES				2265 Secs (2265 Secs)	
									[==>]	[1]	
3		(1) GALEX-J115747.0+583503	COS/FUV, TIME-TAG, PSA	G130M 1291 A	BUFFER-TIME=1100; FLASH=YES; SEGMENT=BOTH; FP-POS=4				3160 Secs (3160 Secs)		
									[==>]	[2]	



Proposal 15340 - Target 2 (COS) (14) - The HST-pNFL program: Mapping the Fluorescent Emission of Galactic Outflows

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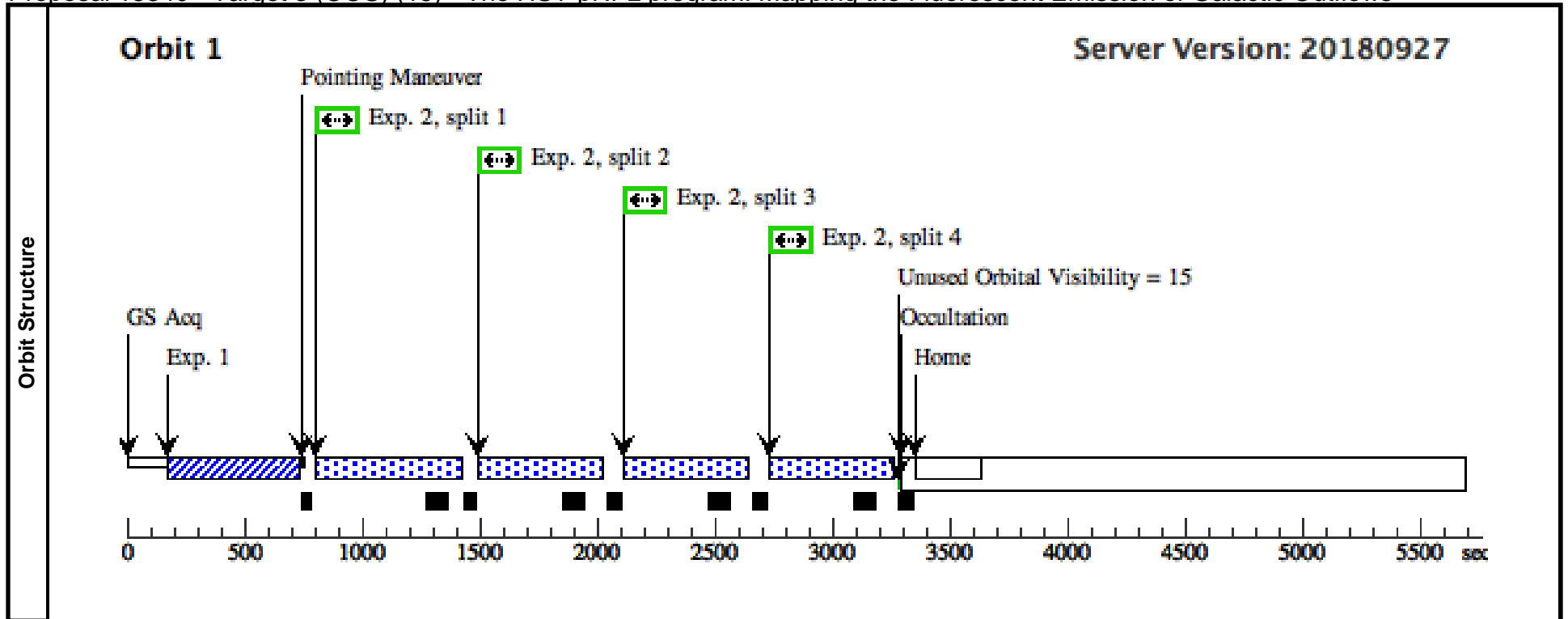
Visit	Proposal 15340, Target 2 (COS) (14), completed Diagnostic Status: Warning Scientific Instruments: COS/FUV, COS/NUV Special Requirements: (none)									
	(Target 2 (COS) (14)) Warning (Form): For the best data quality, it is strongly recommended that the maximum number of allowed FP-POS positions is used when observing at a given COS CENWAVE setting. See full description for details. (Exposure 2 (Target 2 (COS) (14))) Warning (Form): COS FUV PSA science exposures with extended targets have special calibration limitations. See "Errors and Warnings" for more details. (Exposure 3 (Target 2 (COS) (14))) Warning (Form): COS FUV PSA science exposures with extended targets have special calibration limitations. See "Errors and Warnings" for more details. (Exposure 3 (Target 2 (COS) (14))) Warning (Form): Sensitive exposures should have an ETC run number provided.									
Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous				
	(2)	GALEX-J161832.6+274352	RA: 16 18 32.6442 (244.6360175d) Dec: +27 43 52.40 (27.73122d) Equinox: J2000	Redshift: 0.065	V=16.74+/-0.05	Reference Frame: ICRS				
<i>Comments: This object was generated by the targetselector and retrieved from the GALEX database. Category=GALAXY Description=[STARBURST] Extended=YES</i>										
Exposures	#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1	(COS.ta.100 9927)	(2) GALEX-J161832.6+274352	COS/NUV, ACQ/IMAGE, PSA	MIRRORA				150 Secs (150 Secs) [==>]	[1]
	2	(COS.sp.100 9905)	(2) GALEX-J161832.6+274352	COS/FUV, TIME-TAG, PSA	G130M 1291 A	FP-POS=3; BUFFER-TIME=32 0; SEGMENT=BOTH; FLASH=YES			1030 Secs (1030 Secs) [==>]	[1]
	3		(2) GALEX-J161832.6+274352	COS/FUV, TIME-TAG, PSA	G130M 1291 A	BUFFER-TIME=32 0; FLASH=YES; FP-POS=4; SEGMENT=BOTH			1030 Secs (1030 Secs) [==>]	[1]



Proposal 15340 - Target 3 (COS) (15) - The HST-pNFL program: Mapping the Fluorescent Emission of Galactic Outflows

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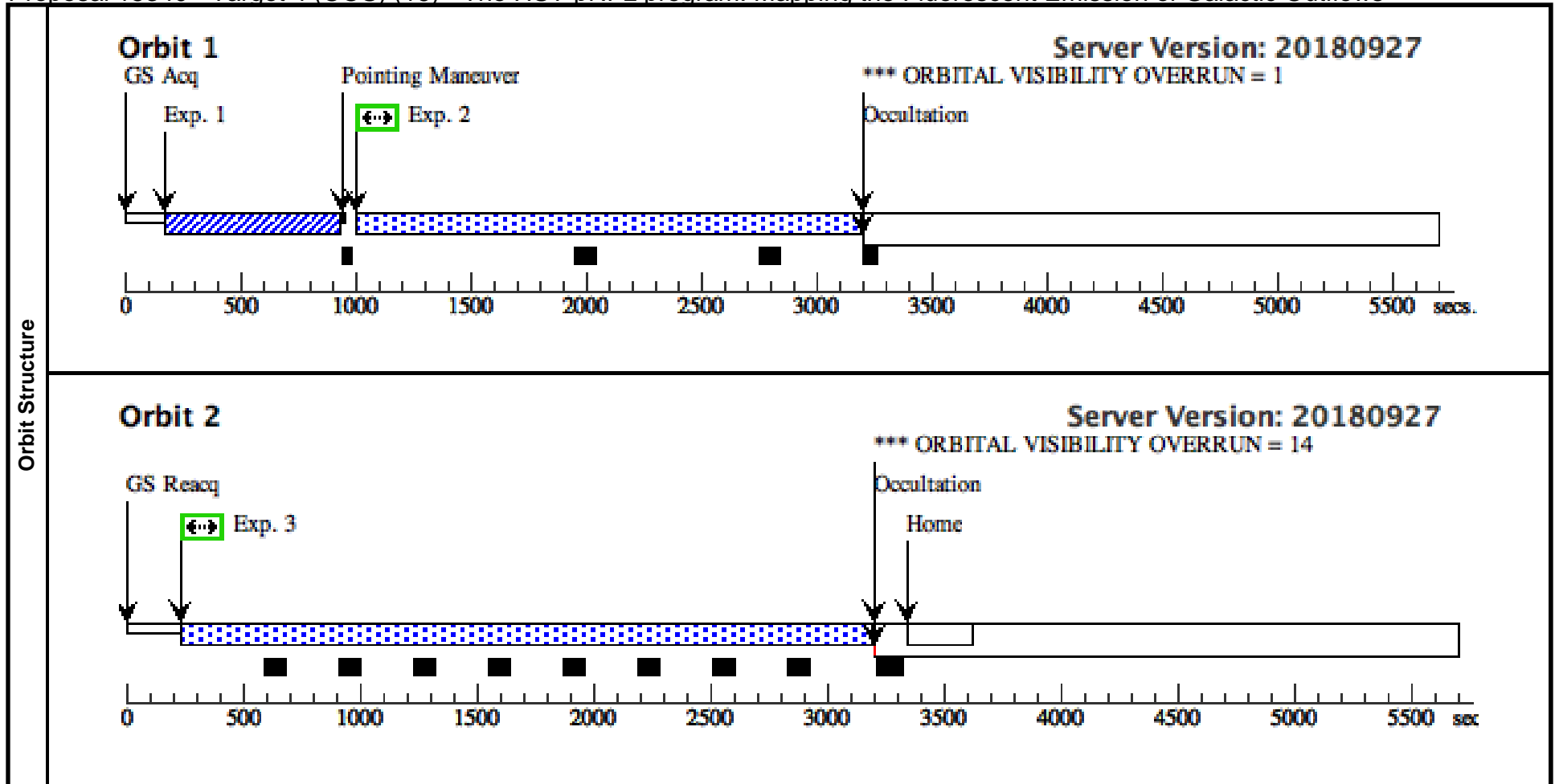
Visit	Proposal 15340, Target 3 (COS) (15), failed Diagnostic Status: Warning Scientific Instruments: COS/FUV, COS/NUV Special Requirements: (none)									
	(Exposure 2 (Target 3 (COS) (15))) Warning (Form): COS FUV PSA science exposures with extended targets have special calibration limitations. See "Errors and Warnings" for more details. (Exposure 2 (Target 3 (COS) (15))) Warning (Form): Defaults for SEGMENT have changed in APT25.2 for use of LP4 with G130M. See full description for details.									
Diagnosics										
Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous				
	(3)	GALEX-J121014.3+443958	RA: 12 10 14.4500 (182.5602083d) Dec: +44 39 56.80 (44.66578d) Equinox: J2000	Redshift: 0.065	V=16.95+/-0.05	Reference Frame: ICRS				
Comments: This object was generated by the targetselector and retrieved from the GALEX database. Category=GALAXY Description=[STARBURST] Extended=YES										
Exposures	#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1	(COS.ta.100 9927)	(3) GALEX-J121014.3+443958	COS/NUV, ACQ/IMAGE, PSA	MIRRORA				170 Secs (170 Secs)	
									[==>]	[1]
2	(COS.sp.100 9905)	(3) GALEX-J121014.3+443958	COS/FUV, TIME-TAG, PSA	G130M 1291 A	FP-POS=ALL; BUFFER-TIME=32 0				420 Secs (1878 Secs)	
									[==>447.0 Secs (Split 1)] [==>477.0 Secs (Split 2)] [==>477.0 Secs (Split 3)] [==>477.0 Secs (Split 4)]	[1]



Proposal 15340 - Target 4 (COS) (16) - The HST-pNFL program: Mapping the Fluorescent Emission of Galactic Outflows

Fri Nov 16 20:00:56 GMT 2018

Visit	Proposal 15340, Target 4 (COS) (16), scheduling Diagnostic Status: Warning Scientific Instruments: COS/FUV, COS/NUV Special Requirements: (none)									
	(Target 4 (COS) (16)) Warning (Form): For the best data quality, it is strongly recommended that the maximum number of allowed FP-POS positions is used when observing at a given COS CENWAVE setting. See full description for details. (Target 4 (COS) (16)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN (Target 4 (COS) (16)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN (Exposure 2 (Target 4 (COS) (16))) Warning (Form): COS FUV PSA science exposures with extended targets have special calibration limitations. See "Errors and Warnings" for more details. (Exposure 3 (Target 4 (COS) (16))) Warning (Form): COS FUV PSA science exposures with extended targets have special calibration limitations. See "Errors and Warnings" for more details. (Exposure 3 (Target 4 (COS) (16))) Warning (Form): Sensitive exposures should have an ETC run number provided.									
Diagnostics										
Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous				
	(4)	GALEX-J083101.8+040318	RA: 08 31 1.9500 (127.7581250d) Dec: +04 03 18.80 (4.05522d) Equinox: J2000	Redshift: 0.065	V=17.10+/-0.05	Reference Frame: ICRS				
Comments: This object was generated by the targetselector and retrieved from the GALEX database. Category=GALAXY Description=[INTERACTING GALAXY, STARBURST] Extended=YES										
Exposures	#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1	(COS.ta.100 9910)	(4) GALEX-J083101.8+040318	COS/NUV, ACQ/IMAGE, PSA	MIRRORA				270 Secs (270 Secs)	
									[==>]	[1]
	2	(COS.sp.100 9905)	(4) GALEX-J083101.8+040318	COS/FUV, TIME-TAG, PSA	G130M 1291 A	FP-POS=3; BUFFER-TIME=80 0; SEGMENT=BOTH; FLASH=YES			2018 Secs (2018 Secs)	
								[==>]	[1]	
3		(4) GALEX-J083101.8+040318	COS/FUV, TIME-TAG, PSA	G130M 1291 A	FP-POS=4; SEGMENT=BOTH; BUFFER-TIME=32 0; FLASH=YES			2910 Secs (2910 Secs)		
								[==>]	[2]	



Proposal 15340 - Target 5 (COS) (17) - The HST-pNFL program: Mapping the Fluorescent Emission of Galactic Outflows

Fri Nov 16 20:00:56 GMT 2018

Visit	Proposal 15340, Target 5 (COS) (17), scheduling Diagnostic Status: Warning Scientific Instruments: COS/FUV, COS/NUV Special Requirements: (none)									
	(Target 5 (COS) (17)) Warning (Form): For the best data quality, it is strongly recommended that the maximum number of allowed FP-POS positions is used when observing at a given COS CENWAVE setting. See full description for details. (Target 5 (COS) (17)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN (Target 5 (COS) (17)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN (Exposure 2 (Target 5 (COS) (17))) Warning (Form): COS FUV PSA science exposures with extended targets have special calibration limitations. See "Errors and Warnings" for more details. (Exposure 3 (Target 5 (COS) (17))) Warning (Form): COS FUV PSA science exposures with extended targets have special calibration limitations. See "Errors and Warnings" for more details. (Exposure 3 (Target 5 (COS) (17))) Warning (Form): Sensitive exposures should have an ETC run number provided.									
Diagnostics										
Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous				
	(5)	GALEX-J083101.8+040317	RA: 08 31 1.7900 (127.7574583d) Dec: +04 03 15.40 (4.05428d) Equinox: J2000	Redshift: 0.065	V=17.50+/-0.05	Reference Frame: ICRS				
Comments: This object was generated by the targetselector and retrieved from the GALEX database. Category=GALAXY Description=[INTERACTING GALAXY, STARBURST] Extended=YES										
Exposures	#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1	(COS.ta.100 9910)	(5) GALEX-J083101.8+040317	COS/NUV, ACQ/IMAGE, PSA	MIRRORA				270 Secs (270 Secs)	
									[==>]	[1]
	2	(COS.sp.100 9905)	(5) GALEX-J083101.8+040317	COS/FUV, TIME-TAG, PSA	G130M 1291 A	FP-POS=3; BUFFER-TIME=80 0; SEGMENT=BOTH; FLASH=YES			2018 Secs (2018 Secs)	
								[==>]	[1]	
3		(5) GALEX-J083101.8+040317	COS/FUV, TIME-TAG, PSA	G130M 1291 A	BUFFER-TIME=80 0; FLASH=YES; FP-POS=4; SEGMENT=BOTH			2910 Secs (2910 Secs)		
								[==>]	[2]	

