12258 - The Environmental Dependence of Ultraviolet Dust Extinction Curves in the Small Magellanic Cloud

Cycle: 18, Proposal Category: GO

(Availability Mode: AVAILABLE)

INVESTIGATORS

Name	*Institution*	*E-Mail*
Dr. Karl D. Gordon (PI)	**Space Telescope Science Institute**	**kgordon@stsci.edu**
Dr. Derck L. Massa (CoI)	Space Telescope Science Institute	massa@stsci.edu
Dr. Daniel J. Lennon (CoI) (ESA Member)	Space Telescope Science Institute - ESA	lennon@stsci.edu
Dr. Karin Sandstrom (CoI) (ESA Member)	Max-Planck-Institut fur Astronomie, Heidelberg	sandstrom@mpia.de
Dr. Geoffrey C. Clayton (CoI)	Louisiana State University and A & M College	gclayton@fenway.phys.lsu.edu
Dr. Karl Misselt (CoI)	University of Arizona	kmisselt@as.arizona.edu
Dr. Edward L. Fitzpatrick (CoI)	Villanova University	edward.fitzpatrick@villanova.edu

VISITS

Visit	*Targets used in Visit*	*Configurations used in Visit*	*Orbits Used*	*Last Orbit Planner Run*	*OP Current with Visit?*
01	(1) 2DFS3030	STIS/CCD STIS/FUV-MAMA STIS/NUV-MAMA	1	15-Dec-2010 21:08:18.0	yes
02	(2) SMC5-003739	STIS/CCD STIS/FUV-MAMA STIS/NUV-MAMA	1	15-Dec-2010 21:08:27.0	yes
03	(3) SMC5-082923	STIS/CCD STIS/FUV-MAMA STIS/NUV-MAMA	1	15-Dec-2010 21:08:32.0	yes

Visit	*Targets used in Visit*	*Configurations used in Visit*	*Orbits Used*	*Last Orbit Planner Run*	*OP Current with Visit?*
04	(4) 2DFS3171	STIS/CCD STIS/FUV-MAMA STIS/NUV-MAMA	1	15-Dec-2010 21:08:39.0	yes
05	(5) SMC5-000398	STIS/CCD STIS/FUV-MAMA STIS/NUV-MAMA	1	15-Dec-2010 21:08:45.0	yes
06	(6) 2DFS0626	STIS/CCD STIS/FUV-MAMA STIS/NUV-MAMA	1	15-Dec-2010 21:08:50.0	yes
07	(7) 2DFS0413	STIS/CCD STIS/FUV-MAMA STIS/NUV-MAMA	1	15-Dec-2010 21:08:54.0	yes
08	(8) 2DFS3014	STIS/CCD STIS/FUV-MAMA STIS/NUV-MAMA	1	15-Dec-2010 21:08:59.0	yes
09	(9) 2DFS0662	STIS/CCD STIS/FUV-MAMA STIS/NUV-MAMA	1	15-Dec-2010 21:09:03.0	yes
10	(10) SMC5-079264	STIS/CCD STIS/FUV-MAMA STIS/NUV-MAMA	1	15-Dec-2010 21:09:06.0	yes
11	(11) 2DFS0699	STIS/CCD STIS/FUV-MAMA STIS/NUV-MAMA	1	15-Dec-2010 21:09:12.0	yes
12	(12) NGC346-056	STIS/CCD STIS/FUV-MAMA STIS/NUV-MAMA	1	15-Dec-2010 21:09:19.0	yes

Visit	*Targets used in Visit*	*Configurations used in Visit*	*Orbits Used*	*Last Orbit Planner Run*	*OP Current with Visit?*
13	(13) NGC330-114	STIS/CCD STIS/FUV-MAMA STIS/NUV-MAMA	1	15-Dec-2010 21:09:24.0	yes
14	(14) NGC330-110	STIS/CCD STIS/FUV-MAMA STIS/NUV-MAMA	1	15-Dec-2010 21:09:27.0	yes
15	(15) NGC330-116	STIS/CCD STIS/FUV-MAMA STIS/NUV-MAMA	1	15-Dec-2010 21:09:30.0	yes

15 Total Orbits Used

ABSTRACT

Observations of nearby and distant galaxies (galaxy SEDS, lensed galaxies, and gamma ray bursts) have shown that dust with a wide variation in ultraviolet (UV) extinction properties (e.g., weak and strong 2175 Angstrom bumps) is the norm and not the exception. The Small Magllanic Cloud (SMC) is known to have dust spanning the full range of UV dust properties and is relatively nearby, making it the best galaxy to study the effects of environment (nearby star formation, gas-to-dust ratio, etc.) on the dust extinction. The SMC has sightlines with the traditional SMC extinction curve (no 2175 Angstrom bump, high far-UV rise) and one sightline with a much more Galactic extinction curve (2175 Angstrom bump, weaker far-UV rise). Unfortunately, there are only five existing SMC extinction curves making any correlation between extinction behavior and environment necessarily very tentative. We are proposing to determine the ultraviolet extinction curves toward 11 additional stars in the SMC thereby tripling the number of SMC extinction curves measured. The 11 reddened and 4 comparison stars for this proposal were picked from samples of hot stars with high quality spectral types and normal U through IRAC 8 micron SEDs (e.g., no Be stars). The new sightlines have different levels of star formation activity and infrared dust properties. In addition to helping understand the origin of the UV dust extinction variations in galaxies, the study of the spatial variation of UV extinction in the SMC also holds the promise of helping to understand the origin of the 2175 Angstrom bump.

OBSERVING DESCRIPTION

We propose to obtain STIS low resolution observations in the 1150-3180 A wavelength range of a sample of 11 reddened SMC stars, which will allow us to more than triple the number of SMC sightlines for which UV extinction curves have been derived. In addition, we propose to observe 4

unreddened SMC stars which, when combined with archival observations of other unreddened stars (Walborn et al. 2000; Evans et al. 2004), will serve as the necessary comparison stars. The existing U-band through IRAC 8 micron (Gordon et al. 2010) flux distributions for all the proposed targets were examined to ensure that they are consistent with expectations for hot, normal stars and not suggestive of any stellar peculiarities (e.g., the Be phenomenon or other gross IR excess.). The existence of high quality near- and mid-infrared photometry of the reddened stars will enable high quality R(V) measurements.

Our observational goal is to measure the full UV extinction curve of each sightline in our sample allowing the strength of the 2175 A bump and far-UV rise to be determined accurately. These features are broad (the 2175 A bump has a width of around 300-400 A) and can be well measured at the low spectral resolution of 10. Our goal is to detect the signature of a 5% 2175 A depression at 5-sigma confidence. Thus, our S/N goal is 100 at a resolution of 10. STIS/MAMA spectroscopy with the G140L and G230L gratings and the 52x2 slit is the most efficient observing strategy using HST (using COS would require 2X more time). HST is currently the only observatory capable of obtaining UV spectroscopy.

Our targets have a range of brightnesses with V band magnitudes ranging from 14 to 16.71. For 2dFS0413 with 16.71 V mag and E(B-V)=0.26, the exposure time to get a S/N=10 at a resolution of 10 at 2200 A using STIS/FUV with the G140L grating is 853 s and at 1500 A using STIS/NUV with the G230L grating is 337 s. For our brightest star SMC5_003739 with 14.0 V mag and E(B-V)=0.36, the exposure time to get a S/N=10 at a resolution of 10 using STIS/FUV with the G140L grating is 171 s and using STIS/NUV with the G230L grating is 43 s. Even for our faintest target, only a single orbit is needed after accounting for the overheads (guide star acq., STIS acq., 2x auto-wavecals, and necessary buffer dumps). Thus, we can get a full UV spectrum (1150-3180 A) of each of our targets in under a one orbit.

Given the relatively short exposure times for the brightest stars and the length of the visibility of the SMC per orbit, we will increase the exposure times to provide higher S/N detection limits as well as the ability to determine UV spectral types for comparison to the optical spectral types.

ADDITIONAL COMMENTS

Orient constraint for visit 03 is to avoid any possible count rate issues due to nearby bright cluster.

Visit

Proposal 12258, Visit 01, implementation Thu Dec 16 02:09:37 GMT 2010

Diagnostic Status: No Diagnostics

Scientific Instruments: STIS/FUV-MAMA, STIS/CCD, STIS/NUV-MAMA

Special Requirements: (none)

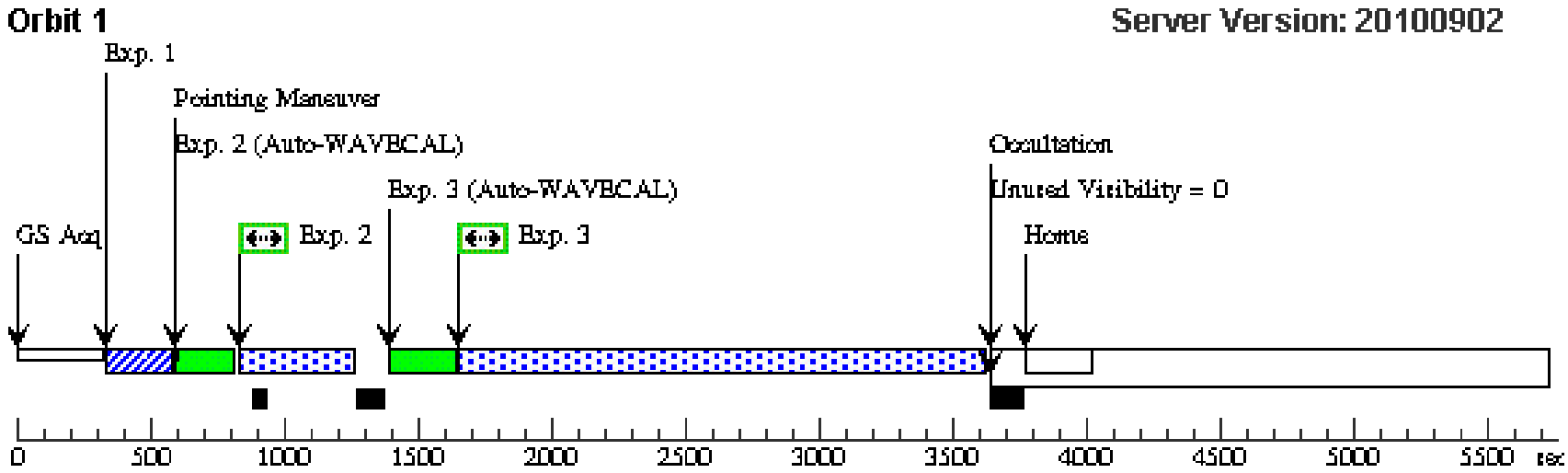
Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	2DFS3030	RA: 01 14 39.9600 (18.6665000d) Dec: -73 16 14.52 (-73.27070d) Equinox: J2000	Proper Motion RA: null Proper Motion Dec: null Epoch of Position:	V=15.05+/-0.05	Reference Frame: ICRS

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
1		(1) 2DFS3030	STIS/CCD, ACQ, 50CCD	MIRROR				2. Secs *[==>]*	*[1]*
2		(1) 2DFS3030	STIS/NUV-MAMA, ACCUM, 52X2	G230L 2376 A				383 Secs *[==>389.0 Secs]*	*[1]*
3		(1) 2DFS3030	STIS/FUV-MAMA, ACCUM, 52X2	G140L 1425 A				1913 Secs *[==>1919.0 Secs]*	*[1]*

Orbit Structure



Visit

Proposal 12258, Visit 02, implementation Thu Dec 16 02:09:38 GMT 2010

Diagnostic Status: No Diagnostics

Scientific Instruments: STIS/FUV-MAMA, STIS/CCD, STIS/NUV-MAMA

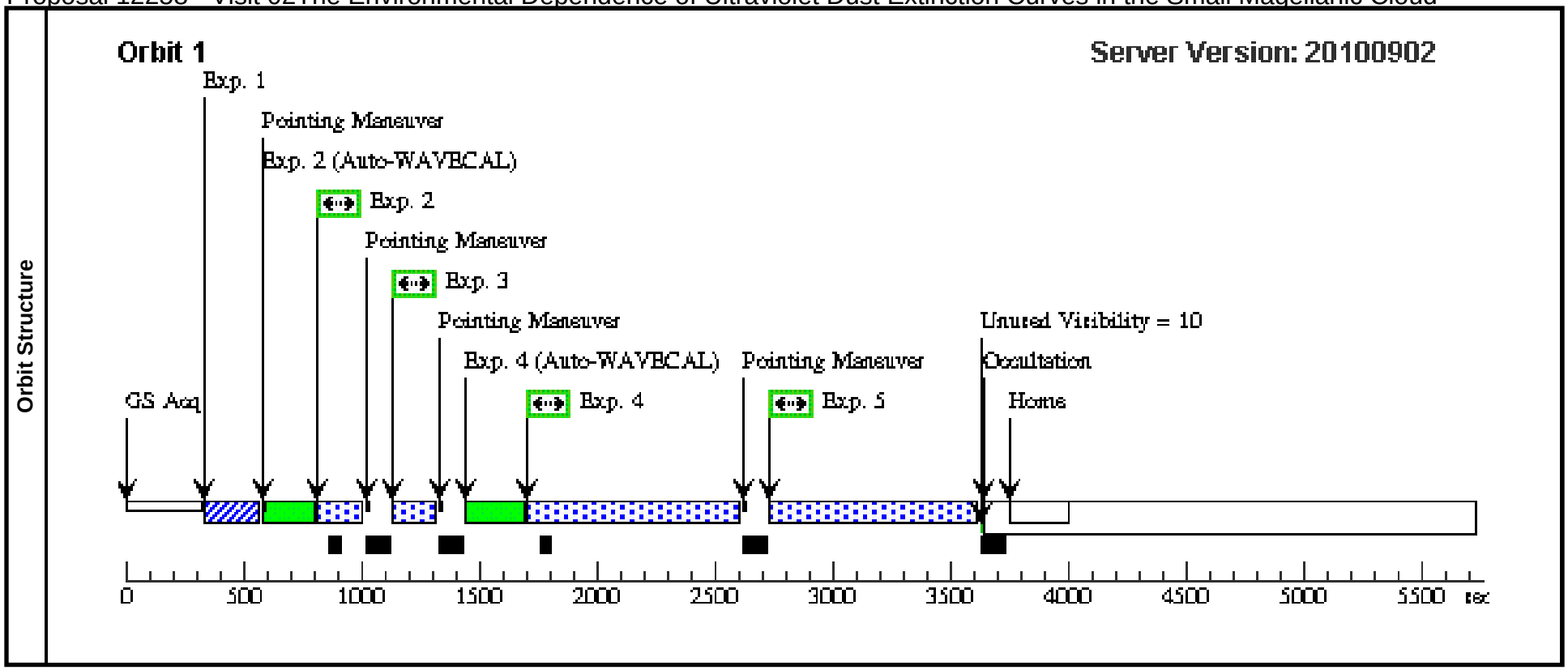
Special Requirements: (none)

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(2)	SMC5-003739	RA: 00 57 13.8480 (14.3077000d) Dec: -72 22 30.10 (-72.37503d) Equinox: J2000	Proper Motion RA: null Proper Motion Dec: null Epoch of Position:	V=14.00+/-0.05	Reference Frame: ICRS

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
1		(2) SMC5-003739	STIS/CCD, ACQ, F28X50LP	MIRROR				2. Secs	
								[==>]	***[1]***
2		(2) SMC5-003739	STIS/NUV-MAMA, ACCUM, 52X2	G230L				150 Secs	
				2376 A				*[==>]*	***[1]***
3		(2) SMC5-003739	STIS/NUV-MAMA, ACCUM, 2X2	G230L				150 Secs	
				2376 A				*[==>]*	***[1]***
4		(2) SMC5-003739	STIS/FUV-MAMA, ACCUM, 52X2	G140L				850 Secs	
				1425 A				*[==>]*	***[1]***
5		(2) SMC5-003739	STIS/FUV-MAMA, ACCUM, 2X2	G140L				850 Secs	
				1425 A				*[==>]*	***[1]***


Orbit Structure
Orbit 1
Server Version: 20100902
Exp. 1
Pointing Maneuver
Exp. 2 (Auto-WAVECAL)
Exp. 2
Pointing Maneuver
Exp. 3
Pointing Maneuver
Exp. 4 (Auto-WAVECAL)
Exp. 4
Pointing Maneuver
Exp. 5
Unused Visibility = 10
Occultation
GS Acq
Home
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
sec

Visit

Proposal 12258, Visit 03, implementation Thu Dec 16 02:09:39 GMT 2010

Diagnostic Status: No Diagnostics

Scientific Instruments: STIS/FUV-MAMA, STIS/CCD, STIS/NUV-MAMA

Special Requirements: (none)

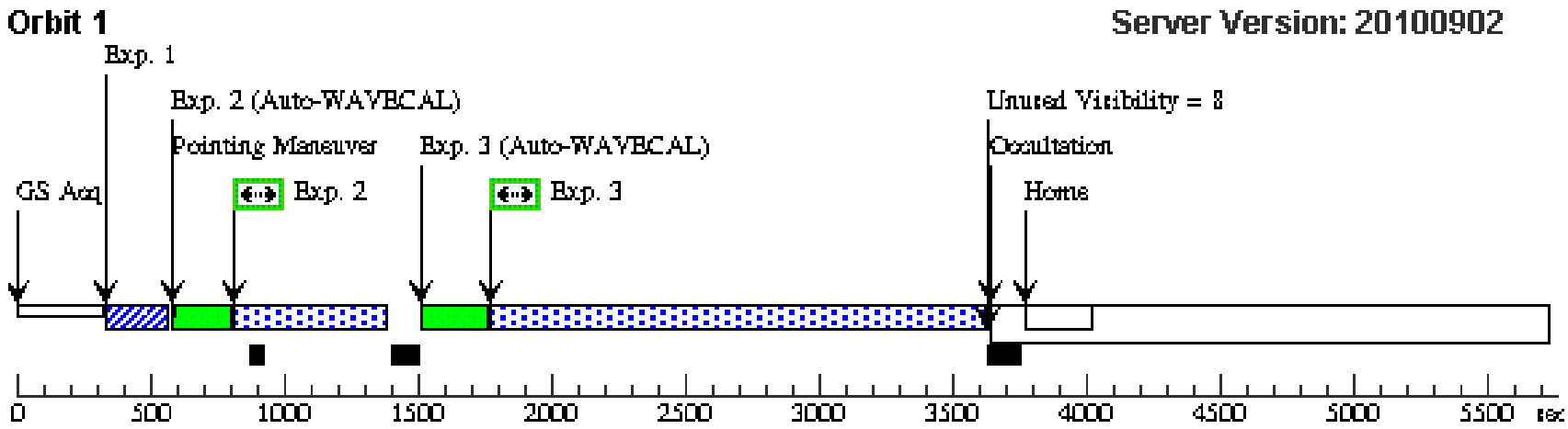
Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(3)	SMC5-082923	RA: 00 53 26.1700 (13.3590417d) Dec: -72 11 40.00 (-72.19444d) Equinox: J2000	Proper Motion RA: null Proper Motion Dec: null Epoch of Position:	V=14.25+/-0.05	Reference Frame: ICRS

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
1		(3) SMC5-082923	STIS/CCD, ACQ, F28X50LP	MIRROR				2. Secs	
								[==>]	***[1]***
2		(3) SMC5-082923	STIS/NUV-MAMA, ACCUM, 2X2	G230L				511 Secs	
				2376 A				*[==>523.0 Secs]*	***[1]***
3		(3) SMC5-082923	STIS/FUV-MAMA, ACCUM, 2X2	G140L				1789 Secs	
				1425 A				*[==>1801.0 Secs]*	***[1]***

Orbit Structure



Visit

Proposal 12258, Visit 04, implementation Thu Dec 16 02:09:40 GMT 2010

Diagnostic Status: No Diagnostics

Scientific Instruments: STIS/FUV-MAMA, STIS/CCD, STIS/NUV-MAMA

Special Requirements: (none)

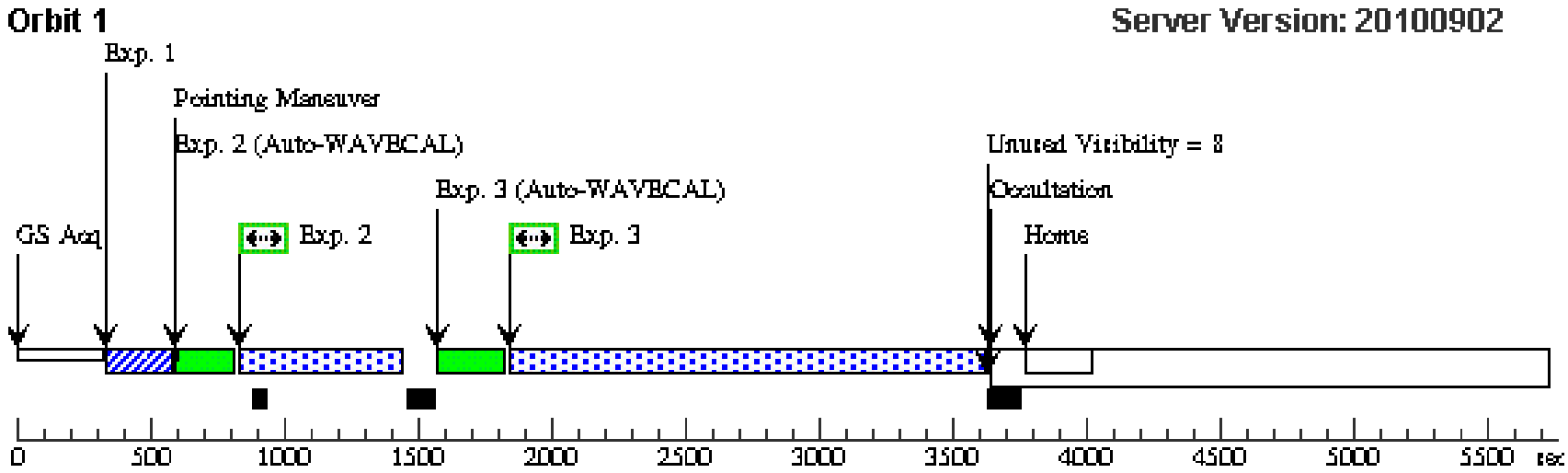
Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(4)	2DFS3171	RA: 01 16 9.1800 (19.0382500d) Dec: -73 12 38.88 (-73.21080d) Equinox: J2000	Proper Motion RA: null Proper Motion Dec: null Epoch of Position:	V=15.64+/-0.05	Reference Frame: ICRS

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
1		(4) 2DFS3171	STIS/CCD, ACQ, 50CCD	MIRROR				2. Secs	
								[==>]	***[1]***
2		(4) 2DFS3171	STIS/NUV-MAMA, ACCUM, 52X2	G230L 2376 A				575 Secs	
								[==>]	***[1]***
3		(4) 2DFS3171	STIS/FUV-MAMA, ACCUM, 52X2	G140L 1425 A				1725 Secs	
								[==>]	***[1]***

Orbit Structure



Visit

Proposal 12258, Visit 05, implementation Thu Dec 16 02:09:41 GMT 2010

Diagnostic Status: No Diagnostics

Scientific Instruments: STIS/FUV-MAMA, STIS/CCD, STIS/NUV-MAMA

Special Requirements: (none)

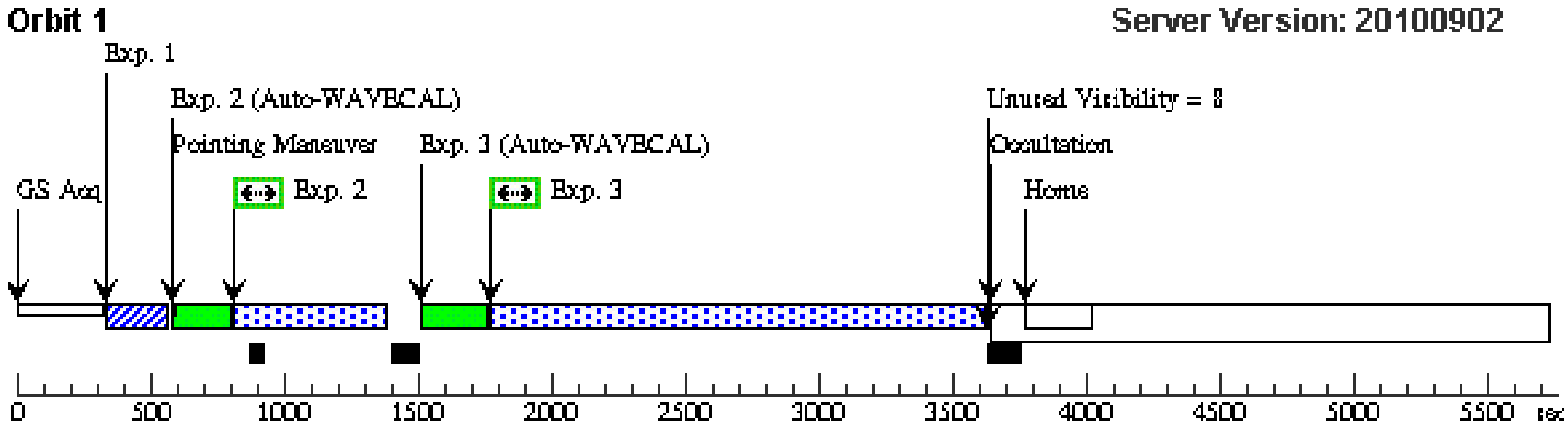
Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(5)	SMC5-000398	RA: 00 54 2.6500 (13.5110417d) Dec: -72 25 40.60 (-72.42794d) Equinox: J2000	Proper Motion RA: null Proper Motion Dec: null Epoch of Position:	V=14.22+/-0.05	Reference Frame: ICRS

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
1		(5) SMC5-000398	STIS/CCD, ACQ, F28X50LP	MIRROR				2. Secs	
								[==>]	***[1]***
2		(5) SMC5-000398	STIS/NUV-MAMA, ACCUM, 2X2	G230L				511 Secs	
				2376 A				*[==>523.0 Secs]*	***[1]***
3		(5) SMC5-000398	STIS/FUV-MAMA, ACCUM, 2X2	G140L				1789 Secs	
				1425 A				*[==>1801.0 Secs]*	***[1]***

Orbit Structure



Visit

Proposal 12258, Visit 06, implementation Thu Dec 16 02:09:41 GMT 2010

Diagnostic Status: No Diagnostics

Scientific Instruments: STIS/FUV-MAMA, STIS/CCD, STIS/NUV-MAMA

Special Requirements: (none)

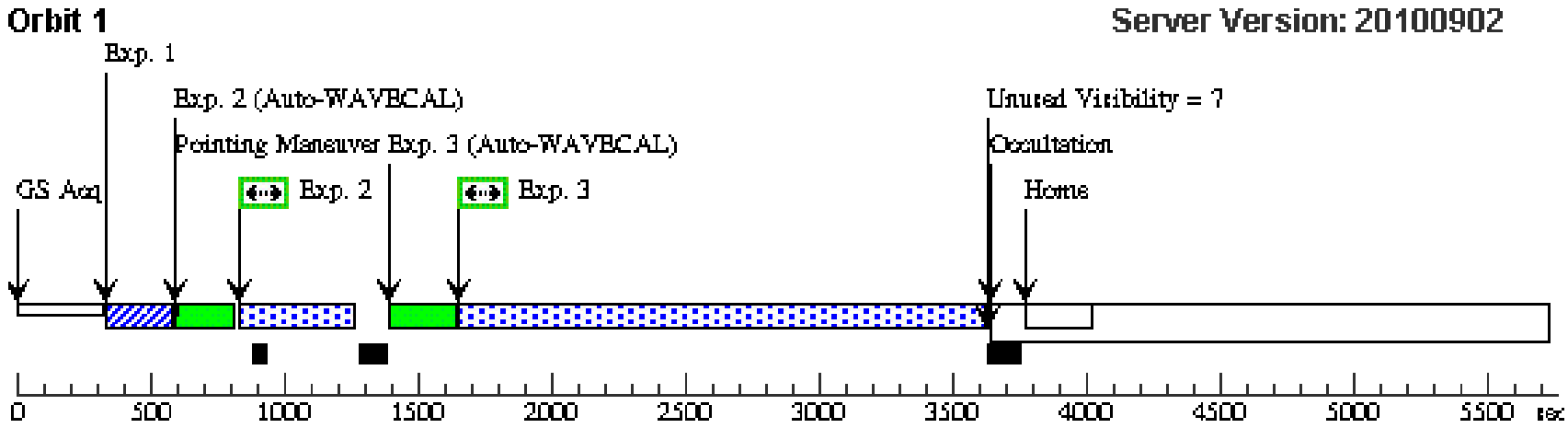
Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(6)	2DFS0626	RA: 00 46 55.8400 (11.7326667d) Dec: -73 06 14.20 (-73.10394d) Equinox: J2000	Proper Motion RA: null Proper Motion Dec: null Epoch of Position:	V=16.48+/-0.05	Reference Frame: ICRS

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
1		(6) 2DFS0626	STIS/CCD, ACQ, 50CCD	MIRROR				2. Secs	
								[==>]	***[1]***
2		(6) 2DFS0626	STIS/NUV-MAMA, ACCUM, 2X2	G230L				383 Secs	
				2376 A				*[==>389.0 Secs]*	***[1]***
3		(6) 2DFS0626	STIS/FUV-MAMA, ACCUM, 2X2	G140L				1913 Secs	
				1425 A				*[==>1919.0 Secs]*	***[1]***

Orbit Structure



Visit

Proposal 12258, Visit 07, implementation Thu Dec 16 02:09:42 GMT 2010

Diagnostic Status: No Diagnostics

Scientific Instruments: STIS/FUV-MAMA, STIS/CCD, STIS/NUV-MAMA

Special Requirements: (none)

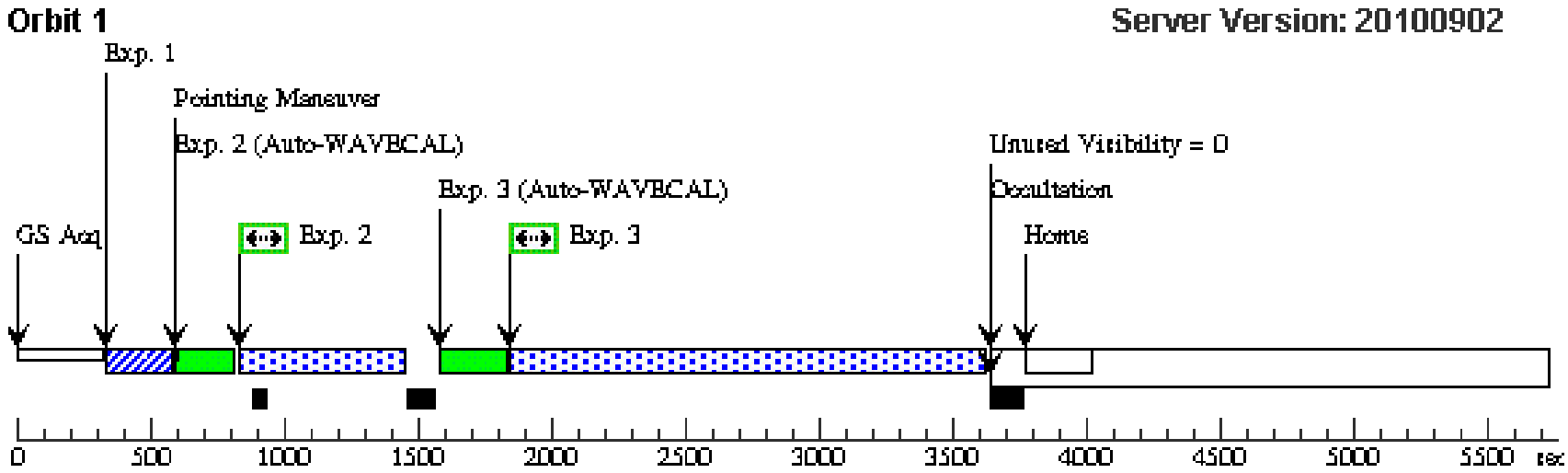
Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(7)	2DFS0413	RA: 00 42 15.9000 (10.5662500d) Dec: -73 24 32.50 (-73.40903d) Equinox: J2000	Proper Motion RA: null Proper Motion Dec: null Epoch of Position:	V=16.71+/-0.05	Reference Frame: ICRS

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
1		(7) 2DFS0413	STIS/CCD, ACQ, 50CCD	MIRROR				2. Secs *[==>]*	*[1]*
2		(7) 2DFS0413	STIS/NUV-MAMA, ACCUM, 52X2	G230L 2376 A				573 Secs *[==>579.0 Secs]*	*[1]*
3		(7) 2DFS0413	STIS/FUV-MAMA, ACCUM, 52X2	G140L 1425 A				1723 Secs *[==>1729.0 Secs]*	*[1]*

Orbit Structure



Visit

Proposal 12258, Visit 08, implementation Thu Dec 16 02:09:42 GMT 2010

Diagnostic Status: No Diagnostics

Scientific Instruments: STIS/FUV-MAMA, STIS/CCD, STIS/NUV-MAMA

Special Requirements: (none)

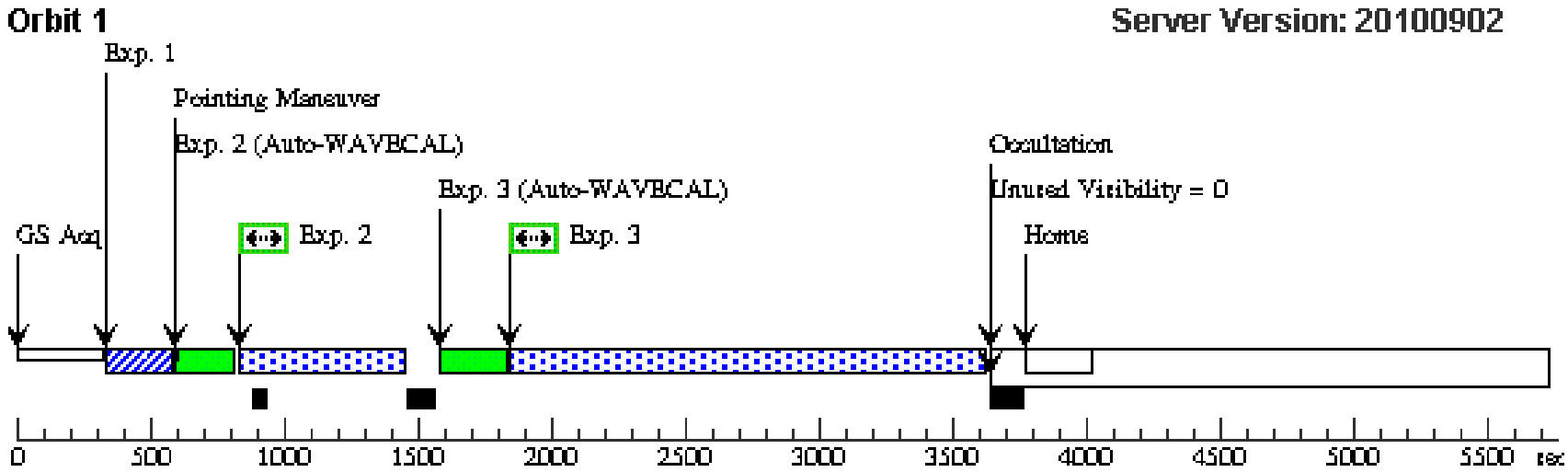
Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(8)	2DFS3014	RA: 01 14 26.2600 (18.6094167d) Dec: -73 17 13.50 (-73.28708d) Equinox: J2000	Proper Motion RA: null Proper Motion Dec: null Epoch of Position:	V=16.64+/-0.05	Reference Frame: ICRS

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
1		(8) 2DFS3014	STIS/CCD, ACQ, 50CCD	MIRROR				2. Secs *[==>]*	*[1]*
2		(8) 2DFS3014	STIS/NUV-MAMA, ACCUM, 52X2	G230L 2376 A				573 Secs *[==>579.0 Secs]*	*[1]*
3		(8) 2DFS3014	STIS/FUV-MAMA, ACCUM, 52X2	G140L 1425 A				1723 Secs *[==>1729.0 Secs]*	*[1]*

Orbit Structure



Visit

Proposal 12258, Visit 09, implementation Thu Dec 16 02:09:43 GMT 2010

Diagnostic Status: No Diagnostics

Scientific Instruments: STIS/FUV-MAMA, STIS/CCD, STIS/NUV-MAMA

Special Requirements: (none)

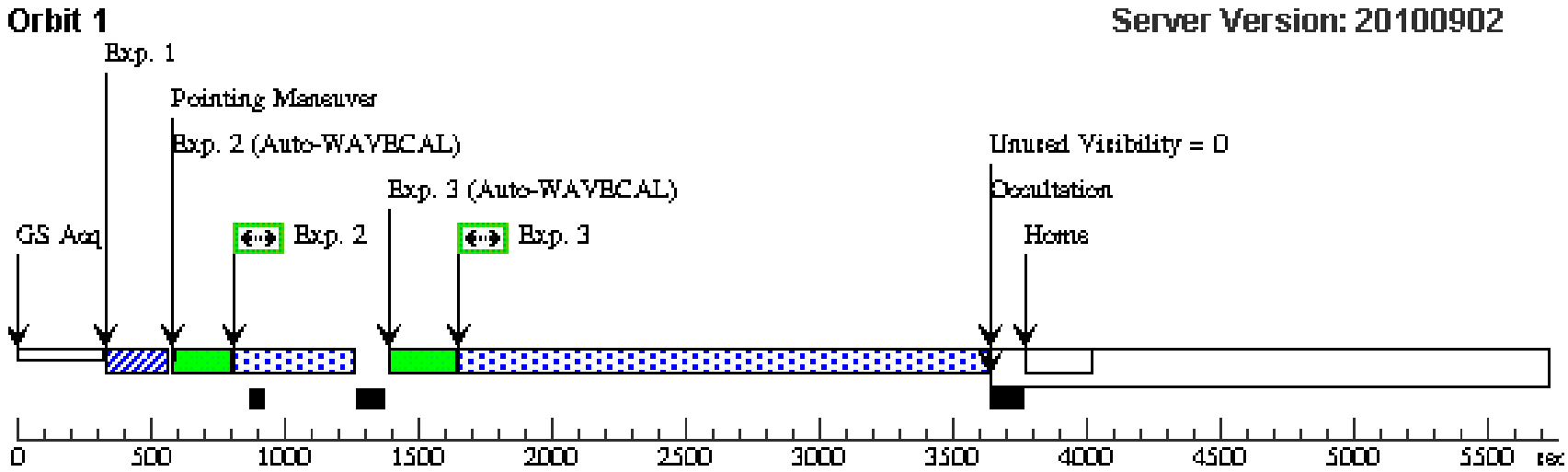
Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(9)	2DFS0662	RA: 00 47 45.6000 (11.9400000d) Dec: -73 13 37.50 (-73.22708d) Equinox: J2000	Proper Motion RA: null Proper Motion Dec: null Epoch of Position:	V=14.89+/-0.05	Reference Frame: ICRS

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
1		(9) 2DFS0662	STIS/CCD, ACQ, F28X50LP	MIRROR				2. Secs	
								[==>]	***[1]***
2		(9) 2DFS0662	STIS/NUV-MAMA, ACCUM, 2X2	G230L				383 Secs	
				2376 A				*[==>401.0 Secs]*	***[1]***
3		(9) 2DFS0662	STIS/FUV-MAMA, ACCUM, 2X2	G140L				1913 Secs	
				1425 A				*[==>1931.0 Secs]*	***[1]***

Orbit Structure



Visit

Proposal 12258, Visit 10, implementation Thu Dec 16 02:09:43 GMT 2010

Diagnostic Status: No Diagnostics

Scientific Instruments: STIS/FUV-MAMA, STIS/CCD, STIS/NUV-MAMA

Special Requirements: (none)

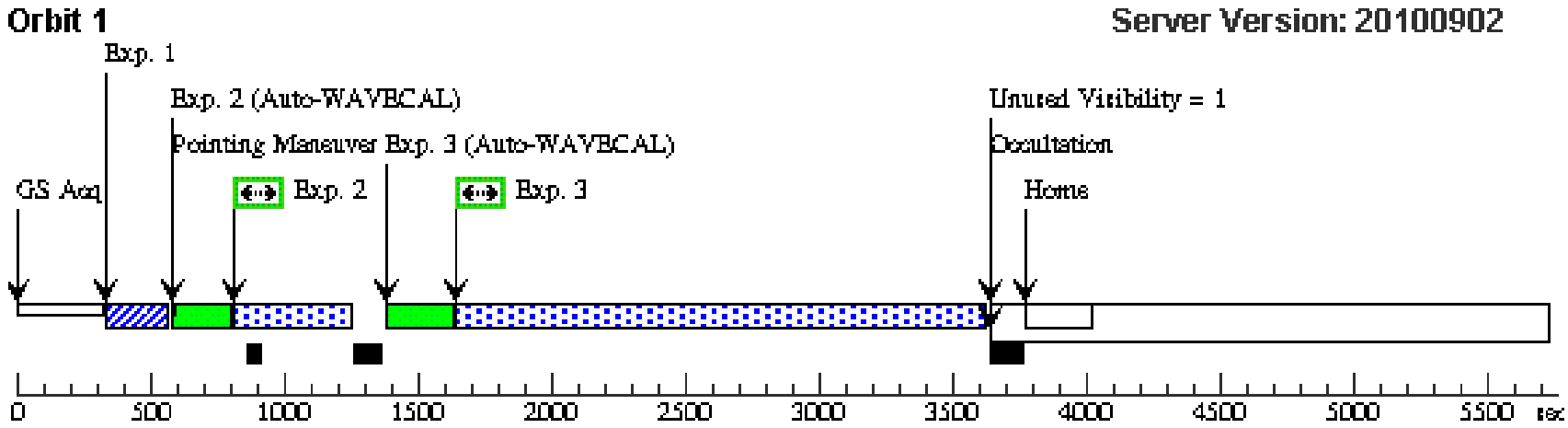
Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(10)	SMC5-079264	RA: 00 55 50.0400 (13.9585000d) Dec: -72 19 23.70 (-72.32325d) Equinox: J2000	Proper Motion RA: null Proper Motion Dec: null Epoch of Position:	V=15.19+/-0.05	Reference Frame: ICRS

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
1		(10) SMC5-079264	STIS/CCD, ACQ, F28X50LP	MIRROR				2. Secs *[==>]*	*[1]*
2		(10) SMC5-079264	STIS/NUV-MAMA, ACCUM, 52X2	G230L 2376 A				383 Secs *[==>397.0 Secs]*	*[1]*
3		(10) SMC5-079264	STIS/FUV-MAMA, ACCUM, 52X2	G140L 1425 A				1913 Secs *[==>1927.0 Secs]*	*[1]*

Orbit Structure



Visit

Proposal 12258, Visit 11, implementation Thu Dec 16 02:09:43 GMT 2010

Diagnostic Status: No Diagnostics

Scientific Instruments: STIS/FUV-MAMA, STIS/CCD, STIS/NUV-MAMA

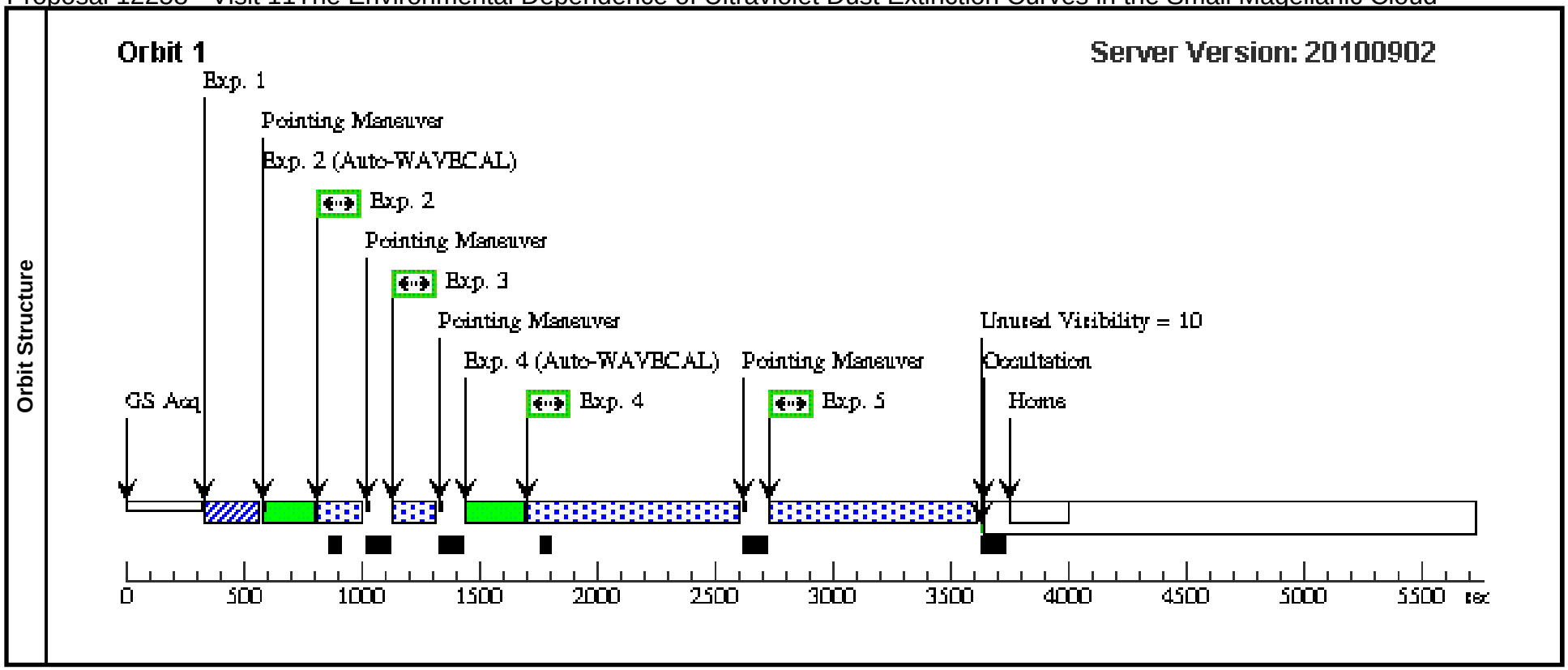
Special Requirements: (none)

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(11)	2DFS0699	RA: 00 48 46.8600 (12.1952500d) Dec: -72 58 51.10 (-72.98086d) Equinox: J2000	Proper Motion RA: null Proper Motion Dec: null Epoch of Position:	V=14.06+/-0.05	Reference Frame: ICRS

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
1		(11) 2DFS0699	STIS/CCD, ACQ, F28X50LP	MIRROR				2. Secs	
								[==>]	***[1]***
2		(11) 2DFS0699	STIS/NUV-MAMA, ACCUM, 52X2	G230L				150 Secs	
				2376 A				*[==>]*	***[1]***
3		(11) 2DFS0699	STIS/NUV-MAMA, ACCUM, 2X2	G230L				150 Secs	
				2376 A				*[==>]*	***[1]***
4		(11) 2DFS0699	STIS/FUV-MAMA, ACCUM, 52X2	G140L				850 Secs	
				1425 A				*[==>]*	***[1]***
5		(11) 2DFS0699	STIS/FUV-MAMA, ACCUM, 2X2	G140L				850 Secs	
				1425 A				*[==>]*	***[1]***


Orbit Structure
Orbit 1
Server Version: 20100902
Exp. 1
Pointing Maneuver
Exp. 2 (Auto-WAVECAL)
Exp. 2
Pointing Maneuver
Exp. 3
Pointing Maneuver
Exp. 4 (Auto-WAVECAL)
Exp. 4
Pointing Maneuver
Exp. 5
Unused Visibility = 10
Occultation
GS Acq
Home
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
sec

Visit

Proposal 12258, Visit 12, implementation Thu Dec 16 02:09:44 GMT 2010

Diagnostic Status: No Diagnostics

Scientific Instruments: STIS/FUV-MAMA, STIS/CCD, STIS/NUV-MAMA

Special Requirements: (none)

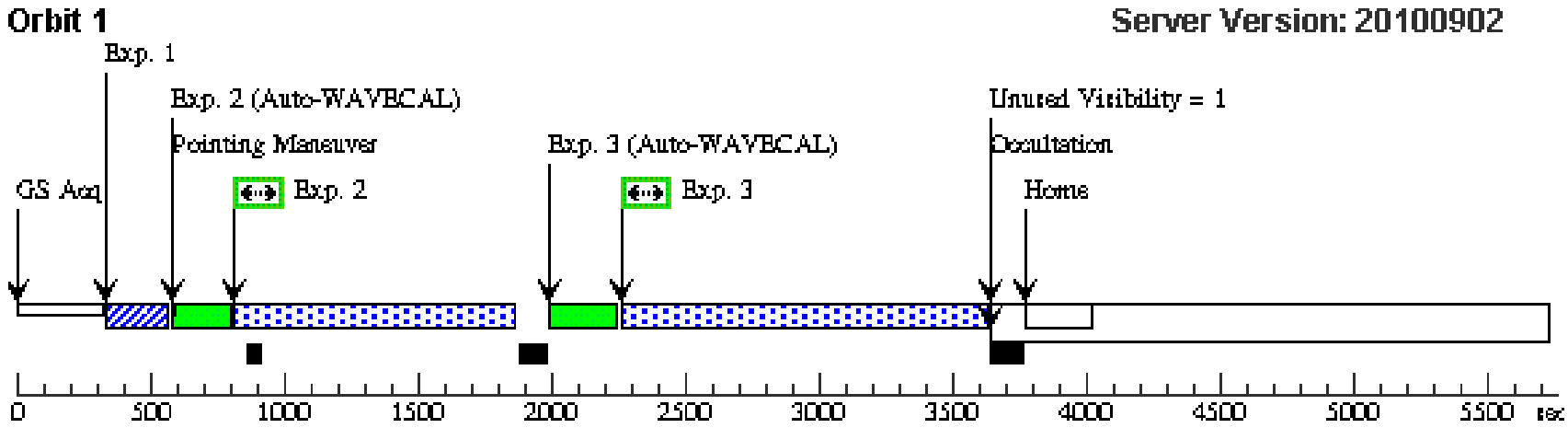
Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(12)	NGC346-056	RA: 00 58 56.1200 (14.7338333d) Dec: -72 09 34.20 (-72.15950d) Equinox: J2000	Proper Motion RA: null Proper Motion Dec: null Epoch of Position:	V=15.59+/-0.05	Reference Frame: ICRS

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
1		(12) NGC346-056	STIS/CCD, ACQ, F28X50LP	MIRROR				2. Secs *[==>]*	 ***[1]***
2		(12) NGC346-056	STIS/NUV-MAMA, ACCUM, 52X2	G230L 2376 A				1000 Secs *[==>1012.0 Secs]*	 ***[1]***
3		(12) NGC346-056	STIS/FUV-MAMA, ACCUM, 52X2	G140L 1425 A				1300 Secs *[==>1312.0 Secs]*	 ***[1]***

Orbit Structure



Visit

Proposal 12258, Visit 13, implementation Thu Dec 16 02:09:44 GMT 2010

Diagnostic Status: No Diagnostics

Scientific Instruments: STIS/FUV-MAMA, STIS/CCD, STIS/NUV-MAMA

Special Requirements: (none)

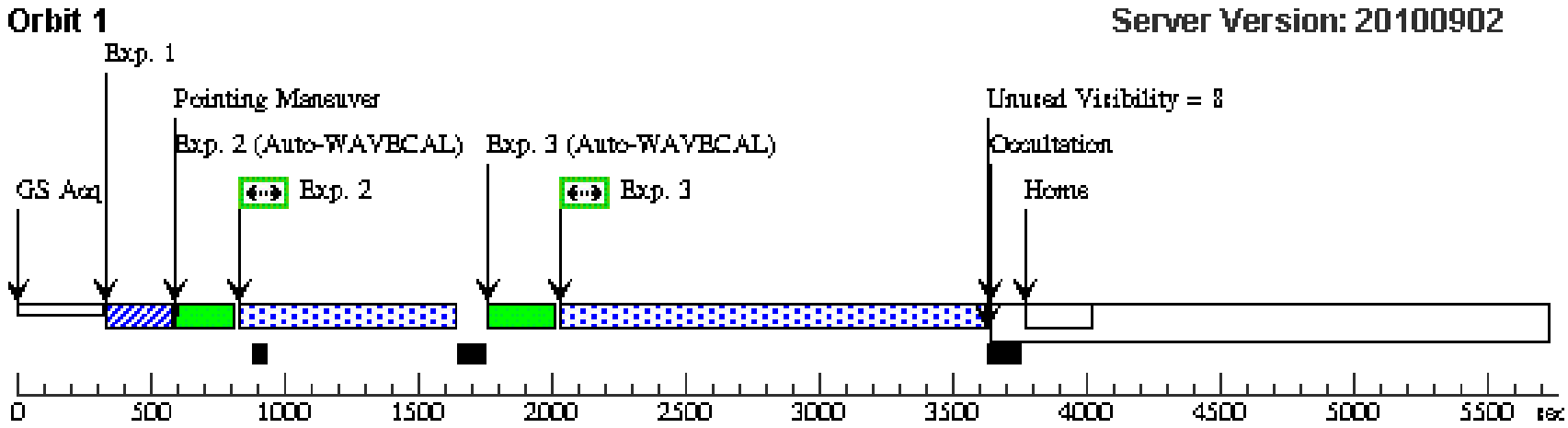
Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(13)	NGC330-114	RA: 00 56 57.0100 (14.2375417d) Dec: -72 25 31.71 (-72.42548d) Equinox: J2000	Proper Motion RA: null Proper Motion Dec: null Epoch of Position:	V=16.62+/-0.05	Reference Frame: ICRS

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
1		(13) NGC330-114	STIS/CCD, ACQ, 50CCD	MIRROR				2. Secs	
								[==>]	***[1]***
2		(13) NGC330-114	STIS/NUV-MAMA, ACCUM, 52X2	G230L 2376 A				767 Secs	
								[==>]	***[1]***
3		(13) NGC330-114	STIS/FUV-MAMA, ACCUM, 52X2	G140L 1425 A				1533 Secs	
								[==>]	***[1]***

Orbit Structure



Visit

Proposal 12258, Visit 14, implementation Thu Dec 16 02:09:45 GMT 2010

Diagnostic Status: No Diagnostics

Scientific Instruments: STIS/FUV-MAMA, STIS/CCD, STIS/NUV-MAMA

Special Requirements: (none)

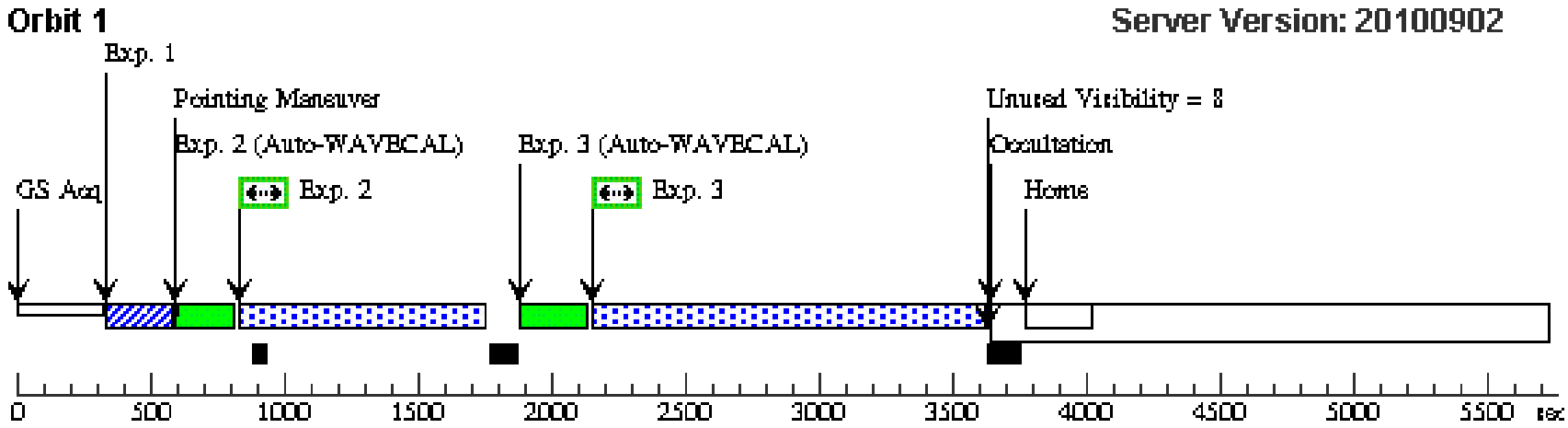
Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(14)	NGC330-110	RA: 00 56 20.7600 (14.0865000d) Dec: -72 26 25.40 (-72.44039d) Equinox: J2000	Proper Motion RA: null Proper Motion Dec: null Epoch of Position:	V=16.57+/-0.05	Reference Frame: ICRS

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
1		(14) NGC330-110	STIS/CCD, ACQ, 50CCD	MIRROR				2. Secs	
								[==>]	***[1]***
2		(14) NGC330-110	STIS/NUV-MAMA, ACCUM, 52X2	G230L 2376 A				885 Secs	
								[==>]	***[1]***
3		(14) NGC330-110	STIS/FUV-MAMA, ACCUM, 52X2	G140L 1425 A				1415 Secs	
								[==>]	***[1]***

Orbit Structure



Visit

Proposal 12258, Visit 15, implementation Thu Dec 16 02:09:45 GMT 2010

Diagnostic Status: No Diagnostics

Scientific Instruments: STIS/FUV-MAMA, STIS/CCD, STIS/NUV-MAMA

Special Requirements: (none)

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(15)	NGC330-116	RA: 00 55 26.5300 (13.8605417d) Dec: -72 27 33.70 (-72.45936d) Equinox: J2000	Proper Motion RA: null Proper Motion Dec: null Epoch of Position:	V=16.66+/-0.05	Reference Frame: ICRS

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
1		(15) NGC330-116	STIS/CCD, ACQ, 50CCD	MIRROR				2. Secs	
								[==>]	***[1]***
2		(15) NGC330-116	STIS/NUV-MAMA, ACCUM, 52X2	G230L 2376 A				885 Secs	
								[==>]	***[1]***
3		(15) NGC330-116	STIS/FUV-MAMA, ACCUM, 52X2	G140L 1425 A				1415 Secs	
								[==>]	***[1]***

Orbit Structure