10920 - High-Resolution Imaging of Nearby Lyman Break Galaxy Analogs in the GALEX All-Sky Survey

Cycle: 15, Proposal Category: GO

(Availability Mode: SUPPORTED)

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VISITS

Visit	*Targets used in Visit*	*Configurations used in Visit*	*Orbits Used*	*Last Orbit Planner Run*	*OP Current with Visit?*
01	(1) SDSSJ005527.46-002148.7	ACS/HRC ACS/WFC	3	21-May-2007 21:29:12.0	yes
02	(2) SDSSJ015028.4+130858.3	ACS/SBC WFPC2	3	21-May-2007 21:29:26.0	yes

Visit	*Targets used in Visit*	*Configurations used in Visit*	*Orbits Used*	*Last Orbit Planner Run*	*OP Current with Visit?*
03	(3) SDSSJ032845.99+011150.8	ACS/HRC ACS/WFC	3	21-May-2007 21:29:49.0	yes
04	(4) SDSSJ040208.86-050642	ACS/HRC ACS/WFC	3	21-May-2007 21:30:00.0	yes
05	(5) SDSSJ080844.26+394852.3	ACS/HRC ACS/WFC	3	21-May-2007 21:30:12.0	yes
06	(6) SDSSJ092600.4+442736.1	ACS/HRC ACS/WFC	3	21-May-2007 21:30:22.0	yes
07	(7) SDSSJ102613.97+484458.9	ACS/HRC ACS/WFC	3	21-May-2007 21:30:33.0	yes
08	(8) SDSSJ135355.9+664800.5	ACS/HRC ACS/WFC	3	21-May-2007 21:30:56.0	yes
09	(9) SDSSJ214500.25+011157.5	ACS/SBC WFPC2	3	21-May-2007 21:31:06.0	yes
10	(3) SDSSJ032845.99+011150.8	ACS/WFC	1	21-May-2007 21:31:11.0	yes

28 Total Orbits Used

ABSTRACT

We have used the ultraviolet all-sky imaging survey currently being conducted by the Galaxy Evolution Explorer (GALEX) to identify for the first time a rare population of low-redshift starbursts with properties remarkably similar to high-redshift Lyman Break Galaxies. These compact UV luminous galaxies (UVLGs) resemble Lyman Break Galaxies in terms of size, UV luminosity, star-formation rate, surface brightness, mass, metallicity, kinematics, dust content, and color. They have characteristic ``ages" (stellar mass/SFR) of only a few hundred Myr. This population of galaxies is thus worthy of study in its own right and as a sample of local analogs of Lyman Break Galaxies. We propose to image a sample of the 9 nearest and brightest compact UVLGs in the near-ultraviolet, near-infrared, and H-alpha using ACS. With these images we will 1) characterize their

structure and morphology, 2) look for signs of interactions and mergers, 3) investigate the distribution and propogation of star formation over varying time scales, and 4) quantify the stellar populations and star formation history, in order to determine whether a previous generation of stars formed long before the current burst. These data will perfectly complement our existing Spitzer, GALEX, and SDSS data, and will provide important information on star-formation in the present-day universe as well as shed light on the earliest major episodes of star formation in high-redshift galaxies.

OBSERVING DESCRIPTION

We propose to observe 9 UVLGs with the ACS in three bands, each of which probes the star formation history over a different characteristic timescale. We will use the ramp filters on the WFC to image the H-alpha emission, and thereby trace the distribution of current (< 10 Myr) star formation in each galaxy. We will use the F330W near-UV filter on the HRC to trace the star formation over longer (~100 Myr) timesales. Finally, we will use the WFC with the F850LP near-IR filter to search for an older, more smoothly distributed population of stars (if one exists). Using this set of three complementary images will allow us to measure the structure and star-formation history of these galaxies.

We have chosen these specific filters to provide maximal sensitivity, while at the same time suffering from a minimal contribution from strong emission lines in the passbands of the F330W and F850LP filters (less than a few percent, based on SDSS spectra and standard nebular conditions). The ramp filters were chosen to encompass the H-alpha line at the redshift of the target galaxy. We chose the HRC for the F330W images to study the star formation distribution with the highest resolution possible. We chose the WFC for the H-alpha images in order to look for large scale ionized filaments from starburst outflows, and for the F850LP images we require the larger field-of-view of the WFC to look for evidence of tidal tails or faint companion galaxies which may have trigggered the current burst of star formation.

It is important to note that there is good evidence that the extinction in these galaxies is modest, ensuring that even the F330W near-UV images will provide reliable information about the distribution of star formation. First, the emission-line Balmer decrements imply only modest amounts of dust reddening, with E(B-V) values of 0 to 0.3. Second, the star formation rates derived from the extinction-corrected Balmer emission-lines typically agree to within a factor of ~2 with those derived from the observed far-UV luminosity (with no extinction correction). Third, the UV colors are relatively blue, strongly suggesting only modest UV extinction. Fourth, the weakness of the far-IR emission indicates that a significant fraction

(typically > 50%) of the intrinsic near-UV light escapes the galaxies.

These images will resolve structures as small as ~0.2 kpc at the median redshift of our sample (z~0.16). These galaxies have typical half-light diameters of about 2 kpc so they will cover many resolution elements, allowing us to map the distribution of star-forming regions in each galaxy.

Feasibility

H-alpha: For the detection of the HII regions, we take a typical total H-alpha flux of 7x10^-15 erg s^-1 cm^-2 from the SDSS spectra. We assume that this emission is distributed in ten star forming knots (point sources), each of which produces 10% of the total. We assume that the equivalent width of the H-alpha emission for each knot is 100 Angstroms (as it typically is in the spectra). The ACS ETC yields a S/N ratio per knot of 50 in an orbit (2 CR-split exposures). For the detection of fainter filamentary emission associated with a galactic outflow, we use the surface brightnesses of the filaments seen in starbursts with star formation rates similar to the UVLGs. These surface brightnesses are typically 10^-15 erg s^-1 cm^-2 arcsec^-2 at a radius of 2 kpc (corresponding to 0.7 arcsec for the ULVGs). In a single orbit (2 CR-split exposures) we would achieve a S/N of 4 per 2x2 pixel region. The large H-alpha equivalent width indicates that the image will be primarily line-emission, so we can use the F850LP image to remove the continuum from the narrow-band image.

F330W: The faintest galaxy in our sample has a mean surface brightness interior to the half light radius in the F330W band of 6.0x10^-17 erg s^-1 cm^-2 Angstroms^-1 arcsec^-2 (derived from the SDSS-measured u-band flux and half-light radius). The ACS ETC gives a time of 35 minutes for 2 CR-Split observations (1 orbit with overhead) to achieve a S/N of 10 in a 2x2 pixel region.

F850LP: The faintest galaxy in our sample has a mean surface brightness interior to the half light radius in the F850LP band of 2.0x10^-17 erg s^-1 cm^-2 Angstroms^-1 arcsec^-2 (derived from the SDSS-measured z-band flux and half-light radius). In two CR-Split exposures occupying one orbit we can reach a S/N of 10 per 2x2 pixel region at a surface brightness of 2x10^-18 erg s^-1 cm^-2 Angstroms^-1 arcsec^-2 (ten times fainter than the galaxy mean surface brightness interior to the half-light radius). This will allow us to search for a smoothly distributed spatially-extended population of redder (older) stars. We will also use these images to search for tidal tails and close companion galaxies.

Visit

Proposal 10920, Visit 01, completed Mon May 21 20:31:13 GMT 2007

Diagnostic Status: Warning

Scientific Instruments: ACS/WFC, ACS/HRC

Special Requirements: (none)

Diagnostics

(Exposure 3 (Pattern 3-3)) Warning: POS TARG & PATTERN should be used carefully with ACS/WFPC2 ramp or WFC3 quad filters as central wavelengths & transmission efficiencies vary within the apertures.

Patterns

#	Primary Pattern		Secondary Pattern	Exposures
(1)	Pattern Type=ACS-HRC-DITHER-LINE Purpose=DITHER Number Of Points=3 Point Spacing=0.198 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=44.28 Angle Between Sides= Center Pattern=false		(2)
(2)	Pattern Type=ACS-WFC-DITHER-LINE Purpose=DITHER Number Of Points=3 Point Spacing=3.011 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=85.28 Angle Between Sides= Center Pattern=false		(1)
(3)	Pattern Type=ACS-WFC-DITHER-LINE Purpose=DITHER Number Of Points=2 Point Spacing=0.145 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=85.28 Angle Between Sides= Center Pattern=false		(3)

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	SDSSJ005527.46-002148.7	RA: 00 55 27.4615 (13.8644229d) Dec: -00 21 48.71 (-.36353d) Equinox: J2000		V=18.42+/-0.1	Reference Frame: ICRS

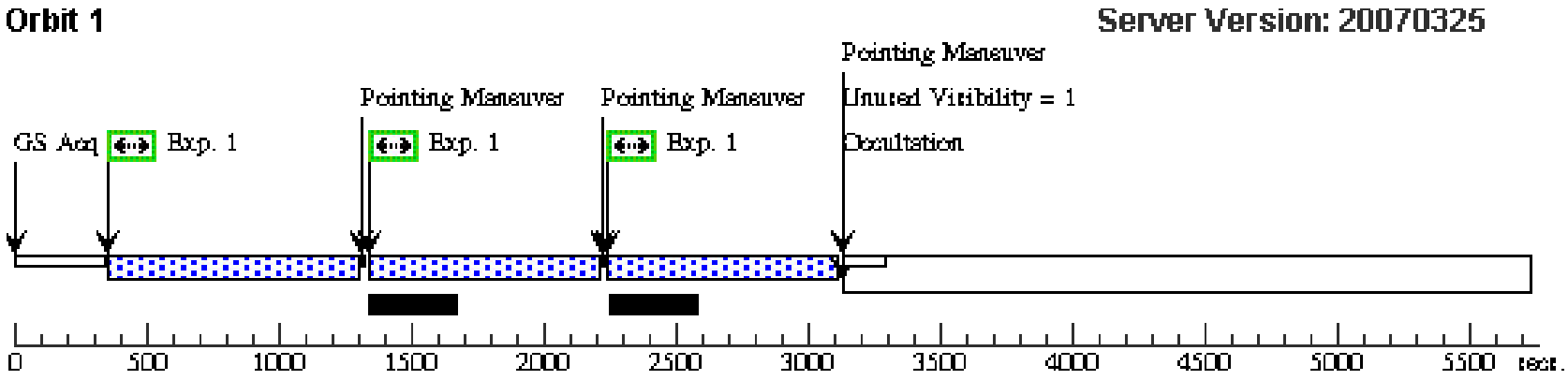
Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
1		(1) SDSSJ005527.46-002148.7	ACS/WFC, ACCUM, WFC2	F850LP	CR-SPLIT=NO		Pattern 1-1 (2)	746.0 Secs *[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]*	***[1]***

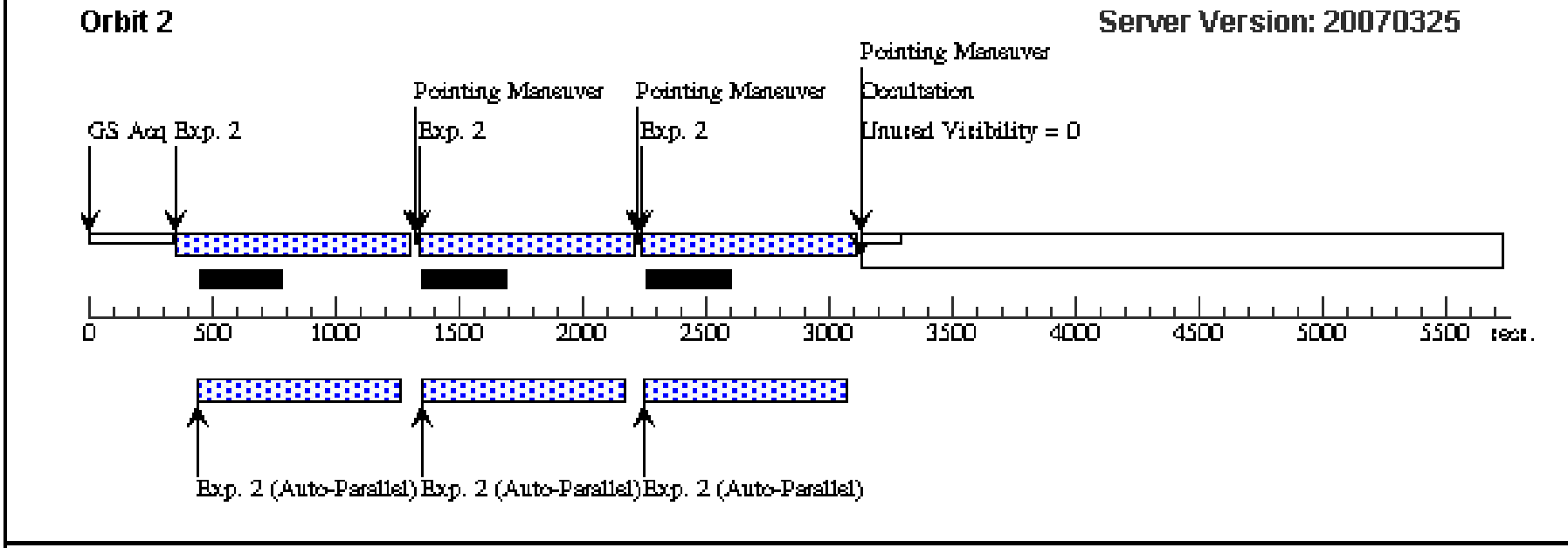
Exposures (continued)

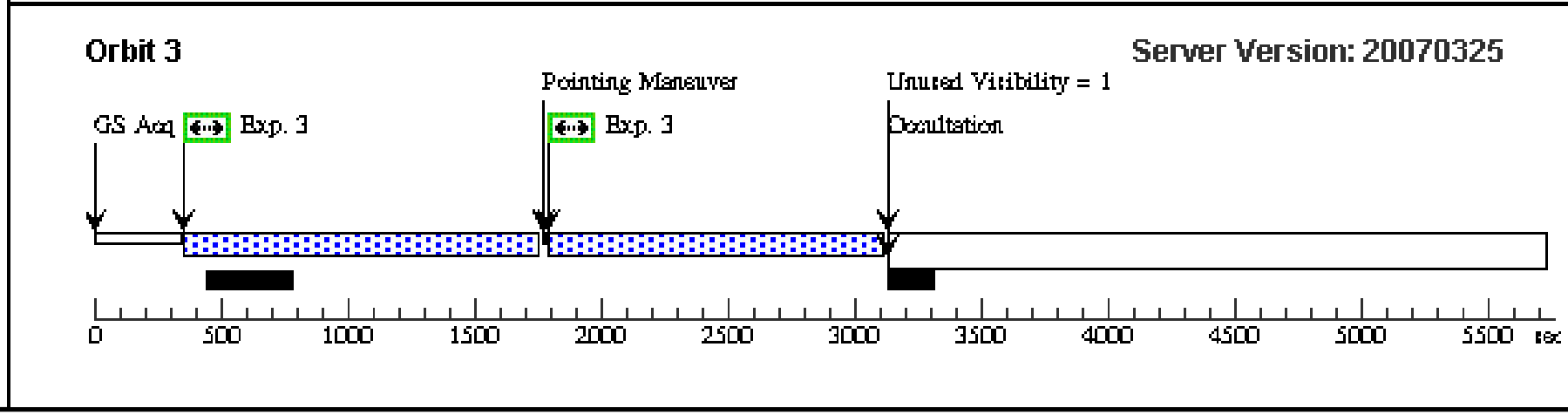
#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
2		(1) SDSSJ005527.46 -002148.7	ACS/HRC, ACCUM, HRC	F330W	CR-SPLIT=NO		Pattern 2-2 (1)	838.0 Secs	
								[==>(Pattern 1)] *[==>(Pattern 2)]* *[==>(Pattern 3)]*	***[2]***
3		(1) SDSSJ005527.46 -002148.7	ACS/WFC, ACCUM, WFC2-ORAMPQ	FR782N 7658.8 A	CR-SPLIT=NO		Pattern 3-3 (3)	1151.0 Secs	
								[==>(Pattern 1)] *[==>(Pattern 2)]*	***[3]***

Orbit Structure



Orbit Structure (continued)





Visit

Proposal 10920, Visit 02, scheduling Mon May 21 20:31:16 GMT 2007

Diagnostic Status: No Diagnostics

Scientific Instruments: ACS/SBC, WFPC2

Special Requirements: (none)

Patterns

#	Primary Pattern		Secondary Pattern	Exposures
(4)	Pattern Type=ACS-SBC-DITHER-LINE Purpose=DITHER Number Of Points=3 Point Spacing=0.472 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=44.4 Angle Between Sides= Center Pattern=false		(1)
(5)	Pattern Type=WFPC2-LINE Purpose=DITHER Number Of Points=3 Point Spacing=0.354 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=45 Angle Between Sides= Center Pattern=false		(2), (3)

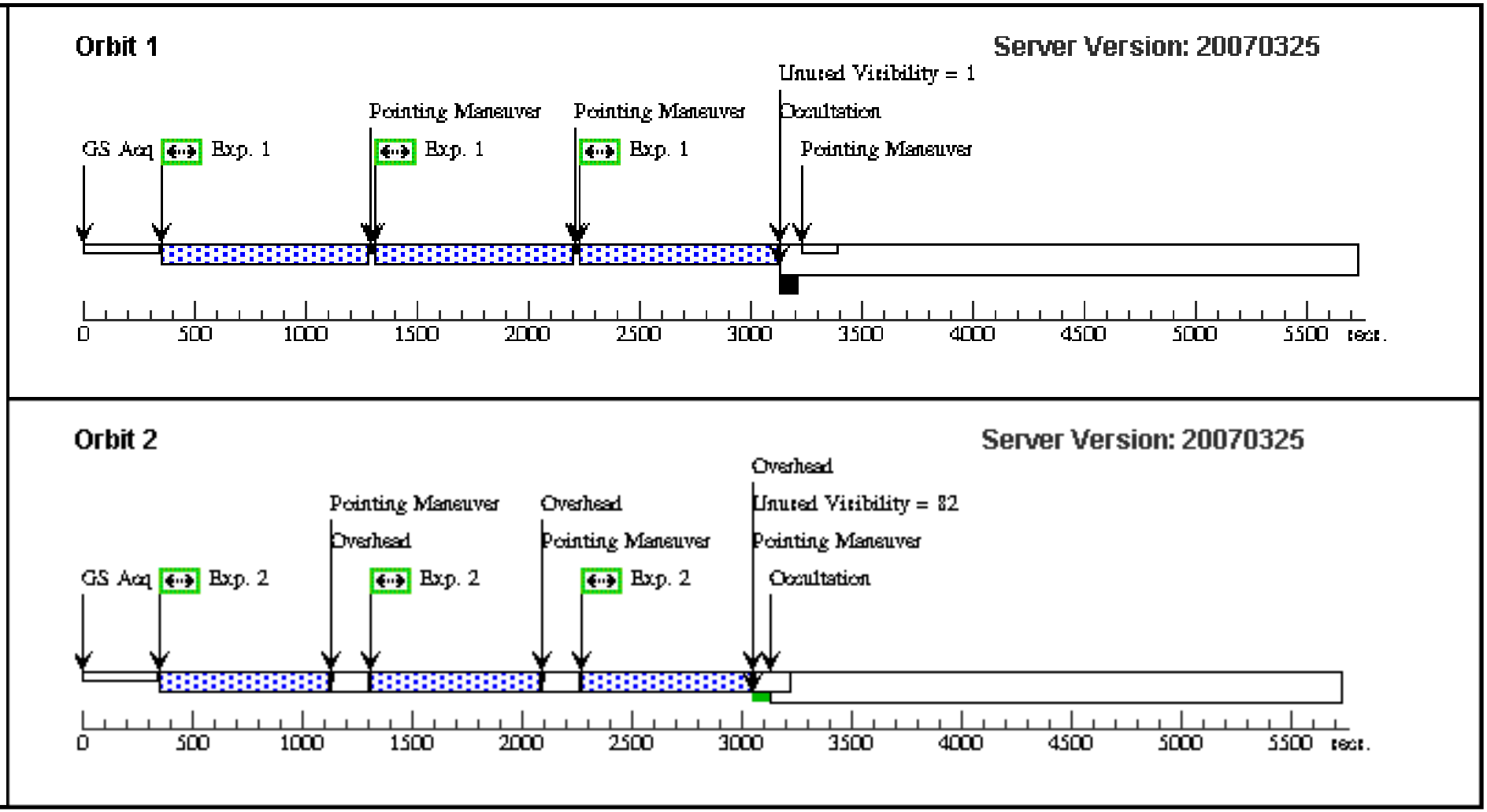
Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(2)	SDSSJ015028.4+130858.3	RA: 01 50 28.4054 (27.6183558d) Dec: +13 08 58.40 (13.14956d) Equinox: J2000		V=18.08+/-0.1	Reference Frame: ICRS

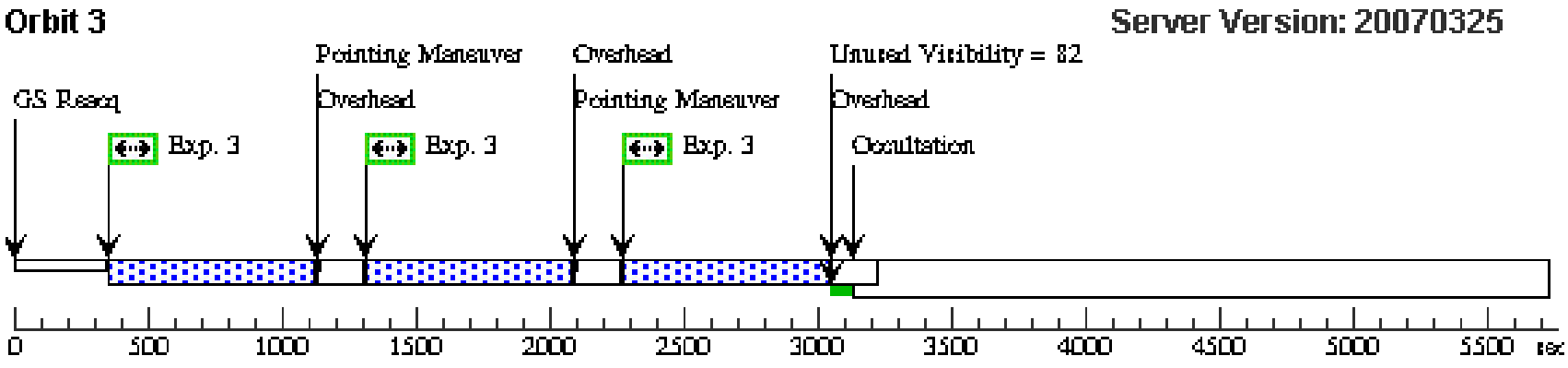
Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
1	0150_SBC_F150LP	(2) SDSSJ015028.4+130858.3	ACS/SBC, ACCUM, SBC	F150LP			Pattern 1-1 (4)	839.0 Secs	
								[==>860.0 Secs (Pattern 1)] *[==>860.0 Secs (Pattern 2)]* *[==>860.0 Secs (Pattern 3)]*	***[1]***
2	0150_WFPC2_F606W_1	(2) SDSSJ015028.4+130858.3	WFPC2, IMAGE, PC1	F606W			Pattern 2-2 (5)	600.0 Secs	
								[==>(Pattern 1)] *[==>(Pattern 2)]* *[==>(Pattern 3)]*	***[2]***
3	0150_WFPC2_F606W_2	(2) SDSSJ015028.4+130858.3	WFPC2, IMAGE, PC1	F606W			Pattern 3-3 (5)	600.0 Secs	
								[==>(Pattern 1)] *[==>(Pattern 2)]* *[==>(Pattern 3)]*	***[3]***

Orbit Structure



Orbit Structure (continued)



Visit

Proposal 10920, Visit 03, failed Mon May 21 20:31:17 GMT 2007

Diagnostic Status: Warning

Scientific Instruments: ACS/WFC, ACS/HRC

Special Requirements: (none)

Diagnostics

(Exposure 3 (Pattern 3-3)) Warning: POS TARG & PATTERN should be used carefully with ACS/WFPC2 ramp or WFC3 quad filters as central wavelengths & transmission efficiencies vary within the apertures.

Patterns

#	Primary Pattern		Secondary Pattern	Exposures
(1)	Pattern Type=ACS-HRC-DITHER-LINE Purpose=DITHER Number Of Points=3 Point Spacing=0.198 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=44.28 Angle Between Sides= Center Pattern=false		(2)
(2)	Pattern Type=ACS-WFC-DITHER-LINE Purpose=DITHER Number Of Points=3 Point Spacing=3.011 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=85.28 Angle Between Sides= Center Pattern=false		(1)
(3)	Pattern Type=ACS-WFC-DITHER-LINE Purpose=DITHER Number Of Points=2 Point Spacing=0.145 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=85.28 Angle Between Sides= Center Pattern=false		(3)

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(3)	SDSSJ032845.99+011150.8	RA: 03 28 45.9989 (52.1916621d) Dec: +01 11 50.78 (1.19744d) Equinox: J2000		V=18.72+/-0.1	Reference Frame: ICRS

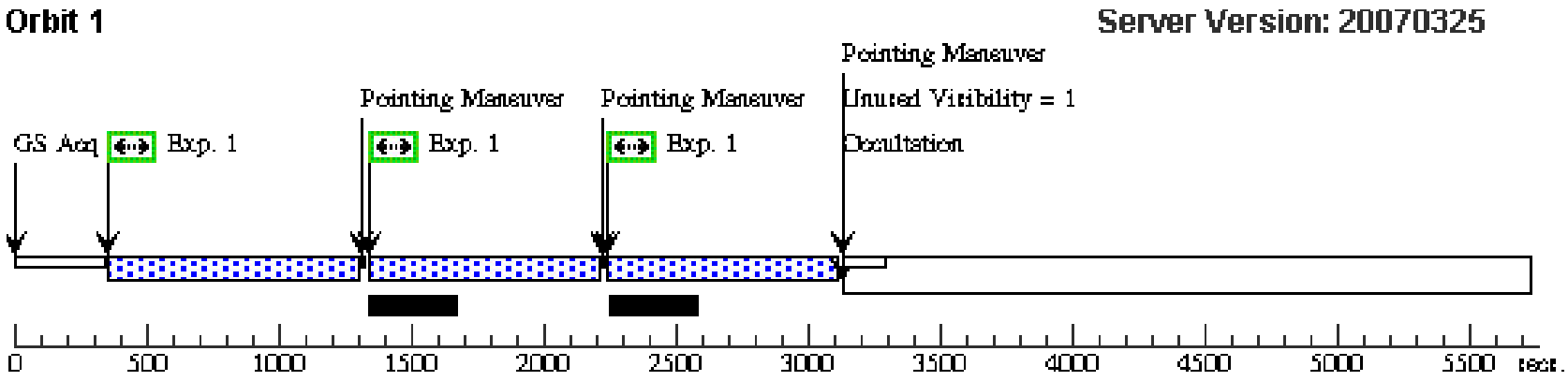
Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
1		(3) SDSSJ032845.99+011150.8	ACS/WFC, ACCUM, WFC2	F850LP	CR-SPLIT=NO		Pattern 1-1 (2)	746.0 Secs *[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]*	***[1]***

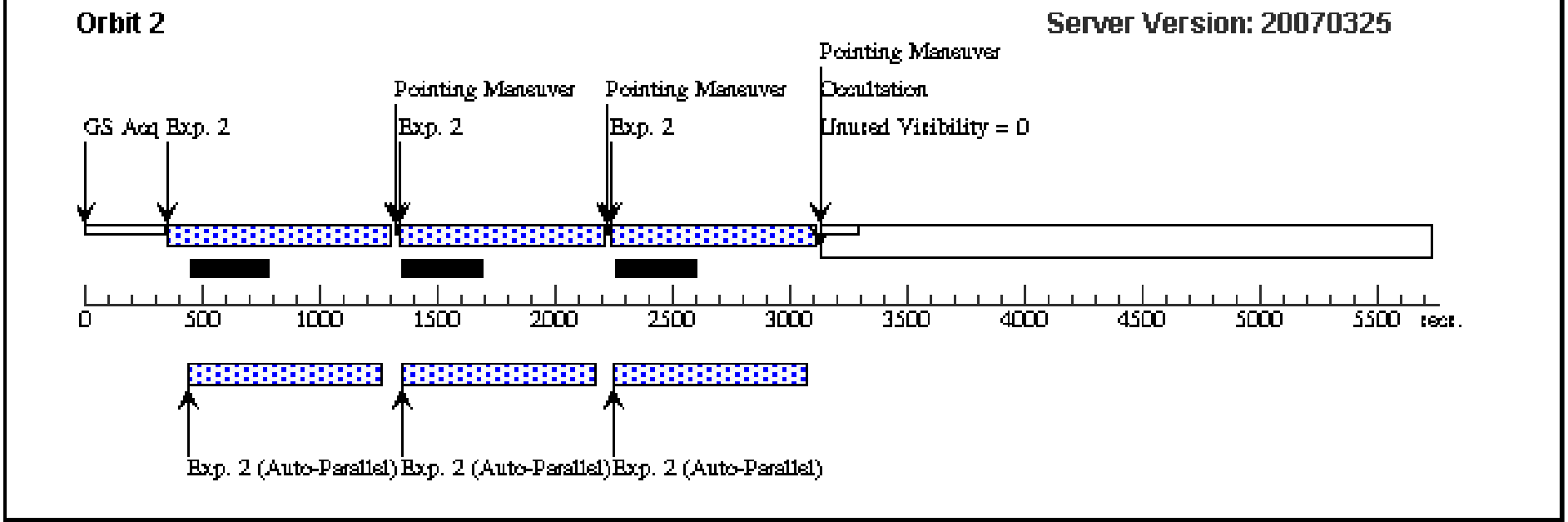
Exposures (continued)

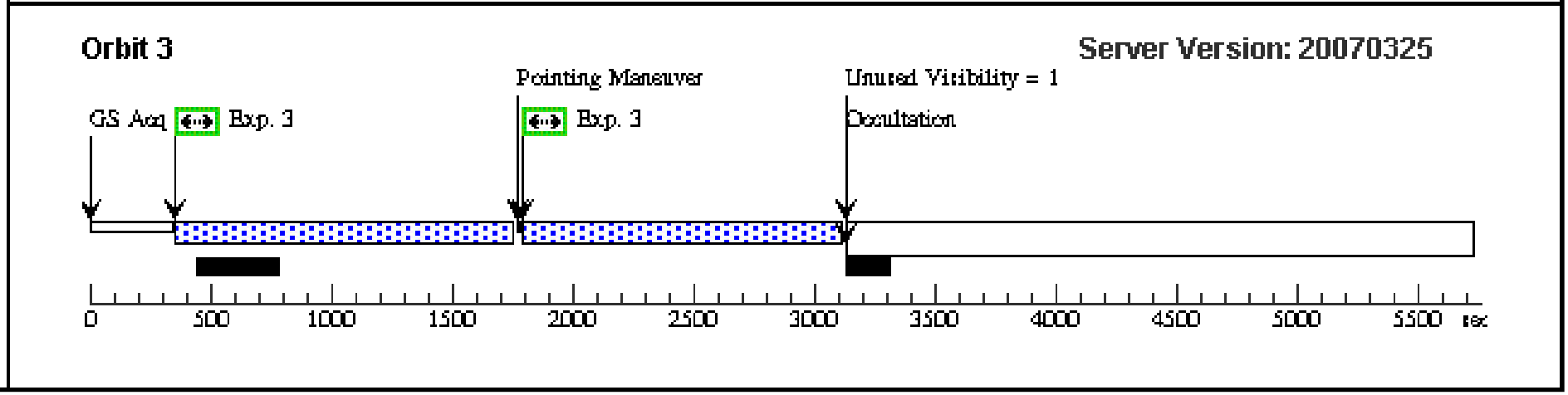
#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
2		(3) SDSSJ032845.99 +011150.8	ACS/HRC, ACCUM, HRC	F330W	CR-SPLIT=NO		Pattern 2-2 (1)	838.0 Secs	
								[==>(Pattern 1)] *[==>(Pattern 2)]* *[==>(Pattern 3)]*	***[2]***
3		(3) SDSSJ032845.99 +011150.8	ACS/WFC, ACCUM, WFC2-ORAMPQ	FR782N 7494.7 A	CR-SPLIT=NO		Pattern 3-3 (3)	1151.0 Secs	
								[==>(Pattern 1)] *[==>(Pattern 2)]*	***[3]***

Orbit Structure



Orbit Structure (continued)





Visit

Proposal 10920, Visit 04, completed Mon May 21 20:31:18 GMT 2007

Diagnostic Status: Warning

Scientific Instruments: ACS/WFC, ACS/HRC

Special Requirements: (none)

Diagnostics

(Exposure 3 (Pattern 3-3)) Warning: POS TARG & PATTERN should be used carefully with ACS/WFPC2 ramp or WFC3 quad filters as central wavelengths & transmission efficiencies vary within the apertures.

Patterns

#	Primary Pattern		Secondary Pattern	Exposures
(1)	Pattern Type=ACS-HRC-DITHER-LINE Purpose=DITHER Number Of Points=3 Point Spacing=0.198 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=44.28 Angle Between Sides= Center Pattern=false		(2)
(2)	Pattern Type=ACS-WFC-DITHER-LINE Purpose=DITHER Number Of Points=3 Point Spacing=3.011 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=85.28 Angle Between Sides= Center Pattern=false		(1)
(3)	Pattern Type=ACS-WFC-DITHER-LINE Purpose=DITHER Number Of Points=2 Point Spacing=0.145 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=85.28 Angle Between Sides= Center Pattern=false		(3)

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(4)	SDSSJ040208.86-050642	RA: 04 02 8.8687 (60.5369529d) Dec: -05 06 42.06 (-5.11168d) Equinox: J2000		V=18.59	Reference Frame: ICRS

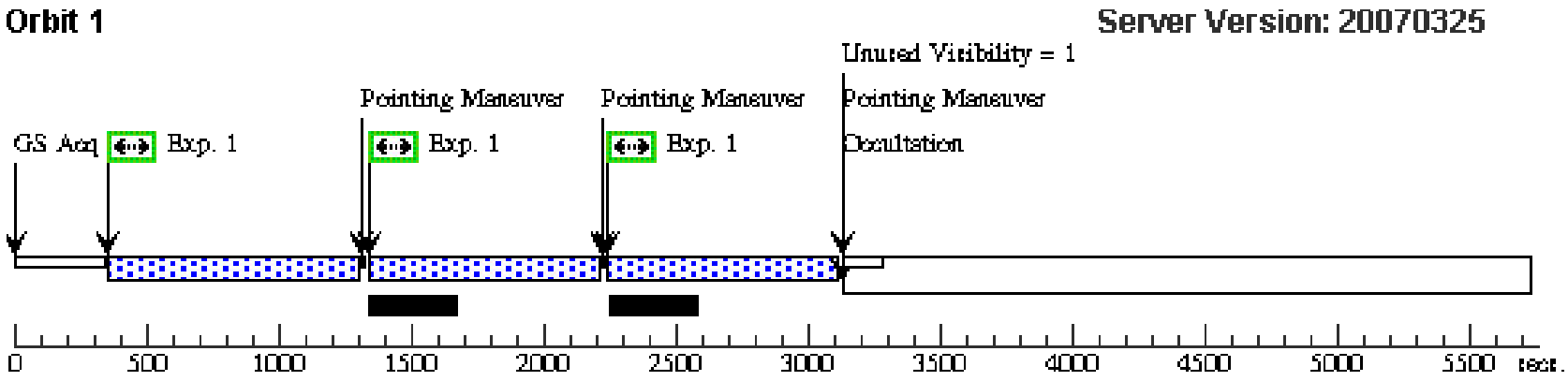
Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
1		(4) SDSSJ040208.86-050642	ACS/WFC, ACCUM, WFC2	F850LP	CR-SPLIT=NO		Pattern 1-1 (2)	746.0 Secs *[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]*	***[1]***

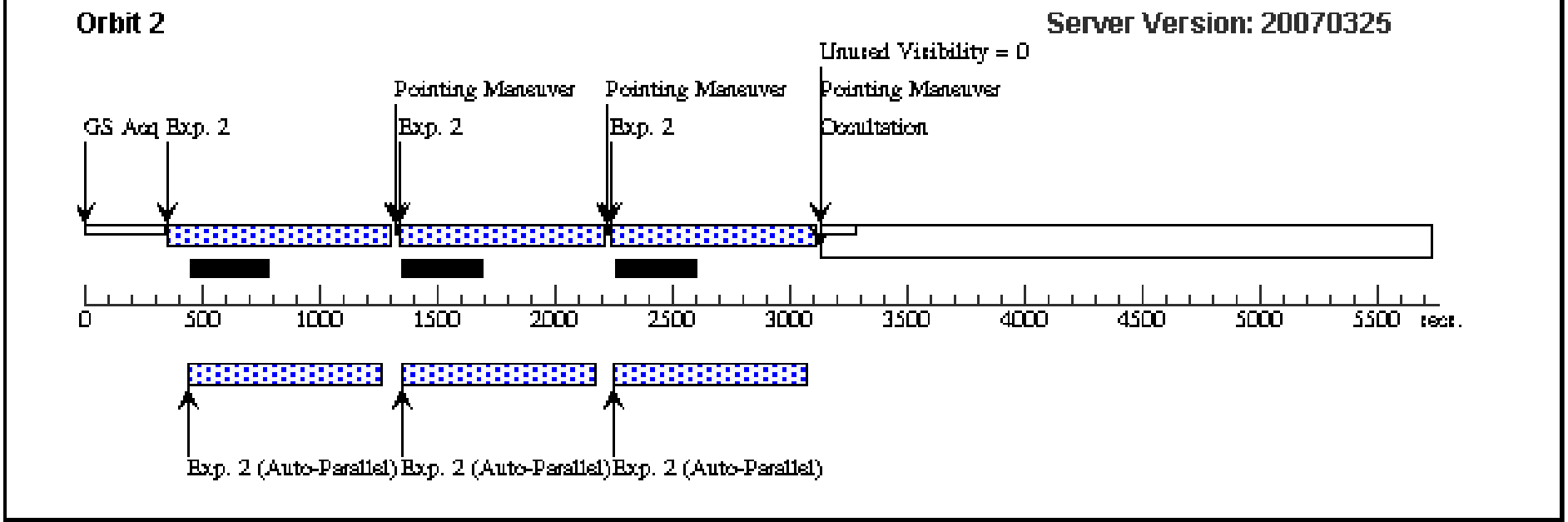
Exposures (continued)

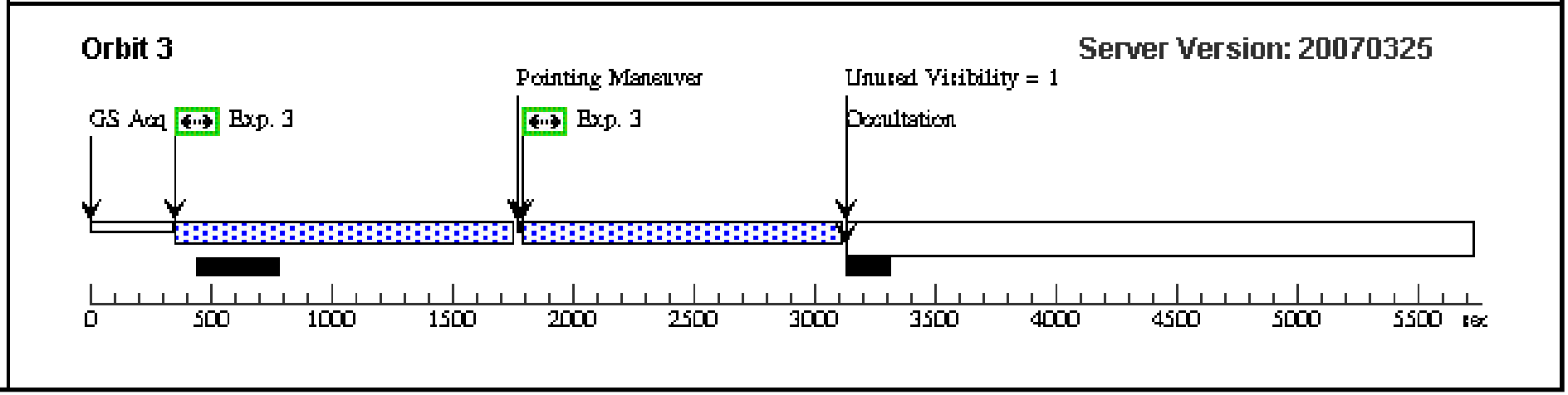
#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
2		(4) SDSSJ040208.86 -050642	ACS/HRC, ACCUM, HRC	F330W	CR-SPLIT=NO		Pattern 2-2 (1)	838.0 Secs	
								[==>(Pattern 1)] *[==>(Pattern 2)]* *[==>(Pattern 3)]*	***[2]***
3		(4) SDSSJ040208.86 -050642	ACS/WFC, ACCUM, WFC2-ORAMPQ	FR782N 7476.2 A	CR-SPLIT=NO		Pattern 3-3 (3)	1151.0 Secs	
								[==>(Pattern 1)] *[==>(Pattern 2)]*	***[3]***

Orbit Structure



Orbit Structure (continued)





Visit

Proposal 10920, Visit 05, completed Mon May 21 20:31:19 GMT 2007

Diagnostic Status: Warning

Scientific Instruments: ACS/WFC, ACS/HRC

Special Requirements: (none)

Diagnostics

(Exposure 3 (Pattern 3-3)) Warning: POS TARG & PATTERN should be used carefully with ACS/WFPC2 ramp or WFC3 quad filters as central wavelengths & transmission efficiencies vary within the apertures.

Patterns

#	Primary Pattern		Secondary Pattern	Exposures
(1)	Pattern Type=ACS-HRC-DITHER-LINE Purpose=DITHER Number Of Points=3 Point Spacing=0.198 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=44.28 Angle Between Sides= Center Pattern=false		(1)
(2)	Pattern Type=ACS-WFC-DITHER-LINE Purpose=DITHER Number Of Points=3 Point Spacing=3.011 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=85.28 Angle Between Sides= Center Pattern=false		(2)
(3)	Pattern Type=ACS-WFC-DITHER-LINE Purpose=DITHER Number Of Points=2 Point Spacing=0.145 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=85.28 Angle Between Sides= Center Pattern=false		(3)

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(5)	SDSSJ080844.26+394852.3	RA: 08 08 44.2639 (122.1844329d) Dec: +39 48 52.37 (39.81455d) Equinox: J2000		V=17.44+/-0.1	Reference Frame: ICRS

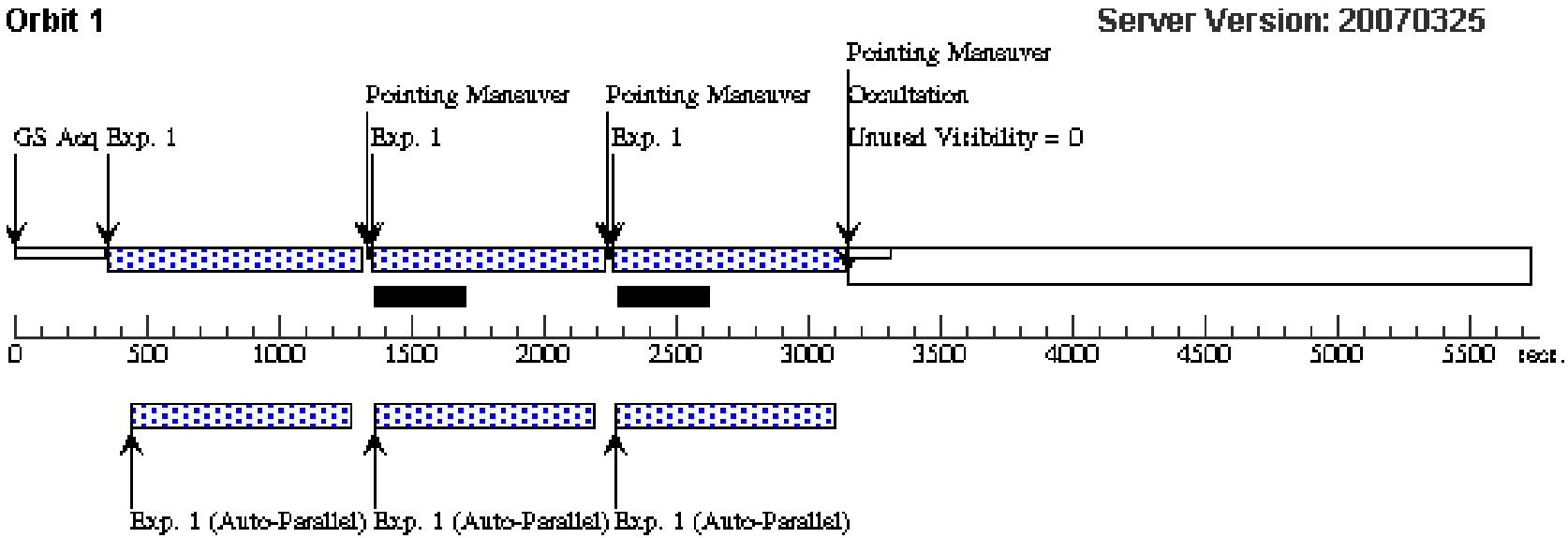
Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
1		(5) SDSSJ080844.26+394852.3	ACS/HRC, ACCUM, HRC	F330W	CR-SPLIT=NO		Pattern 1-1 (1)	847.0 Secs *[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]*	***[1]***

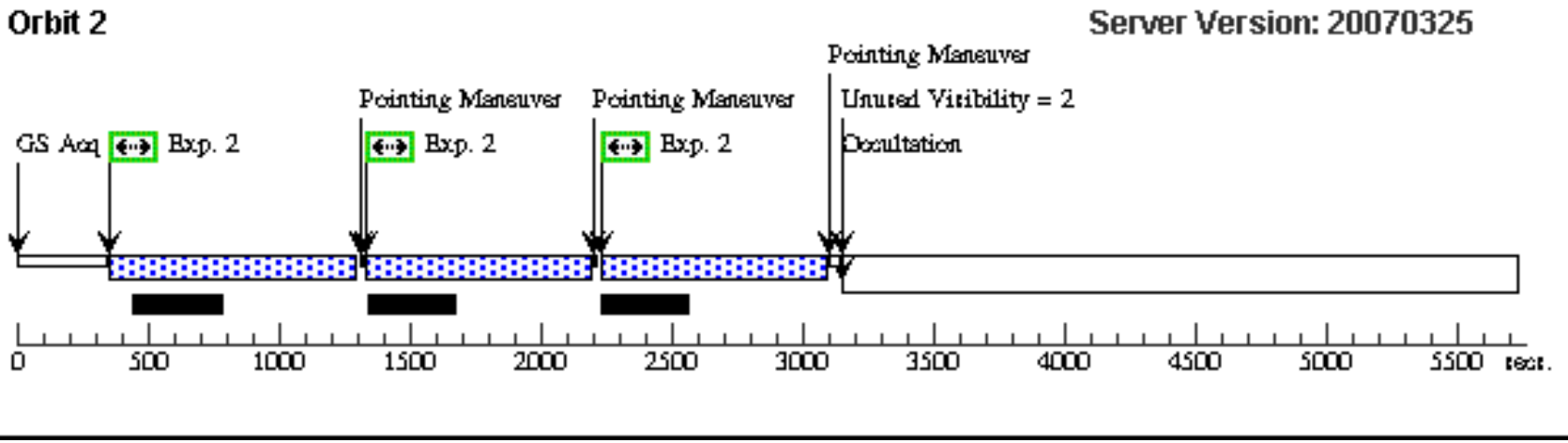
Exposures (continued)

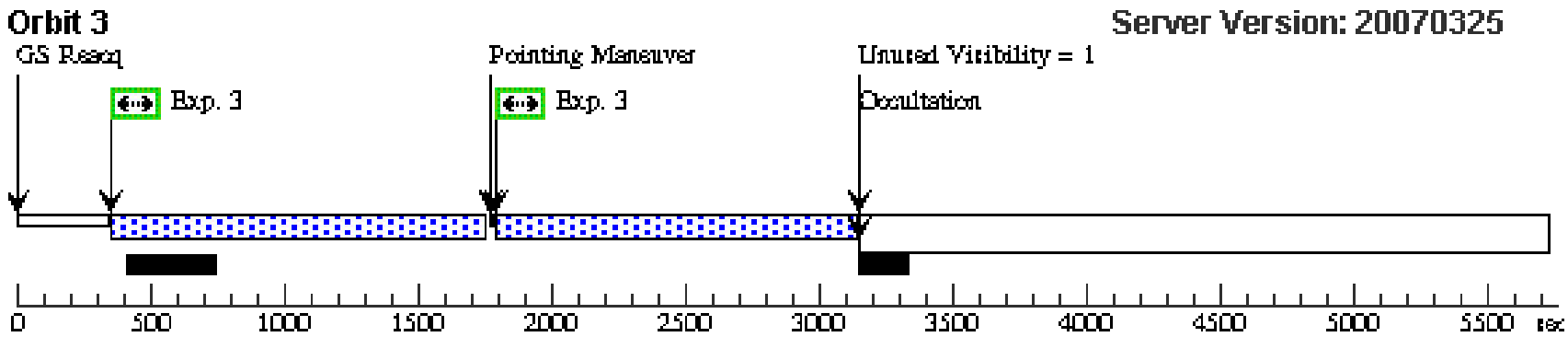
#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
2		(5) SDSSJ080844.26 +394852.3	ACS/WFC, ACCUM, WFC1	F850LP	CR-SPLIT=NO		Pattern 2-2 (2)	737.0 Secs	
								[==>(Pattern 1)] *[==>(Pattern 2)]* *[==>(Pattern 3)]*	***[2]***
3		(5) SDSSJ080844.26 +394852.3	ACS/WFC, ACCUM, WFC1-IRAMPQ	FR647M 7160.0 A	CR-SPLIT=NO		Pattern 3-3 (3)	1178.0 Secs	
								[==>(Pattern 1)] *[==>(Pattern 2)]*	***[3]***

Orbit Structure



Orbit Structure (continued)





Visit

Proposal 10920, Visit 06, completed Mon May 21 20:31:20 GMT 2007

Diagnostic Status: Warning

Scientific Instruments: ACS/WFC, ACS/HRC

Special Requirements: (none)

Diagnostics

(Exposure 3 (Pattern 3-3)) Warning: POS TARG & PATTERN should be used carefully with ACS/WFPC2 ramp or WFC3 quad filters as central wavelengths & transmission efficiencies vary within the apertures.

Patterns

#	Primary Pattern		Secondary Pattern	Exposures
(1)	Pattern Type=ACS-HRC-DITHER-LINE Purpose=DITHER Number Of Points=3 Point Spacing=0.198 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=44.28 Angle Between Sides= Center Pattern=false		(2)
(2)	Pattern Type=ACS-WFC-DITHER-LINE Purpose=DITHER Number Of Points=3 Point Spacing=3.011 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=85.28 Angle Between Sides= Center Pattern=false		(1)
(3)	Pattern Type=ACS-WFC-DITHER-LINE Purpose=DITHER Number Of Points=2 Point Spacing=0.145 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=85.28 Angle Between Sides= Center Pattern=false		(3)

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(6)	SDSSJ092600.4+442736.1	RA: 09 26 0.4087 (141.5017029d) Dec: +44 27 36.14 (44.46004d) Equinox: J2000		V=18.92	Reference Frame: ICRS

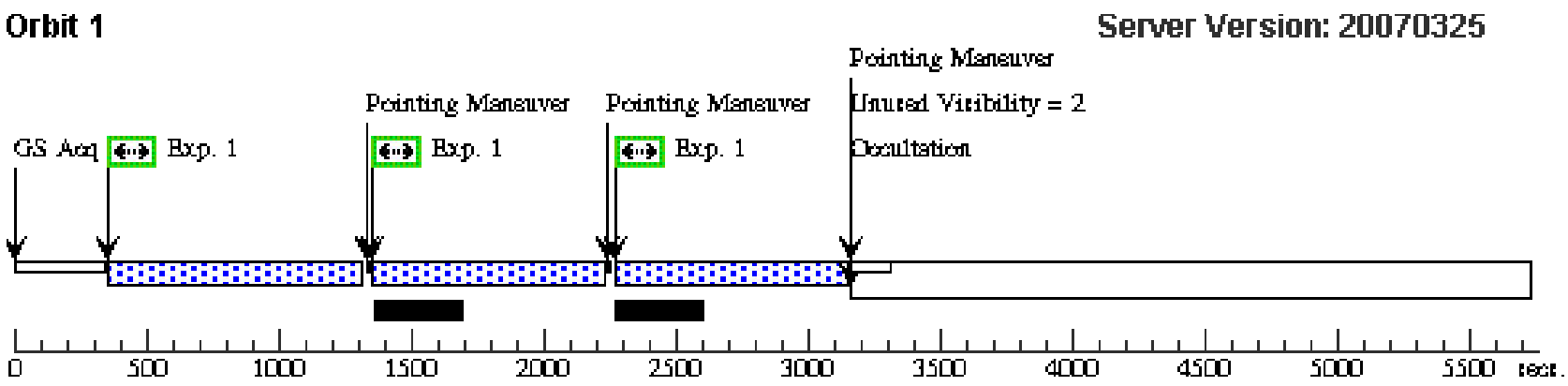
Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
1		(6) SDSSJ092600.4+442736.1	ACS/WFC, ACCUM, WFC2	F850LP	CR-SPLIT=NO		Pattern 1-1 (2)	758.0 Secs *[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]*	***[1]***

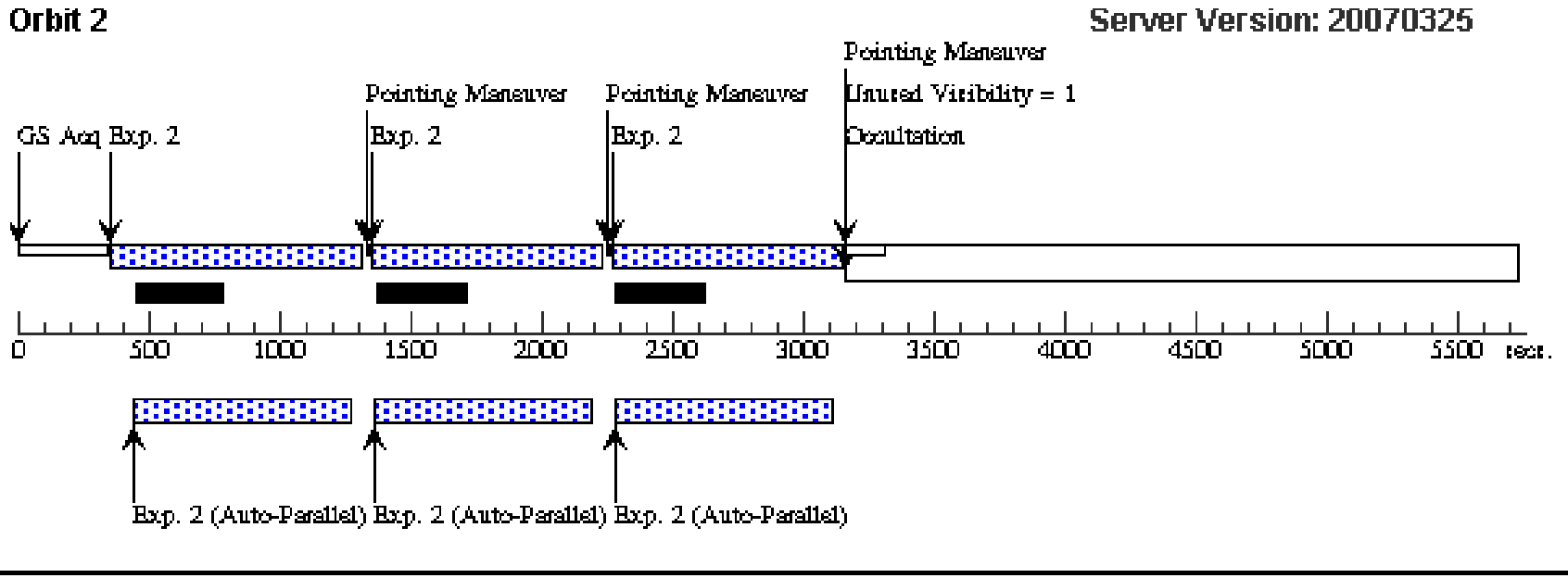
Exposures (continued)

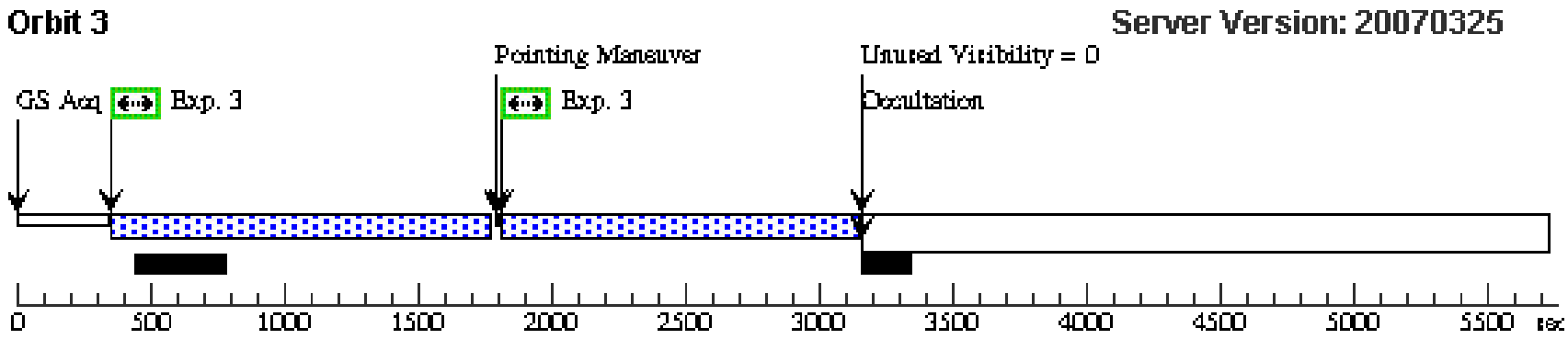
#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
2		(6) SDSSJ092600.4+ 442736.1	ACS/HRC, ACCUM, HRC	F330W	CR-SPLIT=NO		Pattern 2-2 (1)	850.0 Secs	
								[==>(Pattern 1)] *[==>(Pattern 2)]* *[==>(Pattern 3)]*	***[2]***
3		(6) SDSSJ092600.4+ 442736.1	ACS/WFC, ACCUM, WFC2-ORAMPQ	FR782N 7750.7 A	CR-SPLIT=NO		Pattern 3-3 (3)	1170.0 Secs	
								[==>(Pattern 1)] *[==>(Pattern 2)]*	***[3]***

Orbit Structure



Orbit Structure (continued)





Visit

Proposal 10920, Visit 07, completed Mon May 21 20:31:21 GMT 2007

Diagnostic Status: Warning

Scientific Instruments: ACS/WFC, ACS/HRC

Special Requirements: (none)

Diagnostics

(Exposure 3 (Pattern 3-3)) Warning: POS TARG & PATTERN should be used carefully with ACS/WFPC2 ramp or WFC3 quad filters as central wavelengths & transmission efficiencies vary within the apertures.

Patterns

#	Primary Pattern		Secondary Pattern	Exposures
(1)	Pattern Type=ACS-HRC-DITHER-LINE Purpose=DITHER Number Of Points=3 Point Spacing=0.198 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=44.28 Angle Between Sides= Center Pattern=false		(2)
(2)	Pattern Type=ACS-WFC-DITHER-LINE Purpose=DITHER Number Of Points=3 Point Spacing=3.011 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=85.28 Angle Between Sides= Center Pattern=false		(1)
(3)	Pattern Type=ACS-WFC-DITHER-LINE Purpose=DITHER Number Of Points=2 Point Spacing=0.145 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=85.28 Angle Between Sides= Center Pattern=false		(3)

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(7)	SDSSJ102613.97+484458.9	RA: 10 26 13.9709 (156.5582121d) Dec: +48 44 58.92 (48.74970d) Equinox: J2000		V=18.48+/-0.1	Reference Frame: ICRS

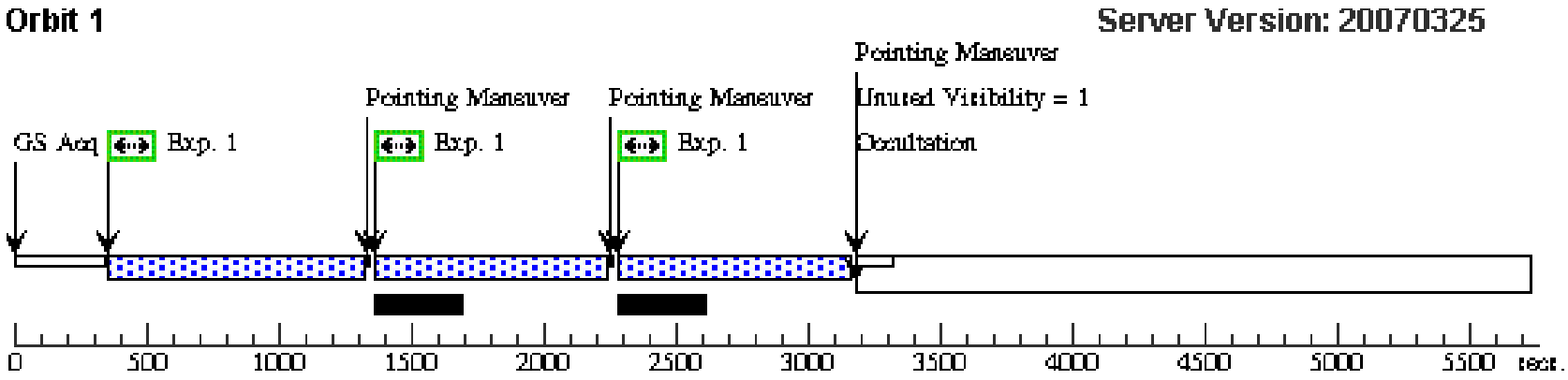
Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
1		(7) SDSSJ102613.97+484458.9	ACS/WFC, ACCUM, WFC2	F850LP	CR-SPLIT=NO		Pattern 1-1 (2)	763.0 Secs *[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]*	***[1]***

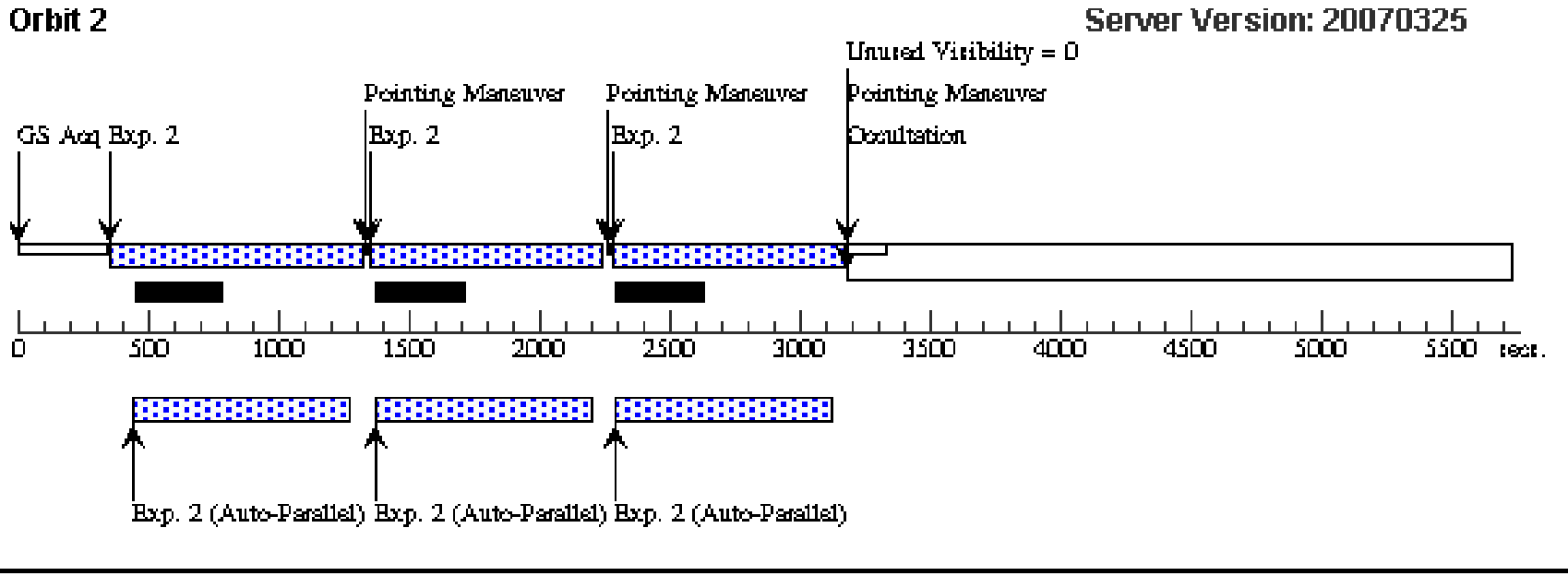
Exposures (continued)

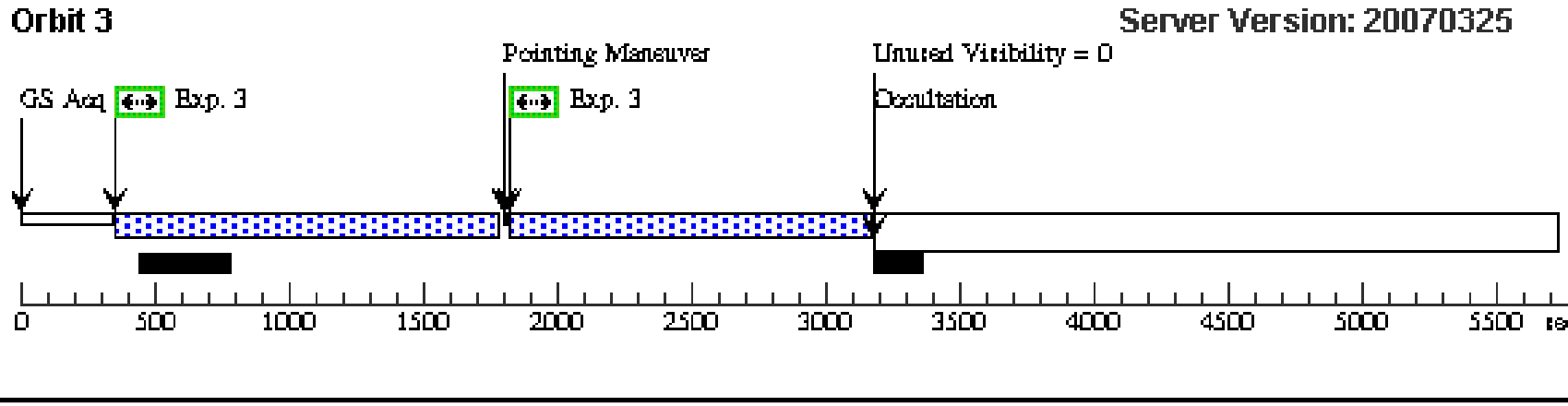
#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
2		(7) SDSSJ102613.97 +484458.9	ACS/HRC, ACCUM, HRC	F330W	CR-SPLIT=NO		Pattern 2-2 (1)	855.0 Secs	
								[==>(Pattern 1)] *[==>(Pattern 2)]* *[==>(Pattern 3)]*	***[2]***
3		(7) SDSSJ102613.97 +484458.9	ACS/WFC, ACCUM, WFC2-ORAMPQ	FR782N 7612.8 A	CR-SPLIT=NO		Pattern 3-3 (3)	1177.0 Secs	
								[==>(Pattern 1)] *[==>(Pattern 2)]*	***[3]***

Orbit Structure



Orbit Structure (continued)





Visit

Proposal 10920, Visit 08, completed Mon May 21 20:31:22 GMT 2007

Diagnostic Status: Warning

Scientific Instruments: ACS/WFC, ACS/HRC

Special Requirements: (none)

Diagnostics

(Exposure 3 (Pattern 3-3)) Warning: POS TARG & PATTERN should be used carefully with ACS/WFPC2 ramp or WFC3 quad filters as central wavelengths & transmission efficiencies vary within the apertures.

Patterns

#	Primary Pattern		Secondary Pattern	Exposures
(1)	Pattern Type=ACS-HRC-DITHER-LINE Purpose=DITHER Number Of Points=3 Point Spacing=0.198 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=44.28 Angle Between Sides= Center Pattern=false		(1)
(2)	Pattern Type=ACS-WFC-DITHER-LINE Purpose=DITHER Number Of Points=3 Point Spacing=3.011 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=85.28 Angle Between Sides= Center Pattern=false		(2)
(3)	Pattern Type=ACS-WFC-DITHER-LINE Purpose=DITHER Number Of Points=2 Point Spacing=0.145 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=85.28 Angle Between Sides= Center Pattern=false		(3)

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(8)	SDSSJ135355.9+664800.5	RA: 13 53 55.9008 (208.4829200d) Dec: +66 48 0.58 (66.80016d) Equinox: J2000		V=18.02+/-0.1	Reference Frame: ICRS

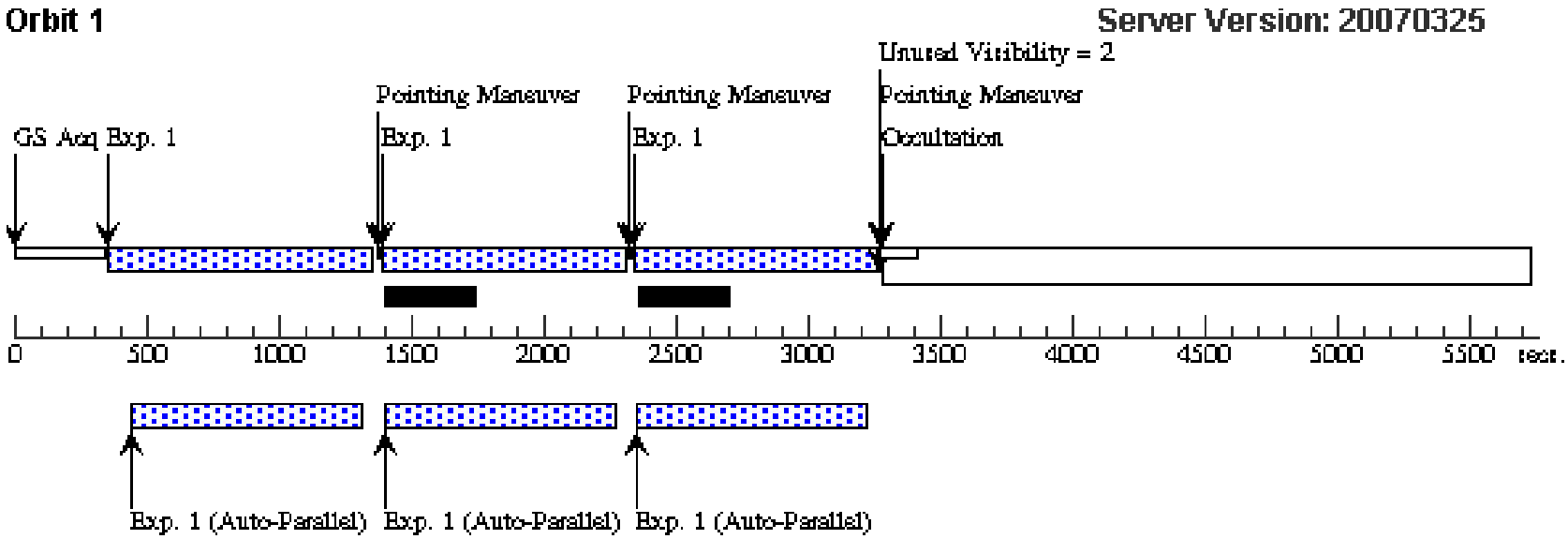
Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
1		(8) SDSSJ135355.9+664800.5	ACS/HRC, ACCUM, HRC	F330W	CR-SPLIT=NO		Pattern 1-1 (1)	887.0 Secs *[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]*	***[1]***

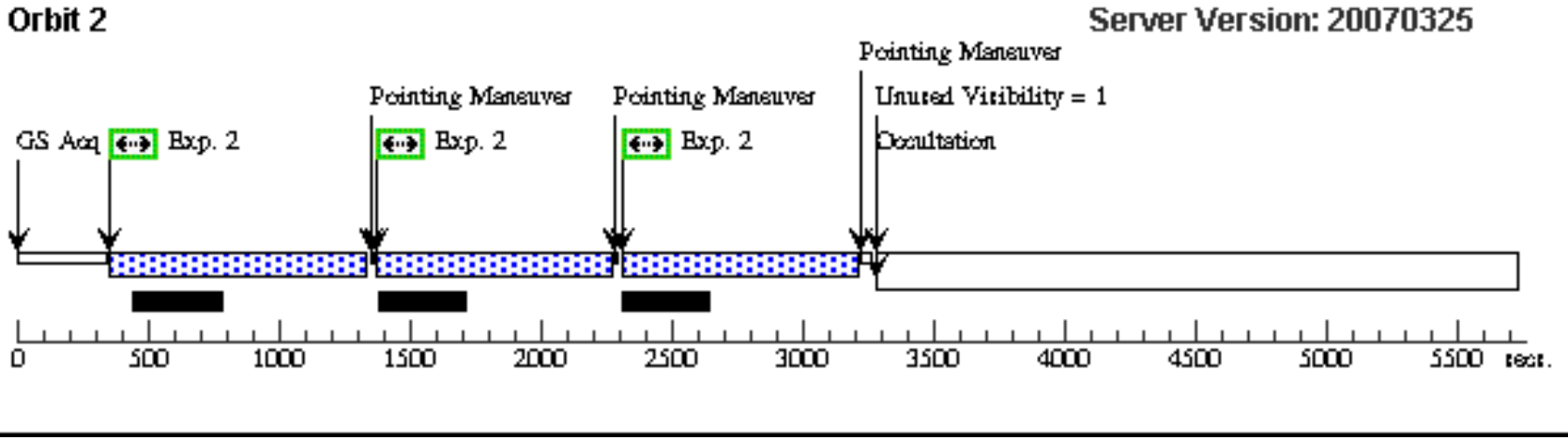
Exposures (continued)

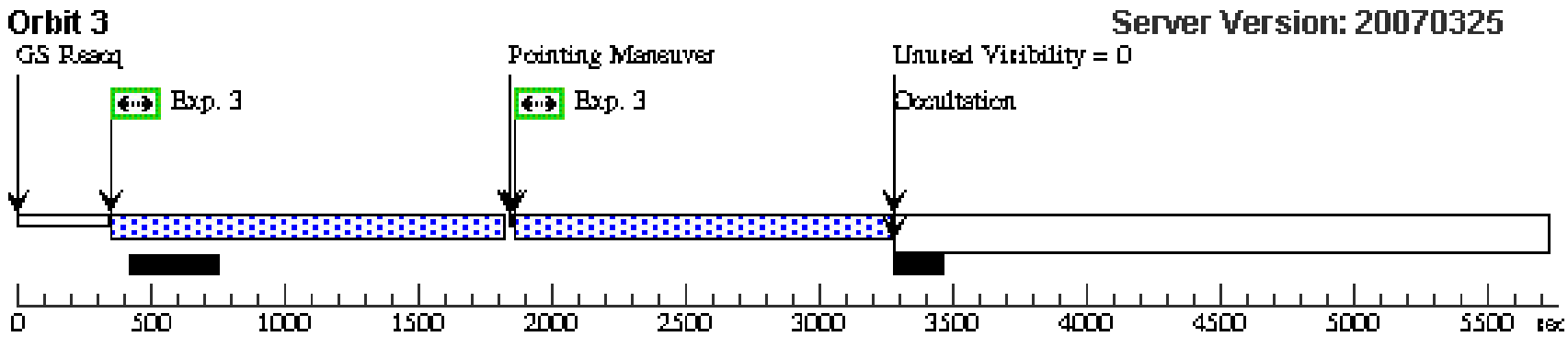
#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
2		(8) SDSSJ135355.9+ 664800.5	ACS/WFC, ACCUM, WFC2	F850LP	CR-SPLIT=NO		Pattern 2-2 (2)	778.0 Secs	
								[==>(Pattern 1)] *[==>(Pattern 2)]* *[==>(Pattern 3)]*	***[2]***
3		(8) SDSSJ135355.9+ 664800.5	ACS/WFC, ACCUM, WFC2-ORAMPQ	FR782N 7862.2 A	CR-SPLIT=NO		Pattern 3-3 (3)	1234.0 Secs	
								[==>(Pattern 1)] *[==>(Pattern 2)]*	***[3]***

Orbit Structure



Orbit Structure (continued)





Visit

Proposal 10920, Visit 09, scheduling Mon May 21 20:31:23 GMT 2007

Diagnostic Status: No Diagnostics

Scientific Instruments: ACS/SBC, WFPC2

Special Requirements: (none)

Patterns

#	Primary Pattern		Secondary Pattern	Exposures
(4)	Pattern Type=ACS-SBC-DITHER-LINE Purpose=DITHER Number Of Points=3 Point Spacing=0.472 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=44.4 Angle Between Sides= Center Pattern=false		(1)
(5)	Pattern Type=WFPC2-LINE Purpose=DITHER Number Of Points=3 Point Spacing=0.354 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=45 Angle Between Sides= Center Pattern=false		(2), (3)

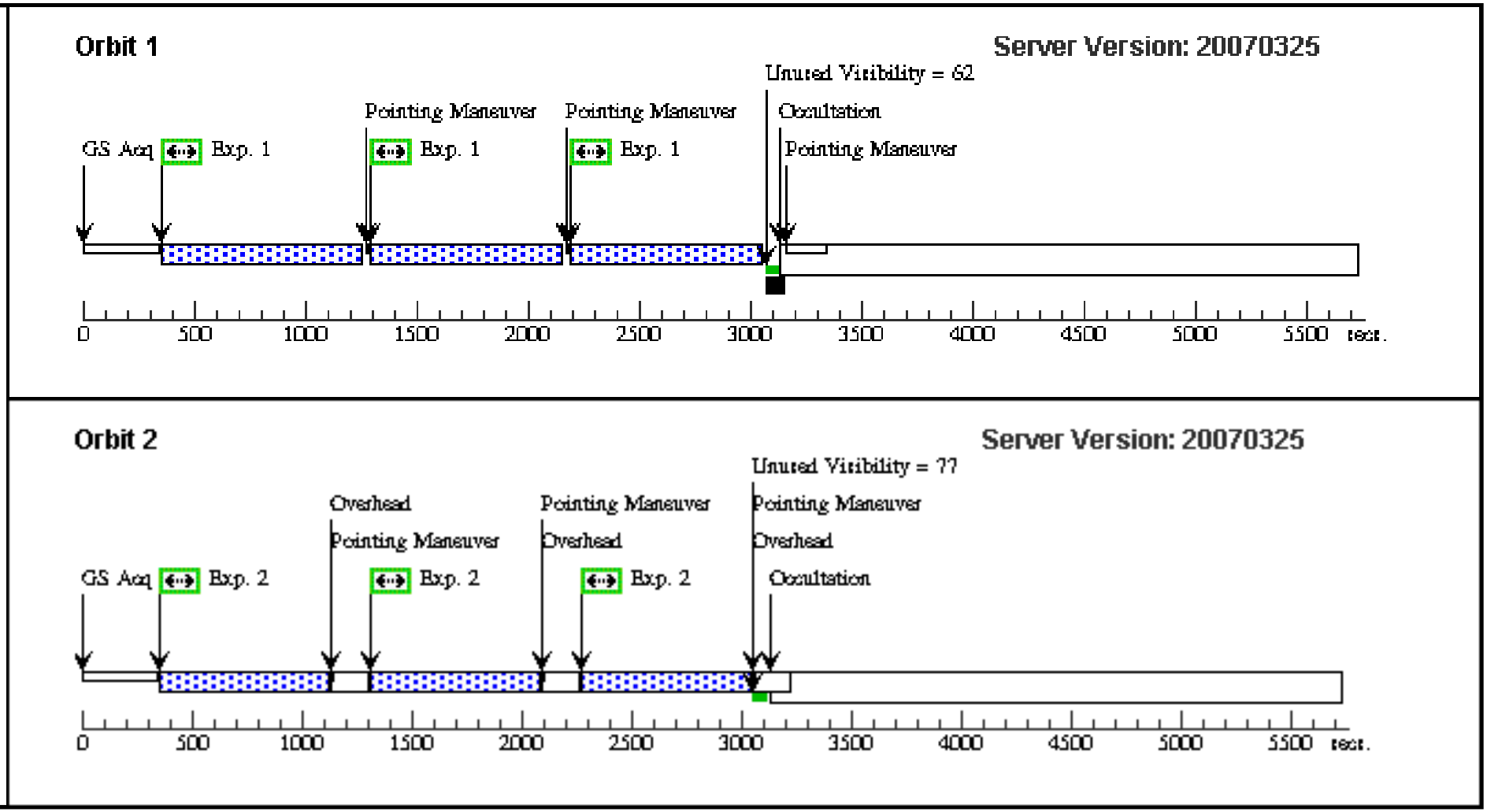
Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(9)	SDSSJ214500.25+011157.5	RA: 21 45 0.2563 (326.2510679d) Dec: +01 11 57.59 (1.19933d) Equinox: J2000		V=18.88	Reference Frame: ICRS

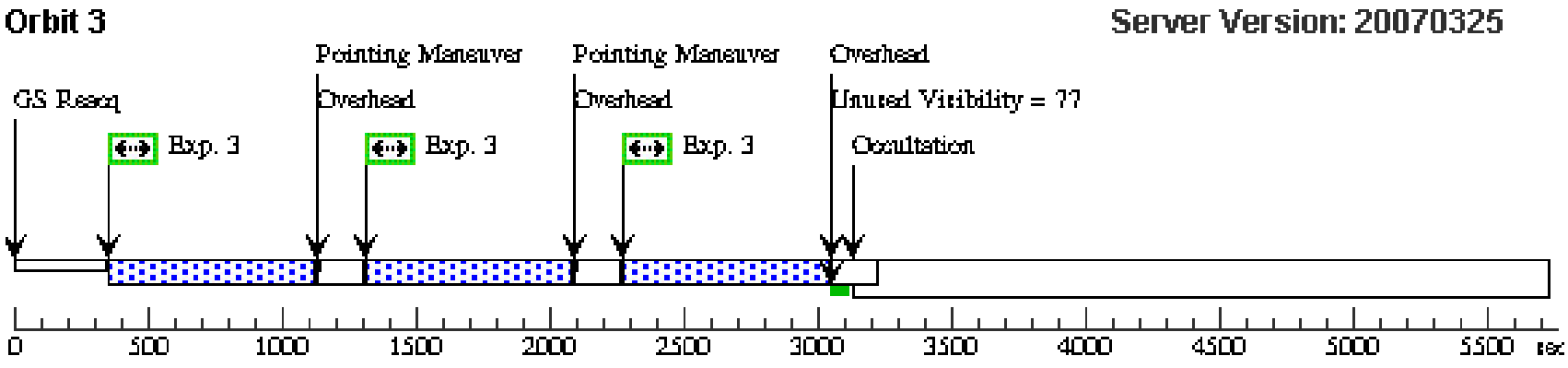
Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
1	2145_SBC_F150LP	(9) SDSSJ214500.25+011157.5	ACS/SBC, ACCUM, SBC	F150LP			Pattern 1-1 (4)	838.0 Secs	
								[==>(Pattern 1)] *[==>(Pattern 2)]* *[==>(Pattern 3)]*	***[1]***
2	2145_WFPC2_F606W_1	(9) SDSSJ214500.25+011157.5	WFPC2, IMAGE, PC1	F606W			Pattern 2-2 (5)	600.0 Secs	
								[==>(Pattern 1)] *[==>(Pattern 2)]* *[==>(Pattern 3)]*	***[2]***
3	2145_WFPC2_F606W_2	(9) SDSSJ214500.25+011157.5	WFPC2, IMAGE, PC1	F606W			Pattern 3-3 (5)	600.0 Secs	
								[==>(Pattern 1)] *[==>(Pattern 2)]* *[==>(Pattern 3)]*	***[3]***

Orbit Structure



Orbit Structure (continued)



Visit

Proposal 10920, Visit 10, completed Mon May 21 20:31:24 GMT 2007

Diagnostic Status: Warning

Scientific Instruments: ACS/WFC

Special Requirements: (none)

Diagnostics

(Exposure 1 (Pattern 1-1)) Warning: POS TARG & PATTERN should be used carefully with ACS/WFPC2 ramp or WFC3 quad filters as central wavelengths & transmission efficiencies vary within the apertures.

Patterns

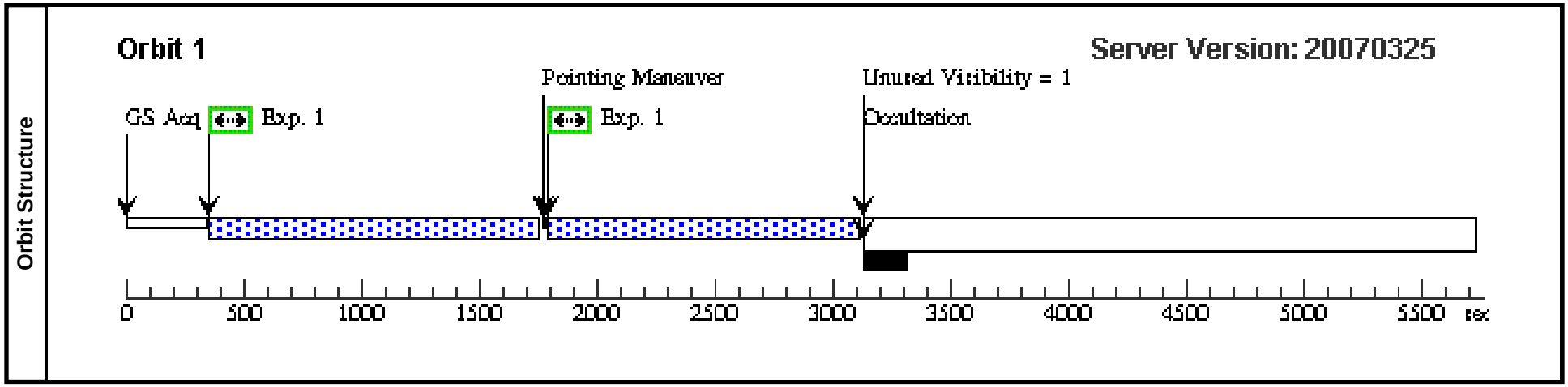
#	Primary Pattern		Secondary Pattern	Exposures
(3)	Pattern Type=ACS-WFC-DITHER-LINE Purpose=DITHER Number Of Points=2 Point Spacing=0.145 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=85.28 Angle Between Sides= Center Pattern=false		(1)

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(3)	SDSSJ032845.99+011150.8	RA: 03 28 45.9989 (52.1916621d) Dec: +01 11 50.78 (1.19744d) Equinox: J2000		V=18.72+/-0.1	Reference Frame: ICRS

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
1		(3) SDSSJ032845.99 +011150.8	ACS/WFC, ACCUM, WFC2-ORAMPQ	FR782N 7494.7 A	CR-SPLIT=NO		Pattern 1-1 (3)	1151.0 Secs *[==>(Pattern 1)]* *[==>(Pattern 2)]*	***[1]***


Orbit Structure
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GS Acq
Exp. 1
Pointing Maneuver
Exp. 1
Unused Vitibility = 1
Occultation
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
sec