11124 - The Origin of QSO Absorption Lines from QSOs

Cycle: 16, Proposal Category: GO

(Availability Mode: SUPPORTED)

INVESTIGATORS

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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) SDSSJ083649.55+484154.0	WFPC2	4	14-Mar-2008 21:00:48.0	yes
02	(2) SDSSJ231253.03+144453.4	WFPC2	4	14-Mar-2008 21:00:54.0	yes
03	(3) SDSSJ110115.89+051445.1	WFPC2	4	14-Mar-2008 21:00:58.0	yes
04	(4) SDSSJ114404.23+014557.7	WFPC2	4	14-Mar-2008 21:01:03.0	yes
05	(5) SDSSJ115343.60+035335.4	WFPC2	4	14-Mar-2008 21:01:07.0	yes
06	(7) SDSSJ130825.64+025736.0	WFPC2	4	14-Mar-2008 21:01:14.0	yes
07	(8) SDSSJ140530.91+350319.5	WFPC2	4	14-Mar-2008 21:01:18.0	yes
08	(9) SDSSJ155832.66+440853.3	WFPC2	4	14-Mar-2008 21:01:22.0	yes
09	(10) SDSSJ021951.74-004435.2	WFPC2	4	14-Mar-2008 21:01:25.0	yes

Visit	*Targets used in Visit*	*Configurations used in Visit*	*Orbits Used*	*Last Orbit Planner Run*	*OP Current with Visit?*
10	(11) SDSSJ110653.46+035012.0	WFPC2	4	14-Mar-2008 21:01:29.0	yes
11	(13) GRW+70D5824	WFPC2	2	14-Mar-2008 21:01:44.0	yes

42 Total Orbits Used

ABSTRACT

We propose using WFPC2 to image the fields of 10 redshift z ~ 0.7 foreground (FG) QSOs which lie within ~29-151 kpc of the sightlines to high-z background (BG) QSOs. A surprisingly high fraction of the BG QSO spectra show strong MgII (2796,2803) absorption lines at precisely the same redshifts as the FG QSOs. The high resolution capabilities of WFPC2 are needed to understand the origin of these absorption systems, in two ways. First, we wish to explore the FG QSO environment as close as possible to the position of the BG QSO, to search for interloping group or cluster galaxies which might be responsible for the absorption, or irregularly shaped post-merger debris between the FG and BG QSO which may indicate the presence of large amount of disrupted gas along a sightline. Similarly, high resolution images are needed to search for signs of tidal interactions between any galaxies which might be found close to the FG QSO. Such features might provide evidence of young merging events causing the start of QSO duty cycles and producing outflows from the central AGN. Such winds may be responsible for the observed absorption lines. Second, we seek to measure the intrinsic parameters of the FG QSO host galaxy, such as luminosity and morphology, to correlate with the properties of the MgII absorption lines. We wish to observe each field through the F814W filter, close to the rest-frame B-band of the FG QSO. These blue data can reveal enhanced star formation regions close to the nucleus of the host galaxy, which may be indicative of galaxy mergers with the FG QSO host. The FG QSO environment offers quite a different set of phenomena which might be responsible for MgII absorption, providing an important comparison to studies of MgII absorption from regular field galaxies.

OBSERVING DESCRIPTION

We plan to observe ten high redshift background (BG) QSOs which pass close to lower redshift (FG) QSOs. The QSOs are separated by 3.1 to 20.4 arsec on the plane of the sky (or < 200 kpc in the frame of the

FG QSO). We choose the BG QSO to be centered at the WF3 aperture to ensure that the FG QSO is always observed away from the edges of a chip, and to ensure that we are complete in searching for an object out to a fixed radius. Because the pairs are relatively close to each other, ORIENTs are seleted to ensure that diffraction spikes and bloom from both QSOs do not interfere with each other. ORIENTS were selected using the guidlines given in Table 7.1 of the WFPC2 IHB.

We aim to achieve accurate PSF subtraction from the BG QSO in order to directly search for faint galaxies which might be responsible for absorption lines detected in the BG QSO spectrum; we also look to accurately subtract a PSF from the FG QSO, in order to establish the type and extent of the host galaxy, which may again be related to the detection of absorption lines. We will therefore use a WFPC2-box dither pattern with 4 pointings, each pointing lasting for one orbit. We adopt APT defaults used for the point spacing and line spacing parameters (0.56 arcsec) for half-pixel sampling. Each orbit is broken by a CR-SPLIT into 2 exposures of 1000 to 1200 sec each. The first orbit contains a short 60 sec exposure to map the peak flux of the QSOs in a pixel (for the remaining longer exposures, we expect the central pixels to be saturated for each QSO).

CALIBRATION JUSTIFICATION

In order to accurately subtract PSFs from the QSO pairs, we wish to map the PSF as precisely as possible. We first seek to map out the PSF using the standard star GRW+70D5824 at the position of the BG QSO,

which is always placed at the position of the WF3 aperture. We wish to observe the standard star for four different exposure times, 0.23, 2, 26 and 160 sec. These times are selected to ensure that the star never saturates beyond the radius at which the wings of the PSF in the previous, shorter exposure becomes lost in the noise. This will allow us to build up a composite PSF of very high dynamic range by splicing together annuli from successively deeper exposures. [This follows the procedure adopted by McLure et al (MNRAS, 308, 377, 1999) to image QSO host galaxies.] In order to achieve optimal sampling, each exposure is repeated four times using the WFPC2-box drizzle pattern.

Although we cannot know in advance where on the WF3 chip a FG QSO will fall, the ORIENTs selected to observe the pairs all confine the FG QSOs to one of two triangular regions centered in the Y=0 and +X or -X directions of the WF3 aperture. The largest changes in PSF structure are likely to occur further away from the WF3 aperture. Four of our pairs are separated by 19.0-20.4 arcsec; that is, ~20 arcsec from the WF3 aperture. We therefore plan to repeat the PSF mapping sequence at positions of [X,Y =+20,0] arcsec and [X,Y] = [-20,0] arcsec (again, each sequence dithered with a WFPC2-box pattern), using two POS_TARG offsets. Although there will still be an offset between the mapped-PSF position and the actual observed FG QSO position, we expect these two remeasured PSFs to better match the observed PSF than the one measured at the WF3 aperture.

Visit

Proposal 11124, Visit 01, completed Sat Mar 15 01:01:51 GMT 2008

Diagnostic Status: No Diagnostics

Scientific Instruments: WFPC2

Special Requirements: ORIENT 223.8D TO 253.8 D

Patterns

#	Primary Pattern		Secondary Pattern	Exposures
(1)	Pattern Type=WFPC2-BOX	Coordinate Frame=POS-TARG		(2)
	Purpose=DITHER	Pattern Orientation=26.56505		
	Number Of Points=4	Angle Between Sides=143.1301		
	Point Spacing=0.559017	Center Pattern=false		
	Line Spacing=0.559017			

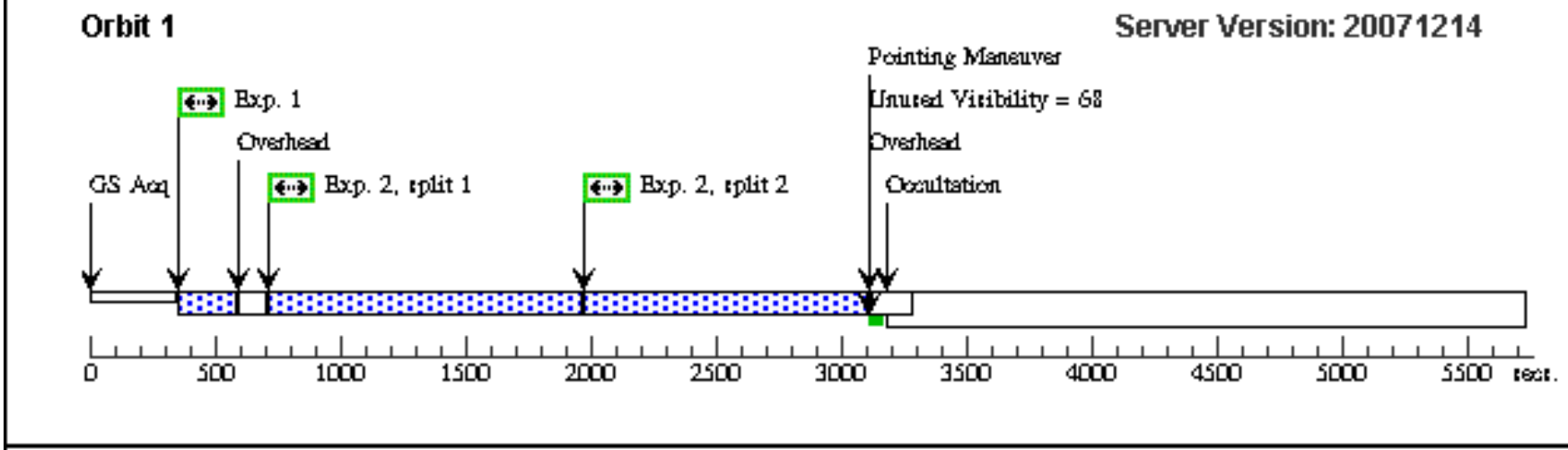
Fixed Targets

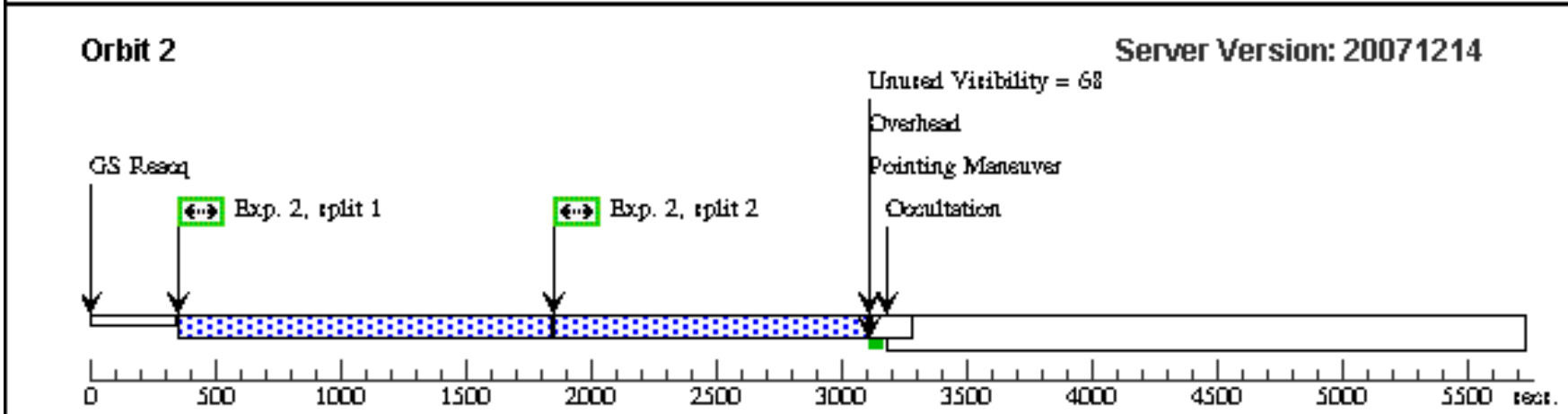
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	SDSSJ083649.55+484154.0	RA: 08 36 49.5500 (129.2064583d) Dec: +48 41 54.00 (48.69833d) Equinox: J2000		V=18.5+/-0.05 u=18.76, r=18.41, i=18.12, z=18.10	Reference Frame: ICRS

Exposures

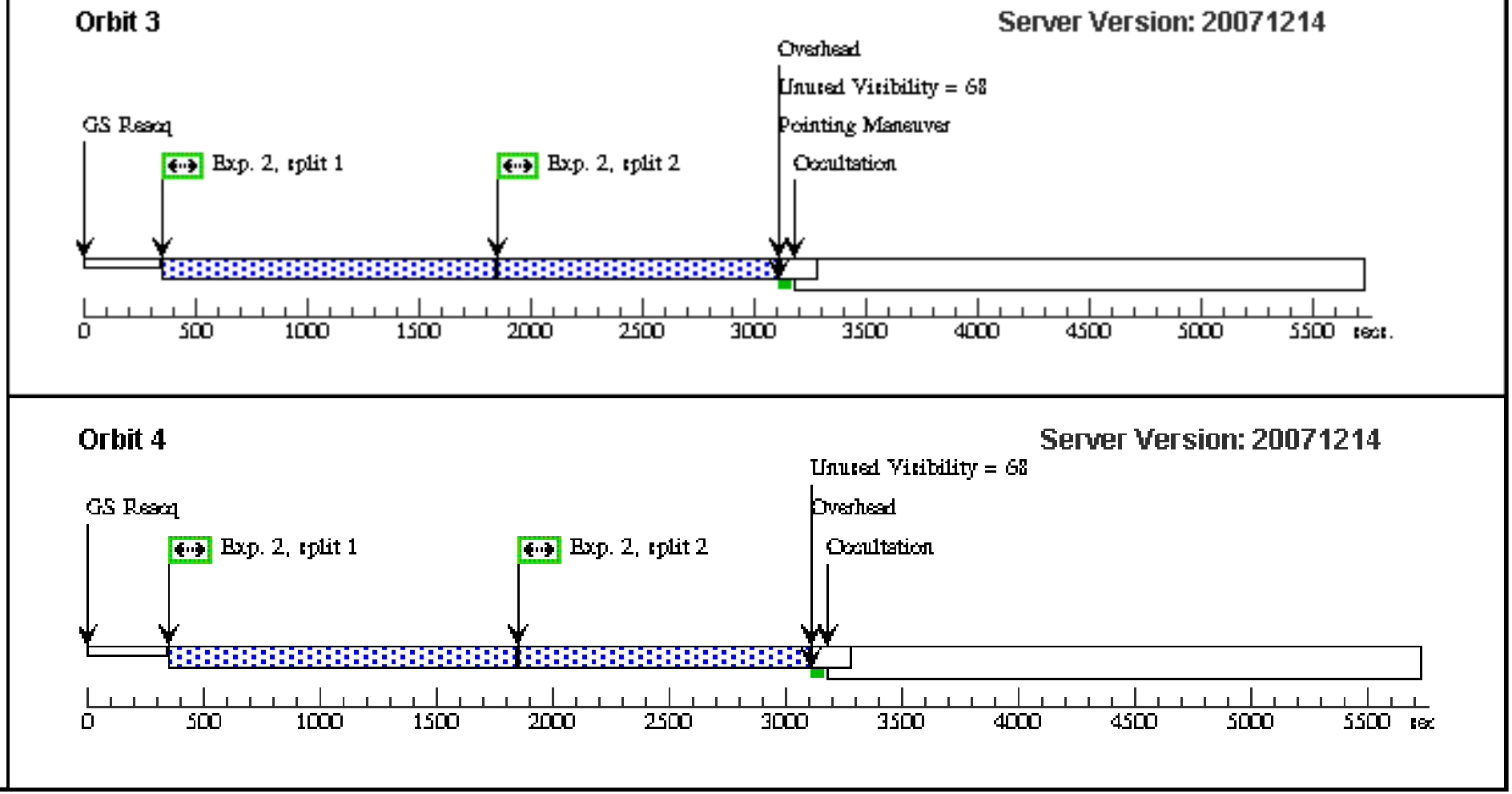
#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
1	SHORT J083649	(1) SDSSJ083649.55+484154.0	WFPC2, IMAGE, WF3	F814W				60.0 Secs	
								[==>60.0 Secs]	***[1]***
2	J083649	(1) SDSSJ083649.55+484154.0	WFPC2, IMAGE, WF3	F814W	CR-SPLIT=0.5		Pattern 2-2 (1)	2400.0 Secs	
								[==>1000.0 Secs (Pattern 1, Split 1)] *[==>1100.0 Secs (Pattern 1, Split 2)]*	***[1]***
								[==>1200.0 Secs (Pattern 2, Split 1)] *[==>1200.0 Secs (Pattern 2, Split 2)]*	***[2]***
								[==>1200.0 Secs (Pattern 3, Split 1)] *[==>1200.0 Secs (Pattern 3, Split 2)]*	***[3]***
								[==>1200.0 Secs (Pattern 4, Split 1)] *[==>1200.0 Secs (Pattern 4, Split 2)]*	***[4]***

Orbit Structure





Orbit Structure (continued)



Visit

Proposal 11124, Visit 02, completed Sat Mar 15 01:01:52 GMT 2008

Diagnostic Status: No Diagnostics

Scientific Instruments: WFPC2

Special Requirements: (none)

Patterns

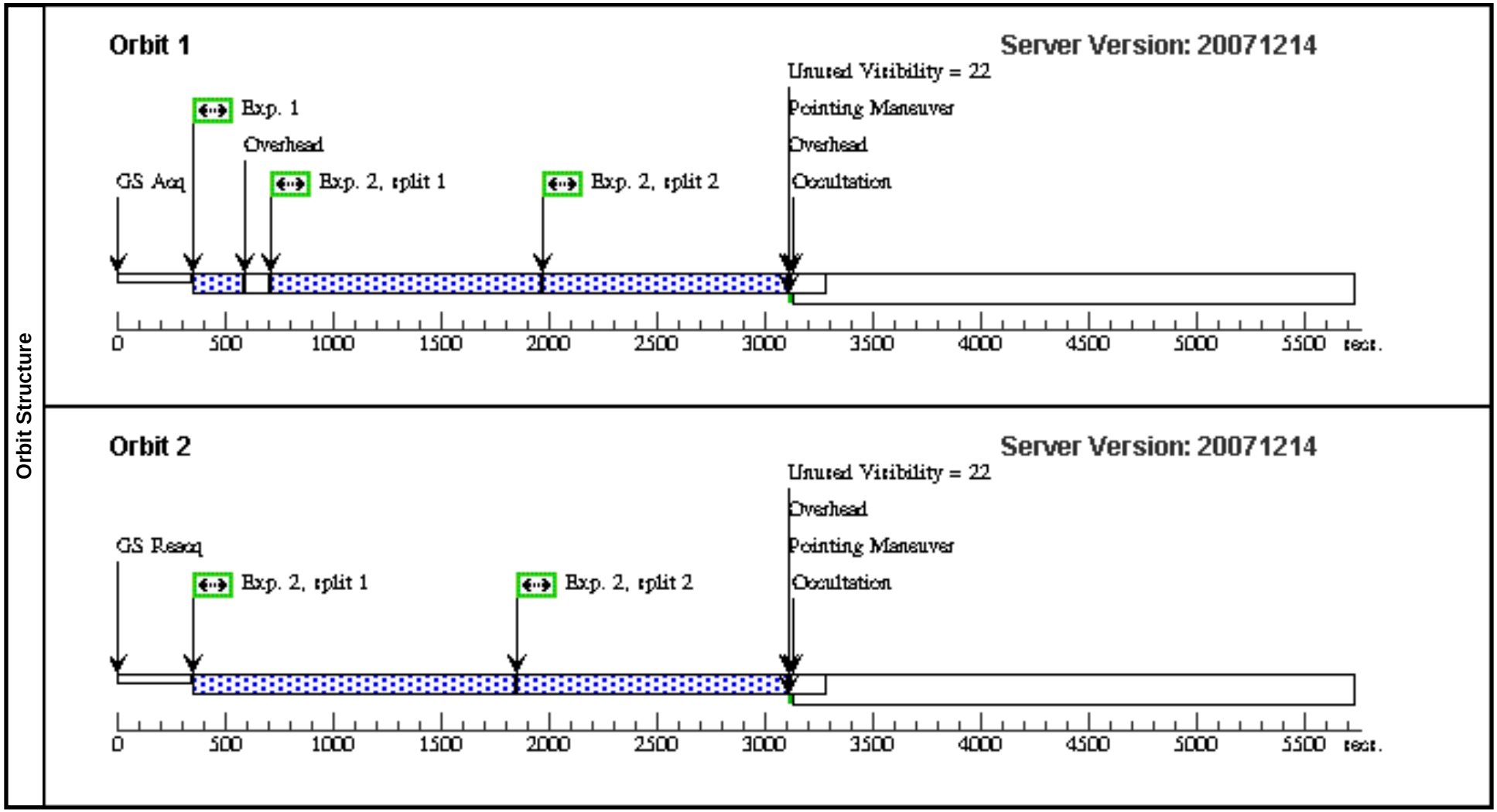
#	Primary Pattern		Secondary Pattern	Exposures
(1)	Pattern Type=WFPC2-BOX	Coordinate Frame=POS-TARG		(2)
	Purpose=DITHER	Pattern Orientation=26.56505		
	Number Of Points=4	Angle Between Sides=143.1301		
	Point Spacing=0.559017	Center Pattern=false		
	Line Spacing=0.559017			

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(2)	SDSSJ231253.03+144453.4	RA: 23 12 53.0300 (348.2209583d) Dec: +14 44 53.40 (14.74817d) Equinox: J2000		V=17.76+/-0.05 u=18.39, r=17.57, i=17.43, z=17.44	Reference Frame: ICRS

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
1	SHORT J231253	(2) SDSSJ231253.03+144453.4	WFPC2, IMAGE, WF3	F814W				60.0 Secs	
								[==>]	***[1]***
2	J231253	(2) SDSSJ231253.03+144453.4	WFPC2, IMAGE, WF3	F814W	CR-SPLIT=0.5		Pattern 2-2 (1)	2400.0 Secs	
								[==>1000.0 Secs (Pattern 1, Split 1)] *[==>1100.0 Secs (Pattern 1, Split 2)]*	***[1]***
								[==>(Pattern 2, Split 1)] *[==>(Pattern 2, Split 2)]*	***[2]***
								[==>(Pattern 3, Split 1)] *[==>(Pattern 3, Split 2)]*	***[3]***
								[==>(Pattern 4, Split 1)] *[==>(Pattern 4, Split 2)]*	***[4]***


Orbit Structure
Orbit 1
Server Version: 20071214
Unused Visibility = 22
Pointing Maneuver
Overhead
Occultation
Exp. 1
Overhead
GS Acq
Exp. 2, split 1
Exp. 2, split 2
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
sec.
Orbit 2
Server Version: 20071214
Unused Visibility = 22
Overhead
Pointing Maneuver
Occultation
GS Reacq
Exp. 2, split 1
Exp. 2, split 2
0
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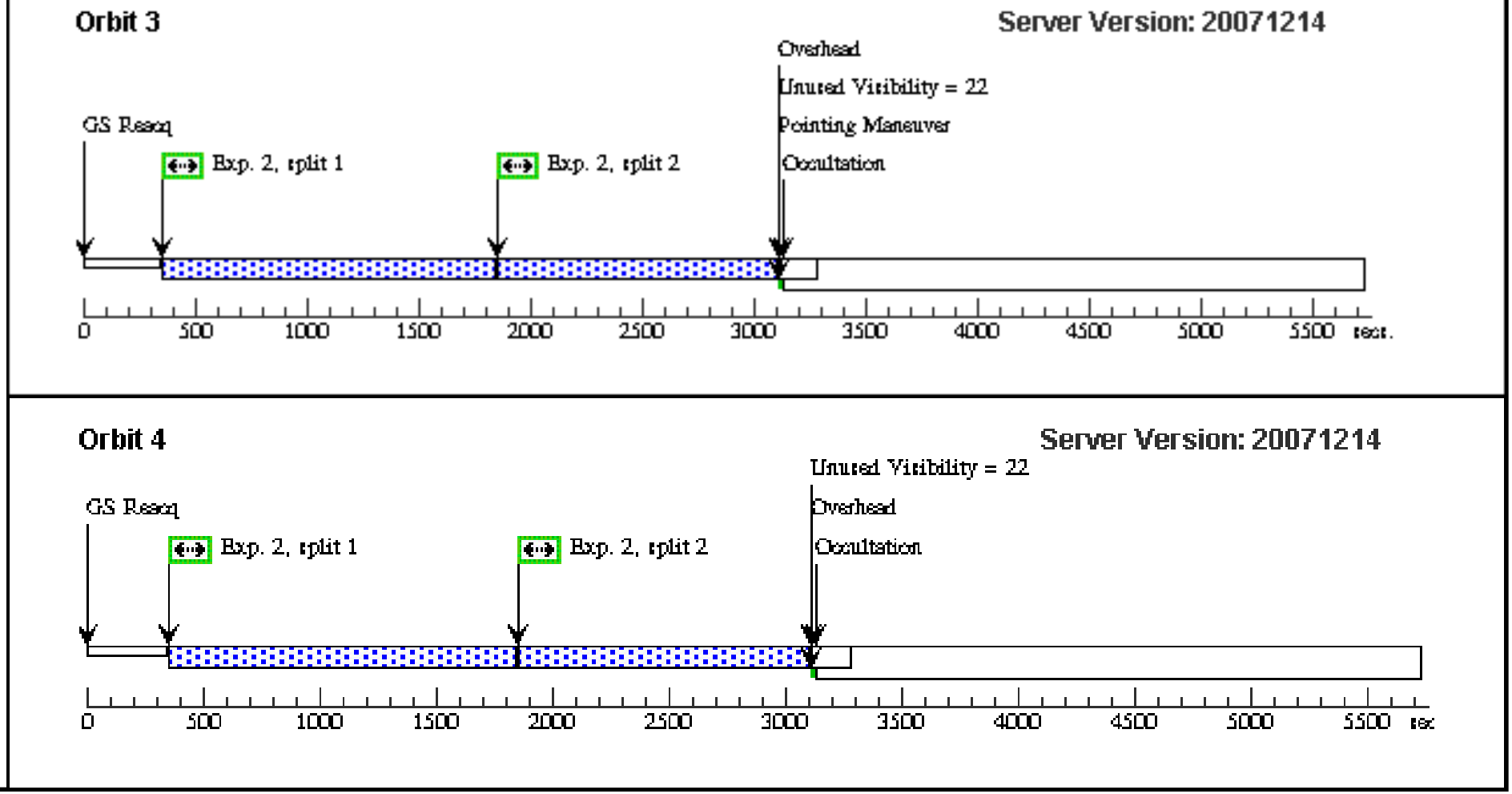
3500
4000
4500
5000
5500
sec.

Orbit Structure (continued)



Visit

Proposal 11124, Visit 03, completed Sat Mar 15 01:01:53 GMT 2008

Diagnostic Status: No Diagnostics

Scientific Instruments: WFPC2

Special Requirements: ORIENT 311.5D TO 341.5 D; ORIENT 131.5D TO 161.5 D

Patterns

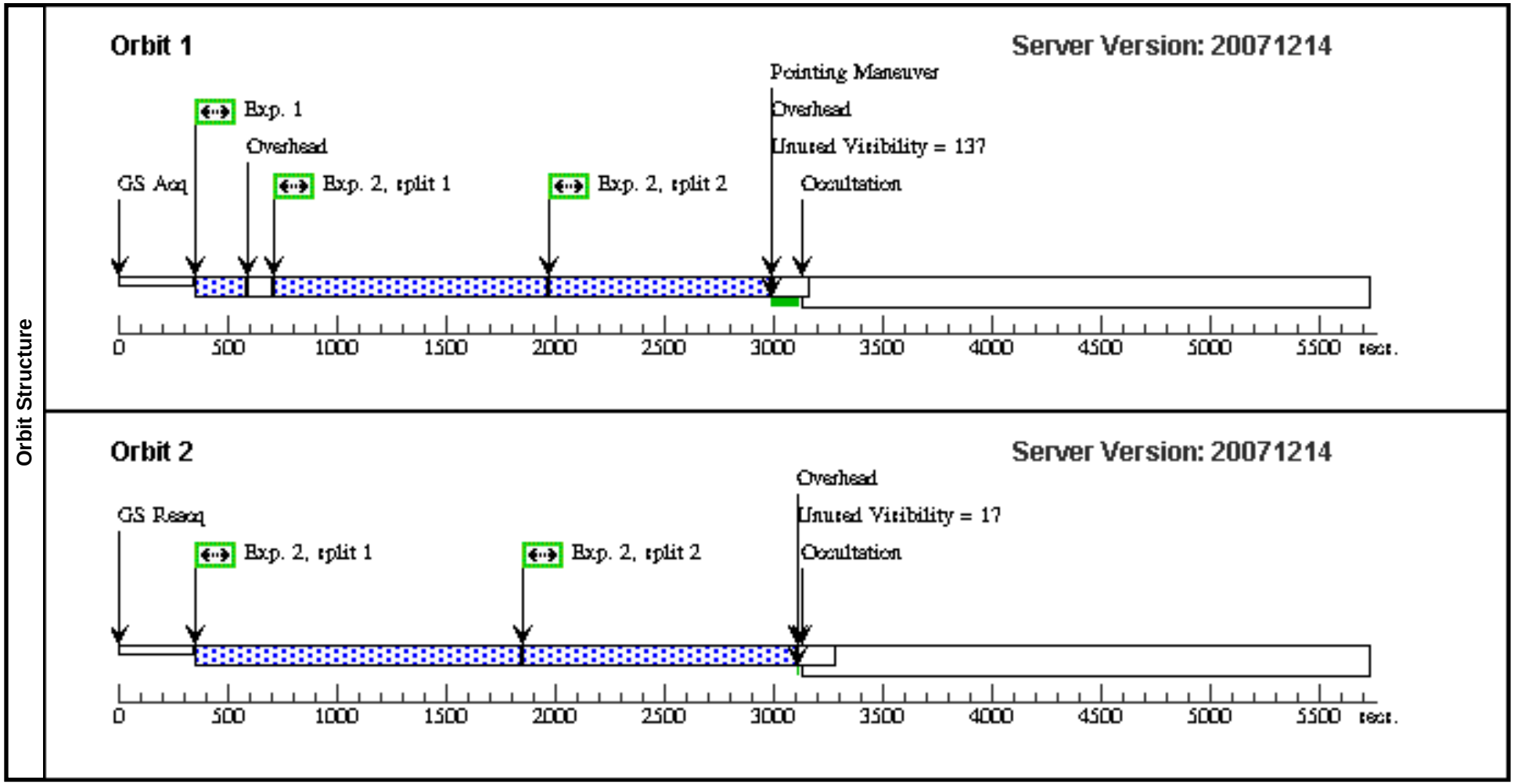
#	Primary Pattern		Secondary Pattern	Exposures
(1)	Pattern Type=WFPC2-BOX	Coordinate Frame=POS-TARG		(2)
	Purpose=DITHER	Pattern Orientation=26.56505		
	Number Of Points=4	Angle Between Sides=143.1301		
	Point Spacing=0.559017	Center Pattern=false		
	Line Spacing=0.559017			

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(3)	SDSSJ110115.89+051445.1	RA: 11 01 15.8900 (165.3162083d) Dec: +05 14 45.10 (5.24586d) Equinox: J2000		V=19.01+/-0.05 u=19.01, r=18.82, i=18.98, z=18.95	Reference Frame: ICRS

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
1	SHORT J110115	(3) SDSSJ110115.89+051445.1	WFPC2, IMAGE, WF3	F814W				60.0 Secs	
								[==>60.0 Secs]	***[1]***
2	J110115	(3) SDSSJ110115.89+051445.1	WFPC2, IMAGE, WF3	F814W	CR-SPLIT=0.5		Pattern 2-2 (1)	2400.0 Secs	
								[==>1000.0 Secs (Pattern 1, Split 1)] *[==>1000.0 Secs (Pattern 1, Split 2)]*	***[1]***
								[==>1200.0 Secs (Pattern 2, Split 1)] *[==>1200.0 Secs (Pattern 2, Split 2)]*	***[2]***
								[==>1100.0 Secs (Pattern 3, Split 1)] *[==>1300.0 Secs (Pattern 3, Split 2)]*	***[3]***
								[==>1200.0 Secs (Pattern 4, Split 1)] *[==>1200.0 Secs (Pattern 4, Split 2)]*	***[4]***


Orbit Structure
Orbit 1
Server Version: 20071214
Pointing Maneuver
Exp. 1
Overhead
Unused Visibility = 137
GS Acq
Exp. 2, split 1
Exp. 2, split 2
Occultation
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
sec.
Orbit 2
Server Version: 20071214
Overhead
GS Reacq
Unused Visibility = 17
Exp. 2, split 1
Exp. 2, split 2
Occultation
0
500
1000
1500
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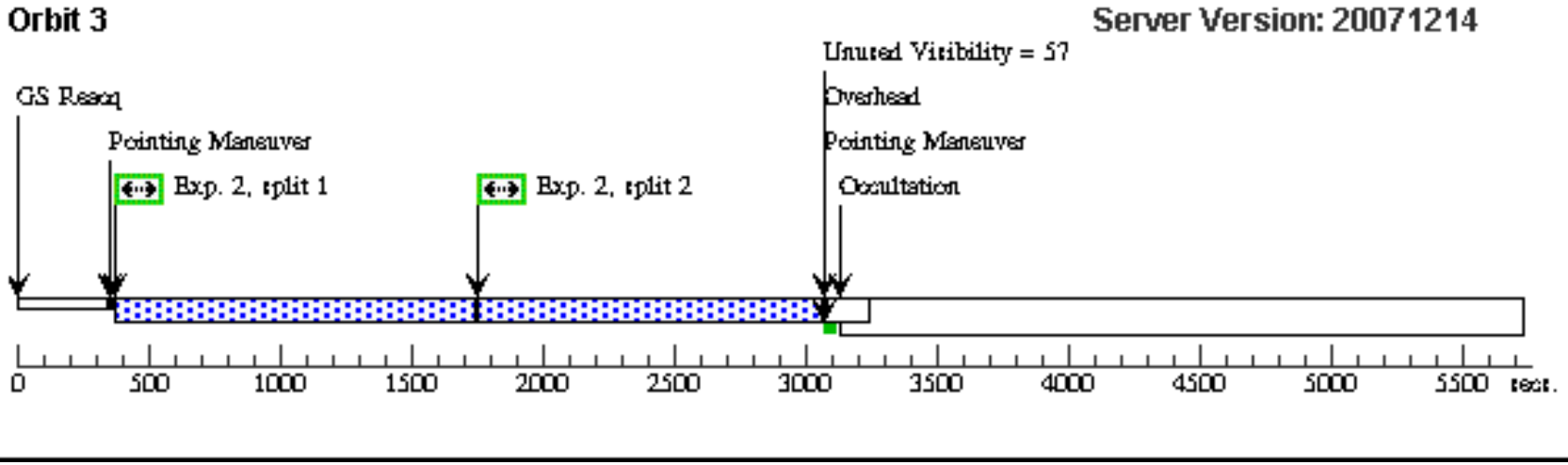
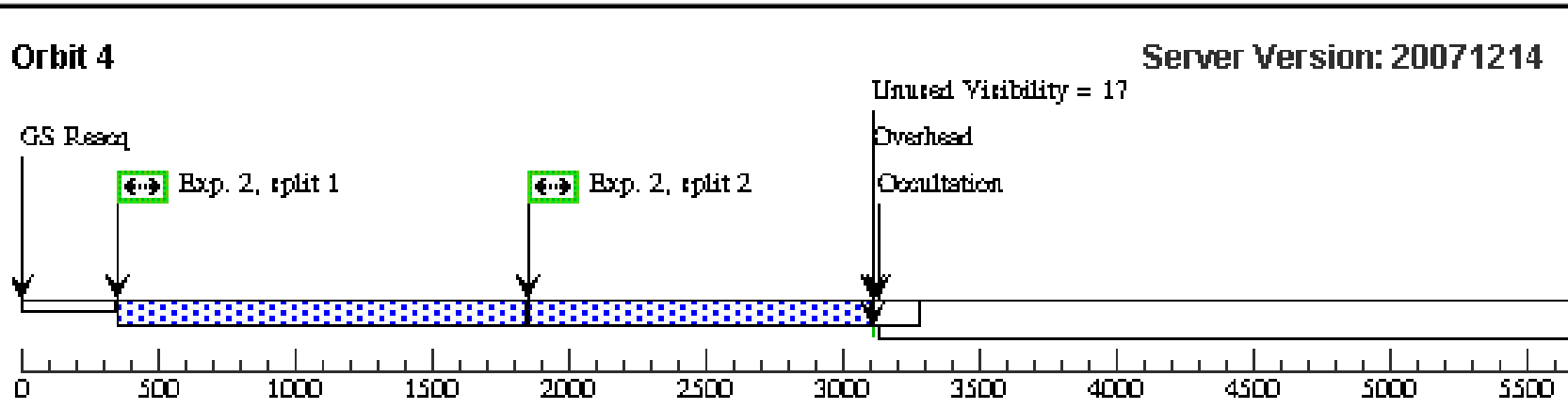
3500
4000
4500
5000
5500
sec.

Orbit Structure (continued)





Visit

Proposal 11124, Visit 04, completed Sat Mar 15 01:01:53 GMT 2008

Diagnostic Status: No Diagnostics

Scientific Instruments: WFPC2

Special Requirements: ORIENT 300.6D TO 330.6 D; ORIENT 120.6D TO 150.6 D

Patterns

#	Primary Pattern		Secondary Pattern	Exposures
(1)	Pattern Type=WFPC2-BOX	Coordinate Frame=POS-TARG		(2)
	Purpose=DITHER	Pattern Orientation=26.56505		
	Number Of Points=4	Angle Between Sides=143.1301		
	Point Spacing=0.559017	Center Pattern=false		
	Line Spacing=0.559017			

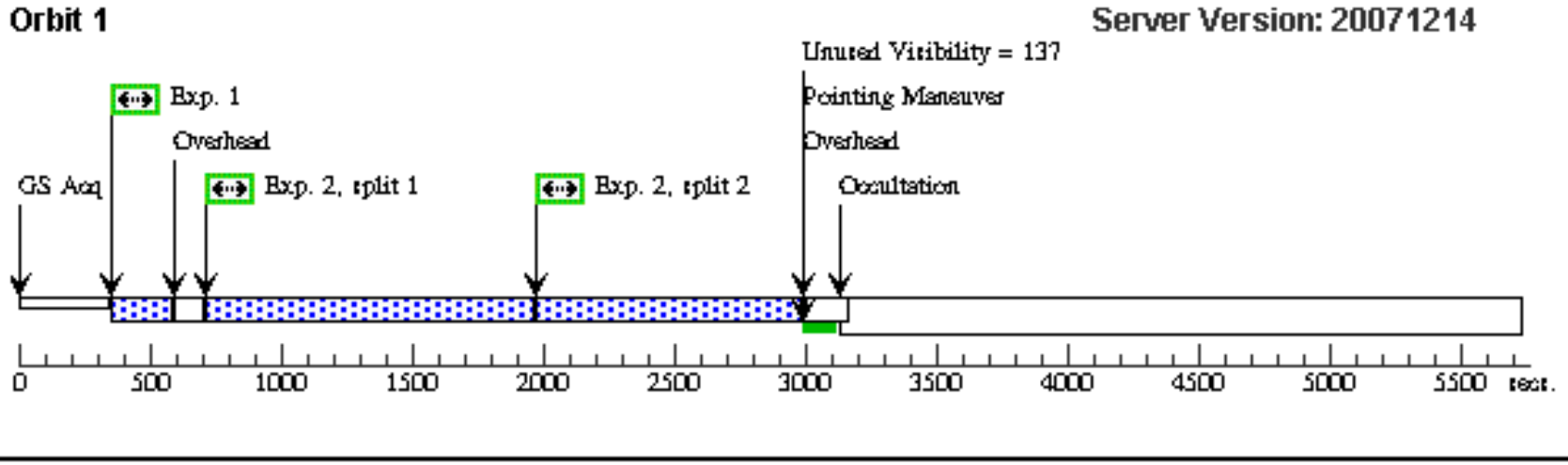
Fixed Targets

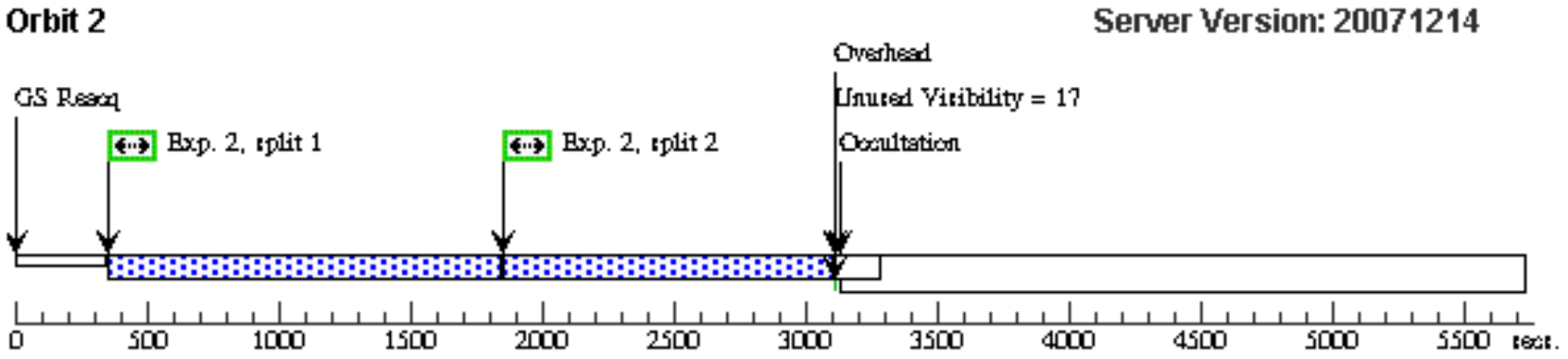
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(4)	SDSSJ114404.23+014557.7	RA: 11 44 4.2300 (176.0176250d) Dec: +01 45 57.70 (1.76603d) Equinox: J2000		V=19.06+/-0.05 u=19.30, r=18.97, i=18.72, z=18.61	Reference Frame: ICRS

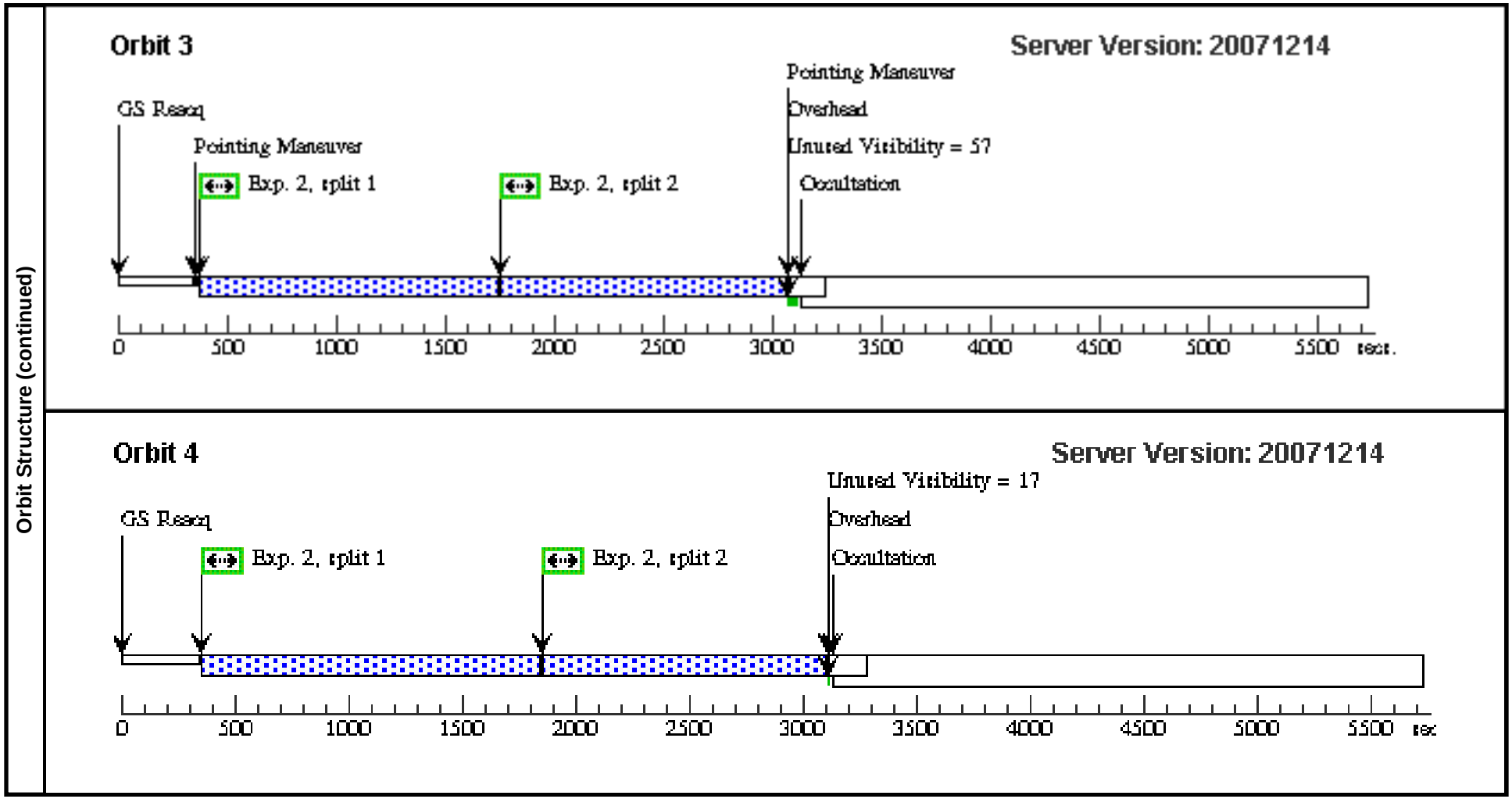
Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
1	SHORT J114404	(4) SDSSJ114404.23 +014557.7	WFPC2, IMAGE, WF3	F814W				60.0 Secs	
								[==>60.0 Secs]	***[1]***
2	J114404	(4) SDSSJ114404.23 +014557.7	WFPC2, IMAGE, WF3	F814W	CR-SPLIT=0.5		Pattern 2-2 (1)	2400.0 Secs	
								[==>1000.0 Secs (Pattern 1, Split 1)] *[==>1000.0 Secs (Pattern 1, Split 2)]*	***[1]***
								[==>1200.0 Secs (Pattern 2, Split 1)] *[==>1200.0 Secs (Pattern 2, Split 2)]*	***[2]***
								[==>1100.0 Secs (Pattern 3, Split 1)] *[==>1300.0 Secs (Pattern 3, Split 2)]*	***[3]***
								[==>1200.0 Secs (Pattern 4, Split 1)] *[==>1200.0 Secs (Pattern 4, Split 2)]*	***[4]***

Orbit Structure






Orbit Structure (continued)
Orbit 3
Server Version: 20071214
GS Reacq
Pointing Maneuver
Exp. 2, split 1
Exp. 2, split 2
Pointing Maneuver
Overhead
Unused Visibility = 57
Occultation
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
sec.
Orbit 4
Server Version: 20071214
GS Reacq
Exp. 2, split 1
Exp. 2, split 2
Unused Visibility = 17
Overhead
Occultation
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
sec

Visit

Proposal 11124, Visit 05, scheduling Sat Mar 15 01:01:54 GMT 2008

Diagnostic Status: No Diagnostics

Scientific Instruments: WFPC2

Special Requirements: ORIENT 323.0D TO 13.0 D; ORIENT 143.0D TO 193.0 D

Patterns

#	Primary Pattern		Secondary Pattern	Exposures
(1)	Pattern Type=WFPC2-BOX	Coordinate Frame=POS-TARG		(2)
	Purpose=DITHER	Pattern Orientation=26.56505		
	Number Of Points=4	Angle Between Sides=143.1301		
	Point Spacing=0.559017	Center Pattern=false		
	Line Spacing=0.559017			

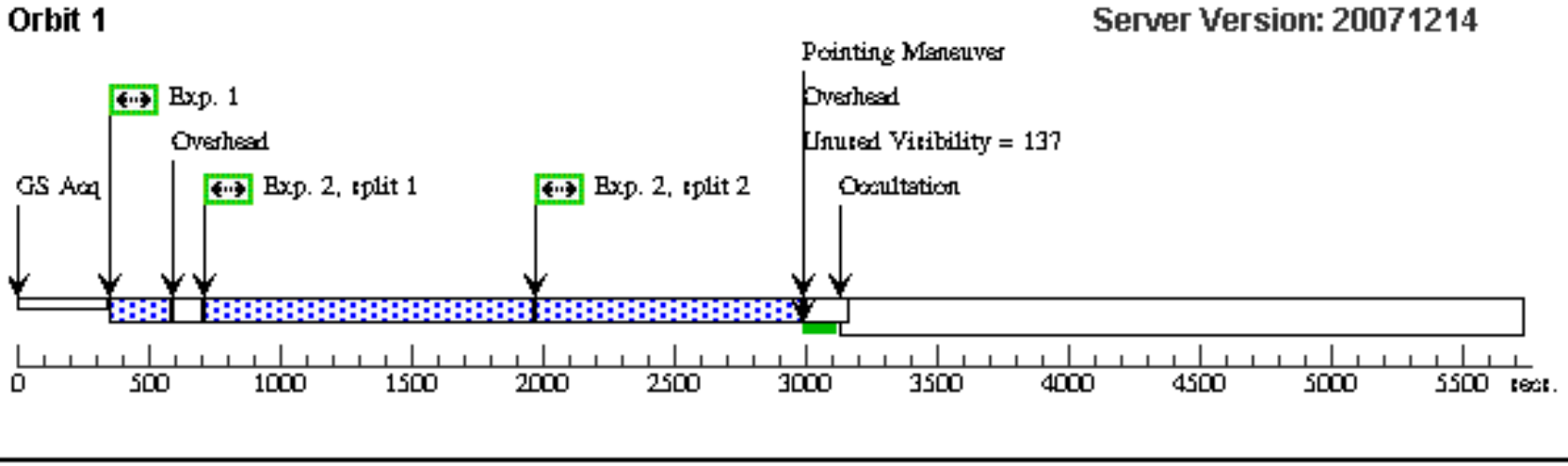
Fixed Targets

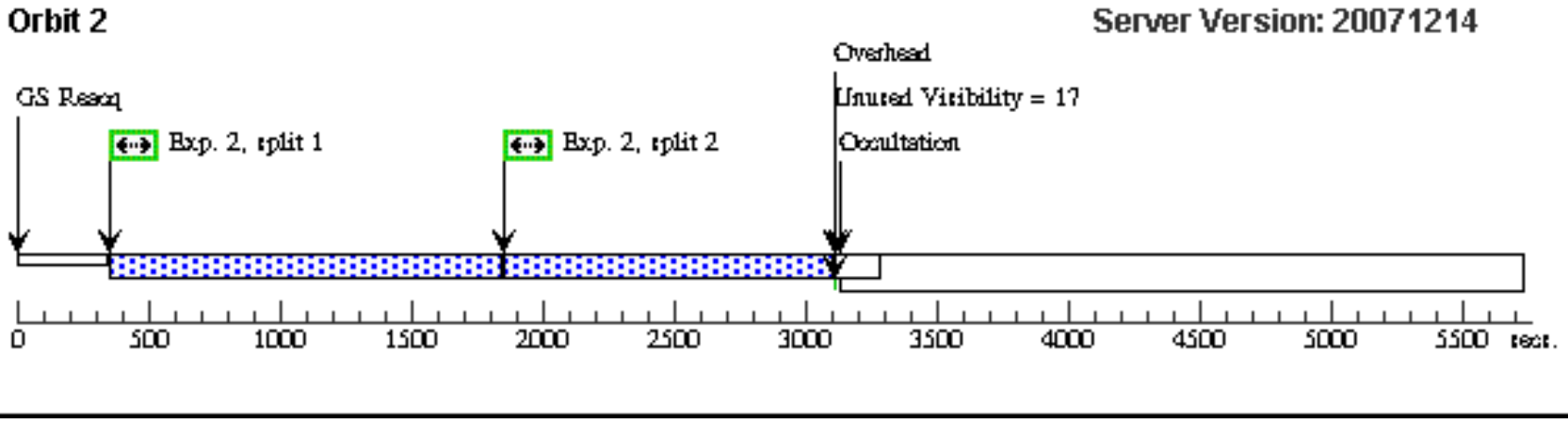
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(5)	SDSSJ115343.60+035335.4	RA: 11 53 43.6000 (178.4316667d) Dec: +03 53 35.40 (3.89317d) Equinox: J2000		V=20.11+/-0.05 u=20.61, r=20.06, i=19.80, z=19.58	Reference Frame: ICRS

Exposures

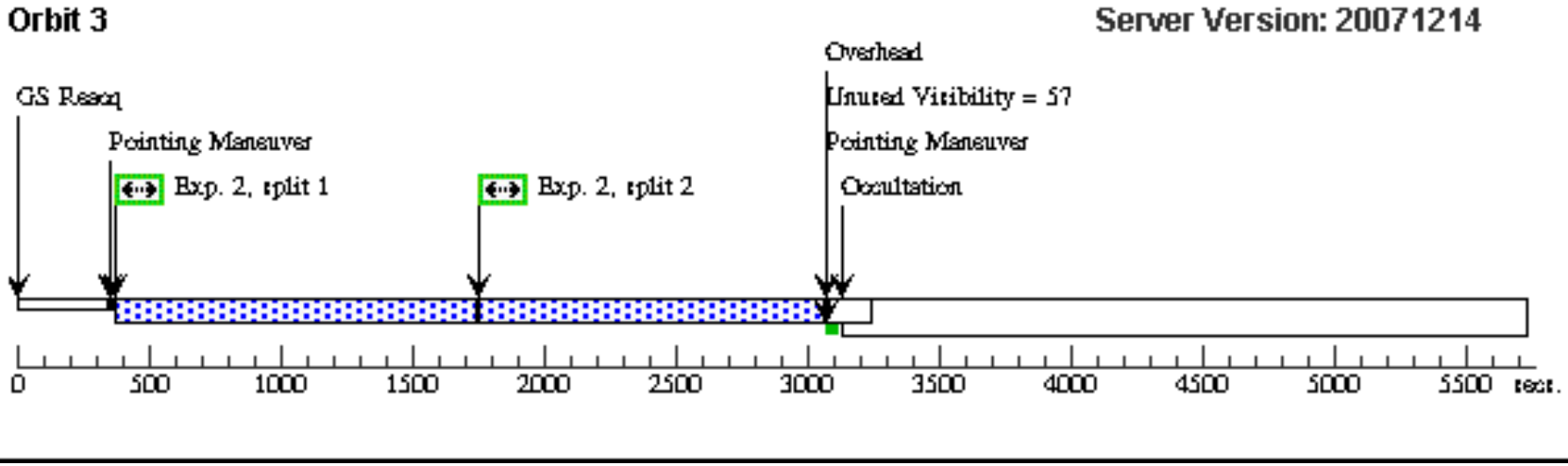
#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
1	SHORT J115343	(5) SDSSJ115343.60+035335.4	WFPC2, IMAGE, WF3	F814W				60.0 Secs	
								[==>60.0 Secs]	***[1]***
2	J115343	(5) SDSSJ115343.60+035335.4	WFPC2, IMAGE, WF3	F814W	CR-SPLIT=0.5		Pattern 2-2 (1)	2400.0 Secs	
								[==>1000.0 Secs (Pattern 1, Split 1)] *[==>1000.0 Secs (Pattern 1, Split 2)]*	***[1]***
								[==>1200.0 Secs (Pattern 2, Split 1)] *[==>1200.0 Secs (Pattern 2, Split 2)]*	***[2]***
								[==>1100.0 Secs (Pattern 3, Split 1)] *[==>1300.0 Secs (Pattern 3, Split 2)]*	***[3]***
								[==>1200.0 Secs (Pattern 4, Split 1)] *[==>1200.0 Secs (Pattern 4, Split 2)]*	***[4]***

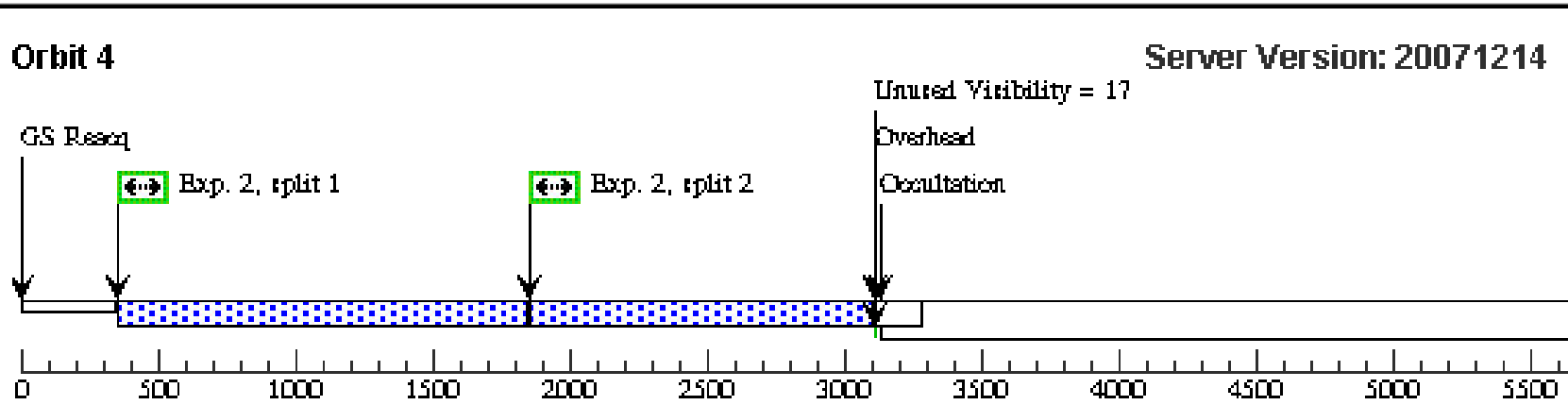
Orbit Structure





Orbit Structure (continued)





Visit

Proposal 11124, Visit 06, implementation Sat Mar 15 01:01:55 GMT 2008

Diagnostic Status: No Diagnostics

Scientific Instruments: WFPC2

Special Requirements: ORIENT 145D TO 195 D

Patterns

#	Primary Pattern		Secondary Pattern	Exposures
(1)	Pattern Type=WFPC2-BOX	Coordinate Frame=POS-TARG		(2)
	Purpose=DITHER	Pattern Orientation=26.56505		
	Number Of Points=4	Angle Between Sides=143.1301		
	Point Spacing=0.559017	Center Pattern=false		
	Line Spacing=0.559017			

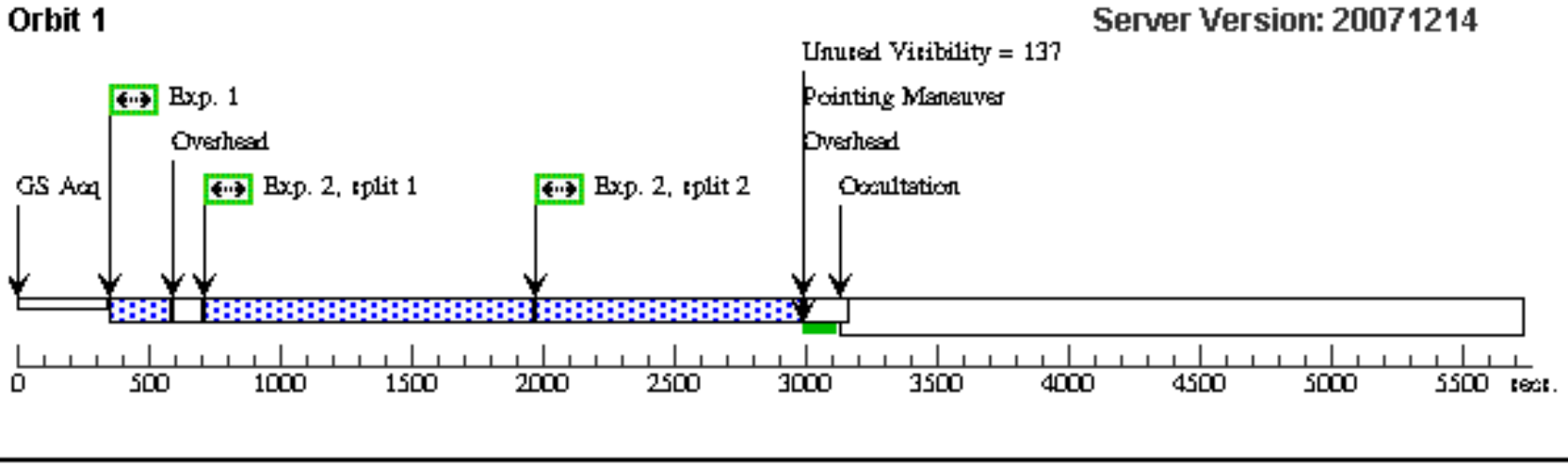
Fixed Targets

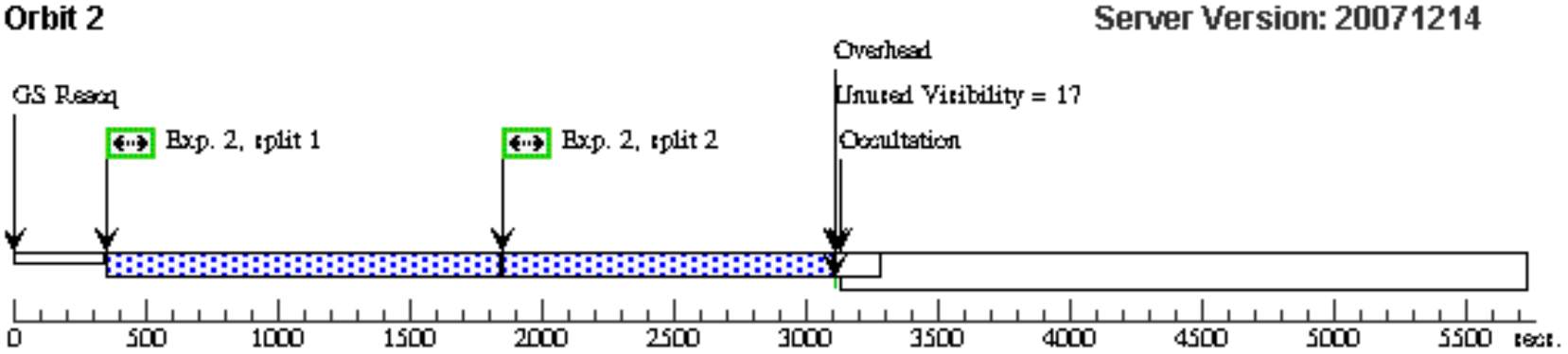
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(7)	SDSSJ130825.64+025736.0	RA: 13 08 25.6400 (197.1068333d) Dec: +02 57 36.00 (2.96000d) Equinox: J2000		V=19.46+/-0.05 u=19.63, r=19.46, i=19.20, z=19.20	Reference Frame: ICRS

Exposures

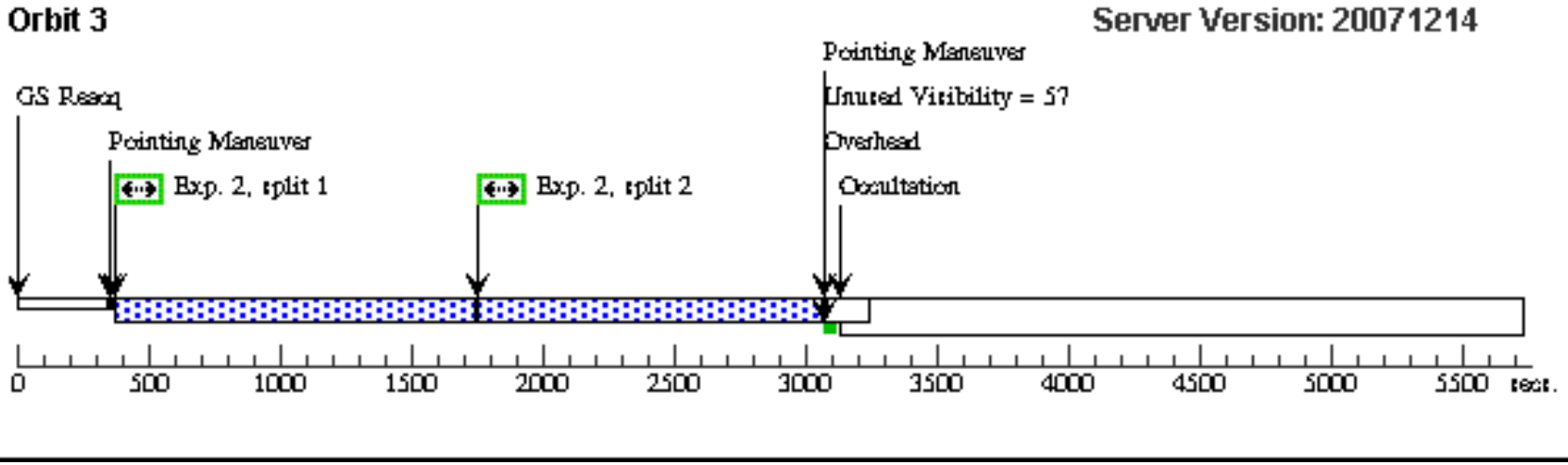
#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
1	SHORT J130825	(7) SDSSJ130825.64+025736.0	WFPC2, IMAGE, WF3	F814W				60.0 Secs	
								[==>60.0 Secs]	***[1]***
2	J130825	(7) SDSSJ130825.64+025736.0	WFPC2, IMAGE, WF3	F814W	CR-SPLIT=0.5		Pattern 2-2 (1)	2400.0 Secs	
								[==>1000.0 Secs (Pattern 1, Split 1)] *[==>1000.0 Secs (Pattern 1, Split 2)]*	***[1]***
								[==>1200.0 Secs (Pattern 2, Split 1)] *[==>1200.0 Secs (Pattern 2, Split 2)]*	***[2]***
								[==>1100.0 Secs (Pattern 3, Split 1)] *[==>1300.0 Secs (Pattern 3, Split 2)]*	***[3]***
								[==>1200.0 Secs (Pattern 4, Split 1)] *[==>1200.0 Secs (Pattern 4, Split 2)]*	***[4]***

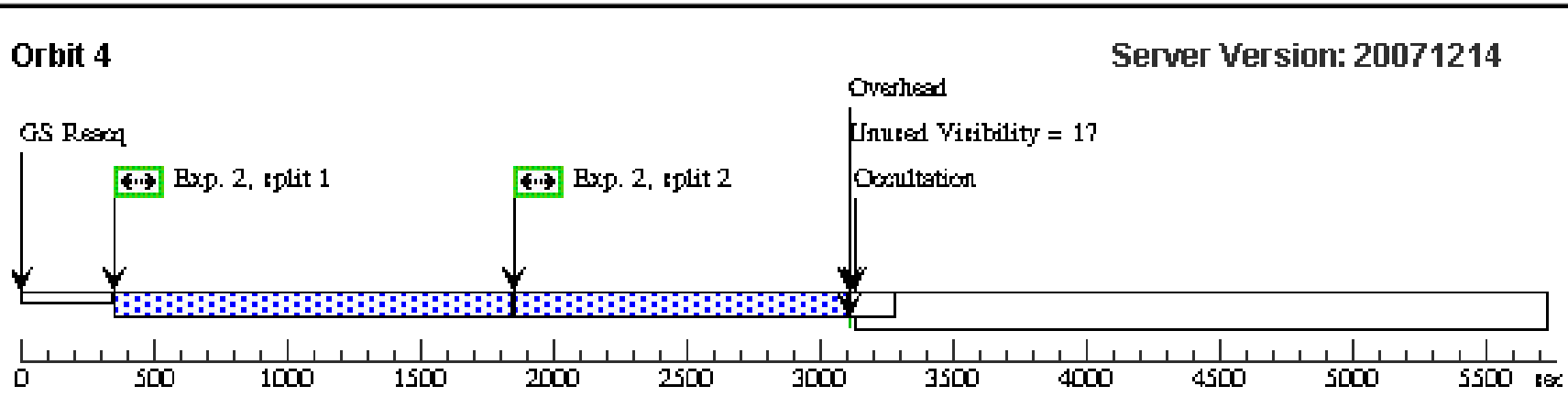
Orbit Structure





Orbit Structure (continued)





Visit

Proposal 11124, Visit 07, scheduling Sat Mar 15 01:01:55 GMT 2008

Diagnostic Status: No Diagnostics

Scientific Instruments: WFPC2

Special Requirements: ORIENT 326.2D TO 356.2 D; ORIENT 146.2D TO 176.2 D

Patterns

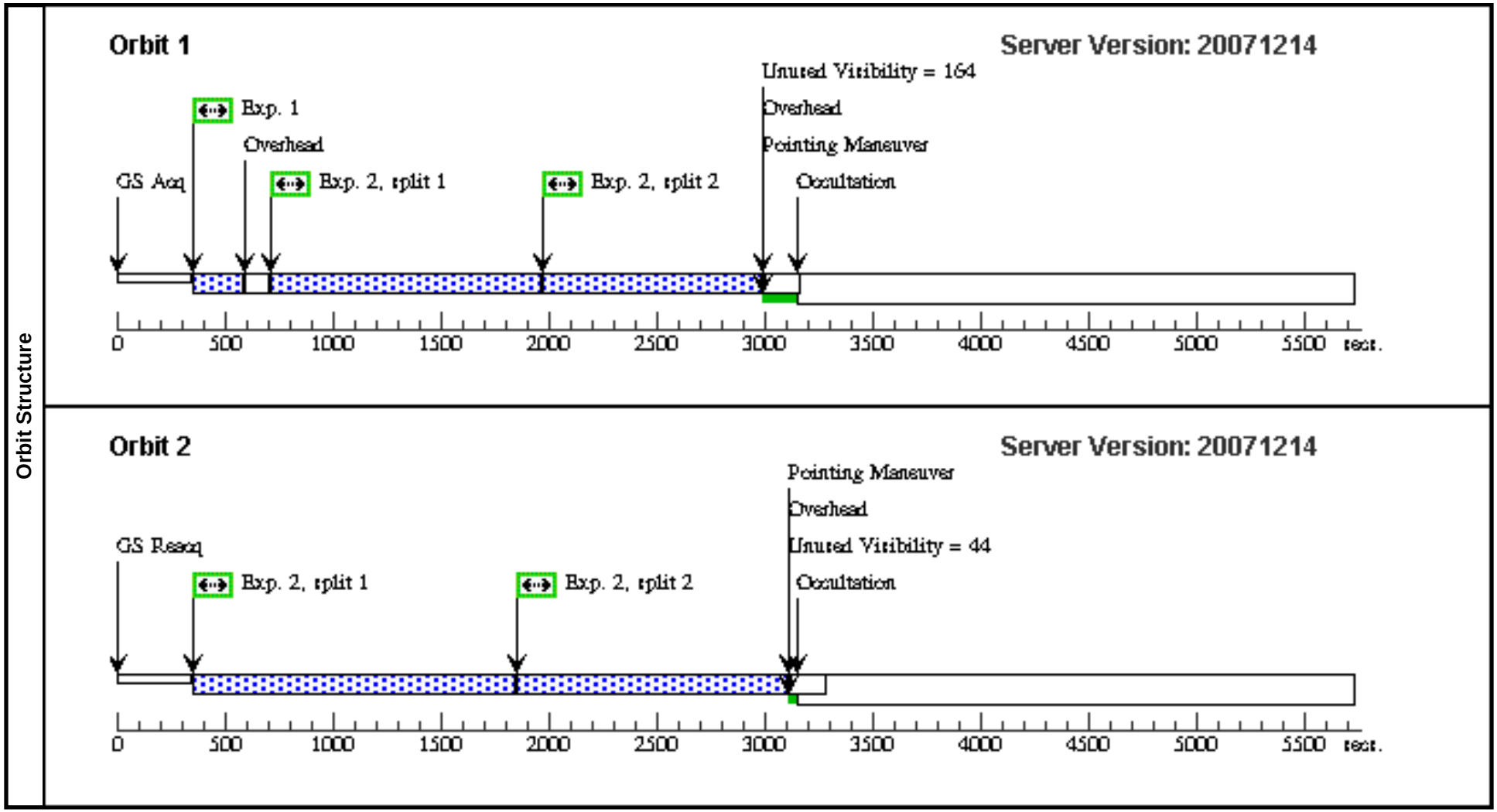
#	Primary Pattern		Secondary Pattern	Exposures
(1)	Pattern Type=WFPC2-BOX	Coordinate Frame=POS-TARG		(2)
	Purpose=DITHER	Pattern Orientation=26.56505		
	Number Of Points=4	Angle Between Sides=143.1301		
	Point Spacing=0.559017	Center Pattern=false		
	Line Spacing=0.559017			

Fixed Targets

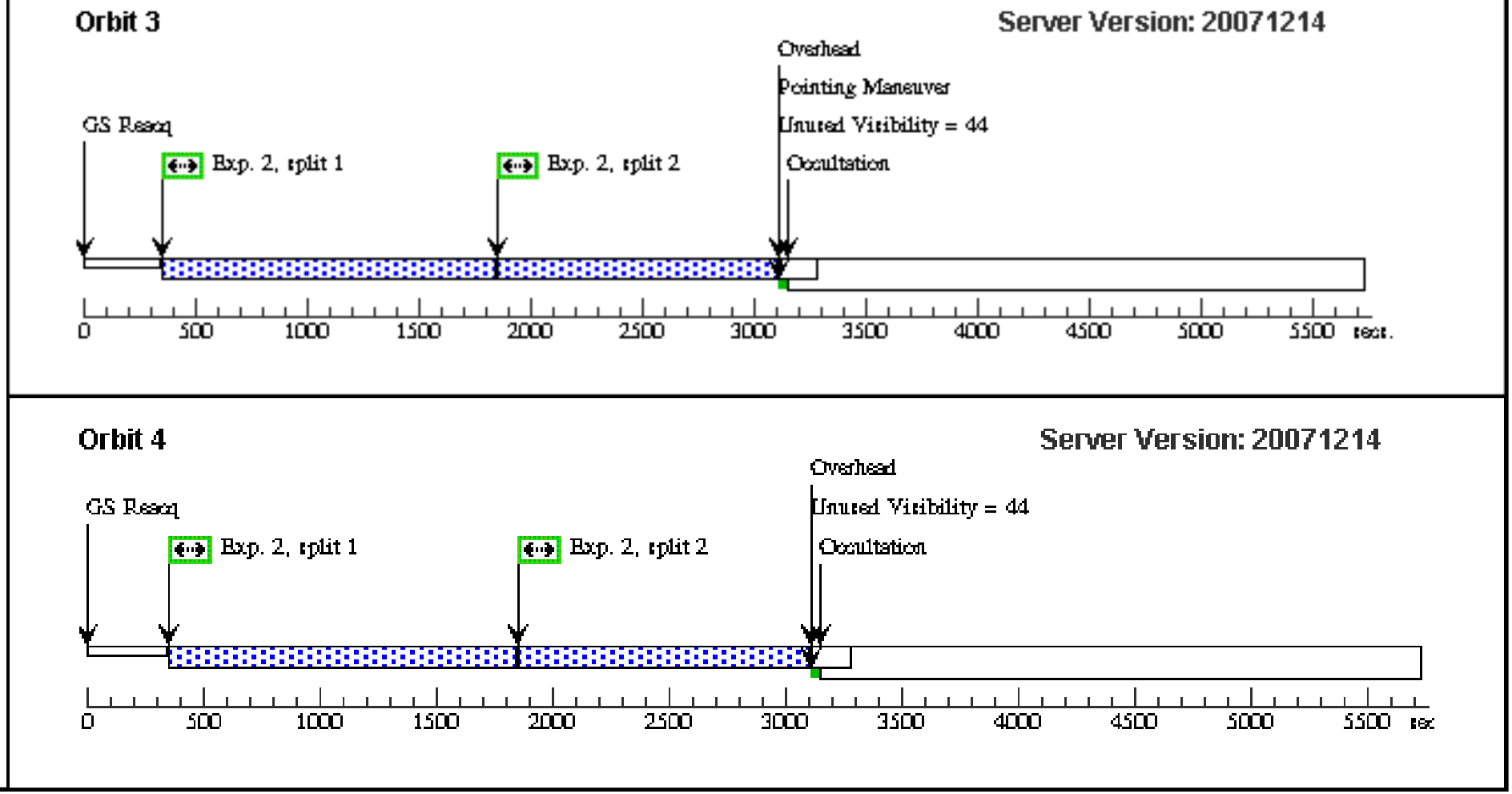
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(8)	SDSSJ140530.91+350319.5	RA: 14 05 30.9100 (211.3787917d) Dec: +35 03 19.50 (35.05542d) Equinox: J2000		V=18.53+/-0.05 u=18.69, r=18.53, i=18.39, z=18.41	Reference Frame: ICRS

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
1	SHORT J140530	(8) SDSSJ140530.91+350319.5	WFPC2, IMAGE, WF3	F814W				60.0 Secs	
								[==>60.0 Secs]	***[1]***
2	J140530	(8) SDSSJ140530.91+350319.5	WFPC2, IMAGE, WF3	F814W	CR-SPLIT=0.5		Pattern 2-2 (1)	2400.0 Secs	
								[==>1000.0 Secs (Pattern 1, Split 1)] *[==>1000.0 Secs (Pattern 1, Split 2)]*	***[1]***
								[==>1200.0 Secs (Pattern 2, Split 1)] *[==>1200.0 Secs (Pattern 2, Split 2)]*	***[2]***
								[==>1200.0 Secs (Pattern 3, Split 1)] *[==>1200.0 Secs (Pattern 3, Split 2)]*	***[3]***
								[==>1200.0 Secs (Pattern 4, Split 1)] *[==>1200.0 Secs (Pattern 4, Split 2)]*	***[4]***


Orbit Structure
Orbit 1
Server Version: 20071214
Unused Visibility = 164
Overhead
Pointing Maneuver
Occultation
Exp. 1
Overhead
GS Acq
Exp. 2, split 1
Exp. 2, split 2
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
sec.
Orbit 2
Server Version: 20071214
Pointing Maneuver
Overhead
Unused Visibility = 44
Occultation
GS Reacq
Exp. 2, split 1
Exp. 2, split 2
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
sec.

Orbit Structure (continued)



Visit

Proposal 11124, Visit 08, scheduling Sat Mar 15 01:01:56 GMT 2008

Diagnostic Status: No Diagnostics

Scientific Instruments: WFPC2

Special Requirements: ORIENT 3.6D TO 33.6 D; ORIENT 183.6D TO 213.6 D

Patterns

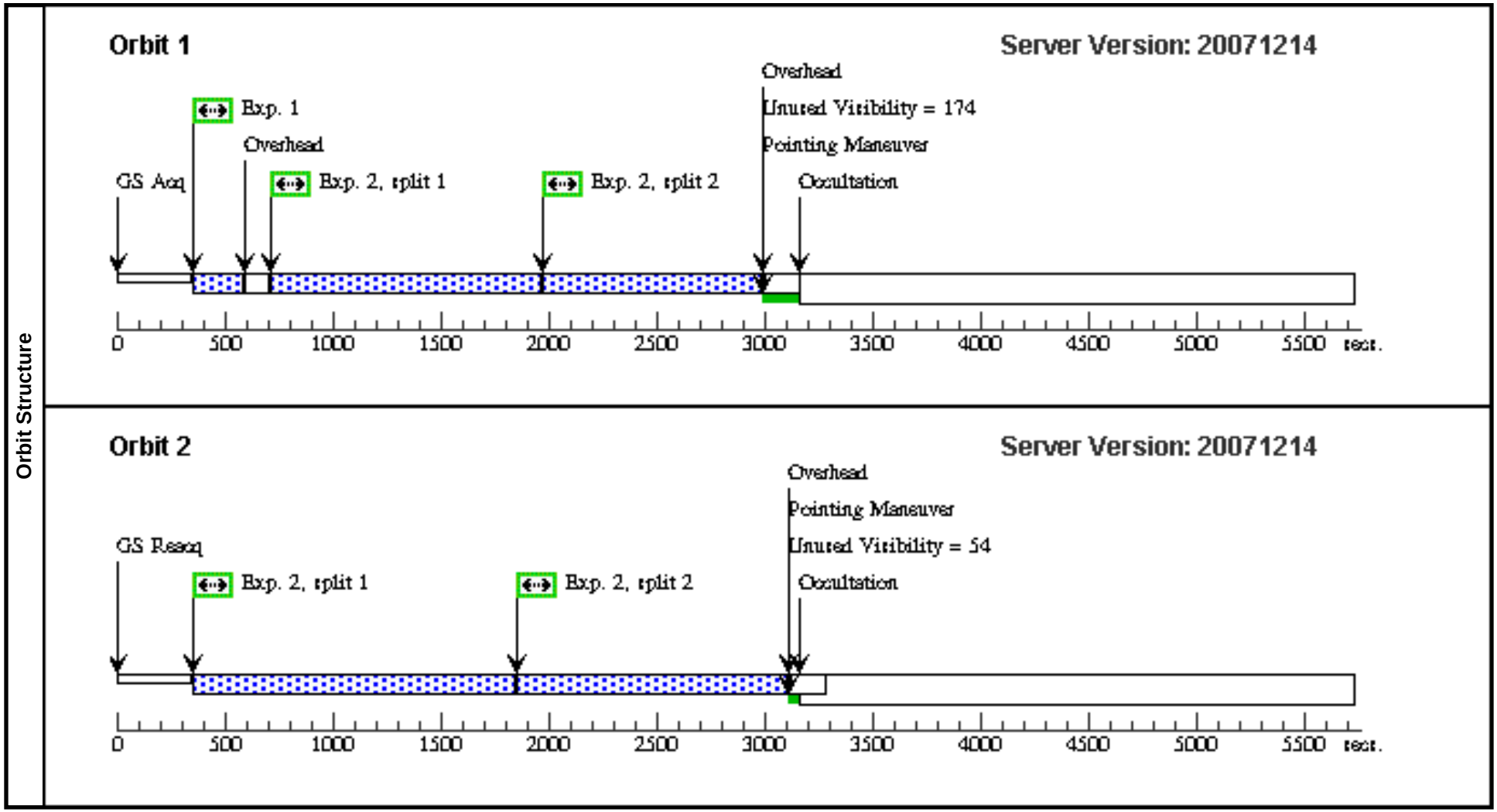
#	Primary Pattern		Secondary Pattern	Exposures
(1)	Pattern Type=WFPC2-BOX	Coordinate Frame=POS-TARG		(2)
	Purpose=DITHER	Pattern Orientation=26.56505		
	Number Of Points=4	Angle Between Sides=143.1301		
	Point Spacing=0.559017	Center Pattern=false		
	Line Spacing=0.559017			

Fixed Targets

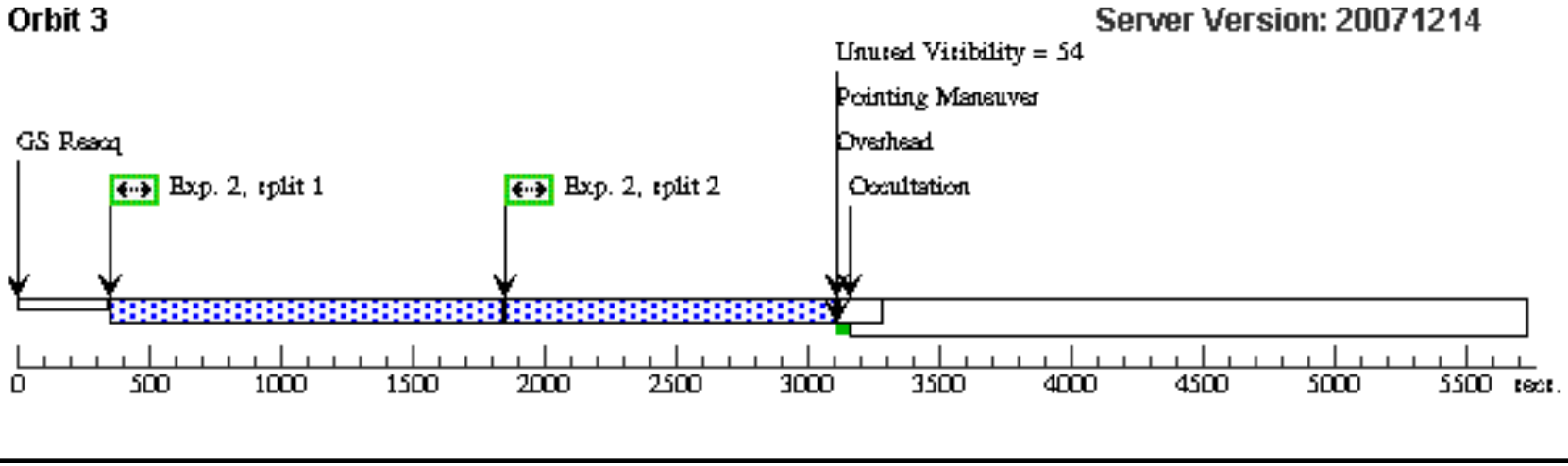
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(9)	SDSSJ155832.66+440853.3	RA: 15 58 32.6600 (239.6360833d) Dec: +44 08 53.30 (44.14814d) Equinox: J2000		V=18.21+/-0.05 u=18.25, r=18.20, i=17.88, z=17.85	Reference Frame: ICRS

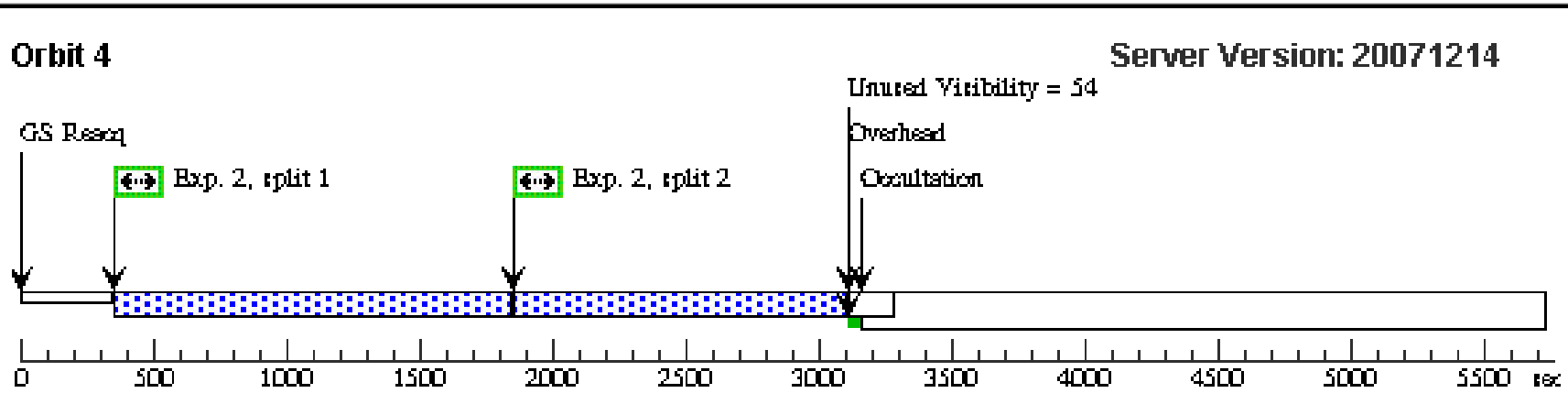
Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
1	SHORT J155832	(9) SDSSJ155832.66+440853.3	WFPC2, IMAGE, WF3	F814W				60.0 Secs	
								[==>60.0 Secs]	***[1]***
2	J155832	(9) SDSSJ155832.66+440853.3	WFPC2, IMAGE, WF3	F814W	CR-SPLIT=0.5		Pattern 2-2 (1)	2400.0 Secs	
								[==>1000.0 Secs (Pattern 1, Split 1)] *[==>1000.0 Secs (Pattern 1, Split 2)]*	***[1]***
								[==>1200.0 Secs (Pattern 2, Split 1)] *[==>1200.0 Secs (Pattern 2, Split 2)]*	***[2]***
								[==>1200.0 Secs (Pattern 3, Split 1)] *[==>1200.0 Secs (Pattern 3, Split 2)]*	***[3]***
								[==>1200.0 Secs (Pattern 4, Split 1)] *[==>1200.0 Secs (Pattern 4, Split 2)]*	***[4]***


Orbit Structure
Orbit 1
Server Version: 20071214
Overhead
Unused Visibility = 174
Pointing Maneuver
Occultation
Exp. 1
Overhead
GS Acq
Exp. 2, split 1
Exp. 2, split 2
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
sec.
Orbit 2
Server Version: 20071214
Overhead
Pointing Maneuver
Unused Visibility = 54
Occultation
GS Reacq
Exp. 2, split 1
Exp. 2, split 2
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
sec.

Orbit Structure (continued)





Visit

Proposal 11124, Visit 09, completed Sat Mar 15 01:01:56 GMT 2008

Diagnostic Status: No Diagnostics

Scientific Instruments: WFPC2

Special Requirements: ORIENT 107.0D TO 157.0 D; ORIENT 287.0D TO 337.0 D

Patterns

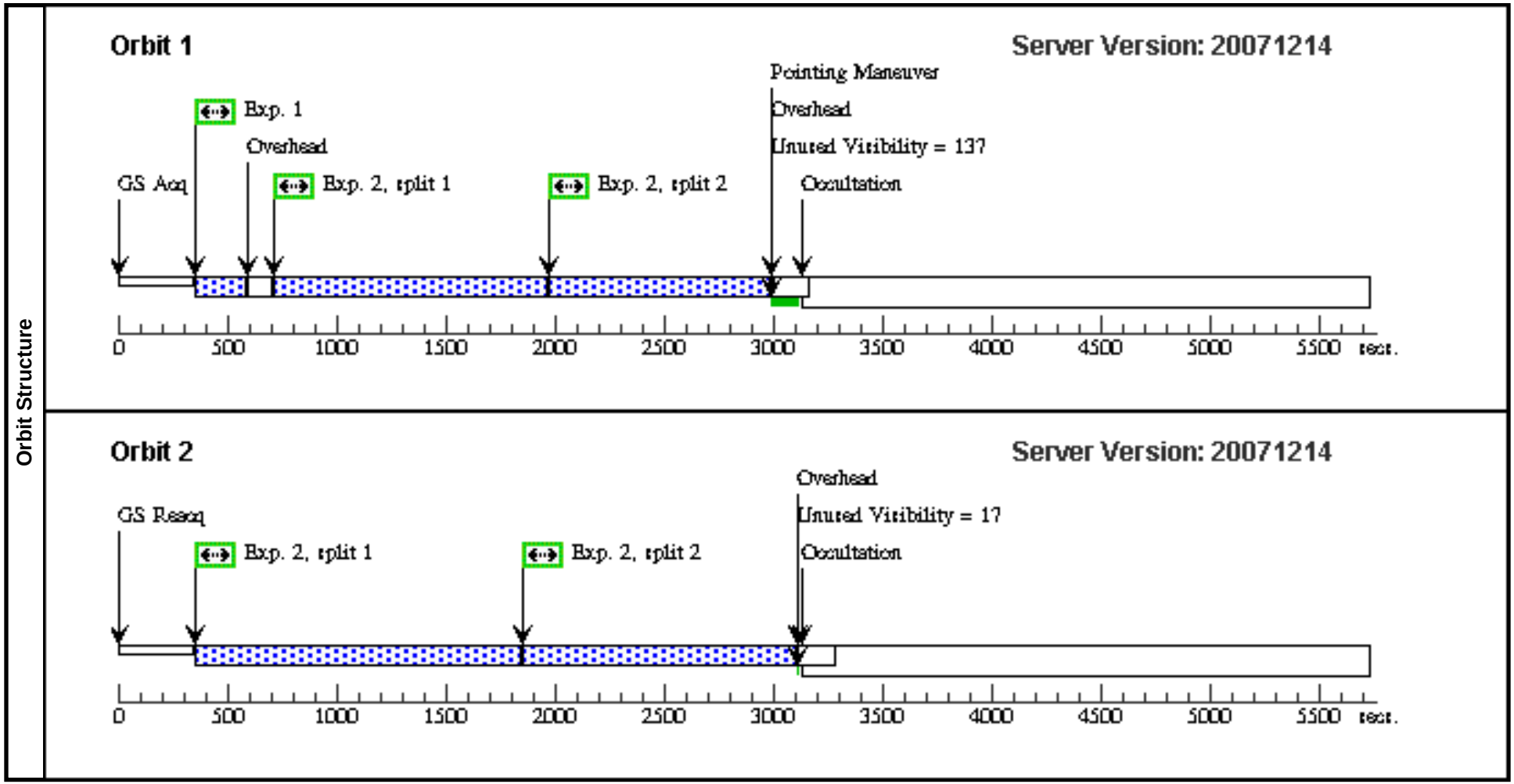
#	Primary Pattern		Secondary Pattern	Exposures
(1)	Pattern Type=WFPC2-BOX	Coordinate Frame=POS-TARG		(2)
	Purpose=DITHER	Pattern Orientation=26.56505		
	Number Of Points=4	Angle Between Sides=143.1301		
	Point Spacing=0.559017	Center Pattern=false		
	Line Spacing=0.559017			

Fixed Targets

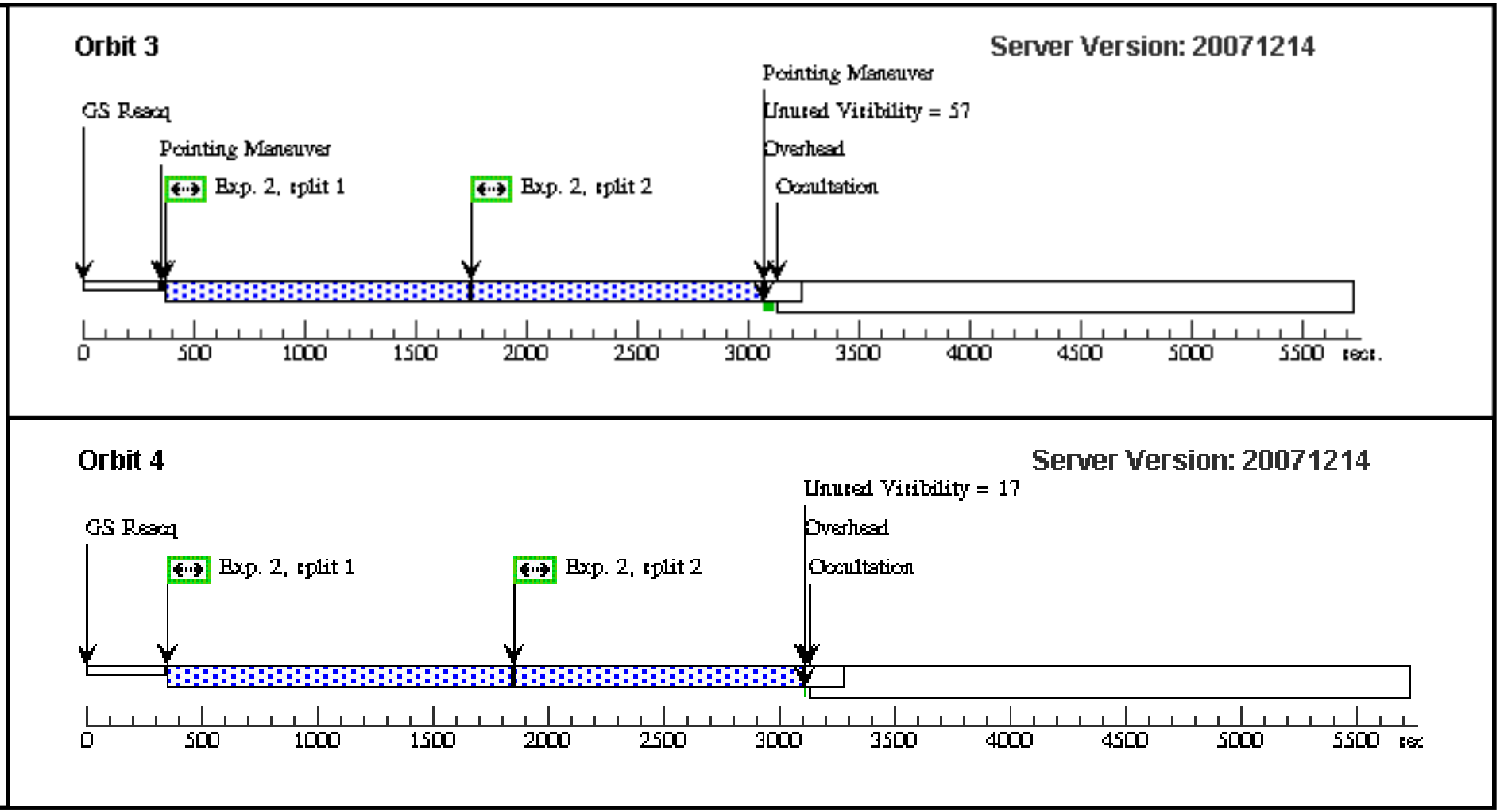
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(10)	SDSSJ021951.74-004435.2	RA: 02 19 51.7400 (34.9655833d) Dec: -00 44 35.20 (-.74311d) Equinox: J2000		V=19.47+/-0.05 u=19.59, r=19.21, i=19.28, z=19.26	Reference Frame: ICRS

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
1	SHORT J021951	(10) SDSSJ021951.74-004435.2	WFPC2, IMAGE, WF3	F814W				60.0 Secs	
								[==>60.0 Secs]	***[1]***
2	J021951	(10) SDSSJ021951.74-004435.2	WFPC2, IMAGE, WF3	F814W	CR-SPLIT=0.5		Pattern 2-2 (1)	2400.0 Secs	
								[==>1000.0 Secs (Pattern 1, Split 1)] *[==>1000.0 Secs (Pattern 1, Split 2)]*	***[1]***
								[==>1200.0 Secs (Pattern 2, Split 1)] *[==>1200.0 Secs (Pattern 2, Split 2)]*	***[2]***
								[==>1100.0 Secs (Pattern 3, Split 1)] *[==>1300.0 Secs (Pattern 3, Split 2)]*	***[3]***
								[==>1200.0 Secs (Pattern 4, Split 1)] *[==>1200.0 Secs (Pattern 4, Split 2)]*	***[4]***


Orbit Structure
Orbit 1
Server Version: 20071214
Pointing Maneuver
Overhead
Unused Visibility = 137
Exp. 1
Overhead
GS Acq
Exp. 2, split 1
Exp. 2, split 2
Occultation
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
sec.
Orbit 2
Server Version: 20071214
Overhead
Unused Visibility = 17
GS Reacq
Exp. 2, split 1
Exp. 2, split 2
Occultation
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
sec.

Orbit Structure (continued)



Visit

Proposal 11124, Visit 10, completed Sat Mar 15 01:01:57 GMT 2008

Diagnostic Status: No Diagnostics

Scientific Instruments: WFPC2

Special Requirements: ORIENT 190.0D TO 280.0 D; ORIENT 10.0D TO 100.0 D

Patterns

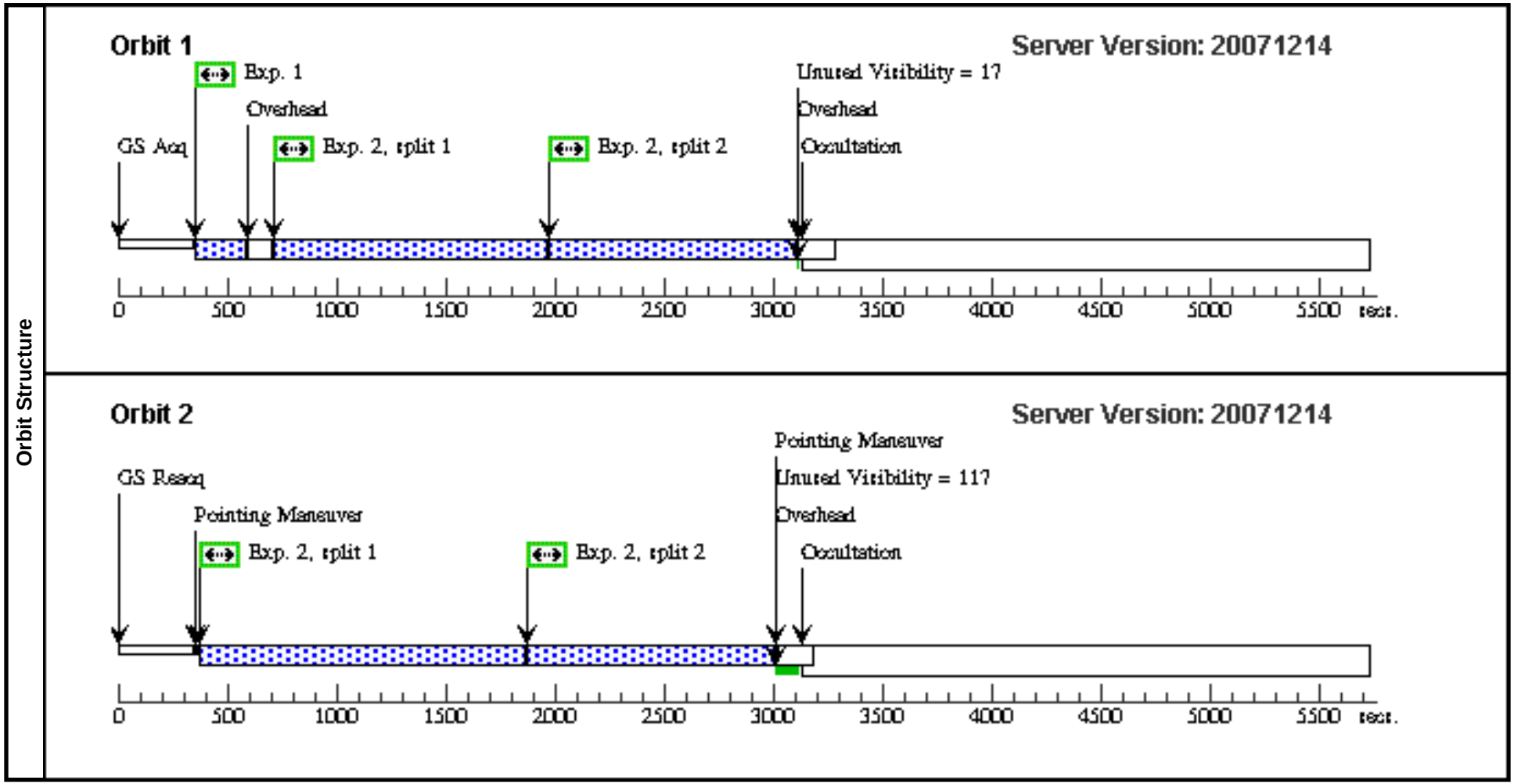
#	Primary Pattern		Secondary Pattern	Exposures
(1)	Pattern Type=WFPC2-BOX	Coordinate Frame=POS-TARG		(2)
	Purpose=DITHER	Pattern Orientation=26.56505		
	Number Of Points=4	Angle Between Sides=143.1301		
	Point Spacing=0.559017	Center Pattern=false		
	Line Spacing=0.559017			

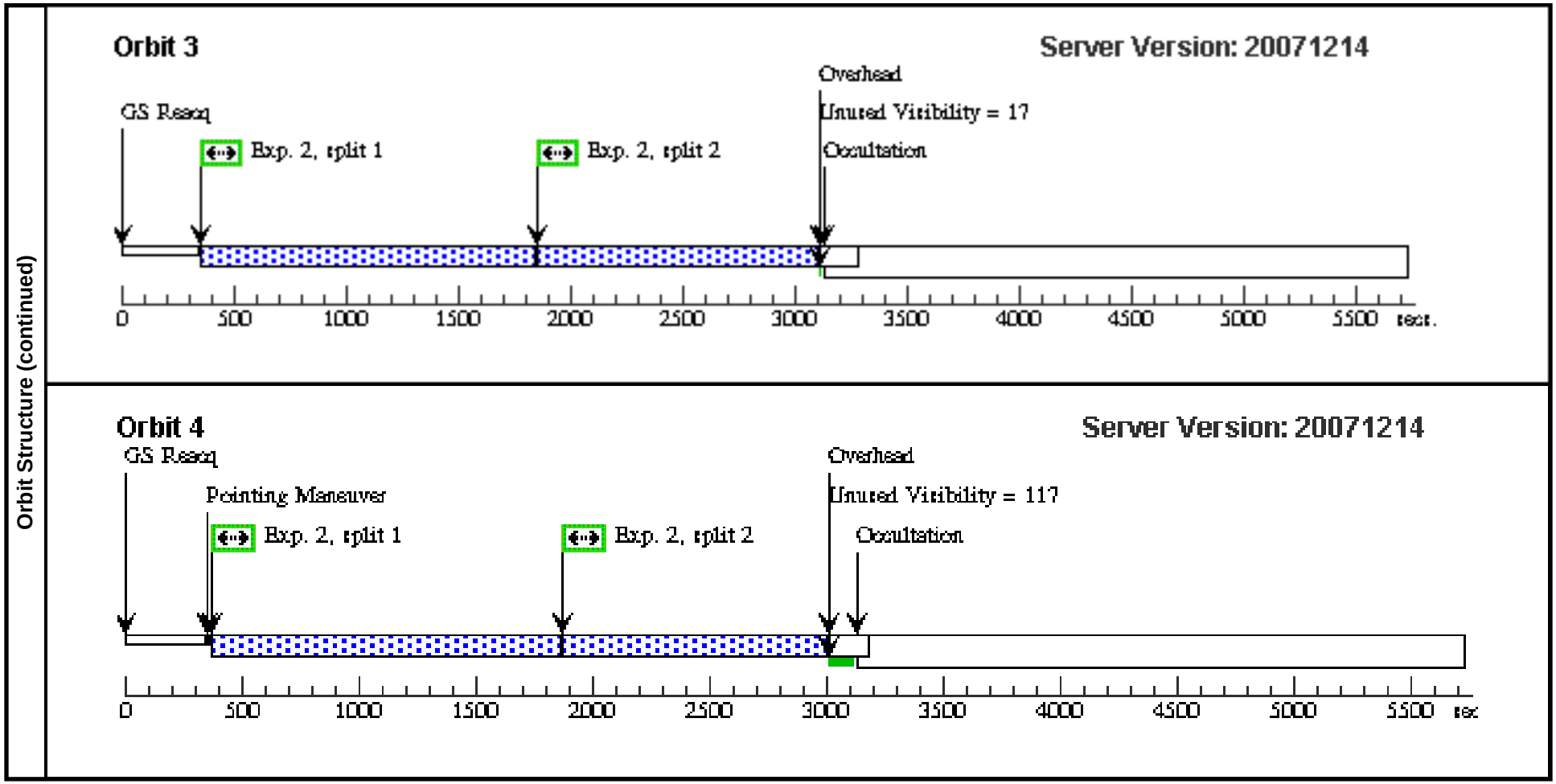
Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(11)	SDSSJ110653.46+035012.0	RA: 11 06 53.4600 (166.7227500d) Dec: +03 50 12.00 (3.83667d) Equinox: J2000		V=19.63+/-0.05 u=19.62, r=19.24, i=19.33, z=19.42	Reference Frame: ICRS

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
1	SHORT J110653	(11) SDSSJ110653.46+035012.0	WFPC2, IMAGE, WF3	F814W				60.0 Secs	
								[==>60.0 Secs]	***[1]***
2	J110653	(11) SDSSJ110653.46+035012.0	WFPC2, IMAGE, WF3	F814W	CR-SPLIT=0.5		Pattern 2-2 (1)	2400.0 Secs	
								[==>1000.0 Secs (Pattern 1, Split 1)] *[==>1100.0 Secs (Pattern 1, Split 2)]*	***[1]***
								[==>1200.0 Secs (Pattern 2, Split 1)] *[==>1100.0 Secs (Pattern 2, Split 2)]*	***[2]***
								[==>1200.0 Secs (Pattern 3, Split 1)] *[==>1200.0 Secs (Pattern 3, Split 2)]*	***[3]***
								[==>1200.0 Secs (Pattern 4, Split 1)] *[==>1100.0 Secs (Pattern 4, Split 2)]*	***[4]***


Orbit Structure
Orbit 1
Server Version: 20071214
Exp. 1
Overhead
GS Acq
Exp. 2, split 1
Exp. 2, split 2
Unused Visibility = 17
Overhead
Occultation
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
sec.
Orbit 2
Server Version: 20071214
Pointing Maneuver
GS Reacq
Unused Visibility = 117
Pointing Maneuver
Overhead
Exp. 2, split 1
Exp. 2, split 2
Occultation
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
sec.


Orbit Structure (continued)
Orbit 3
Server Version: 20071214
Overhead
Unused Visibility = 17
GS Reacq
Exp. 2, split 1
Exp. 2, split 2
Occultation
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
sec.
Orbit 4
Server Version: 20071214
GS Reacq
Overhead
Pointing Maneuver
Unused Visibility = 117
Exp. 2, split 1
Exp. 2, split 2
Occultation
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
sec

Visit

Proposal 11124, Visit 11, completed Sat Mar 15 01:01:57 GMT 2008

Diagnostic Status: No Diagnostics

Scientific Instruments: WFPC2

Special Requirements: CVZ

Patterns

#	Primary Pattern		Secondary Pattern	Exposures
(1)	Pattern Type=WFPC2-BOX	Coordinate Frame=POS-TARG		(1-4), (5-8), (9-12)
	Purpose=DITHER	Pattern Orientation=26.56505		
	Number Of Points=4	Angle Between Sides=143.1301		
	Point Spacing=0.559017	Center Pattern=false		
	Line Spacing=0.559017			

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(13)	GRW+70D5824	RA: 13 38 51.0125 (204.7125521d)		V=12.77+/-0.01	Reference Frame: ICRS
		Dec: +70 17 7.63 (70.28545d)			
		Equinox: J2000			

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
1	standard, 0.23s	(13) GRW+70D5824	WFPC2, IMAGE, WF3	F814W			Pattern 1-4 (1)	0.23 Secs	
								[==>(Pattern 1)]	***[1]***
								[==>(Pattern 2)]	
								[==>(Pattern 3)]	
								[==>(Pattern 4)]	
2	standard, 2s	(13) GRW+70D5824	WFPC2, IMAGE, WF3	F814W			Pattern 1-4 (1)	2.0 Secs	
								[==>(Pattern 1)]	***[1]***
								[==>(Pattern 2)]	
								[==>(Pattern 3)]	
								[==>(Pattern 4)]	
3	standard, 26s	(13) GRW+70D5824	WFPC2, IMAGE, WF3	F814W			Pattern 1-4 (1)	26.0 Secs	
								[==>(Pattern 1)]	***[1]***
								[==>(Pattern 2)]	
								[==>(Pattern 3)]	
								[==>(Pattern 4)]	
4	standard, 160s	(13) GRW+70D5824	WFPC2, IMAGE, WF3	F814W			Pattern 1-4 (1)	160.0 Secs	
								[==>(Pattern 1)]	***[1]***
								[==>(Pattern 2)]	
								[==>(Pattern 3)]	
								[==>(Pattern 4)]	

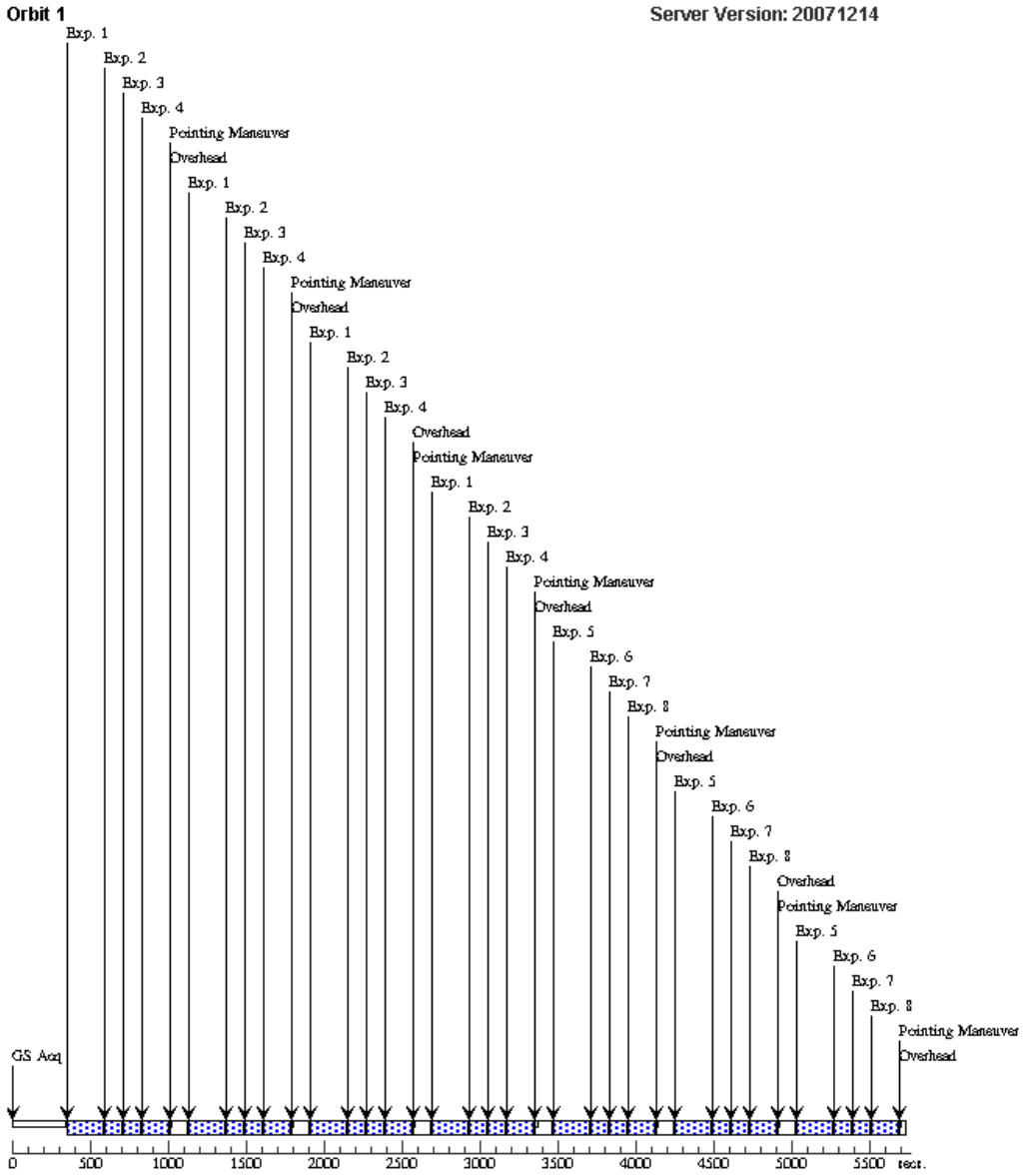
Exposures (continued)

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
5	standard, 0.23s	(13) GRW+70D5824	WFPC2, IMAGE, WF3	F814W		POS TARG 20.0,0.0	Pattern 5-8 (1)	0.23 Secs	
								[==>(Pattern 1)]	
								[==>(Pattern 2)]	***[1]***
								[==>(Pattern 3)]	
								[==>(Pattern 4)]	***[2]***
6	standard, 2s	(13) GRW+70D5824	WFPC2, IMAGE, WF3	F814W		POS TARG 20.0,0.0	Pattern 5-8 (1)	2.0 Secs	
								[==>(Pattern 1)]	
								[==>(Pattern 2)]	***[1]***
								[==>(Pattern 3)]	
								[==>(Pattern 4)]	***[2]***
7	standard, 26s	(13) GRW+70D5824	WFPC2, IMAGE, WF3	F814W		POS TARG 20.0,0.0	Pattern 5-8 (1)	26.0 Secs	
								[==>(Pattern 1)]	
								[==>(Pattern 2)]	***[1]***
								[==>(Pattern 3)]	
								[==>(Pattern 4)]	***[2]***
8	standard, 160s	(13) GRW+70D5824	WFPC2, IMAGE, WF3	F814W		POS TARG 20.0,0.0	Pattern 5-8 (1)	160.0 Secs	
								[==>(Pattern 1)]	
								[==>(Pattern 2)]	***[1]***
								[==>(Pattern 3)]	
								[==>(Pattern 4)]	***[2]***
9	standard, 0.23s	(13) GRW+70D5824	WFPC2, IMAGE, WF3	F814W		POS TARG -20.0,0.0	Pattern 9-12 (1)	0.23 Secs	
								[==>(Pattern 1)]	
								[==>(Pattern 2)]	***[2]***
								[==>(Pattern 3)]	
								[==>(Pattern 4)]	
10	standard, 2s	(13) GRW+70D5824	WFPC2, IMAGE, WF3	F814W		POS TARG -20.0,0.0	Pattern 9-12 (1)	2.0 Secs	
								[==>(Pattern 1)]	
								[==>(Pattern 2)]	***[2]***
								[==>(Pattern 3)]	
								[==>(Pattern 4)]	
11	standard, 26s	(13) GRW+70D5824	WFPC2, IMAGE, WF3	F814W		POS TARG -20.0,0.0	Pattern 9-12 (1)	26.0 Secs	
								[==>(Pattern 1)]	
								[==>(Pattern 2)]	***[2]***
								[==>(Pattern 3)]	
								[==>(Pattern 4)]	

Exposures (continued)

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
12	standard, 160s	(13) GRW+70D5824	WFPC2, IMAGE, WF3	F814W		POS TARG -20.0,0.0	Pattern 9-12 (1)	160.0 Secs	
								[==>(Pattern 1)] *[==>(Pattern 2)]* *[==>(Pattern 3)]* *[==>(Pattern 4)]*	***[2]***

Orbit Structure



Orbit Structure (continued)