10608 - Probing the star formation law in the extreme outer limits of M83, a prototypical XUV-disk galaxy

Cycle: 14, Proposal Category: GO

(Availability Mode: SUPPORTED)

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VISITS

Visit	*Targets*	*Configurations*	*Orbits Used*	*Last Orbit Planner Run*	*OP Current with Visit?*
01	ANY (1) M83-OUTERA	ACS/SBC WFPC2	2	23-May-2006 21:01:09.0	yes
02	(2) M83-OUTERB ANY	ACS/SBC WFPC2	2	23-May-2006 21:01:18.0	yes
03	(3) M83-OUTERC ANY	ACS/WFC WFPC2	2	23-May-2006 21:01:25.0	yes
04	(4) M83-OUTERD ANY	ACS/SBC WFPC2	2	23-May-2006 21:01:35.0	yes
05	ANY (5) M83-OUTERE	ACS/SBC WFPC2	2	23-May-2006 21:01:41.0	yes
06	ANY (6) M83-OUTERF	ACS/WFC WFPC2	2	23-May-2006 21:01:47.0	yes
07	(7) M83-OUTERG ANY	ACS/SBC WFPC2	2	23-May-2006 21:01:54.0	yes
08	(8) M83-OUTERH ANY	ACS/SBC WFPC2	2	23-May-2006 21:02:00.0	yes
09	ANY (9) M83-OUTERI	ACS/WFC WFPC2	2	23-May-2006 21:02:09.0	yes
10	ANY (10) M83-OUTERJ	ACS/SBC WFPC2	2	23-May-2006 21:02:15.0	yes
11	ANY (11) M83-OUTERK	ACS/SBC WFPC2	2	23-May-2006 21:02:21.0	yes
12	(12) M83-OUTERL ANY	ACS/WFC WFPC2	2	23-May-2006 21:02:28.0	yes

Visit	*Targets*	*Configurations*	*Orbits Used*	*Last Orbit Planner Run*	*OP Current with Visit?*
53	ANY (13) M83-OUTERC-COPY	ACS/WFC WFPC2	2	23-May-2006 21:02:38.0	yes
62	(14) M83-OUTERL-COPY ANY	ACS/WFC WFPC2	2	23-May-2006 21:02:45.0	yes

28 Total Orbits Used

ABSTRACT

The Galaxy Evolution Explorer (GALEX) has discovered a new sub-class of spiral galaxy, which we refer to as extended UV-disk (XUV-disk) galaxies. They are distinguished by conspicuous UV-bright star clusters located at galactocentric radii extending to many times the optical (R25) extent, and appear to represent a population of spiral galaxies still actively building, or augmenting, their stellar disk.

However, XUV-disks pose a mystery in the form of a relative lack of HII regions (traced by H-alpha emission) associated with outer disk, UV-bright stellar clusters. M83 is an XUV-disk prototype and the focus of this proposal. It has an H-alpha surface brightness profile characterized by a steep decline at the radius beyond which the gaseous disk is thought to become dynamically stable (against collapse and ensuing star formation), but GALEX UV profiles show no "edge" at this location.

Our HST study of M83 aims to resolve this puzzling discrepancy, confirmed in several XUV-disks, by searching for Lyman-continuum producing O stars that are either absent or present without nebulosity. HST provides the only means of resolving individual massive stars in the FUV band at M83's distance. Without HST, we lose the critical ability to photometrically classify O and B stars. Our multiwavelength observations will also constrain the history of star formation in the outer disk over Gyr timescales by characterizing the evolved stellar population, both using resolved giants and color analysis of the diffuse background.

OBSERVING DESCRIPTION

We request HST ACS/SBC + ACS/WFC multiwavelength observations, and parallel WFPC2 imagery, to scrutinize the massive star content and cluster properties within a subset of UV-bright regions occupying M83's XUV-disk (left unresolved in the UV by GALEX). We propose to image four ACS/WFC fields, which together contain eight ACS/SBC pointings that have been selected in close pairs. This is a deliberate effort to use the HST efficiently. Our pointings have been chosen so they may obtained at any focal plane orientation without penalty.

We selected ACS/SBC fields to fully sample the diversity of star forming regions in the outer disk of M83. The number of SBC targets was determined on the basis of anticipated star counts for ZAMS stars in our survey coverage. Given the median FUV AB magnitude (20.3) of an outer disk cluster, we estimate that a typical UV-bright region would contain about 60 B stars and 4 O stars above our detection limit (see below) if the IMF were 'normal' (Salpeter, 0.1-100 M_sun). The eight SBC fields (each enclosing about two UV-bright regions) would together contain nearly 1000 B stars and 64 O stars for a Salpeter IMF, allowing us to reliably constrain the B/O star ratio, and possibly detect a deficiency of O stars, in these sub-samples of the XUV-disk. To probe a representative set of the UV-bright features, we picked fields containing sources of dramatically varied UV luminosity, FUV-NUV color, galactocentric radius, HI environment, and complex morphology (evaluated at 5" GALEX resolution). For instance, we selected star forming regions both clumpy and isolated, on and off HI filaments, near the edge of the bright disk and at the limits of our extended source distribution (4x the Holmberg radius). The requested fields constitute a basis set of observed region properties in our GALEX data.

The science goals of our M83 "XUV-disk" project require that we integrate long enough to:

(1) Obtain accurate UV-visible magnitudes and colors for all resolved stars and clusters in the fields where SBC and WFC images overlap, and visible measurements throughout the remaining image area (both primary WFC and parallel WFPC2 fields). Reddening-free color indices will be computed to estimate the spectral type of resolved (massive) ZAMS stars and the luminosity-weighted age of stellar clusters.

(2) Measure size and shape parameters for each detected cluster, even objects having scale radius somewhat less than the PSF FWHM (eg. Larsen et al. 2004). These data will be contrasted against the properties of inner disk clusters in M83 and other well-studied spirals.

(3) Constrain the SFH of resolved, old field stars and those evolved stellar populations contributing to unresolved diffuse emission.

The first of these considerations sets our minimum exposure times, as described below.

For the ACS/SBC observations, a total integration time of 6100 sec (taking 2 orbits per SBC field) is required to detect a single B5V star with 5-sigma significance in the FUV (F150LP) bandpass. Due to slight differences in overhead encountered during Phase II, we are only able to achieve 5416 sec total SBC integration per target. This exposure is broken into 8 segments distributed over a 2 orbit visit for each SBC target. We have also requested a standard ACS/SBC LINE-DITHER pattern. The ACS/WFC B (F435W) integration time necessary to detect a B5V star with 10-sigma significance is ~2400 sec, assuming average sky background and a total (foreground plus internal) extinction corresponding to E(B-V) = 0.14. In our Phase 2 observing template, this integration is realized in the form of two exposures of 1263 sec each (dithered with the ACS/WFC pattern to remove the inter-chip gap and CR events). Relative to individual OB stars, the FUV (F150LP) and B (F435W) integrations quoted above will produce much higher S/N for typical star clusters in the age range, <1e8 yr, to which GALEX is most sensitive.

Exposure times for the F606W and F814W filters on the ACS/WFC are determined not by detecting the main sequence stellar population found within and possibly amongst clusters, but rather by our desire to characterize resolved asymptotic giant branch (AGB) and red giant branch (RGB) stars in the field population. By doing so we will provide constraint on disk metallicity and the SFH of M83's outer portion over much longer timescales (several Gyr) than probed by GALEX or the requested FUV, B-band HST observations. Specifically, we would expect to detect the tip of the RGB (TRGB) near I = 24.2 if we assume M_I,TRGB = -4 and use M83's distance modulus of m-M = 28.3. Further adopting K0 as the average spectral type of stars comprising the TRGB, we estimate a required F814W integration of 940 sec to detect stars one magnitude fainter (in I) than the TRGB at 10-sigma. Similar considerations lead to a F606W integration of 1230 sec. The V-band exposure will also be sufficient to exclude faint, red AGB stars from the TRGB (for TRGB distance analysis). The other science drivers above, including measurement of cluster size and SFH constraint for the unresolved stellar background, are less demanding in exposure time although limited spatial binning may be needed for the SFH analysis. The ACS/WFC imaging in F814W and F606W filters has been planned during Phase 2 as a pair of dithered 446 sec and 596 sec exposures, respectively per band.

The primary exposure times justified above, combined with standard overhead estimates, establish the final amount of HST time required. We proposed an allocation of 24 primary orbits to image four wide-fields in B (F435W), V (F606W), and I (F814W) bands using the ACS/WFC and

eight inset fields in FUV (F150LP) using the ACS/SBC. This breaks down to six orbits per trio of WFC field and two SBC sub-fields, which are fully used by the Phase 2 strategy we developed. Coordinated parallel WFPC2 F439W, F606W, and F814W images will be obtained during each primary visit using total integrations of ~ 2200, 1200, and 800 sec distributed over the 2 orbits available. These integration times are sufficient to approach the same completeness limits (for various stellar types) as the primary ACS imagery. Obviously we will have no control over the location of the WFPC2 parallel fields, but they will fall within M83's XUV-disk.

As a reminder, our proposed HST allocation takes advantage of the parallel observing strategy described above to maximize our overall data acquisition efficiency for the XUV-disk of M83. It is important to note that we selected ACS/SBC for our UV imaging, rather than WFPC2, primarily due to the SBC's much superior FUV sensitivity which allows us to push down the ZAMS considerably further (reaching B5V, roughly 8 M_sun, rather than B0V, roughly 20 M_sun). This is critical in our effort to discern whether or not the IMF is deficient of LyC producing O stars.

In order to critically assess the brightness-limit safety check for the ACS/SBC targets, we have measured observed fluxes on our GALEX FUV (1530A) imagery of the M83 field. In particular, at the position of each SBC pointing, we have extracted the total flux and peak flux (at 5" resolution) over a 45x45 arcsec region. The region was intentionally made larger than the SBC FOV because we have not specified a desired roll angle for the observations. In all cases, the measured fluxes translate into predicted SBC-F150LP count rates which are well below the global/local safety (and non-linearity) thresholds. The measured values are specified in the Phase 2 target blocks on a source-by-source basis.

Our target positions were selected on the basis of the GALEX FUV and NUV imagery alone. The GALEX detectors exhibit a complex pattern of distortion at the level of a few arcsec, which is gradually being removed through iterative comparision of pipeline-measured and known positions for field stars. Images benefiting from the next round of improvement will be available by May 21. Although our pointings often cover multiple UV sources, we would like to have the opportunity to potentially revise our requested pointings as the next GALEX distortion correction is implemented. Final coordinates will be available by the end of May at the latest. Please advise as to whether or not this is possible.

Visit

Proposal 10608, Visit 01 Wed May 24 01:02:47 GMT 2006

Diagnostic Status: No Diagnostics

Scientific Instruments: ACS/SBC, WFPC2

Special Requirements: (none)

Patterns

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

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	M83-OUTERA	RA: 13 36 58.7000 (204.2445833d) Dec: -29 41 14.70 (-29.68742d) Equinox: J2000 Plate Id: (?)		V=25.0+/-1.0 F_lambda(1530A) < 4.3e-15 (total) and < 3.3e-17 erg/s/cm/A (locally)	Coordinate Source: IMAGE_TIED_TO_GSC_FRAME

Comments: FUV fluxes have been measured from GALEX imagery, checking both the total anticipated flux and the flux of brightest source (possibly landing) in the the SBC FOV.

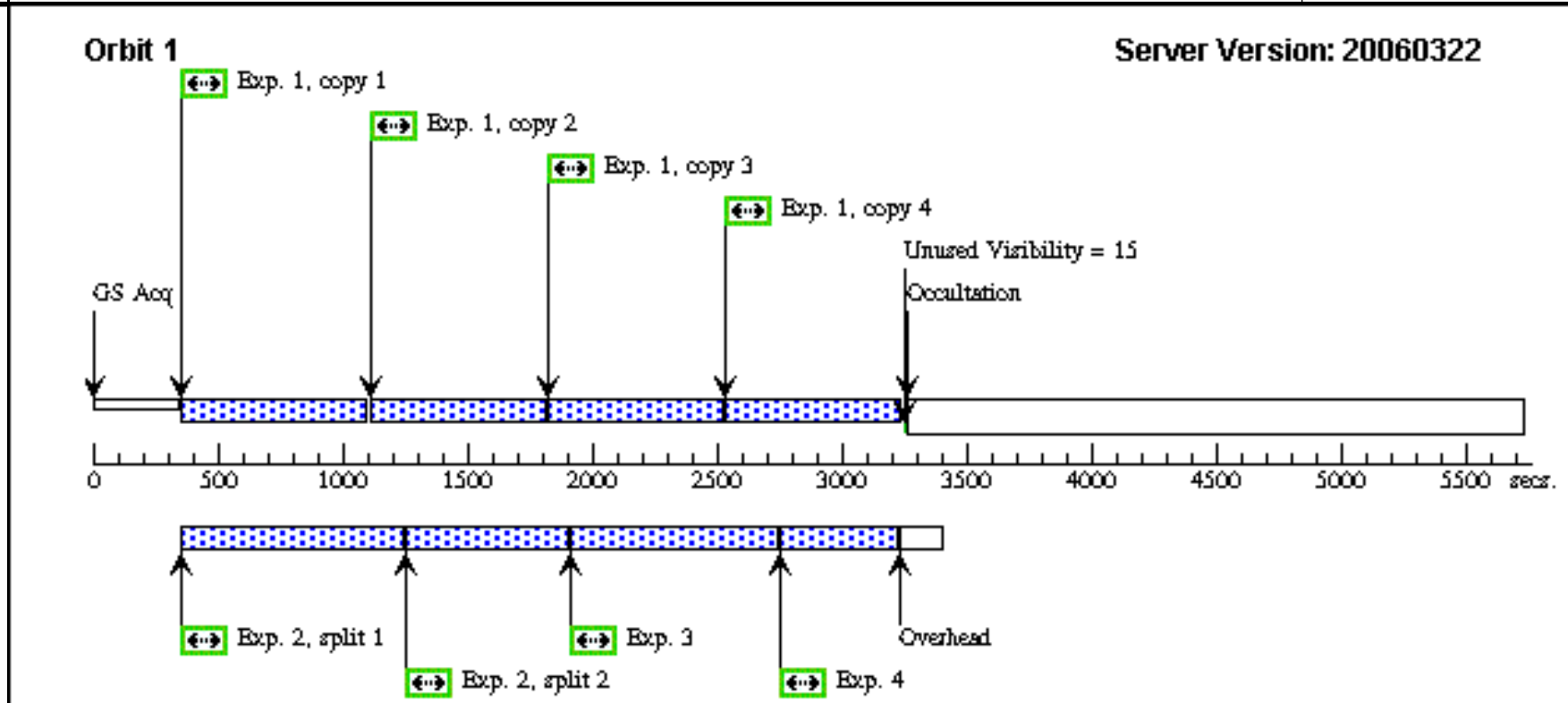
Exposures

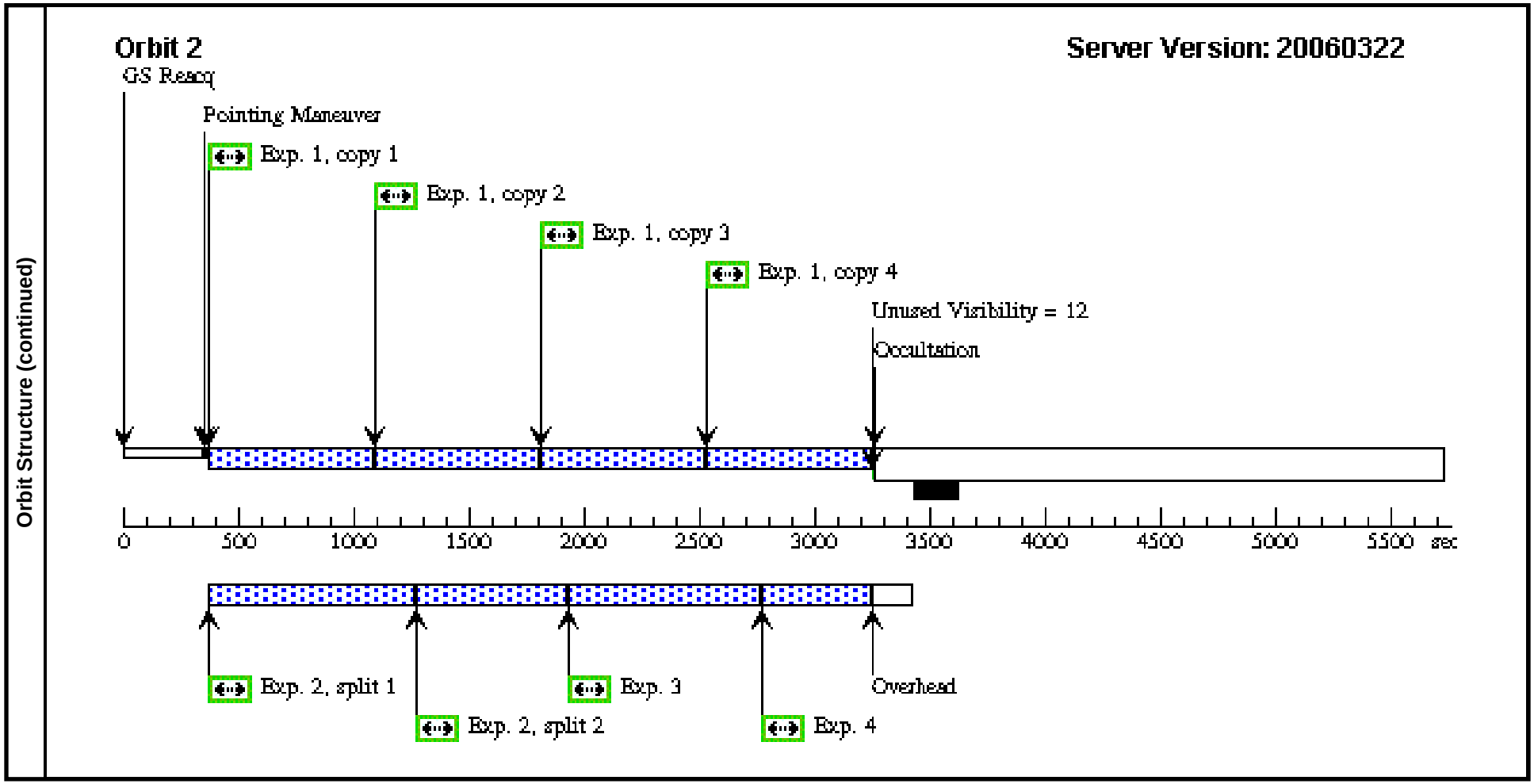
#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
1	M83-OUTERA-SBC	(1) M83-OUTERA	ACS/SBC, ACCUM, SBC-FIX	F150LP			Pattern 1-4 (2)	700.0 Secs X 4	
							Prime + Parallel Group 1-4	*[==>674.0 Secs (Pattern 1, Copy 1)]*	***[1]***
								[==>674.0 Secs (Pattern 1, Copy 2)]	
								[==>674.0 Secs (Pattern 1, Copy 3)]	
								[==>674.0 Secs (Pattern 1, Copy 4)]	
								[==>680.0 Secs (Pattern 2, Copy 1)]	***[2]***
								[==>680.0 Secs (Pattern 2, Copy 2)]	
								[==>680.0 Secs (Pattern 2, Copy 3)]	
								[==>680.0 Secs (Pattern 2, Copy 4)]	
2		ANY	WFPC2, IMAGE, WFALL-FIX	F439W			Pattern 1-4 (2)	1100.0 Secs	
							Prime + Parallel Group 1-4	*[==>600.0 Secs (Pattern 1, Split 1)]*	***[1]***
								[==>500.0 Secs (Pattern 1, Split 2)]	
								[==>600.0 Secs (Pattern 2, Split 1)]	***[2]***
								[==>500.0 Secs (Pattern 2, Split 2)]	

Exposures (continued)

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
3		ANY	WFPC2, IMAGE, WFALL-FIX	F606W			Pattern 1-4 (2)	600.0 Secs	
							Prime + Parallel Group 1-4	*[==>600.0 Secs (Pattern 1)]*	***[1]***
								[==>600.0 Secs (Pattern 2)]	***[2]***
4		ANY	WFPC2, IMAGE, WFALL-FIX	F814W			Pattern 1-4 (2)	450.0 Secs	
							Prime + Parallel Group 1-4	*[==>400.0 Secs (Pattern 1)]*	***[1]***
								[==>400.0 Secs (Pattern 2)]	***[2]***

Orbit Structure




Orbit Structure (continued)
Orbit 2
Server Version: 20060322
GS Reacq
Pointing Maneuver
Exp. 1, copy 1
Exp. 1, copy 2
Exp. 1, copy 3
Exp. 1, copy 4
Unused Visibility = 12
Occultation
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
sec
Exp. 2, split 1
Exp. 2, split 2
Exp. 3
Exp. 4
Overhead

Visit

Proposal 10608, Visit 02 Wed May 24 01:02:48 GMT 2006

Diagnostic Status: No Diagnostics

Scientific Instruments: ACS/SBC, WFPC2

Special Requirements: (none)

Patterns

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

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(2)	M83-OUTERB	RA: 13 36 49.9482 (204.2081175d) Dec: -29 42 13.62 (-29.70378d) Equinox: J2000 Plate Id: (?)		V=25.0+/-1.0 F_lambda(1530A) < 1.8e-15 (total) and < 1.2e-17 erg/s/cm/A (locally)	Coordinate Source: IMAGE_TIED_TO_GSC_FRAME

Comments: FUV fluxes have been measured from GALEX imagery, checking both the total anticipated flux and the flux of brightest source (possibly landing) in the the SBC FOV.

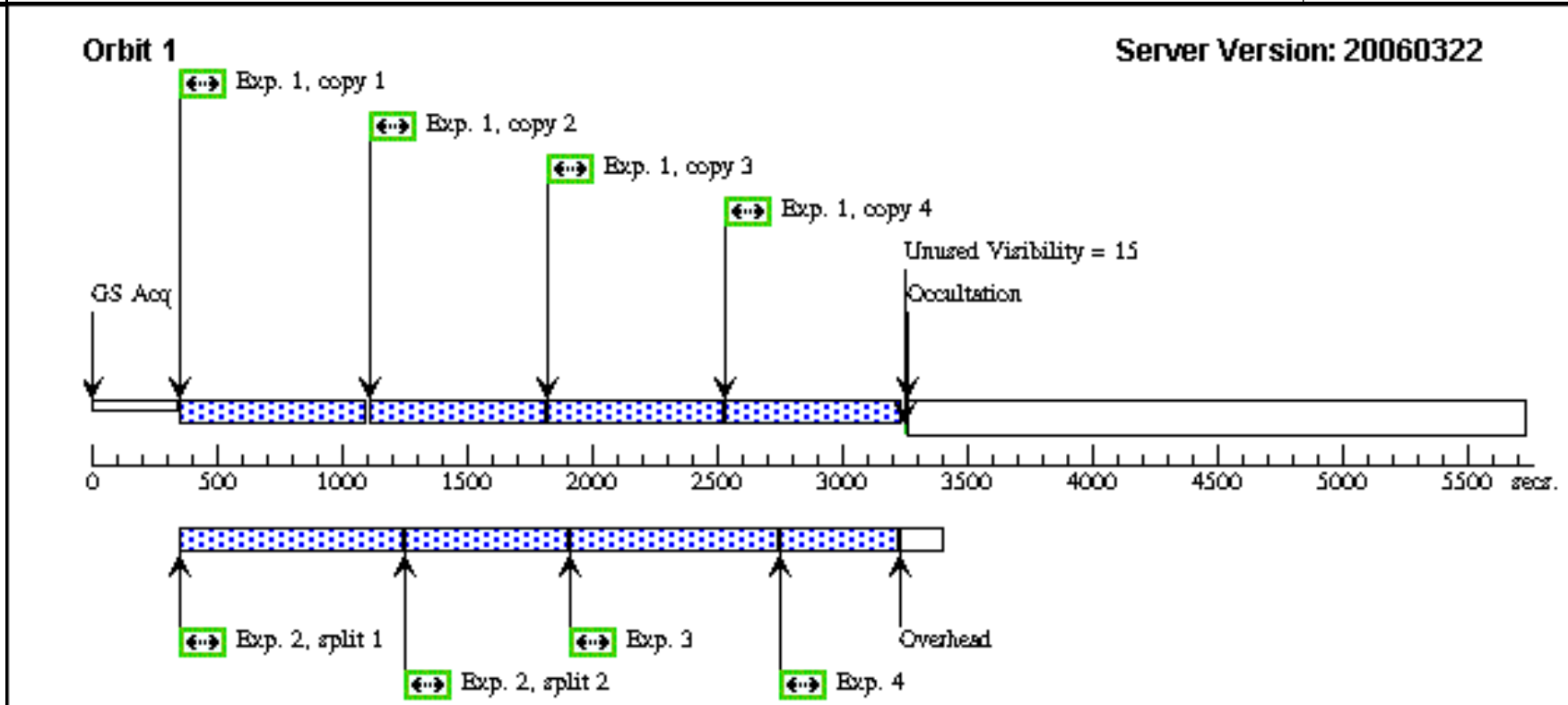
Exposures

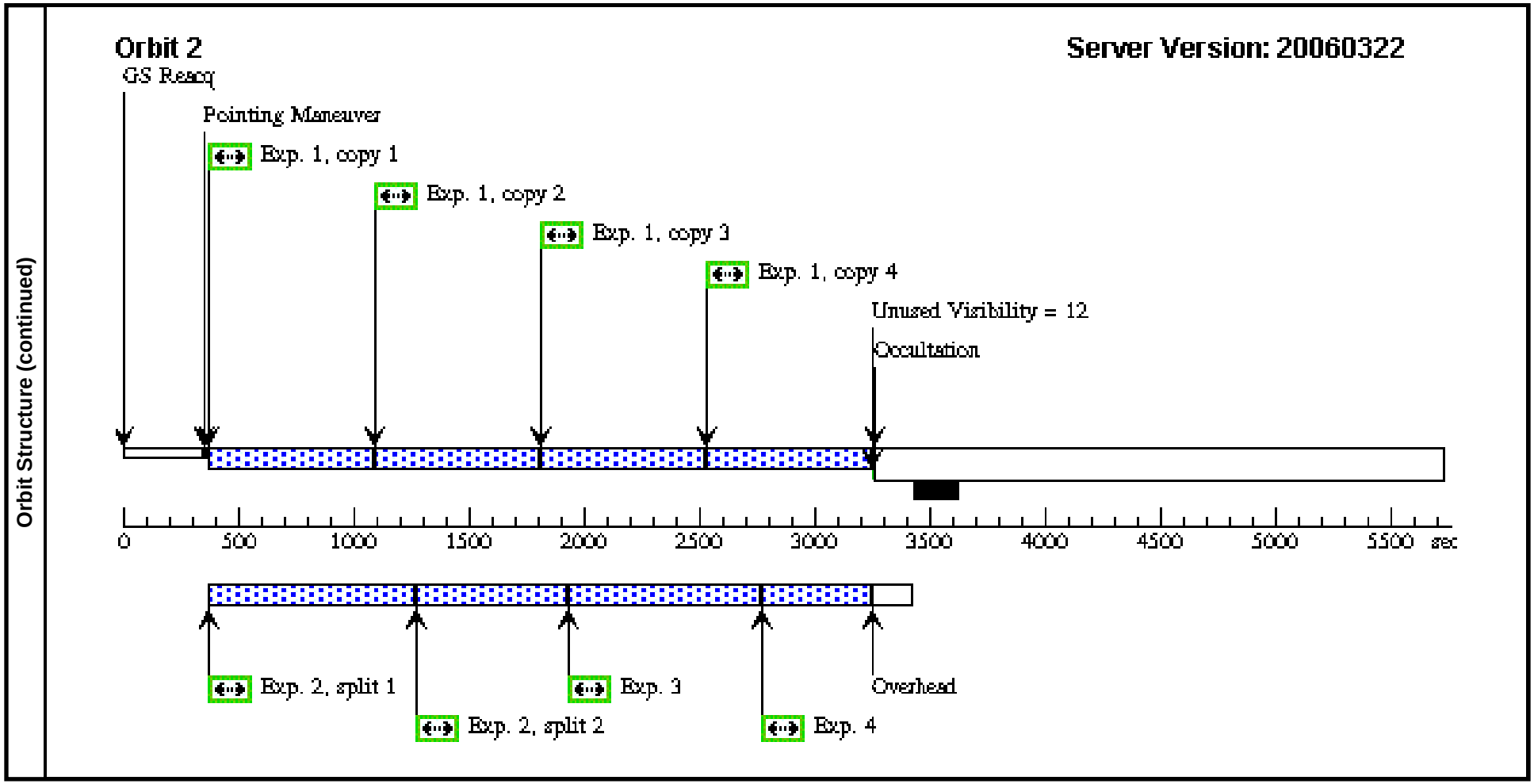
#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
1	M83-OUTERB-SBC	(2) M83-OUTERB	ACS/SBC, ACCUM, SBC-FIX	F150LP			Pattern 1-4 (2)	700.0 Secs X 4	
							Prime + Parallel Group 1-4	*[==>674.0 Secs (Pattern 1, Copy 1)]* *[==>674.0 Secs (Pattern 1, Copy 2)]* *[==>674.0 Secs (Pattern 1, Copy 3)]* *[==>674.0 Secs (Pattern 1, Copy 4)]*	***[1]***
								[==>680.0 Secs (Pattern 2, Copy 1)] *[==>680.0 Secs (Pattern 2, Copy 2)]* *[==>680.0 Secs (Pattern 2, Copy 3)]* *[==>680.0 Secs (Pattern 2, Copy 4)]*	***[2]***
2		ANY	WFPC2, IMAGE, WFALL-FIX	F439W			Pattern 1-4 (2)	1100.0 Secs	
							Prime + Parallel Group 1-4	*[==>600.0 Secs (Pattern 1, Split 1)]* *[==>500.0 Secs (Pattern 1, Split 2)]*	***[1]***
								[==>600.0 Secs (Pattern 2, Split 1)] *[==>500.0 Secs (Pattern 2, Split 2)]*	***[2]***

Exposures (continued)

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
3		ANY	WFPC2, IMAGE, WFALL-FIX	F606W			Pattern 1-4 (2)	600.0 Secs	
							Prime + Parallel Group 1-4	*[==>600.0 Secs (Pattern 1)]*	***[1]***
								[==>600.0 Secs (Pattern 2)]	***[2]***
4		ANY	WFPC2, IMAGE, WFALL-FIX	F814W			Pattern 1-4 (2)	450.0 Secs	
							Prime + Parallel Group 1-4	*[==>400.0 Secs (Pattern 1)]*	***[1]***
								[==>400.0 Secs (Pattern 2)]	***[2]***

Orbit Structure




Orbit Structure (continued)
Orbit 2
Server Version: 20060322
GS Reacq
Pointing Maneuver
Exp. 1, copy 1
Exp. 1, copy 2
Exp. 1, copy 3
Exp. 1, copy 4
Unused Visibility = 12
Occultation
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
sec
Exp. 2, split 1
Exp. 2, split 2
Exp. 3
Exp. 4
Overhead

Visit

Proposal 10608, Visit 03 Wed May 24 01:02:50 GMT 2006

Diagnostic Status: No Diagnostics

Scientific Instruments: ACS/WFC, WFPC2

Special Requirements: (none)

Patterns

#	Primary Pattern		Secondary Pattern	Exposures
(1)	Pattern Type=ACS-WFC-DITHER-LINE Purpose=DITHER Number Of Points=2 Point Spacing=3.011 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=85.3 Angle Between Sides= Center Pattern=true		(1-2), (3-6)

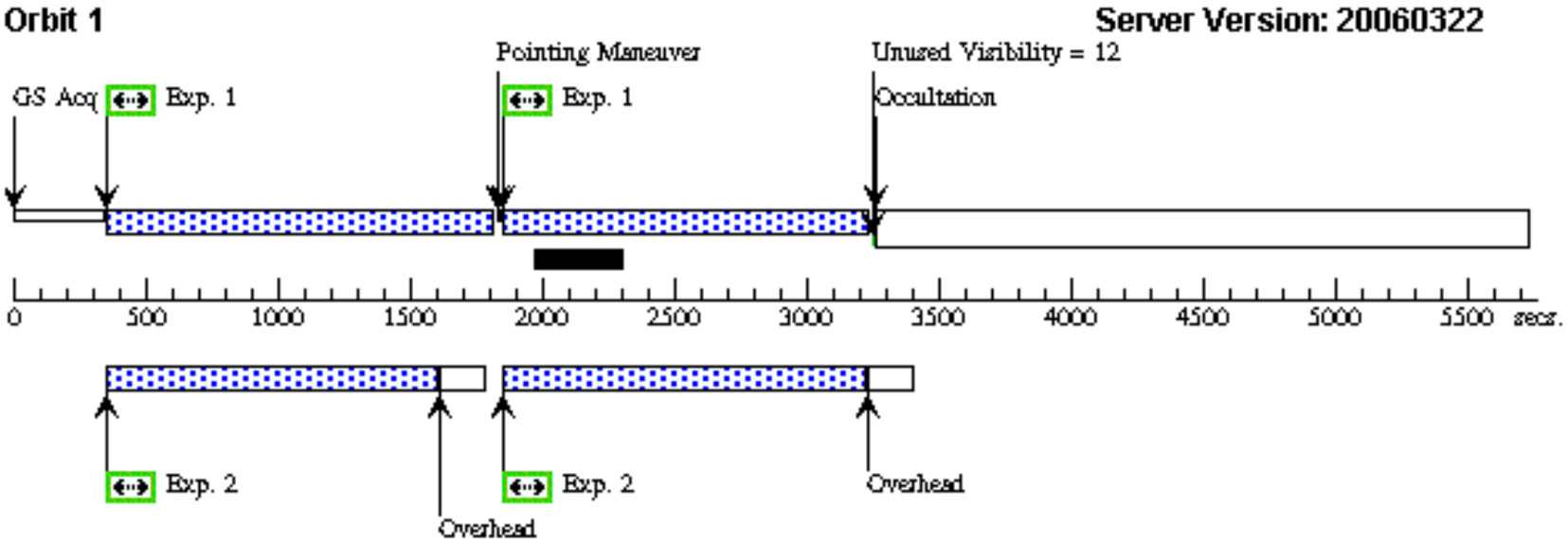
Fixed Targets

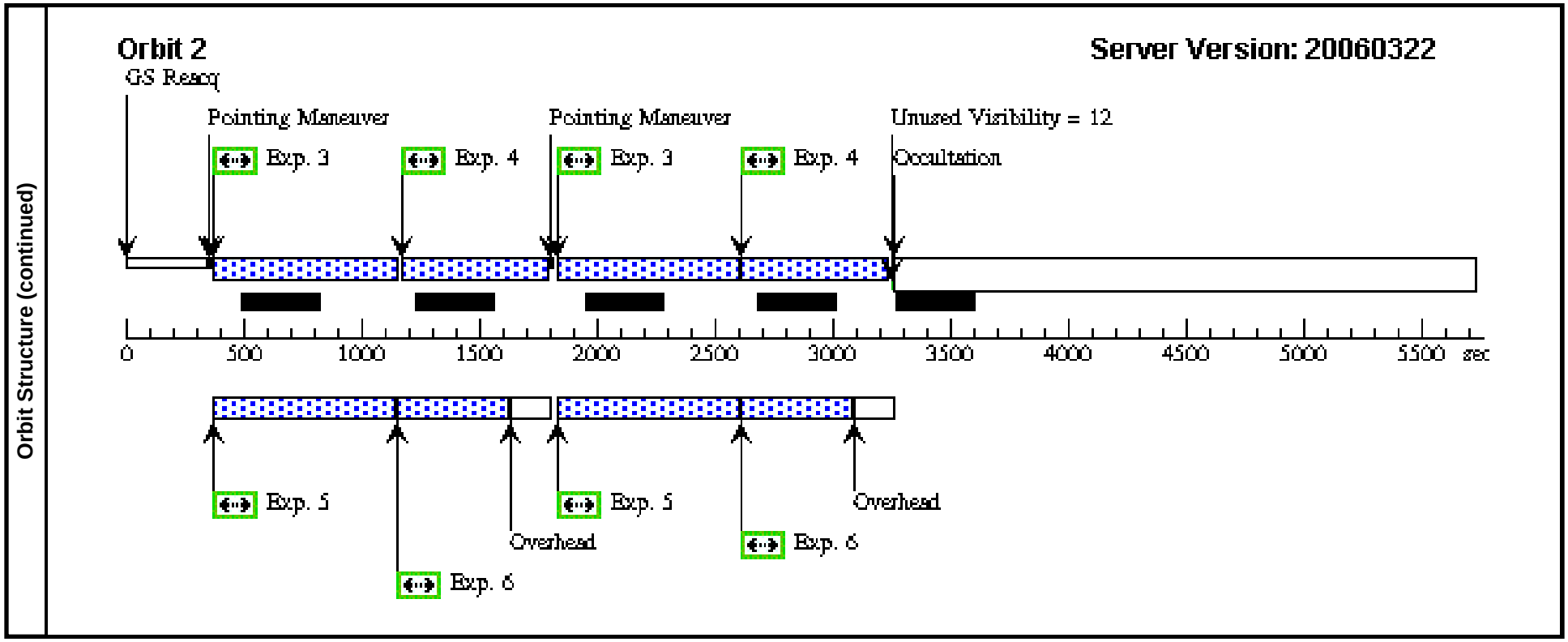
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(3)	M83-OUTERC	RA: 13 36 54.0835 (204.2253479d) Dec: -29 41 43.42 (-29.69539d) Equinox: J2000 Plate Id: (?)		V=25.0+/-1.0	Coordinate Source: IMAGE_TIED_TO_GSC_FRAME

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
1	M83-OUTERC-WFC	(3) M83-OUTERC	ACS/WFC, ACCUM, WFC-FIX	F435W	CR-SPLIT=NO		Pattern 1-2 (1) Prime + Parallel Group 1-2	1100.0 Secs *[==>1261.0 Secs (Pattern 1)]* *[==>1261.0 Secs (Pattern 2)]*	***[1]***
2		ANY	WFPC2, IMAGE, WFALL-FIX	F439W	CR-SPLIT=NO		Pattern 1-2 (1) Prime + Parallel Group 1-2	1100.0 Secs *[==>1100.0 Secs (Pattern 1)]* *[==>1200.0 Secs (Pattern 2)]*	***[1]***
3	M83-OUTERC-WFC	(3) M83-OUTERC	ACS/WFC, ACCUM, WFC-FIX	F606W	CR-SPLIT=NO		Pattern 3-6 (1) Prime + Parallel Group 3-6	590.0 Secs *[==>595.0 Secs (Pattern 1)]* *[==>595.0 Secs (Pattern 2)]*	***[2]***
4	M83-OUTERC-WFC	(3) M83-OUTERC	ACS/WFC, ACCUM, WFC-FIX	F814W	CR-SPLIT=NO		Pattern 3-6 (1) Prime + Parallel Group 3-6	440.0 Secs *[==>445.0 Secs (Pattern 1)]* *[==>445.0 Secs (Pattern 2)]*	***[2]***
5		ANY	WFPC2, IMAGE, WFALL-FIX	F606W			Pattern 3-6 (1) Prime + Parallel Group 3-6	500.0 Secs *[==>500.0 Secs (Pattern 1)]* *[==>500.0 Secs (Pattern 2)]*	***[2]***
6		ANY	WFPC2, IMAGE, WFALL-FIX	F814W			Pattern 3-6 (1) Prime + Parallel Group 3-6	400.0 Secs *[==>400.0 Secs (Pattern 1)]* *[==>400.0 Secs (Pattern 2)]*	***[2]***

Orbit Structure




Orbit Structure (continued)
Orbit 2
Server Version: 20060322
GS Reacq
Pointing Maneuver
Pointing Maneuver
Unused Visibility = 12
Exp. 3
Exp. 4
Exp. 3
Exp. 4
Occultation
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
sec
Exp. 5
Exp. 5
Overhead
Overhead
Exp. 6
Exp. 6

Visit

Proposal 10608, Visit 04 Wed May 24 01:02:51 GMT 2006

Diagnostic Status: No Diagnostics

Scientific Instruments: ACS/SBC, WFPC2

Special Requirements: (none)

Patterns

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

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(4)	M83-OUTERD	RA: 13 35 43.6409 (203.9318371d) Dec: -29 42 50.29 (-29.71397d) Equinox: J2000 Plate Id: (?)		V=25.0+/-1.0 F_lambda(1530A) < 1.1e-15 (total) and < 1.1e-17 erg/s/cm/A (locally)	Coordinate Source: IMAGE_TIED_TO_GSC_FRAME

Comments: FUV fluxes have been measured from GALEX imagery, checking both the total anticipated flux and the flux of brightest source (possibly landing) in the the SBC FOV.

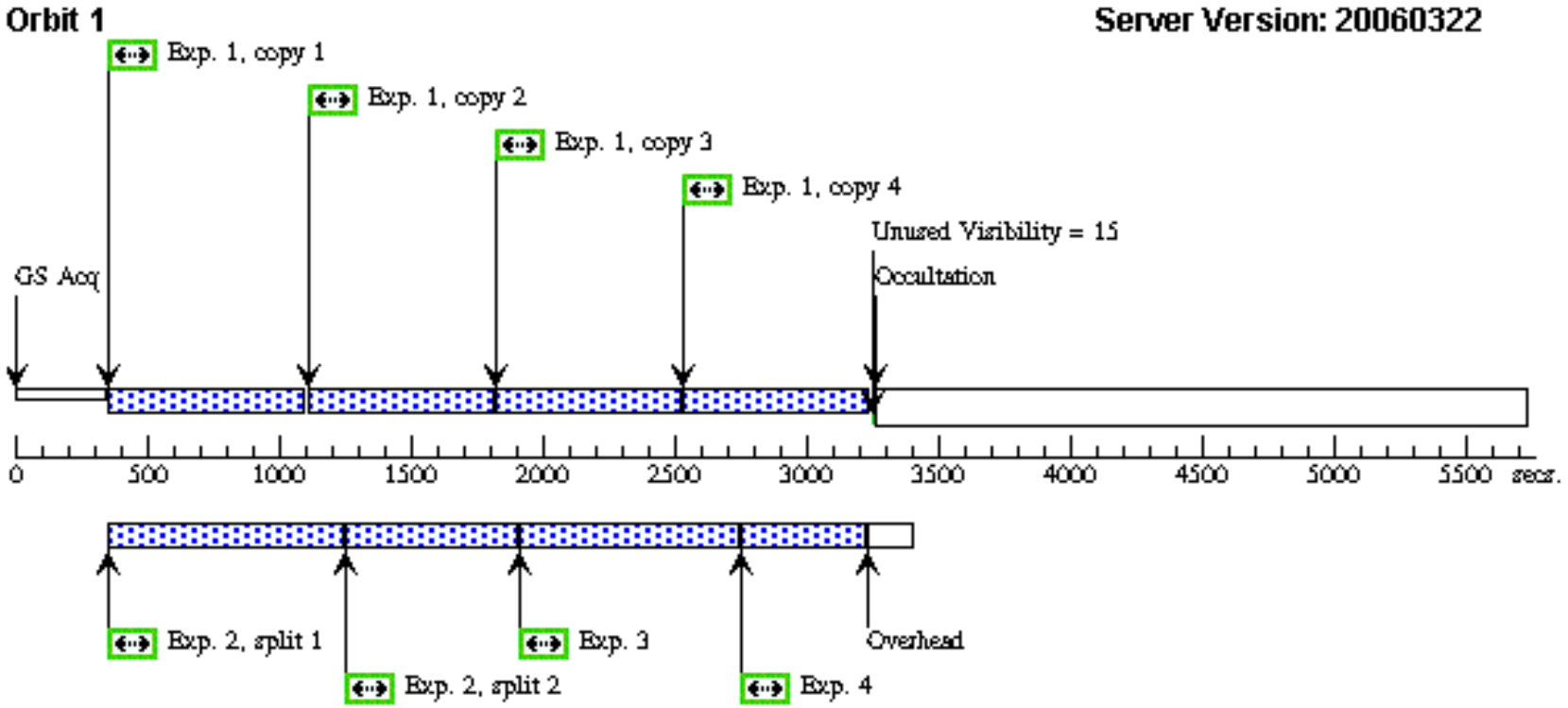
Exposures

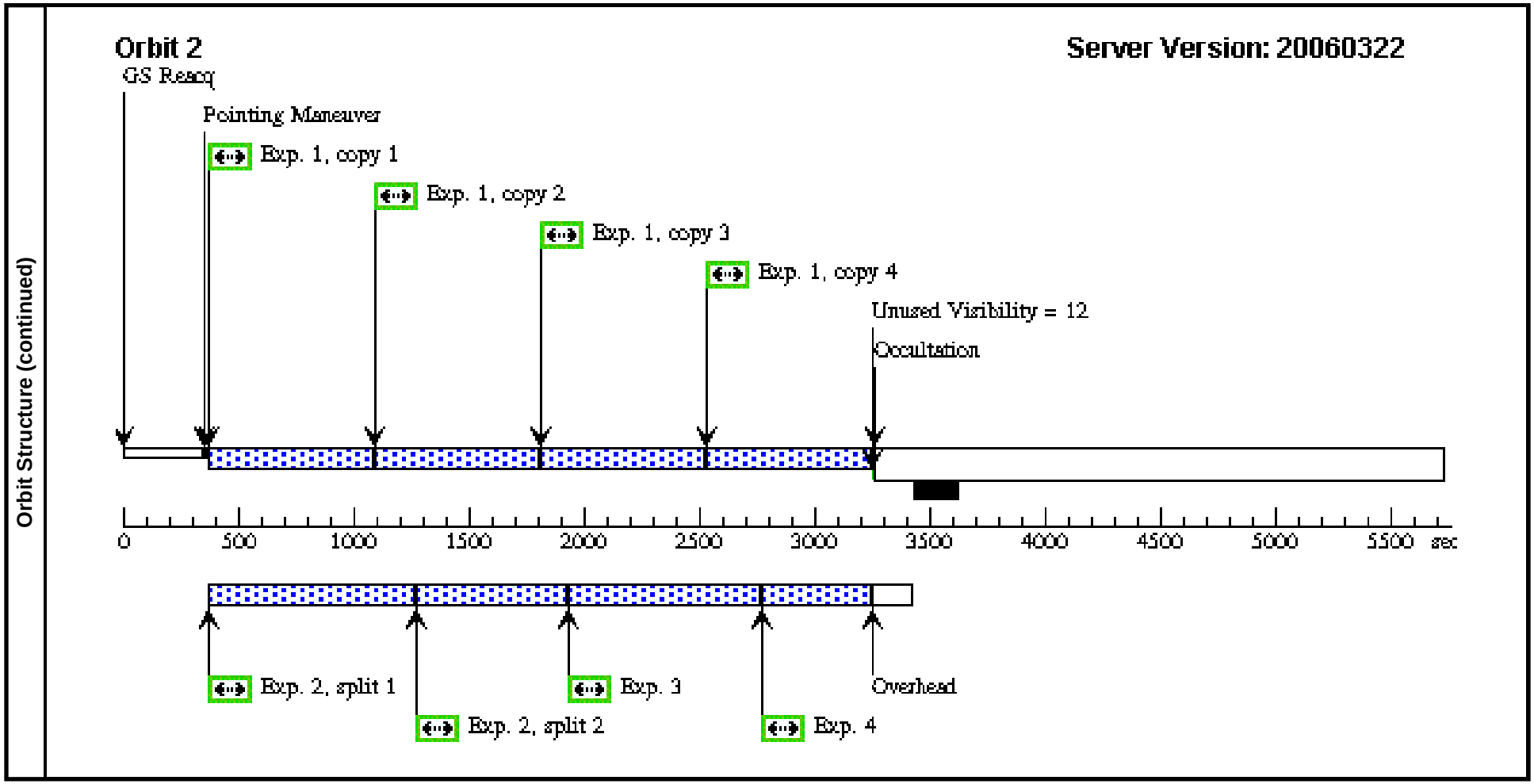
#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
1	M83-OUTERD-SBC	(4) M83-OUTERD	ACS/SBC, ACCUM, SBC-FIX	F150LP			Pattern 1-4 (2)	700.0 Secs X 4	
							Prime + Parallel Group 1-4	*[==>674.0 Secs (Pattern 1, Copy 1)]* *[==>674.0 Secs (Pattern 1, Copy 2)]* *[==>674.0 Secs (Pattern 1, Copy 3)]* *[==>674.0 Secs (Pattern 1, Copy 4)]*	***[1]***
								[==>680.0 Secs (Pattern 2, Copy 1)] *[==>680.0 Secs (Pattern 2, Copy 2)]* *[==>680.0 Secs (Pattern 2, Copy 3)]* *[==>680.0 Secs (Pattern 2, Copy 4)]*	***[2]***
2		ANY	WFPC2, IMAGE, WFALL-FIX	F439W			Pattern 1-4 (2)	1100.0 Secs	
							Prime + Parallel Group 1-4	*[==>600.0 Secs (Pattern 1, Split 1)]* *[==>500.0 Secs (Pattern 1, Split 2)]*	***[1]***
								[==>600.0 Secs (Pattern 2, Split 1)] *[==>500.0 Secs (Pattern 2, Split 2)]*	***[2]***

Exposures (continued)

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
3		ANY	WFPC2, IMAGE, WFALL-FIX	F606W			Pattern 1-4 (2)	600.0 Secs	
							Prime + Parallel Group 1-4	*[==>600.0 Secs (Pattern 1)]*	***[1]***
								[==>600.0 Secs (Pattern 2)]	***[2]***
4		ANY	WFPC2, IMAGE, WFALL-FIX	F814W			Pattern 1-4 (2)	450.0 Secs	
							Prime + Parallel Group 1-4	*[==>400.0 Secs (Pattern 1)]*	***[1]***
								[==>400.0 Secs (Pattern 2)]	***[2]***

Orbit Structure




Orbit Structure (continued)
Orbit 2
Server Version: 20060322
GS Reacq
Pointing Maneuver
Exp. 1, copy 1
Exp. 1, copy 2
Exp. 1, copy 3
Exp. 1, copy 4
Unused Visibility = 12
Occultation
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
sec
Exp. 2, split 1
Exp. 2, split 2
Exp. 3
Exp. 4
Overhead

Visit

Proposal 10608, Visit 05 Wed May 24 01:02:52 GMT 2006

Diagnostic Status: No Diagnostics

Scientific Instruments: ACS/SBC, WFPC2

Special Requirements: (none)

Patterns

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

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(5)	M83-OUTERE	RA: 13 35 42.2714 (203.9261308d) Dec: -29 44 54.06 (-29.74835d) Equinox: J2000 Plate Id: (?)		V=25.0+/-1.0 F_lambda(1530A) < 9.4e-16 (total) and < 5.4e-18 erg/s/cm/A (locally)	Coordinate Source: IMAGE_TIED_TO_GSC_FRAME

Comments: FUV fluxes have been measured from GALEX imagery, checking both the total anticipated flux and the flux of brightest source (possibly landing) in the the SBC FOV.

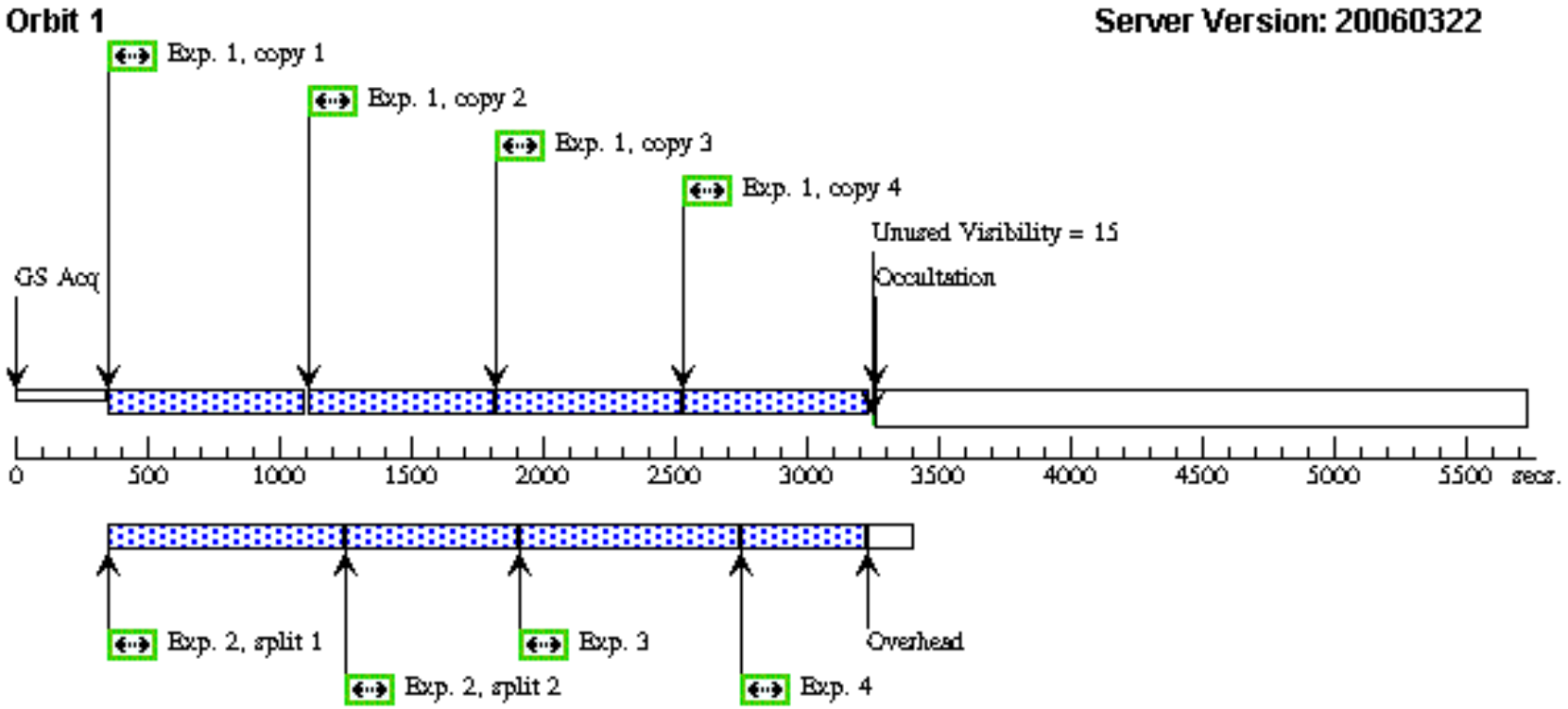
Exposures

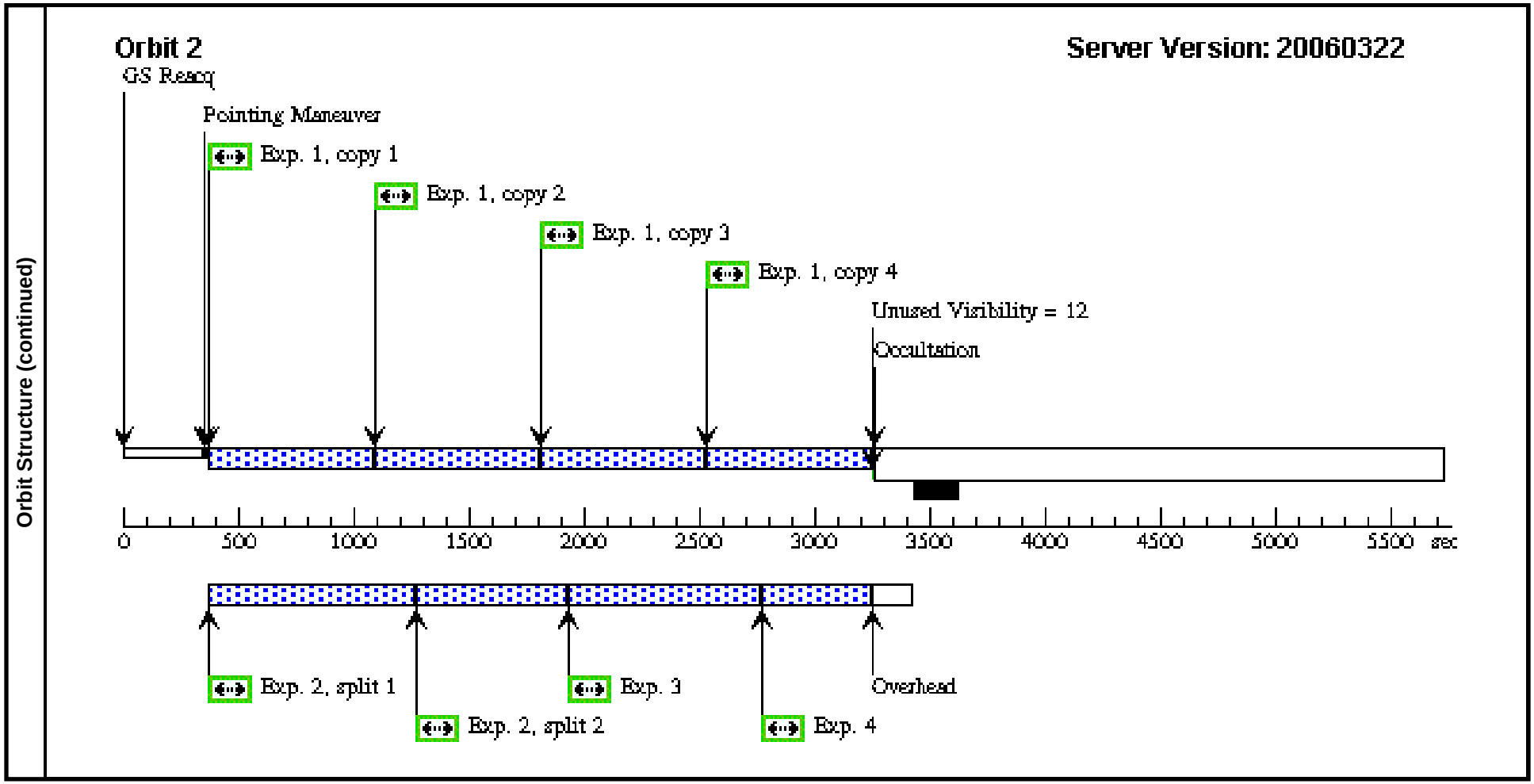
#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
1	M83-OUTERE-SBC	(5) M83-OUTERE	ACS/SBC, ACCUM, SBC-FIX	F150LP			Pattern 1-4 (2)	700.0 Secs X 4	
							Prime + Parallel Group 1-4	*[==>674.0 Secs (Pattern 1, Copy 1)]* *[==>674.0 Secs (Pattern 1, Copy 2)]* *[==>674.0 Secs (Pattern 1, Copy 3)]* *[==>674.0 Secs (Pattern 1, Copy 4)]*	***[1]***
								[==>680.0 Secs (Pattern 2, Copy 1)] *[==>680.0 Secs (Pattern 2, Copy 2)]* *[==>680.0 Secs (Pattern 2, Copy 3)]* *[==>680.0 Secs (Pattern 2, Copy 4)]*	***[2]***
2		ANY	WFPC2, IMAGE, WFALL-FIX	F439W			Pattern 1-4 (2)	1100.0 Secs	
							Prime + Parallel Group 1-4	*[==>600.0 Secs (Pattern 1, Split 1)]* *[==>500.0 Secs (Pattern 1, Split 2)]*	***[1]***
								[==>600.0 Secs (Pattern 2, Split 1)] *[==>500.0 Secs (Pattern 2, Split 2)]*	***[2]***

Exposures (continued)

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
3		ANY	WFPC2, IMAGE, WFALL-FIX	F606W			Pattern 1-4 (2)	600.0 Secs	
							Prime + Parallel Group 1-4	*[==>600.0 Secs (Pattern 1)]*	***[1]***
								[==>600.0 Secs (Pattern 2)]	***[2]***
4		ANY	WFPC2, IMAGE, WFALL-FIX	F814W			Pattern 1-4 (2)	450.0 Secs	
							Prime + Parallel Group 1-4	*[==>400.0 Secs (Pattern 1)]*	***[1]***
								[==>400.0 Secs (Pattern 2)]	***[2]***

Orbit Structure




Orbit Structure (continued)
Orbit 2
Server Version: 20060322
GS Reacq
Pointing Maneuver
Exp. 1, copy 1
Exp. 1, copy 2
Exp. 1, copy 3
Exp. 1, copy 4
Unused Visibility = 12
Occultation
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
sec
Exp. 2, split 1
Exp. 2, split 2
Exp. 3
Exp. 4
Overhead

Visit

Proposal 10608, Visit 06 Wed May 24 01:02:52 GMT 2006

Diagnostic Status: No Diagnostics

Scientific Instruments: ACS/WFC, WFPC2

Special Requirements: (none)

Patterns

#	Primary Pattern		Secondary Pattern	Exposures
(1)	Pattern Type=ACS-WFC-DITHER-LINE Purpose=DITHER Number Of Points=2 Point Spacing=3.011 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=85.3 Angle Between Sides= Center Pattern=true		(1-2), (3-6)

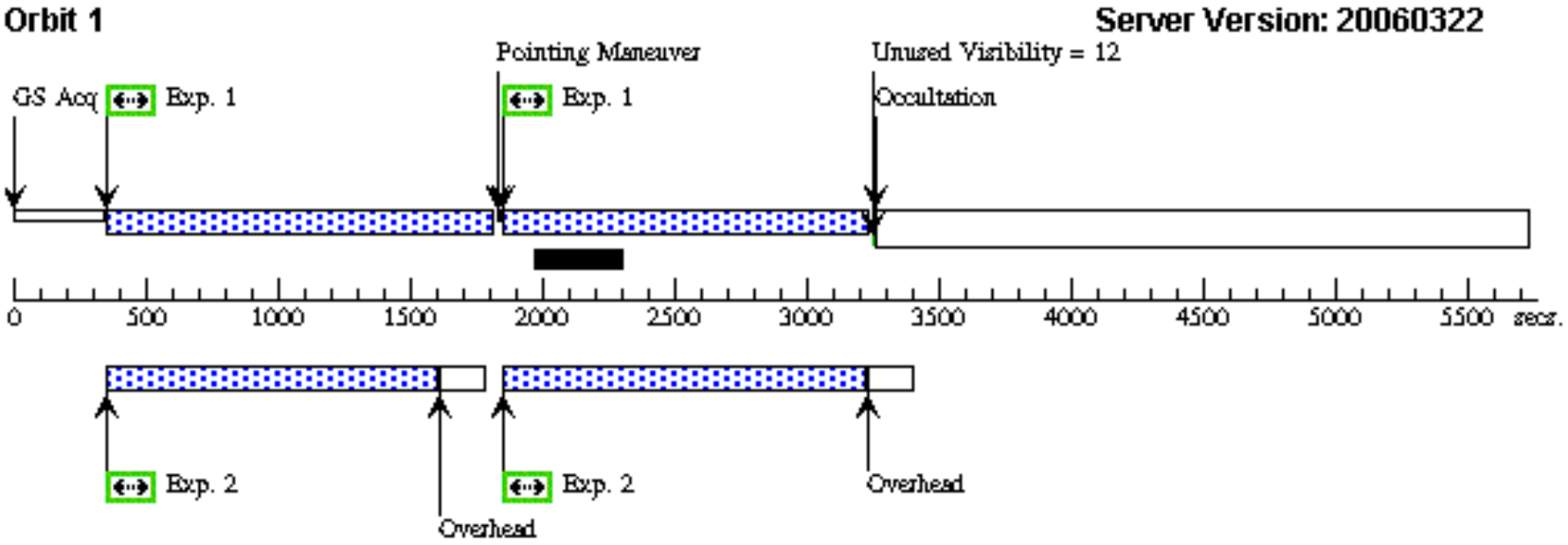
Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(6)	M83-OUTERF	RA: 13 35 43.0135 (203.9292229d) Dec: -29 43 48.80 (-29.73022d) Equinox: J2000 Plate Id: (?)		V=25.0+/-1.0	Coordinate Source: IMAGE_TIED_TO_GSC_FRAME

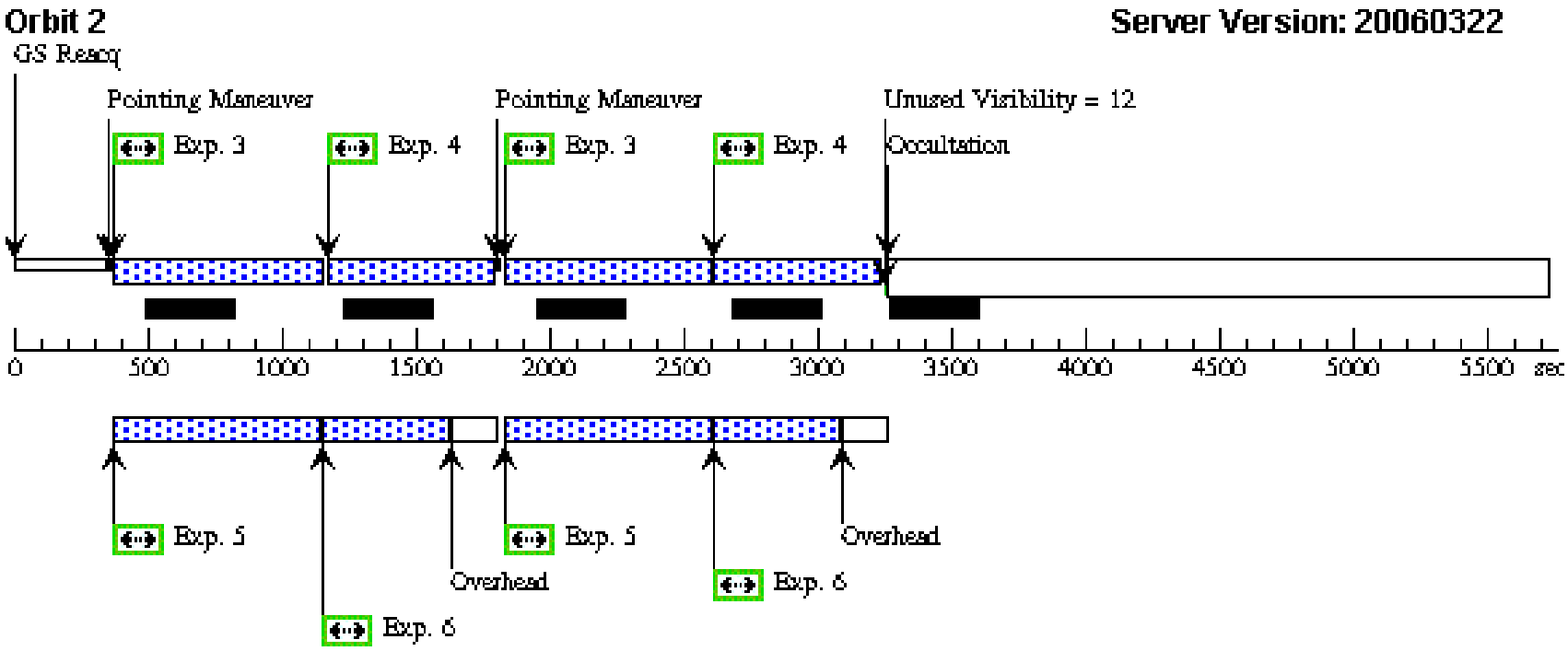
Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
1	M83-OUTERF-WFC	(6) M83-OUTERF	ACS/WFC, ACCUM, WFC-FIX	F435W	CR-SPLIT=NO		Pattern 1-2 (1)	1100.0 Secs	
							Prime + Parallel Group 1-2	*[==>1261.0 Secs (Pattern 1)]* *[==>1261.0 Secs (Pattern 2)]*	***[1]***
2		ANY	WFPC2, IMAGE, WFALL-FIX	F439W	CR-SPLIT=NO		Pattern 1-2 (1)	1100.0 Secs	
							Prime + Parallel Group 1-2	*[==>1100.0 Secs (Pattern 1)]* *[==>1200.0 Secs (Pattern 2)]*	***[1]***
3	M83-OUTERF-WFC	(6) M83-OUTERF	ACS/WFC, ACCUM, WFC-FIX	F606W	CR-SPLIT=NO		Pattern 3-6 (1)	590.0 Secs	
							Prime + Parallel Group 3-6	*[==>595.0 Secs (Pattern 1)]* *[==>595.0 Secs (Pattern 2)]*	***[2]***
4	M83-OUTERF-WFC	(6) M83-OUTERF	ACS/WFC, ACCUM, WFC-FIX	F814W	CR-SPLIT=NO		Pattern 3-6 (1)	440.0 Secs	
							Prime + Parallel Group 3-6	*[==>445.0 Secs (Pattern 1)]* *[==>445.0 Secs (Pattern 2)]*	***[2]***
5		ANY	WFPC2, IMAGE, WFALL-FIX	F606W			Pattern 3-6 (1)	500.0 Secs	
							Prime + Parallel Group 3-6	*[==>500.0 Secs (Pattern 1)]* *[==>500.0 Secs (Pattern 2)]*	***[2]***
6		ANY	WFPC2, IMAGE, WFALL-FIX	F814W			Pattern 3-6 (1)	400.0 Secs	
							Prime + Parallel Group 3-6	*[==>400.0 Secs (Pattern 1)]* *[==>400.0 Secs (Pattern 2)]*	***[2]***

Orbit Structure



Orbit Structure (continued)



Visit

Proposal 10608, Visit 07 Wed May 24 01:02:53 GMT 2006

Diagnostic Status: No Diagnostics

Scientific Instruments: ACS/SBC, WFPC2

Special Requirements: (none)

Patterns

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

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(7)	M83-OUTERG	RA: 13 35 56.2453 (203.9843554d) Dec: -29 56 27.51 (-29.94097d) Equinox: J2000 Plate Id: (?)		V=25.0+/-1.0 F_lambda(1530A) < 2.4e-15 (total) and < 5.6e-17 erg/s/cm/A (locally)	Coordinate Source: IMAGE_TIED_TO_GSC_FRAME

Comments: FUV fluxes have been measured from GALEX imagery, checking both the total anticipated flux and the flux of brightest source (possibly landing) in the the SBC FOV.

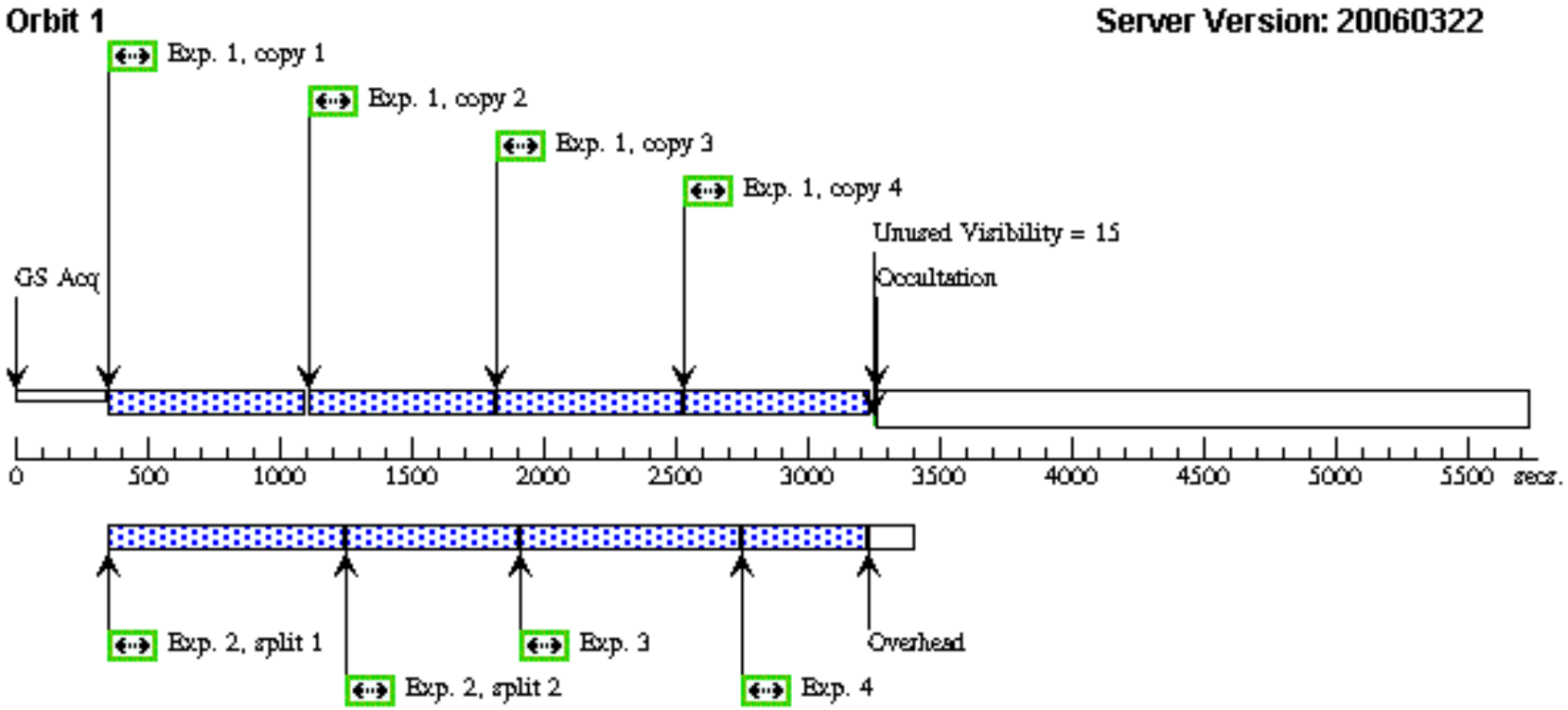
Exposures

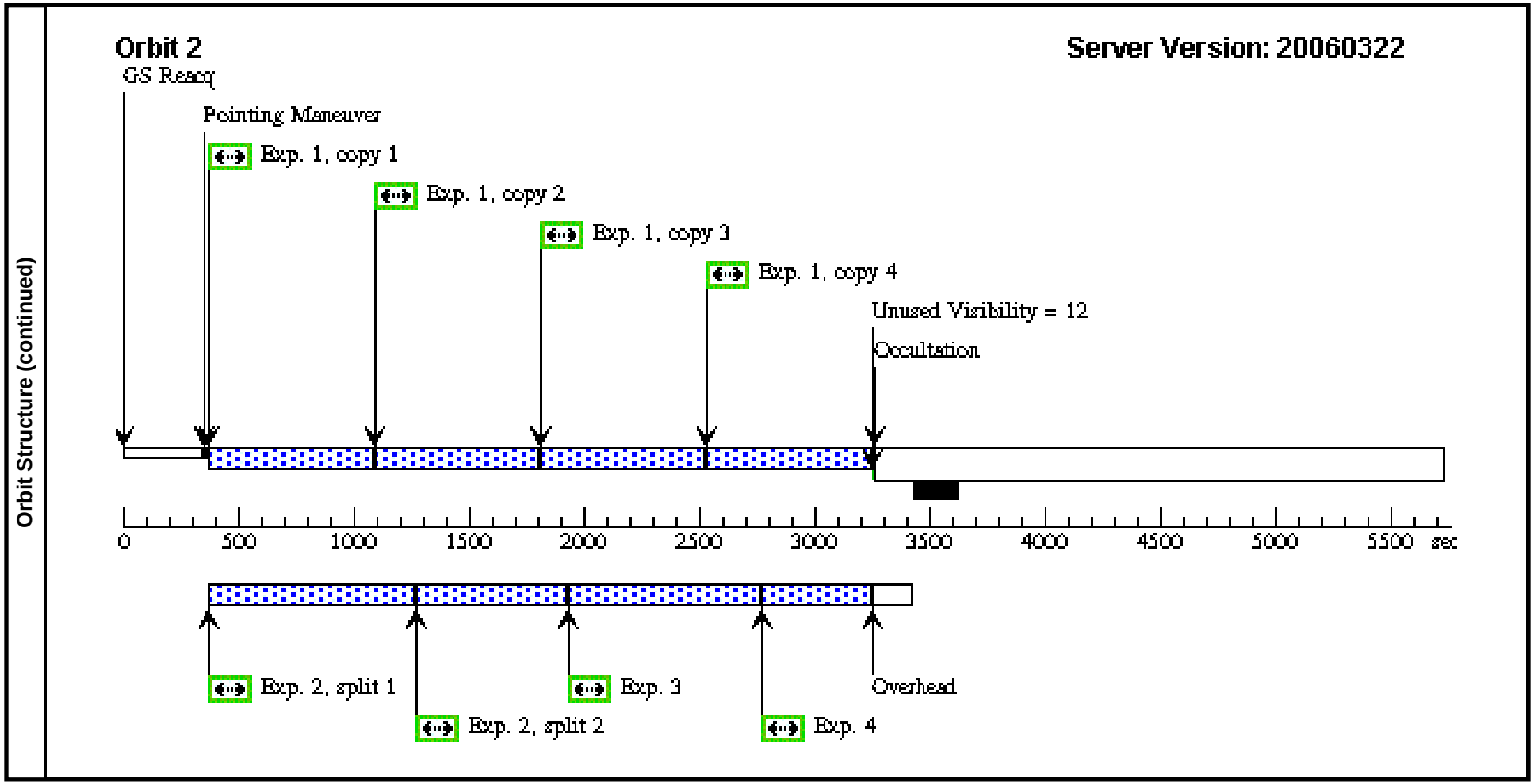
#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
1	M83-OUTERG-SBC	(7) M83-OUTERG	ACS/SBC, ACCUM, SBC-FIX	F150LP			Pattern 1-4 (2)	700.0 Secs X 4	
							Prime + Parallel Group 1-4	*[==>674.0 Secs (Pattern 1, Copy 1)]* *[==>674.0 Secs (Pattern 1, Copy 2)]* *[==>674.0 Secs (Pattern 1, Copy 3)]* *[==>674.0 Secs (Pattern 1, Copy 4)]*	***[1]***
								[==>680.0 Secs (Pattern 2, Copy 1)] *[==>680.0 Secs (Pattern 2, Copy 2)]* *[==>680.0 Secs (Pattern 2, Copy 3)]* *[==>680.0 Secs (Pattern 2, Copy 4)]*	***[2]***
2		ANY	WFPC2, IMAGE, WFALL-FIX	F439W			Pattern 1-4 (2)	1100.0 Secs	
							Prime + Parallel Group 1-4	*[==>600.0 Secs (Pattern 1, Split 1)]* *[==>500.0 Secs (Pattern 1, Split 2)]*	***[1]***
								[==>600.0 Secs (Pattern 2, Split 1)] *[==>500.0 Secs (Pattern 2, Split 2)]*	***[2]***

Exposures (continued)

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
3		ANY	WFPC2, IMAGE, WFALL-FIX	F606W			Pattern 1-4 (2)	600.0 Secs	
							Prime + Parallel Group 1-4	*[==>600.0 Secs (Pattern 1)]*	***[1]***
								[==>600.0 Secs (Pattern 2)]	***[2]***
4		ANY	WFPC2, IMAGE, WFALL-FIX	F814W			Pattern 1-4 (2)	450.0 Secs	
							Prime + Parallel Group 1-4	*[==>400.0 Secs (Pattern 1)]*	***[1]***
								[==>400.0 Secs (Pattern 2)]	***[2]***

Orbit Structure




Orbit Structure (continued)
Orbit 2
Server Version: 20060322
GS Reacq
Pointing Maneuver
Exp. 1, copy 1
Exp. 1, copy 2
Exp. 1, copy 3
Exp. 1, copy 4
Unused Visibility = 12
Occultation
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
sec
Exp. 2, split 1
Exp. 2, split 2
Exp. 3
Exp. 4
Overhead

Visit

Proposal 10608, Visit 08 Wed May 24 01:02:53 GMT 2006

Diagnostic Status: No Diagnostics

Scientific Instruments: ACS/SBC, WFPC2

Special Requirements: (none)

Patterns

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

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(8)	M83-OUTERH	RA: 13 35 56.2019 (203.9841746d) Dec: -29 58 11.01 (-29.96972d) Equinox: J2000 Plate Id: (?)		V=25.0+/-1.0 F_lambda(1530A) < 1.0e-15 (total) and < 7.6e-18 erg/s/cm/A (locally)	Coordinate Source: IMAGE_TIED_TO_GSC_FRAME

Comments: FUV fluxes have been measured from GALEX imagery, checking both the total anticipated flux and the flux of brightest source (possibly landing) in the the SBC FOV.

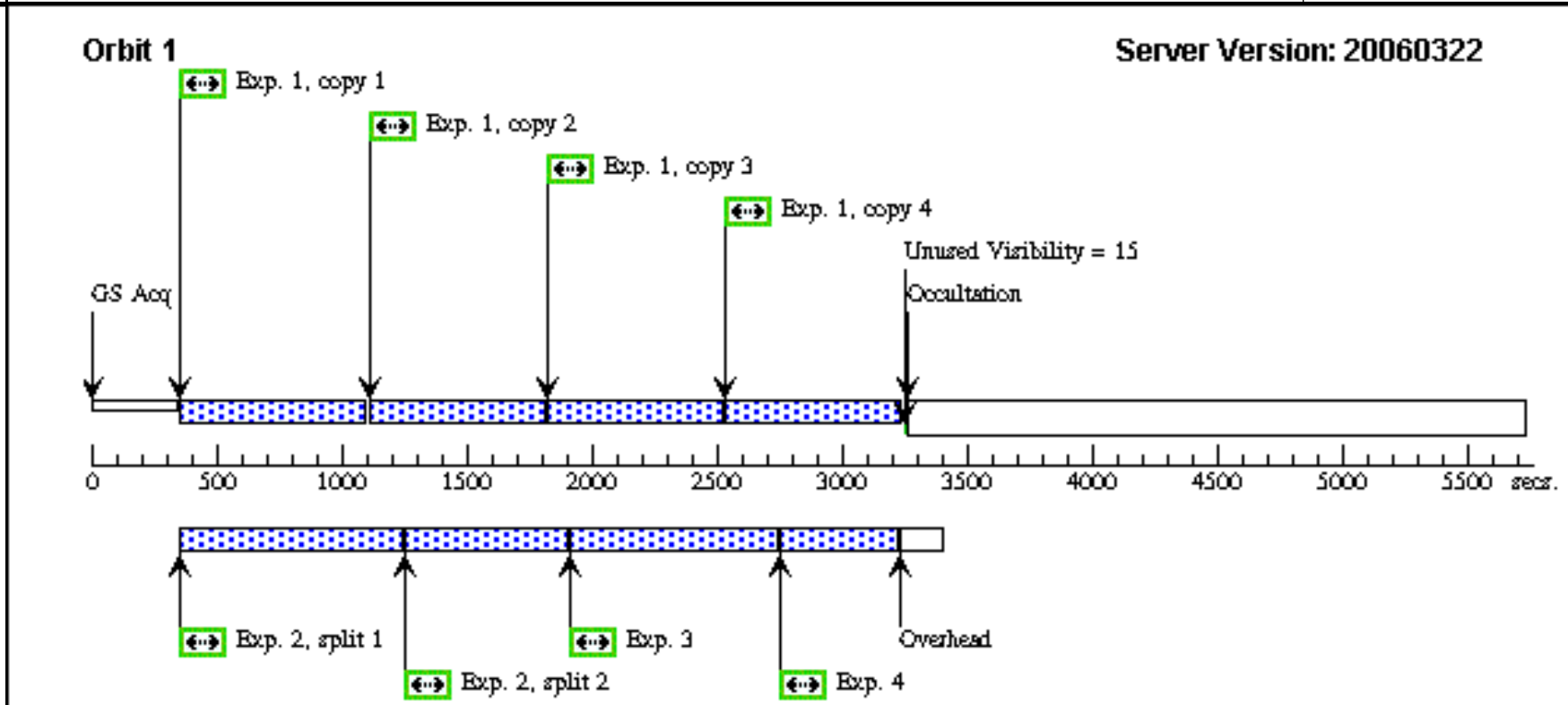
Exposures

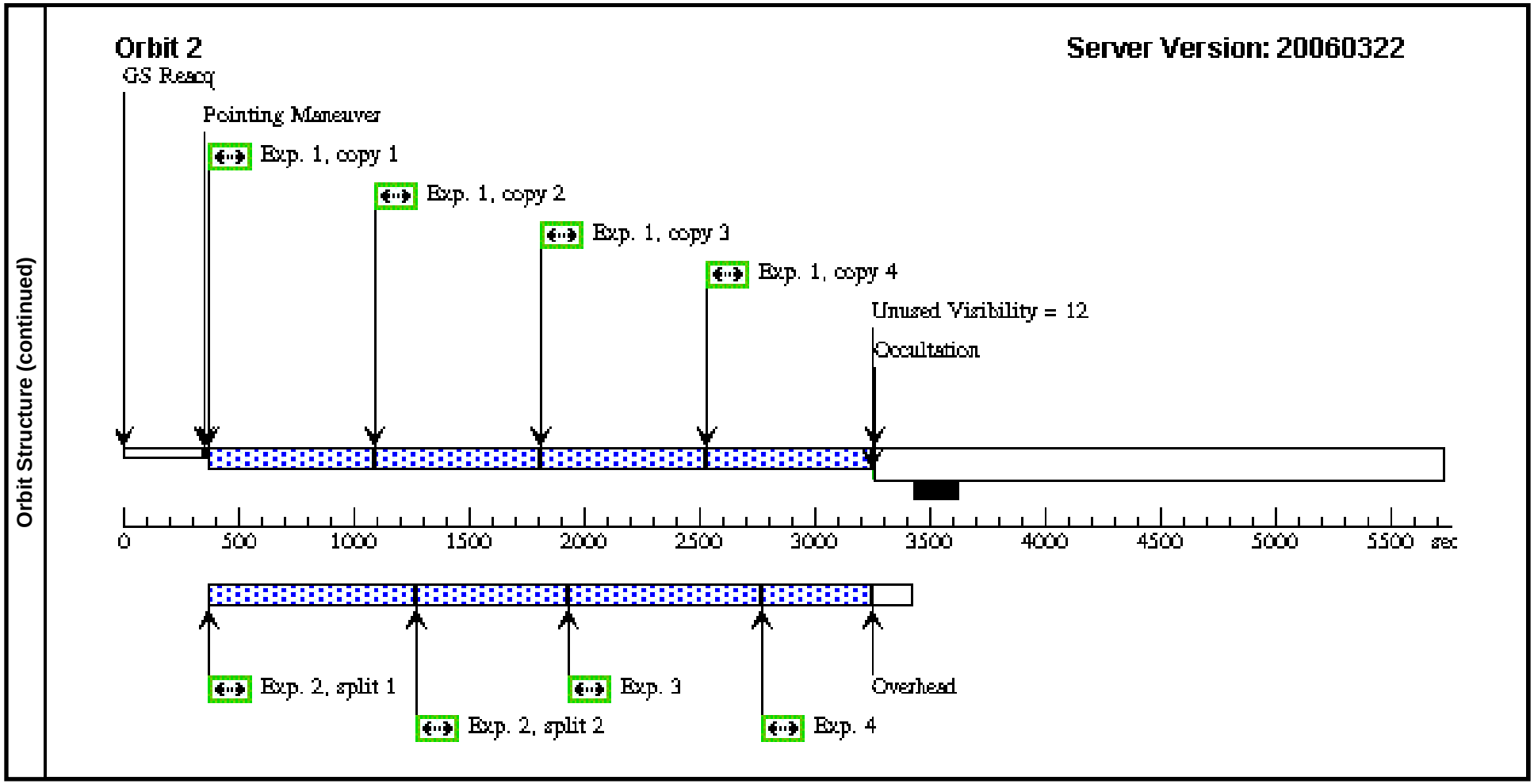
#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
1	M83-OUTERH-SBC	(8) M83-OUTERH	ACS/SBC, ACCUM, SBC-FIX	F150LP			Pattern 1-4 (2)	700.0 Secs X 4	
							Prime + Parallel Group 1-4	*[==>674.0 Secs (Pattern 1, Copy 1)]* *[==>674.0 Secs (Pattern 1, Copy 2)]* *[==>674.0 Secs (Pattern 1, Copy 3)]* *[==>674.0 Secs (Pattern 1, Copy 4)]*	***[1]***
								[==>680.0 Secs (Pattern 2, Copy 1)] *[==>680.0 Secs (Pattern 2, Copy 2)]* *[==>680.0 Secs (Pattern 2, Copy 3)]* *[==>680.0 Secs (Pattern 2, Copy 4)]*	***[2]***
2		ANY	WFPC2, IMAGE, WFALL-FIX	F439W			Pattern 1-4 (2)	1100.0 Secs	
							Prime + Parallel Group 1-4	*[==>600.0 Secs (Pattern 1, Split 1)]* *[==>500.0 Secs (Pattern 1, Split 2)]*	***[1]***
								[==>600.0 Secs (Pattern 2, Split 1)] *[==>500.0 Secs (Pattern 2, Split 2)]*	***[2]***

Exposures (continued)

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
3		ANY	WFPC2, IMAGE, WFALL-FIX	F606W			Pattern 1-4 (2)	600.0 Secs	
							Prime + Parallel Group 1-4	*[==>600.0 Secs (Pattern 1)]*	***[1]***
								[==>600.0 Secs (Pattern 2)]	***[2]***
4		ANY	WFPC2, IMAGE, WFALL-FIX	F814W			Pattern 1-4 (2)	450.0 Secs	
							Prime + Parallel Group 1-4	*[==>400.0 Secs (Pattern 1)]*	***[1]***
								[==>400.0 Secs (Pattern 2)]	***[2]***

Orbit Structure




Orbit Structure (continued)
Orbit 2
Server Version: 20060322
GS Reacq
Pointing Maneuver
Exp. 1, copy 1
Exp. 1, copy 2
Exp. 1, copy 3
Exp. 1, copy 4
Unused Visibility = 12
Occultation
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
sec
Exp. 2, split 1
Exp. 2, split 2
Exp. 3
Exp. 4
Overhead

Visit

Proposal 10608, Visit 09 Wed May 24 01:02:54 GMT 2006

Diagnostic Status: No Diagnostics

Scientific Instruments: ACS/WFC, WFPC2

Special Requirements: (none)

Patterns

#	Primary Pattern		Secondary Pattern	Exposures
(1)	Pattern Type=ACS-WFC-DITHER-LINE Purpose=DITHER Number Of Points=2 Point Spacing=3.011 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=85.3 Angle Between Sides= Center Pattern=true		(1-2), (3-6)

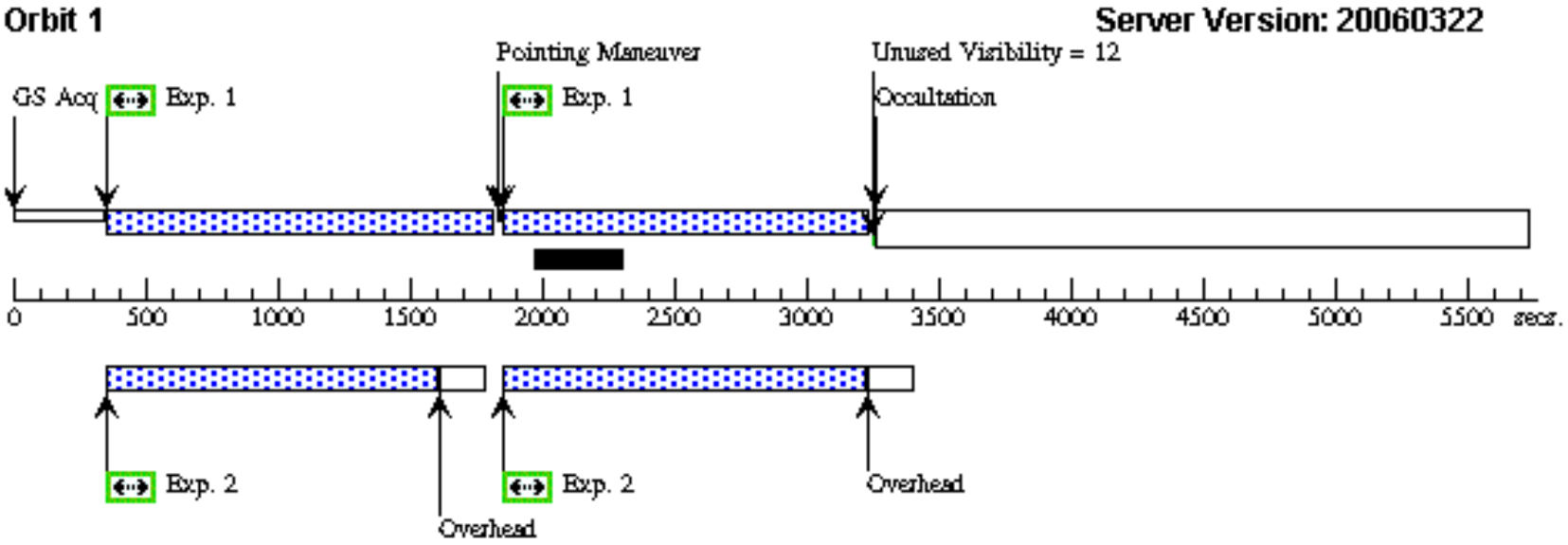
Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(9)	M83-OUTERI	RA: 13 35 56.0221 (203.9834254d) Dec: -29 57 23.02 (-29.95639d) Equinox: J2000 Plate Id: (?)		V=25.0+/-1.0	Coordinate Source: IMAGE_TIED_TO_GSC_FRAME

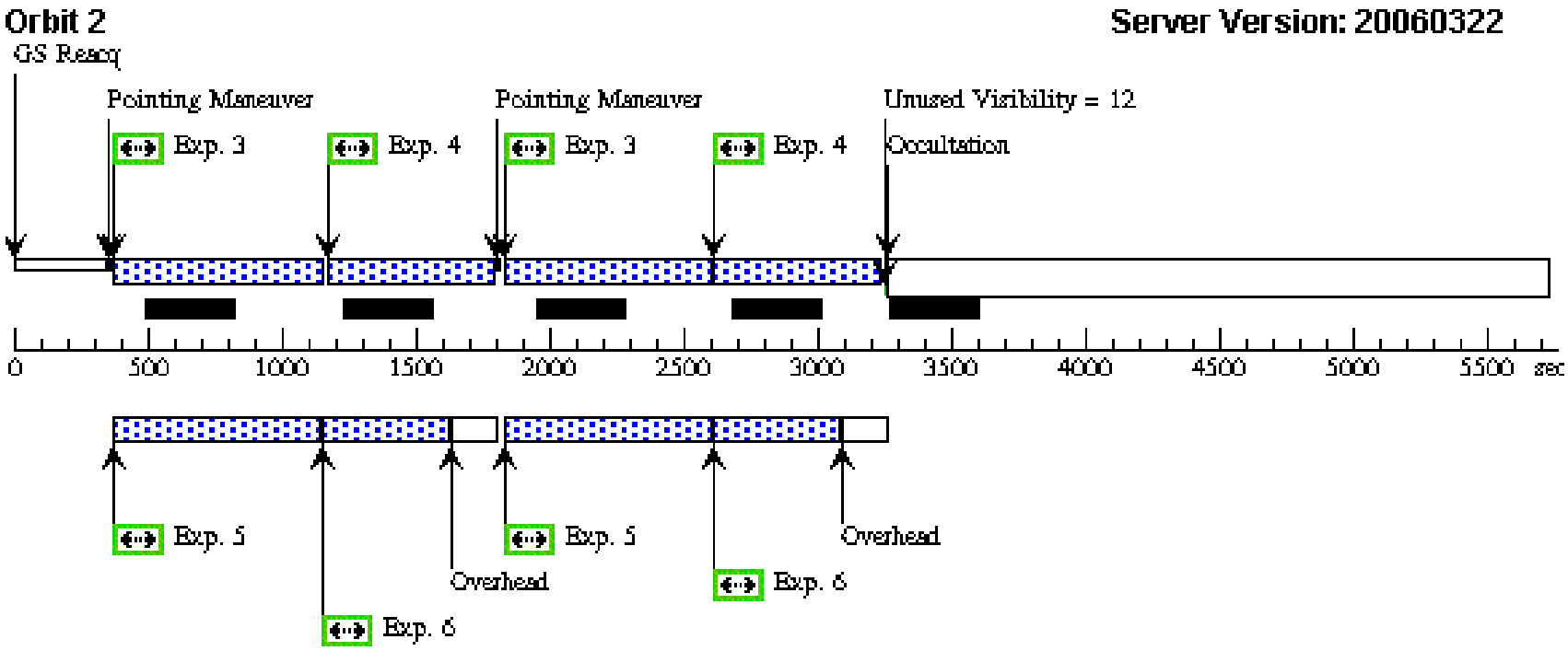
Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
1	M83-OUTERI-WFC	(9) M83-OUTERI	ACS/WFC, ACCUM, WFC-FIX	F435W	CR-SPLIT=NO		Pattern 1-2 (1)	1100.0 Secs	
							Prime + Parallel Group 1-2	*[==>1261.0 Secs (Pattern 1)]* *[==>1261.0 Secs (Pattern 2)]*	***[1]***
2		ANY	WFPC2, IMAGE, WFALL-FIX	F439W	CR-SPLIT=NO		Pattern 1-2 (1)	1100.0 Secs	
							Prime + Parallel Group 1-2	*[==>1100.0 Secs (Pattern 1)]* *[==>1200.0 Secs (Pattern 2)]*	***[1]***
3	M83-OUTERI-WFC	(9) M83-OUTERI	ACS/WFC, ACCUM, WFC-FIX	F606W	CR-SPLIT=NO		Pattern 3-6 (1)	590.0 Secs	
							Prime + Parallel Group 3-6	*[==>595.0 Secs (Pattern 1)]* *[==>595.0 Secs (Pattern 2)]*	***[2]***
4	M83-OUTERI-WFC	(9) M83-OUTERI	ACS/WFC, ACCUM, WFC-FIX	F814W	CR-SPLIT=NO		Pattern 3-6 (1)	440.0 Secs	
							Prime + Parallel Group 3-6	*[==>445.0 Secs (Pattern 1)]* *[==>445.0 Secs (Pattern 2)]*	***[2]***
5		ANY	WFPC2, IMAGE, WFALL-FIX	F606W			Pattern 3-6 (1)	500.0 Secs	
							Prime + Parallel Group 3-6	*[==>500.0 Secs (Pattern 1)]* *[==>500.0 Secs (Pattern 2)]*	***[2]***
6		ANY	WFPC2, IMAGE, WFALL-FIX	F814W			Pattern 3-6 (1)	400.0 Secs	
							Prime + Parallel Group 3-6	*[==>400.0 Secs (Pattern 1)]* *[==>400.0 Secs (Pattern 2)]*	***[2]***

Orbit Structure



Orbit Structure (continued)



Visit

Proposal 10608, Visit 10 Wed May 24 01:02:55 GMT 2006

Diagnostic Status: No Diagnostics

Scientific Instruments: ACS/SBC, WFPC2

Special Requirements: (none)

Patterns

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

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(10)	M83-OUTERJ	RA: 13 36 59.4300 (204.2476250d) Dec: -30 05 46.00 (-30.09611d) Equinox: J2000 Plate Id: (?)		V=25.0+/-1.0 F_lambda(1530A) < 2.1e-15 (total) and < 1.4e-17 erg/s/cm/A (locally)	Coordinate Source: IMAGE_TIED_TO_GSC_FRAME

Comments: FUV fluxes have been measured from GALEX imagery, checking both the total anticipated flux and the flux of brightest source (possibly landing) in the the SBC FOV.

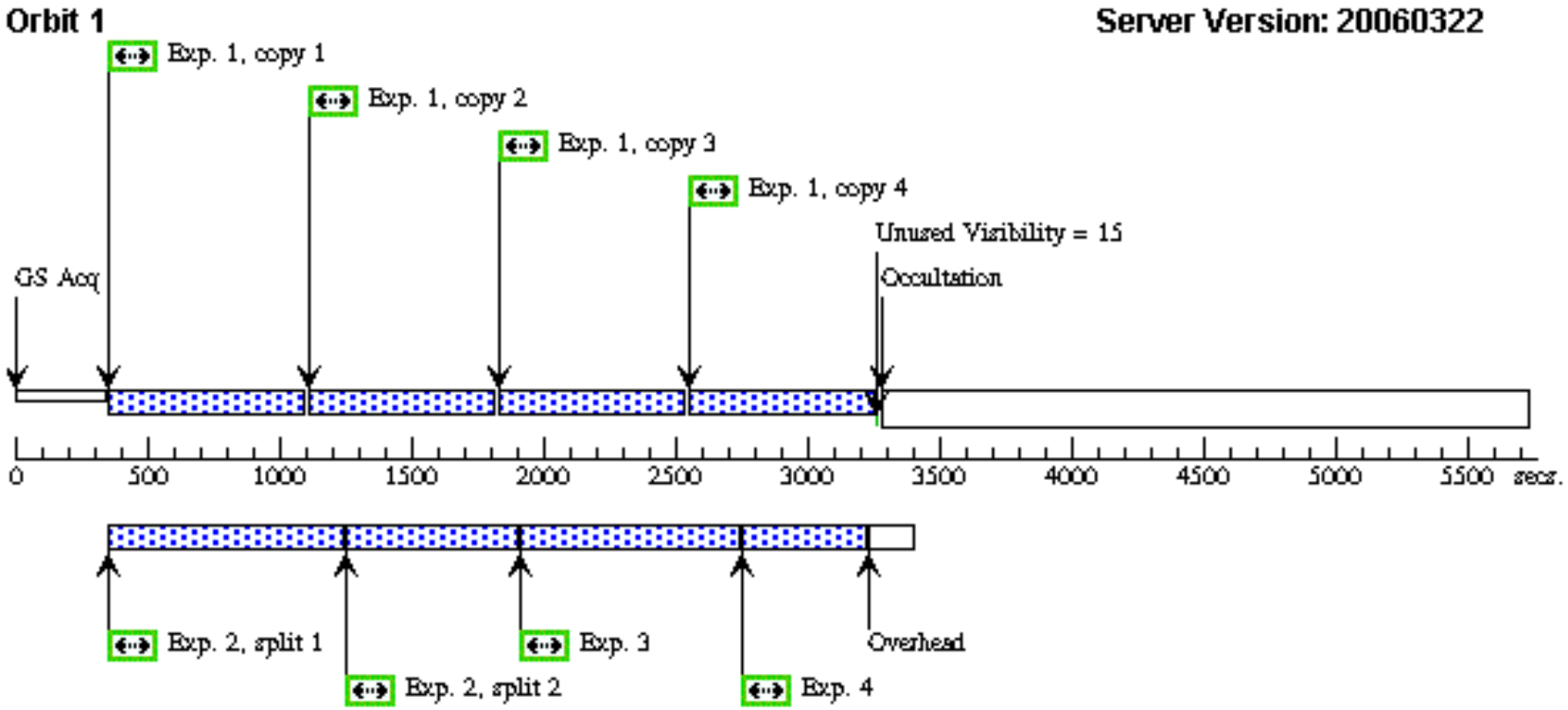
Exposures

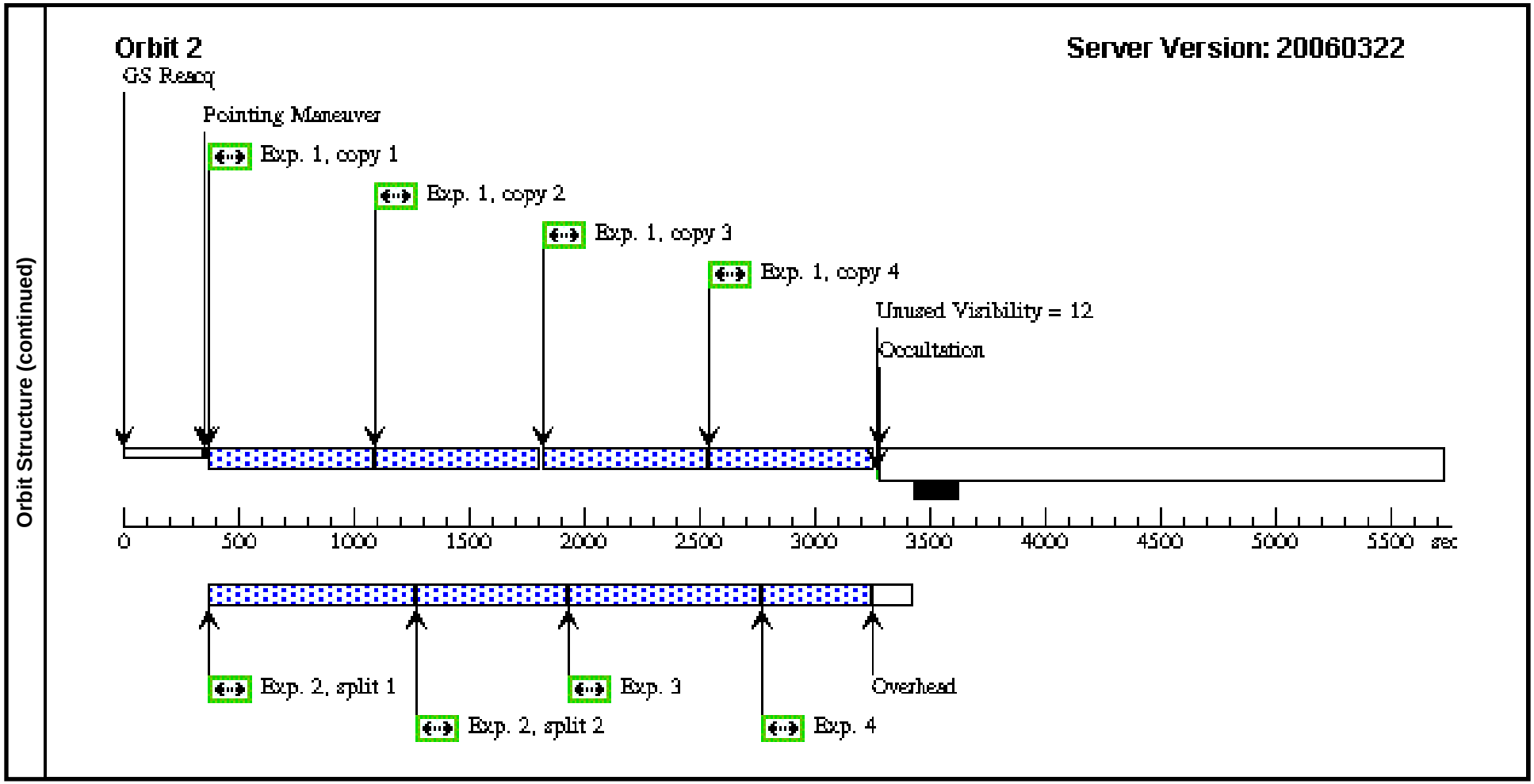
#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
1	M83-OUTERJ-SBC	(10) M83-OUTERJ	ACS/SBC, ACCUM, SBC-FIX	F150LP			Pattern 1-4 (2)	700.0 Secs X 4	
							Prime + Parallel Group 1-4	*[==>678.0 Secs (Pattern 1, Copy 1)]* *[==>678.0 Secs (Pattern 1, Copy 2)]* *[==>678.0 Secs (Pattern 1, Copy 3)]* *[==>678.0 Secs (Pattern 1, Copy 4)]*	***[1]***
								[==>684.0 Secs (Pattern 2, Copy 1)] *[==>684.0 Secs (Pattern 2, Copy 2)]* *[==>684.0 Secs (Pattern 2, Copy 3)]* *[==>684.0 Secs (Pattern 2, Copy 4)]*	***[2]***
2		ANY	WFPC2, IMAGE, WFALL-FIX	F439W			Pattern 1-4 (2)	1100.0 Secs	
							Prime + Parallel Group 1-4	*[==>600.0 Secs (Pattern 1, Split 1)]* *[==>500.0 Secs (Pattern 1, Split 2)]*	***[1]***
								[==>600.0 Secs (Pattern 2, Split 1)] *[==>500.0 Secs (Pattern 2, Split 2)]*	***[2]***

Exposures (continued)

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
3		ANY	WFPC2, IMAGE, WFALL-FIX	F606W			Pattern 1-4 (2)	600.0 Secs	
							Prime + Parallel Group 1-4	*[==>600.0 Secs (Pattern 1)]*	***[1]***
								[==>600.0 Secs (Pattern 2)]	***[2]***
4		ANY	WFPC2, IMAGE, WFALL-FIX	F814W			Pattern 1-4 (2)	450.0 Secs	
							Prime + Parallel Group 1-4	*[==>400.0 Secs (Pattern 1)]*	***[1]***
								[==>400.0 Secs (Pattern 2)]	***[2]***

Orbit Structure




Orbit Structure (continued)
Orbit 2
Server Version: 20060322
GS Reacq
Pointing Maneuver
Exp. 1, copy 1
Exp. 1, copy 2
Exp. 1, copy 3
Exp. 1, copy 4
Unused Visibility = 12
Occultation
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
sec
Exp. 2, split 1
Exp. 2, split 2
Exp. 3
Exp. 4
Overhead

Visit

Proposal 10608, Visit 11 Wed May 24 01:02:55 GMT 2006

Diagnostic Status: No Diagnostics

Scientific Instruments: ACS/SBC, WFPC2

Special Requirements: (none)

Patterns

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

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(11)	M83-OUTERK	RA: 13 36 58.7449 (204.2447704d) Dec: -30 06 16.89 (-30.10469d) Equinox: J2000 Plate Id: (?)		V=25.0+/-1.0 F_lambda(1530A) < 1.9e-15 (total) and < 9.5e-18 erg/s/cm/A (locally)	Coordinate Source: IMAGE_TIED_TO_GSC_FRAME

Comments: FUV fluxes have been measured from GALEX imagery, checking both the total anticipated flux and the flux of brightest source (possibly landing) in the the SBC FOV.

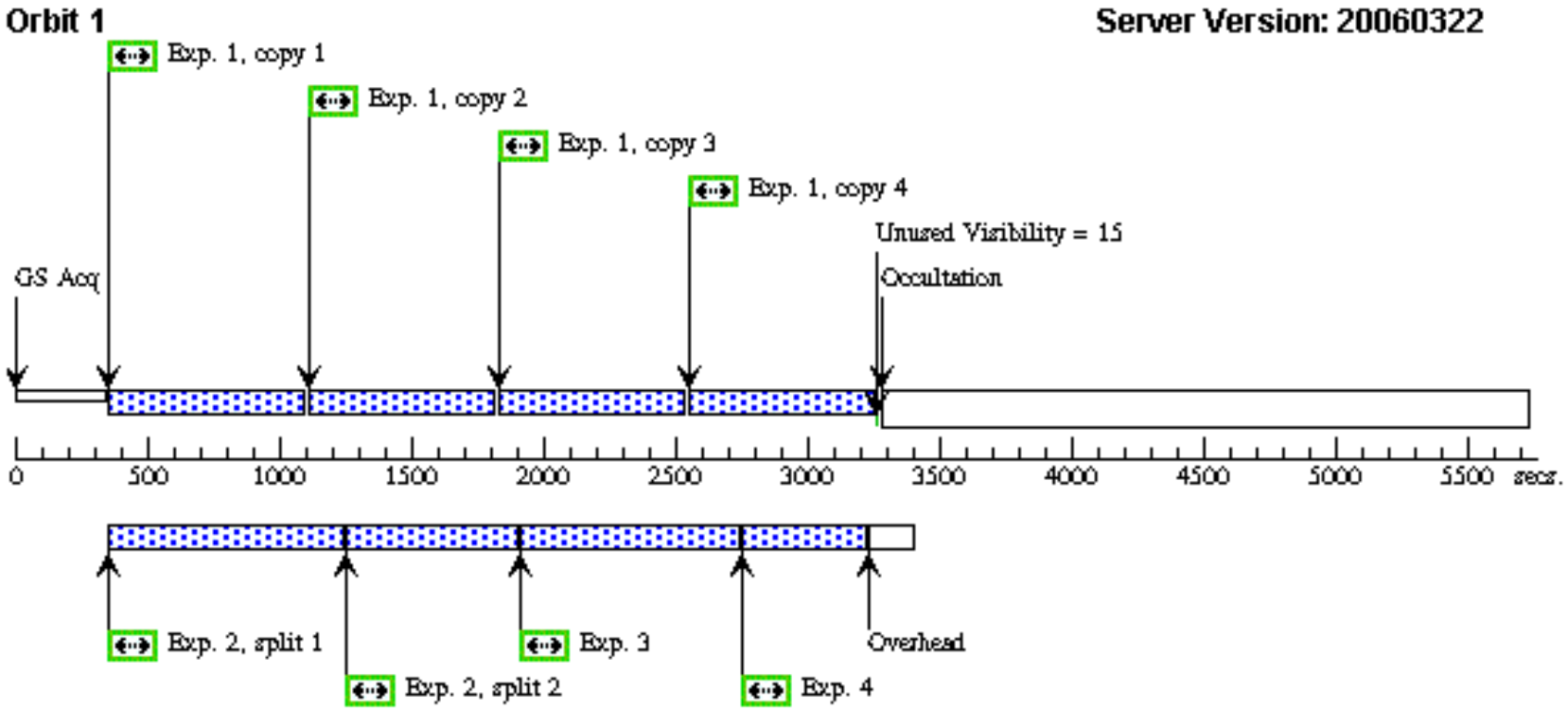
Exposures

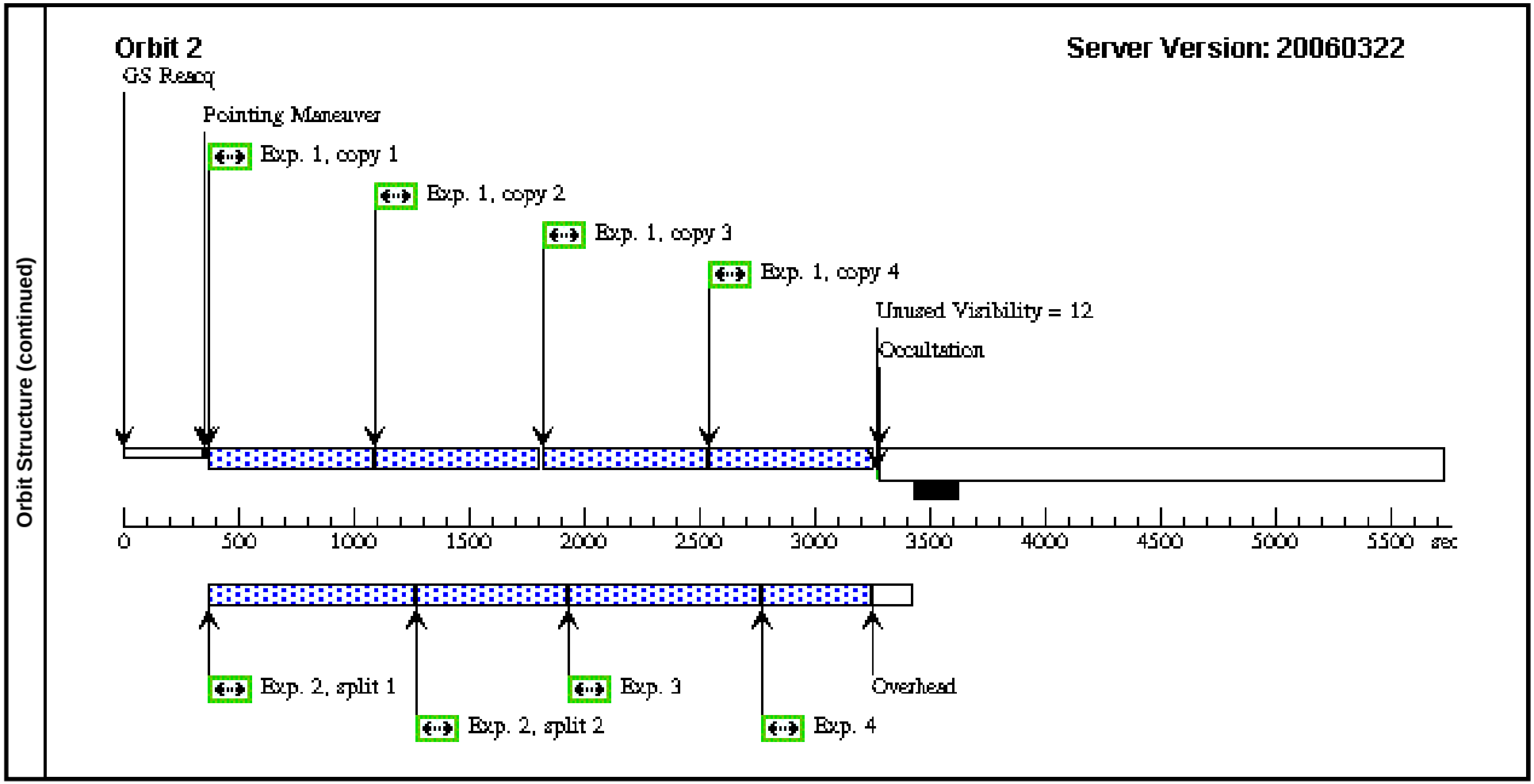
#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
1	M83-OUTERK-SBC	(11) M83-OUTERK	ACS/SBC, ACCUM, SBC-FIX	F150LP			Pattern 1-4 (2)	700.0 Secs X 4	
							Prime + Parallel Group 1-4	*[==>678.0 Secs (Pattern 1, Copy 1)]* *[==>678.0 Secs (Pattern 1, Copy 2)]* *[==>678.0 Secs (Pattern 1, Copy 3)]* *[==>678.0 Secs (Pattern 1, Copy 4)]*	***[1]***
								[==>684.0 Secs (Pattern 2, Copy 1)] *[==>684.0 Secs (Pattern 2, Copy 2)]* *[==>684.0 Secs (Pattern 2, Copy 3)]* *[==>684.0 Secs (Pattern 2, Copy 4)]*	***[2]***
2		ANY	WFPC2, IMAGE, WFALL-FIX	F439W			Pattern 1-4 (2)	1100.0 Secs	
							Prime + Parallel Group 1-4	*[==>600.0 Secs (Pattern 1, Split 1)]* *[==>500.0 Secs (Pattern 1, Split 2)]*	***[1]***
								[==>600.0 Secs (Pattern 2, Split 1)] *[==>500.0 Secs (Pattern 2, Split 2)]*	***[2]***

Exposures (continued)

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
3		ANY	WFPC2, IMAGE, WFALL-FIX	F606W			Pattern 1-4 (2)	600.0 Secs	
							Prime + Parallel Group 1-4	*[==>600.0 Secs (Pattern 1)]*	***[1]***
								[==>600.0 Secs (Pattern 2)]	***[2]***
4		ANY	WFPC2, IMAGE, WFALL-FIX	F814W			Pattern 1-4 (2)	450.0 Secs	
							Prime + Parallel Group 1-4	*[==>400.0 Secs (Pattern 1)]*	***[1]***
								[==>400.0 Secs (Pattern 2)]	***[2]***

Orbit Structure




Orbit Structure (continued)
Orbit 2
Server Version: 20060322
GS Reacq
Pointing Maneuver
Exp. 1, copy 1
Exp. 1, copy 2
Exp. 1, copy 3
Exp. 1, copy 4
Unused Visibility = 12
Occultation
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
sec
Exp. 2, split 1
Exp. 2, split 2
Exp. 3
Exp. 4
Overhead

Visit

Proposal 10608, Visit 12 Wed May 24 01:02:56 GMT 2006

Diagnostic Status: No Diagnostics

Scientific Instruments: ACS/WFC, WFPC2

Special Requirements: (none)

Patterns

#	Primary Pattern		Secondary Pattern	Exposures
(1)	Pattern Type=ACS-WFC-DITHER-LINE Purpose=DITHER Number Of Points=2 Point Spacing=3.011 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=85.3 Angle Between Sides= Center Pattern=true		(1-2), (3-6)

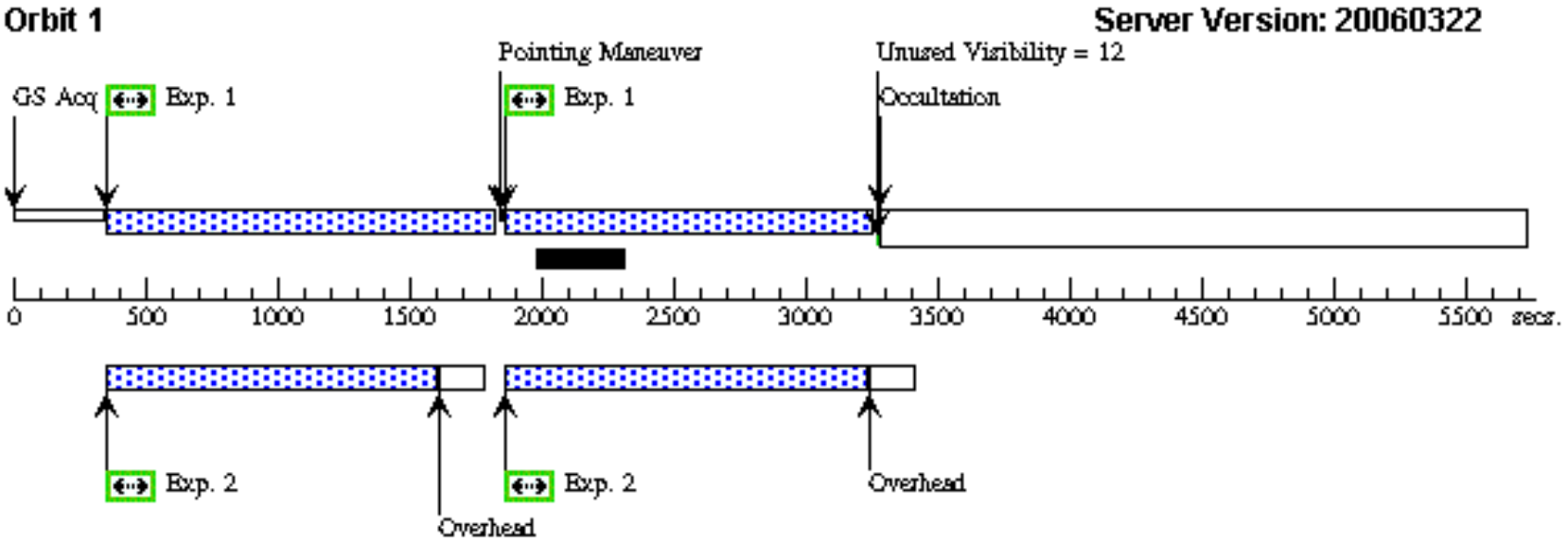
Fixed Targets

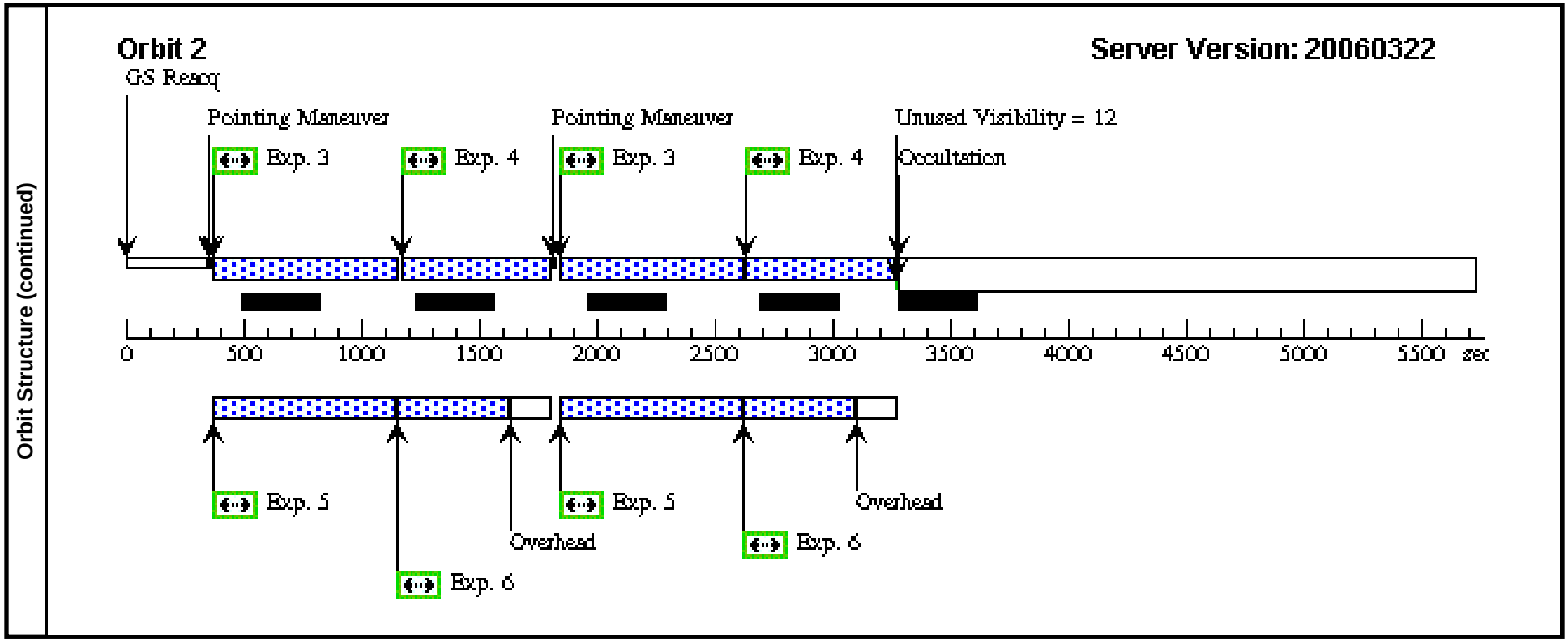
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(12)	M83-OUTERL	RA: 13 36 56.9032 (204.2370967d) Dec: -30 06 41.73 (-30.11159d) Equinox: J2000 Plate Id: (?)		V=25.0+/-1.0	Coordinate Source: IMAGE_TIED_TO_GSC_FRAME

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
1	M83-OUTERL-WFC	(12) M83-OUTERL	ACS/WFC, ACCUM, WFC-FIX	F435W	CR-SPLIT=NO		Pattern 1-2 (1)	1100.0 Secs	
							Prime + Parallel Group 1-2	*[==>1269.0 Secs (Pattern 1)]* *[==>1269.0 Secs (Pattern 2)]*	***[1]***
2		ANY	WFPC2, IMAGE, WFALL-FIX	F439W	CR-SPLIT=NO		Pattern 1-2 (1)	1100.0 Secs	
							Prime + Parallel Group 1-2	*[==>1100.0 Secs (Pattern 1)]* *[==>1200.0 Secs (Pattern 2)]*	***[1]***
3	M83-OUTERL-WFC	(12) M83-OUTERL	ACS/WFC, ACCUM, WFC-FIX	F606W	CR-SPLIT=NO		Pattern 3-6 (1)	590.0 Secs	
							Prime + Parallel Group 3-6	*[==>599.0 Secs (Pattern 1)]* *[==>599.0 Secs (Pattern 2)]*	***[2]***
4	M83-OUTERL-WFC	(12) M83-OUTERL	ACS/WFC, ACCUM, WFC-FIX	F814W	CR-SPLIT=NO		Pattern 3-6 (1)	440.0 Secs	
							Prime + Parallel Group 3-6	*[==>449.0 Secs (Pattern 1)]* *[==>449.0 Secs (Pattern 2)]*	***[2]***
5		ANY	WFPC2, IMAGE, WFALL-FIX	F606W			Pattern 3-6 (1)	500.0 Secs	
							Prime + Parallel Group 3-6	*[==>500.0 Secs (Pattern 1)]* *[==>500.0 Secs (Pattern 2)]*	***[2]***
6		ANY	WFPC2, IMAGE, WFALL-FIX	F814W			Pattern 3-6 (1)	400.0 Secs	
							Prime + Parallel Group 3-6	*[==>400.0 Secs (Pattern 1)]* *[==>400.0 Secs (Pattern 2)]*	***[2]***

Orbit Structure




Orbit Structure (continued)
Orbit 2
Server Version: 20060322
GS Reacq
Pointing Maneuver
Pointing Maneuver
Unused Visibility = 12
Exp. 3
Exp. 4
Exp. 3
Exp. 4
Occultation
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
sec
Exp. 5
Exp. 5
Overhead
Overhead
Exp. 6
Exp. 6

Visit

Proposal 10608, Visit 53 Wed May 24 01:02:56 GMT 2006

Diagnostic Status: No Diagnostics

Scientific Instruments: ACS/WFC, WFPC2

Special Requirements: ORIENT 126.0D TO 127.26 D

Patterns

#	Primary Pattern		Secondary Pattern	Exposures
(1)	Pattern Type=ACS-WFC-DITHER-LINE Purpose=DITHER Number Of Points=2 Point Spacing=3.011 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=85.3 Angle Between Sides= Center Pattern=true		(1-2), (3-6)

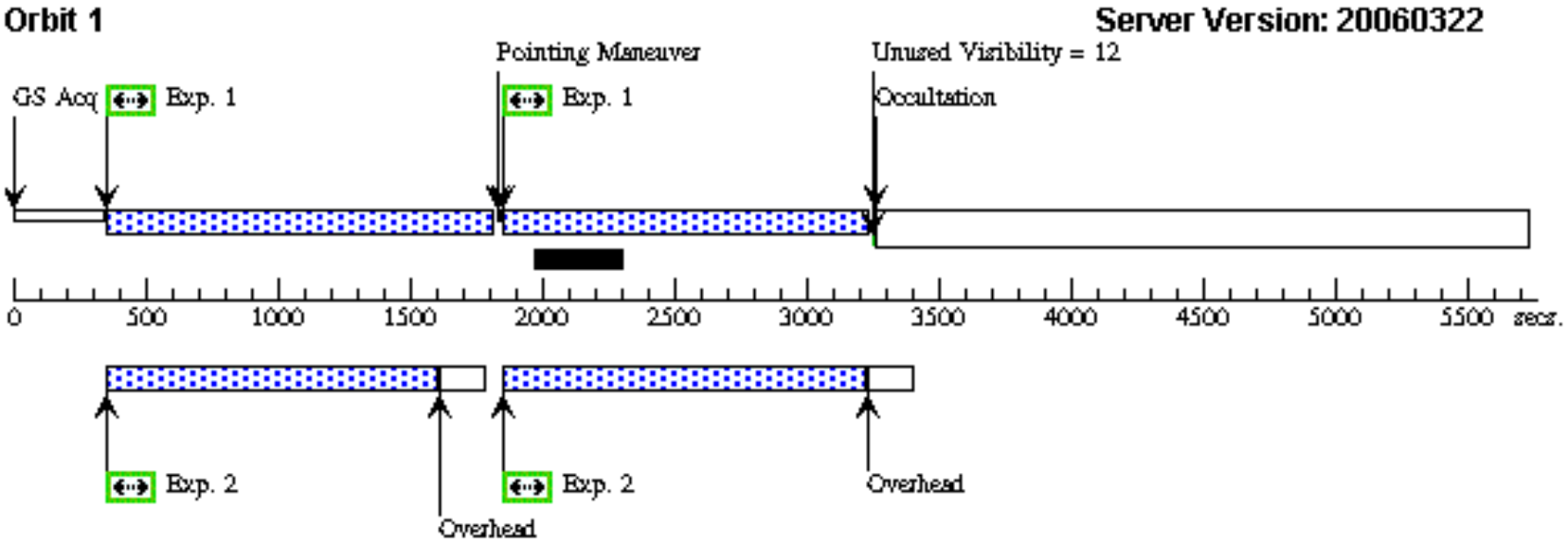
Fixed Targets

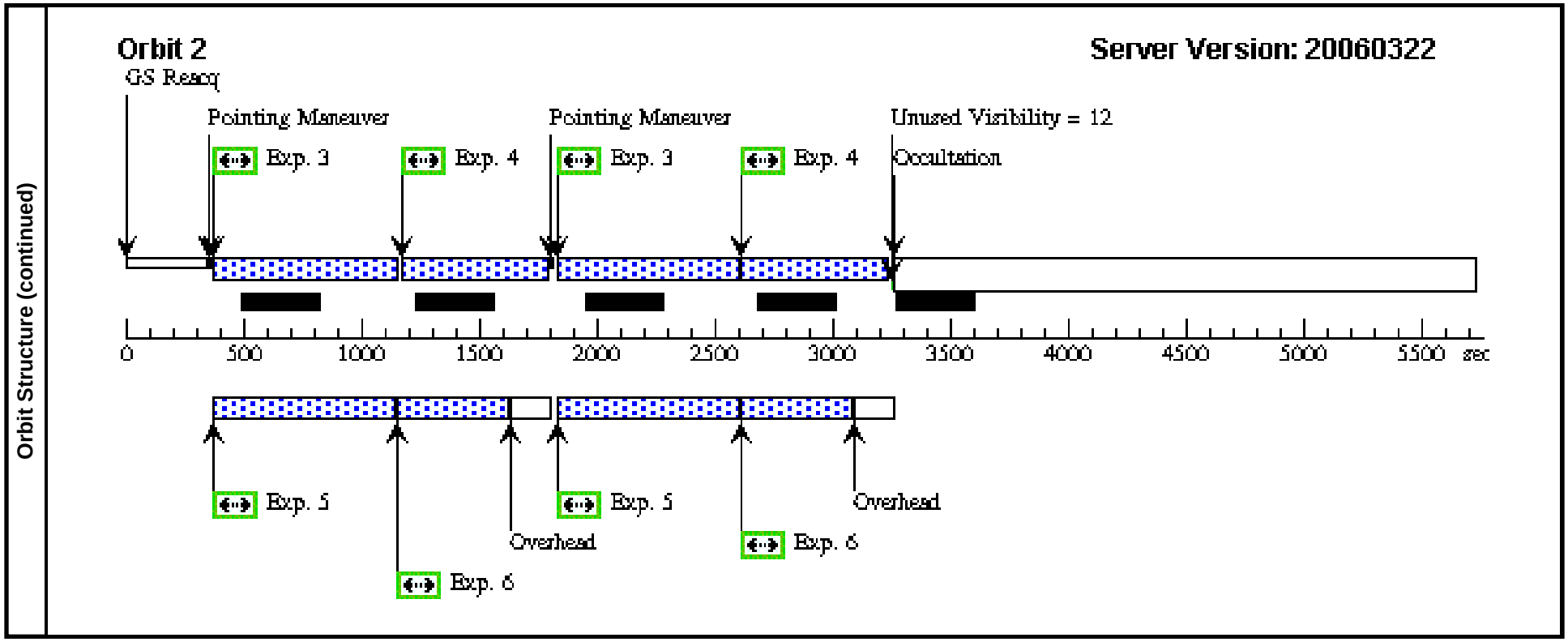
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(13)	M83-OUTERC-COPY	RA: 13 36 55.1480 (204.2297833d) Dec: -29 41 49.85 (-29.69718d) Equinox: J2000 Plate Id: (?)		V=25.0+/-1.0	Coordinate Source: IMAGE_TIED_TO_GSC_FRAME

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
1	M83-OUTERC-WFC	(13) M83-OUTERC-COPY	ACS/WFC, ACCUM, WFC-FIX	F435W	CR-SPLIT=NO		Pattern 1-2 (1)	1100.0 Secs	
							Prime + Parallel Group 1-2	*[==>1261.0 Secs (Pattern 1)]* *[==>1261.0 Secs (Pattern 2)]*	***[1]***
2		ANY	WFPC2, IMAGE, WFALL-FIX	F439W	CR-SPLIT=NO		Pattern 1-2 (1)	1100.0 Secs	
							Prime + Parallel Group 1-2	*[==>1100.0 Secs (Pattern 1)]* *[==>1200.0 Secs (Pattern 2)]*	***[1]***
3	M83-OUTERC-WFC	(13) M83-OUTERC-COPY	ACS/WFC, ACCUM, WFC-FIX	F606W	CR-SPLIT=NO		Pattern 3-6 (1)	590.0 Secs	
							Prime + Parallel Group 3-6	*[==>595.0 Secs (Pattern 1)]* *[==>595.0 Secs (Pattern 2)]*	***[2]***
4	M83-OUTERC-WFC	(13) M83-OUTERC-COPY	ACS/WFC, ACCUM, WFC-FIX	F814W	CR-SPLIT=NO		Pattern 3-6 (1)	440.0 Secs	
							Prime + Parallel Group 3-6	*[==>445.0 Secs (Pattern 1)]* *[==>445.0 Secs (Pattern 2)]*	***[2]***
5		ANY	WFPC2, IMAGE, WFALL-FIX	F606W			Pattern 3-6 (1)	500.0 Secs	
							Prime + Parallel Group 3-6	*[==>500.0 Secs (Pattern 1)]* *[==>500.0 Secs (Pattern 2)]*	***[2]***
6		ANY	WFPC2, IMAGE, WFALL-FIX	F814W			Pattern 3-6 (1)	400.0 Secs	
							Prime + Parallel Group 3-6	*[==>400.0 Secs (Pattern 1)]* *[==>400.0 Secs (Pattern 2)]*	***[2]***

Orbit Structure




Orbit Structure (continued)
Orbit 2
Server Version: 20060322
GS Reacq
Pointing Maneuver
Pointing Maneuver
Unused Visibility = 12
Exp. 3
Exp. 4
Exp. 3
Exp. 4
Occultation
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
sec
Exp. 5
Exp. 5
Overhead
Overhead
Exp. 6
Exp. 6

Visit

Proposal 10608, Visit 62 Wed May 24 01:02:57 GMT 2006

Diagnostic Status: No Diagnostics

Scientific Instruments: ACS/WFC, WFPC2

Special Requirements: ORIENT 126.34D TO 127.25 D

Patterns

#	Primary Pattern		Secondary Pattern	Exposures
(1)	Pattern Type=ACS-WFC-DITHER-LINE Purpose=DITHER Number Of Points=2 Point Spacing=3.011 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=85.3 Angle Between Sides= Center Pattern=true		(1-2), (3-6)

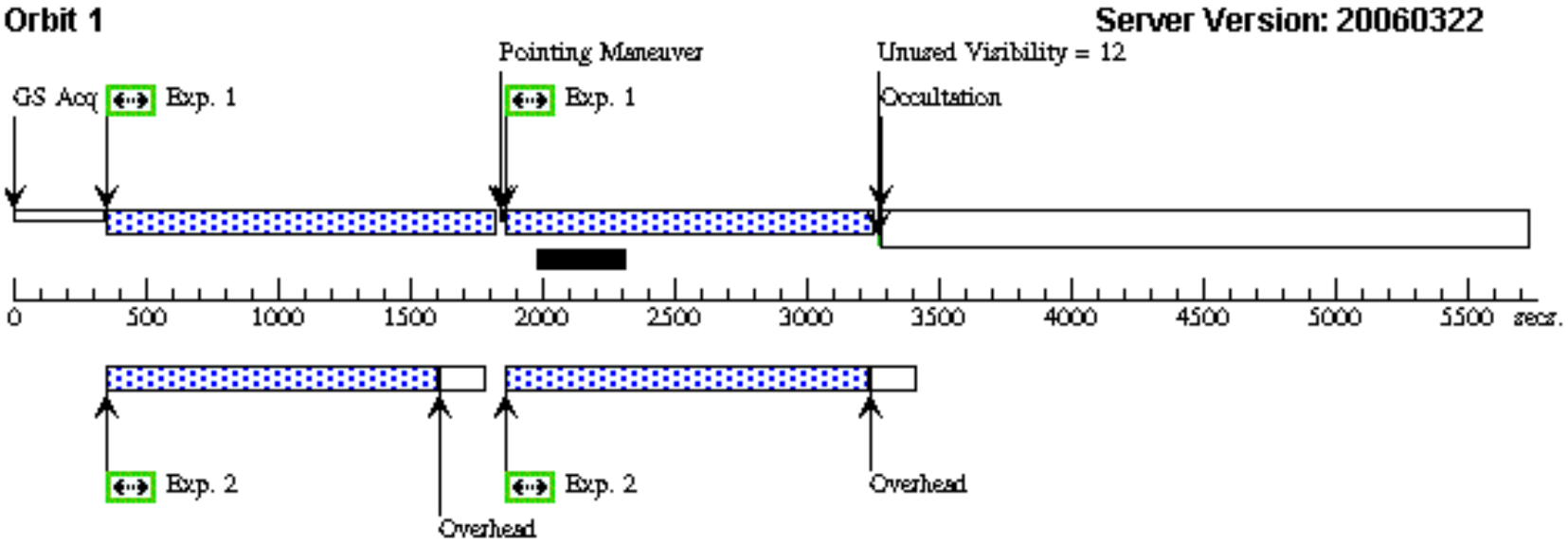
Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(14)	M83-OUTERL-COPY	RA: 13 37 0.7416 (204.2530900d) Dec: -30 07 30.39 (-30.12511d) Equinox: J2000 Plate Id: (?)		V=25.0+/-1.0	Coordinate Source: IMAGE_TIED_TO_GSC_FRAME

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
1	M83-OUTERL-WFC	(14) M83-OUTERL-COPY	ACS/WFC, ACCUM, WFC-FIX	F435W	CR-SPLIT=NO		Pattern 1-2 (1)	1100.0 Secs	
							Prime + Parallel Group 1-2	*[==>1269.0 Secs (Pattern 1)]* *[==>1269.0 Secs (Pattern 2)]*	***[1]***
2		ANY	WFPC2, IMAGE, WFALL-FIX	F439W	CR-SPLIT=NO		Pattern 1-2 (1)	1100.0 Secs	
							Prime + Parallel Group 1-2	*[==>1100.0 Secs (Pattern 1)]* *[==>1200.0 Secs (Pattern 2)]*	***[1]***
3	M83-OUTERL-WFC	(14) M83-OUTERL-COPY	ACS/WFC, ACCUM, WFC-FIX	F606W	CR-SPLIT=NO		Pattern 3-6 (1)	590.0 Secs	
							Prime + Parallel Group 3-6	*[==>599.0 Secs (Pattern 1)]* *[==>599.0 Secs (Pattern 2)]*	***[2]***
4	M83-OUTERL-WFC	(14) M83-OUTERL-COPY	ACS/WFC, ACCUM, WFC-FIX	F814W	CR-SPLIT=NO		Pattern 3-6 (1)	440.0 Secs	
							Prime + Parallel Group 3-6	*[==>449.0 Secs (Pattern 1)]* *[==>449.0 Secs (Pattern 2)]*	***[2]***
5		ANY	WFPC2, IMAGE, WFALL-FIX	F606W			Pattern 3-6 (1)	500.0 Secs	
							Prime + Parallel Group 3-6	*[==>500.0 Secs (Pattern 1)]* *[==>500.0 Secs (Pattern 2)]*	***[2]***
6		ANY	WFPC2, IMAGE, WFALL-FIX	F814W			Pattern 3-6 (1)	400.0 Secs	
							Prime + Parallel Group 3-6	*[==>400.0 Secs (Pattern 1)]* *[==>400.0 Secs (Pattern 2)]*	***[2]***

Orbit Structure



Orbit Structure (continued)