13306 - Is the Size Evolution of Massive Galaxies Accelerated in Cluster Environments?

Cycle: 21, 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) J033056-284300	WFC3/IR	2	01-Oct-2013 21:03:54.0	yes
02	(1) J033056-284300	WFC3/IR	2	01-Oct-2013 21:04:06.0	yes
03	(2) J022426-032330	WFC3/IR	2	01-Oct-2013 21:04:16.0	yes
04	(2) J022426-032330	WFC3/IR	2	01-Oct-2013 21:04:26.0	yes
05	(3) J022546-035517	WFC3/IR	2	01-Oct-2013 21:04:35.0	yes
06	(3) J022546-035517	WFC3/IR	2	01-Oct-2013 21:04:45.0	yes
07	(4) J105348+580444	WFC3/IR	2	01-Oct-2013 21:04:54.0	yes
08	(4) J105348+580444	WFC3/IR	2	01-Oct-2013 21:05:03.0	yes

16 Total Orbits Used

ABSTRACT

At z~1.6 the main progenitors of present-day massive clusters are undergoing rapid collapse, and have the highest rates of galaxy merging and assembly. Recent observational studies have hinted at accelerated galaxy evolution in dense environments at this epoch, including increased merger rates and rapid growth in galaxy size relative to the field. We propose WFC3 G102 spectroscopy and F125W (Broad J) imaging of a sample of four massive spectroscopically-confirmed clusters at z = 1.6. Our primary scientific goal is to leverage the CANDELS Wide Legacy dataset to carry out a head-to-head comparison of the sizes of cluster members relative to the field (as a function of stellar mass and Sersic index), and quantify the role of environment in the observed rapid evolution in galaxy sizes since z = 2.

These clusters are four of the highest significance overdensities in the 50 square degree SWIRE fields, and will evolve over time to have present-day masses similar to Coma. They were detected using IRAC [3.6]-[4.5] color, which identifies galaxy overdensities regardless of optically red or blue color. A heroic ground-based spectroscopic campaign has resulted in 44 spectroscopically-confirmed members. However this sample is heavily biased toward star-forming (SF) galaxies, and WFC3 spectroscopy is essential to definitively determine cluster membership for 200 members, without bias with respect to quiescent or SF type. The F125W (rest-frame V-band) imaging is necessary to measure the sizes and morphologies of cluster members. 17-passband broadband imaging spanning UV, optical, near-IR, Spitzer IR and Herschel far-IR is already in hand.

OBSERVING DESCRIPTION

This program observes four galaxy clusters at z~1.6. We aim to confirm cluster members via the OII and 4000Ang break spectral feature and to use the OII emission line strength as an estimate of star formation rates. Each pointing is roughly centered on the the galaxy cluster BCG with small offsets applied to remove bright foreground stars from pointings where possible. Each cluster will be observed in two seperate visits with each visit consisting of two orbits. For a given target, the roll angle of the second visit is set to differ from the roll angle of the first visit by at least 60D except in the case of target J022546-035517 where the roll angle difference is set to be at least 45D. The purpose of scheduling two visit with significantly different roll angles is to reduce/eliminate contaimination of overlapping spectra. As these targets are galaxy clusters, the objects are packed quite close together and a key aim of the program is to detect large numbers of faint objects. Thus having two sets of data at different roll angles will greatly improve the success of confirming redshifts of faint objects. Unfortunately, given the FOV of WFC3 compared to the average size of the galaxy clusters at this redshift, restriction of the roll angles of the first visit to each target is necessary. Each first visit roll angle restriction is implemented such that, at minimum, the first spectral order will land on the detector for as many confirmed cluster membes and plausible cluster member candidates as possible.

Within each two orbit visit to a target there are four dithered exposures of both WFC2/G102 and direct imaging with F160W (necessary for detection identification and science goals). Note, we opt for the F160W filter rather than the F125W filter, which usually accompanies G102 observations and falls within the G102 wavelength range, for three reasons. First, this filter allows us to better achieve one of our science goals, ie measuring morphology and sizes of cluster galaxies, since the redder F160W filter will allow us to better sample the continuum light and be less bias towards star forming regions. Second, using the F160W filter will allow direct comparisons to previous studies of field galaxies, ie CANDLES, without making assumptions involving a morphological k-correction. Third, by choosing the F160W filter we still allow for reliable modeling of spectra and facilitation of their extraction from the G102 frames.

The observations of each visit follows the pattern

Orbit 1 : direct(A), grism(A), offset, grism(B), direct(B), offset
Orbit 2 : direct(C), grism(C), offset, grism(D), direct(D)

where ABCD are a combination of interger and interger+1/2 pixel shifts. This is very similar to the strategy adopted in program 12590. We choose to

dither to enable rejection of hot/bad pixels and use 1/2 pixel shifts to improve sampling of the PSF. As the standard WFC3-IR-DITHER-BOX pattern uses only 1-4 pixel offsets, we adopt a modified version of the standard WFC3-IR-DITHER-BOX pattern that utilizes a slightly larger pattern to avoid bad pixels that come in clumps. This is similar to the dither pattern adopted in program 12177. We set the dither pattern explicity using the POS TARG keyword rather than a preset dither pattern so that the dither can be spread out over two full orbits and overheads associated with pointing maneuvers are reduced. The dither pattern is as follows:

POS TARG : (0,0) (1.355,0.424) (0.881,1.212) (-0.474,0.788)
pixels : (0,0) (10.0,3.5) (6.5,10.0) (-3.5,6.5)

No attempt is made to dither over the "Death Star" as larger dithers introduce larger differential distortions. The same dither pattern is used for both visits to a target since the differing orientation will ensure that the spectra from same objects will fall on different pixels.

Visit

Proposal 13306, J033056 First Visit (01), implementation Wed Oct 02 01:05:12 GMT 2013

Diagnostic Status: No Diagnostics

Scientific Instruments: WFC3/IR

Special Requirements: ORIENT 240.0D TO 240.0 D

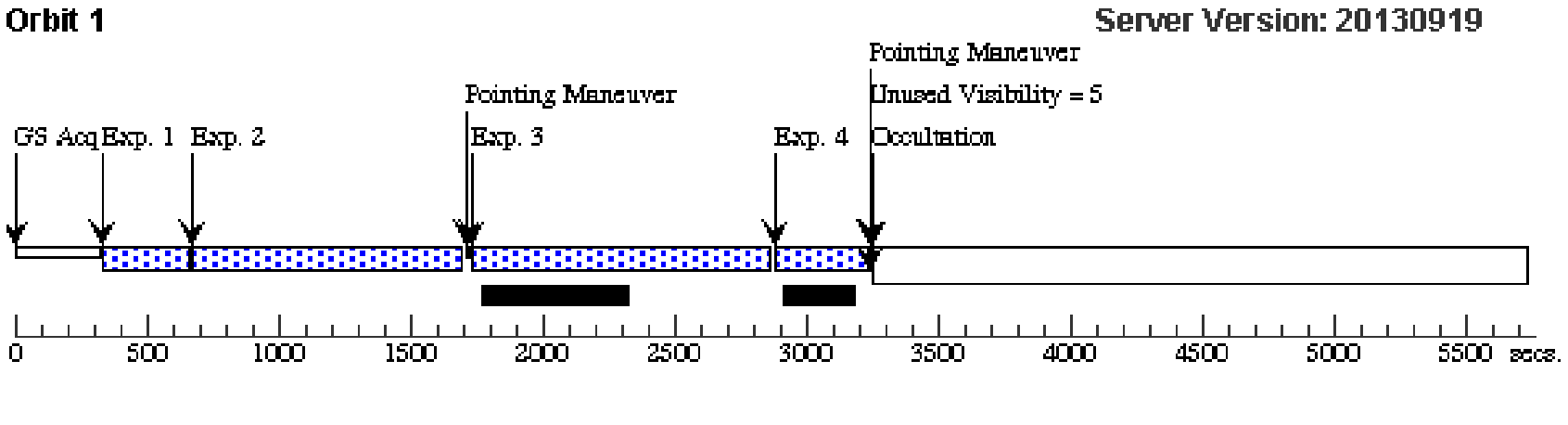
Fixed Targets

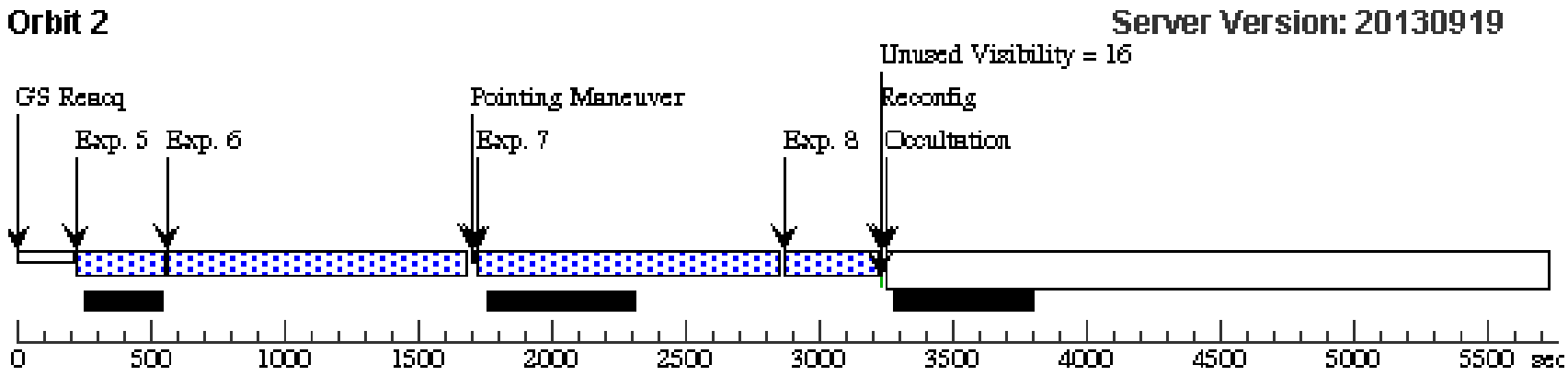
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	J033056-284300	RA: 03 30 54.0000 (52.7250000d)		V=(?)	Reference Frame: ICRS
	Alt Name1: CDFS44	Dec: -28 43 10.00 (-28.71944d)		J(AB)=21-27	
		Equinox: J2000			

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	CDFS44 F160W part 1	(1) J033056-284300	WFC3/IR, MULTIACCUM, GRISM1024	F160W	NSAMP=13; SAMP-SEQ=SPARS25	POS TARG 0.0,0.0; GS ACQ SCENARIO BASE1B3	Sequence 1-4 Non-Int in J033056 First Visit (01)	302.938471 Secs (302.938 Secs)	
								[==>]	***[1]***
2	CDFS44 G102 part 1	(1) J033056-284300	WFC3/IR, MULTIACCUM, GRISM1024	G102	NSAMP=11; SAMP-SEQ=SPARS100	POS TARG 0.0,0.0	Sequence 1-4 Non-Int in J033056 First Visit (01)	1002.935521 Secs (1002.936 Secs)	
								[==>]	***[1]***
3	CDFS44 G102 part 2	(1) J033056-284300	WFC3/IR, MULTIACCUM, GRISM1024	G102	NSAMP=12; SAMP-SEQ=SPARS100	POS TARG 1.355,0.424	Sequence 1-4 Non-Int in J033056 First Visit (01)	1102.935844 Secs (1102.936 Secs)	
								[==>]	***[1]***
4	CDFS44 F160W part 2	(1) J033056-284300	WFC3/IR, MULTIACCUM, GRISM1024	F160W	NSAMP=14; SAMP-SEQ=SPARS25	POS TARG 1.355,0.424	Sequence 1-4 Non-Int in J033056 First Visit (01)	327.938986 Secs (327.939 Secs)	
								[==>]	***[1]***
5	CDFS44 F160W part 3	(1) J033056-284300	WFC3/IR, MULTIACCUM, GRISM1024	F160W	NSAMP=13; SAMP-SEQ=SPARS25	POS TARG 0.881,1.212	Sequence 5-8 Non-Int in J033056 First Visit (01)	302.938471 Secs (302.938 Secs)	
								[==>]	***[2]***
6	CDFS44 G102 part 3	(1) J033056-284300	WFC3/IR, MULTIACCUM, GRISM1024	G102	NSAMP=12; SAMP-SEQ=SPARS100	POS TARG 0.881,1.212	Sequence 5-8 Non-Int in J033056 First Visit (01)	1102.935844 Secs (1102.936 Secs)	
								[==>]	***[2]***
7	CDFS44 G102 part 4	(1) J033056-284300	WFC3/IR, MULTIACCUM, GRISM1024	G102	NSAMP=12; SAMP-SEQ=SPARS100	POS TARG -.474,0.788	Sequence 5-8 Non-Int in J033056 First Visit (01)	1102.935844 Secs (1102.936 Secs)	
								[==>]	***[2]***
8	CDFS44 F160W part 4	(1) J033056-284300	WFC3/IR, MULTIACCUM, GRISM1024	F160W	NSAMP=14; SAMP-SEQ=SPARS25	POS TARG -.474,0.788	Sequence 5-8 Non-Int in J033056 First Visit (01)	327.938986 Secs (327.939 Secs)	
								[==>]	***[2]***

Orbit Structure





Visit

Proposal 13306, J033056 Second Visit (02), implementation Wed Oct 02 01:05:15 GMT 2013

Diagnostic Status: No Diagnostics

Scientific Instruments: WFC3/IR

Special Requirements: ORIENT 60D TO 120D FROM 01

Comments: Comments go here.

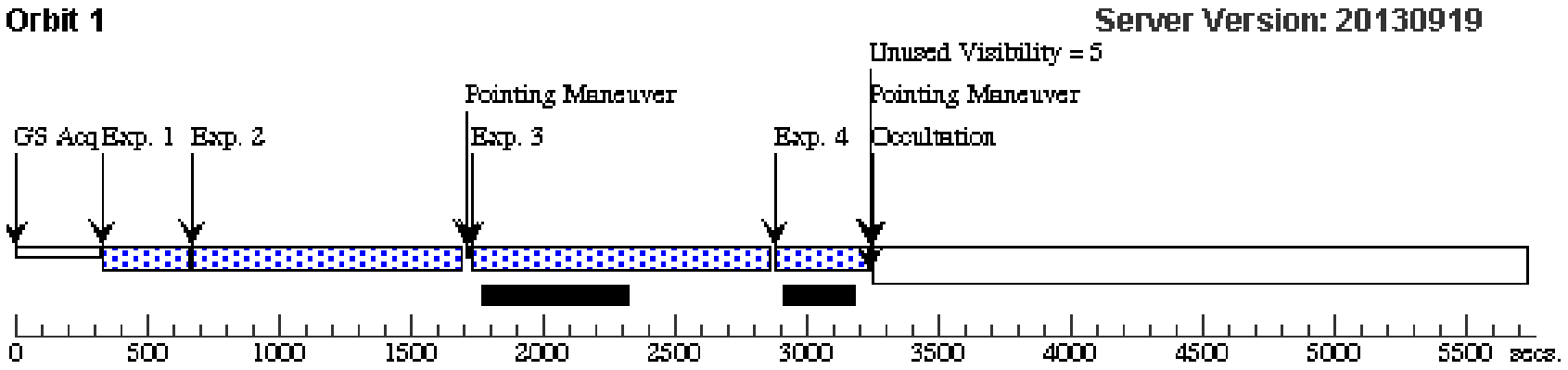
Fixed Targets

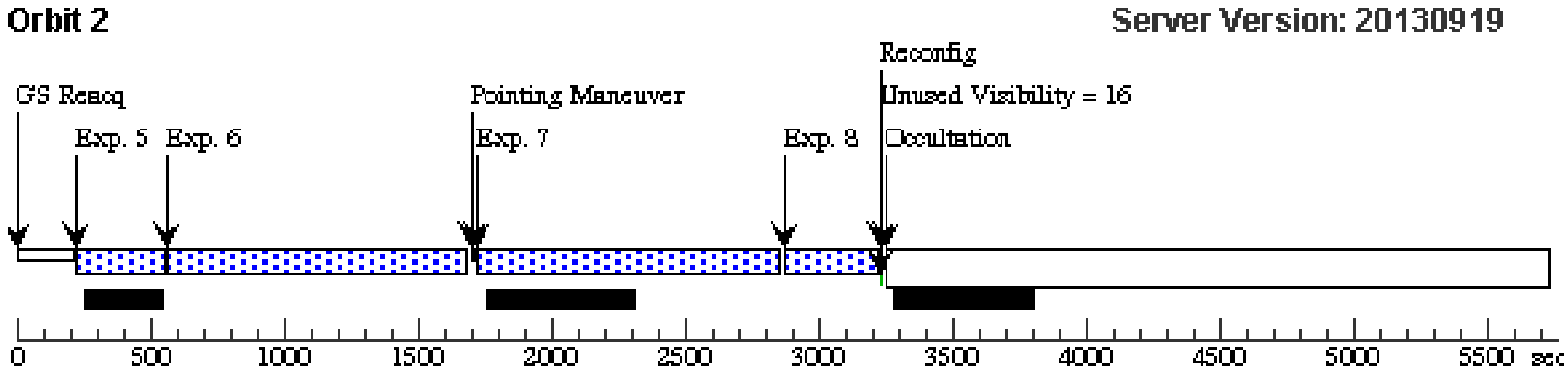
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	J033056-284300	RA: 03 30 54.0000 (52.7250000d)		V=(?)	Reference Frame: ICRS
	Alt Name1: CDFS44	Dec: -28 43 10.00 (-28.71944d)		J(AB)=21-27	
		Equinox: J2000			

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	CDFS44 F1 60W part 5	(1) J033056-284300	WFC3/IR, MULTIACCUM, GRISM1024	F160W	NSAMP=13; SAMP-SEQ=SPARS25	POS TARG 0.0,0.0; GS ACQ SCENARIO BASE1B3	Sequence 1-4 Non-Int in J033056 Second Visit (02)	302.938471 Secs (302.938 Secs) *[==>]*	***[1]***
2	CDFS44 G1 02 part 5	(1) J033056-284300	WFC3/IR, MULTIACCUM, GRISM1024	G102	NSAMP=11; SAMP-SEQ=SPARS100	POS TARG 0.0,0.0	Sequence 1-4 Non-Int in J033056 Second Visit (02)	1002.935521 Secs (1002.936 Secs) *[==>]*	***[1]***
3	CDFS44 G1 02 part 6	(1) J033056-284300	WFC3/IR, MULTIACCUM, GRISM1024	G102	NSAMP=12; SAMP-SEQ=SPARS100	POS TARG 1.355,0.424	Sequence 1-4 Non-Int in J033056 Second Visit (02)	1102.935844 Secs (1102.936 Secs) *[==>]*	***[1]***
4	CDFS44 F1 60W part 6	(1) J033056-284300	WFC3/IR, MULTIACCUM, GRISM1024	F160W	NSAMP=14; SAMP-SEQ=SPARS25	POS TARG 1.355,0.424	Sequence 1-4 Non-Int in J033056 Second Visit (02)	327.938986 Secs (327.939 Secs) *[==>]*	***[1]***
5	CDFS44 F1 60W part 7	(1) J033056-284300	WFC3/IR, MULTIACCUM, GRISM1024	F160W	NSAMP=13; SAMP-SEQ=SPARS25	POS TARG 0.881,1.212	Sequence 5-8 Non-Int in J033056 Second Visit (02)	302.938471 Secs (302.938 Secs) *[==>]*	***[2]***
6	CDFS44 G1 02 part 7	(1) J033056-284300	WFC3/IR, MULTIACCUM, GRISM1024	G102	NSAMP=12; SAMP-SEQ=SPARS100	POS TARG 0.881,1.212	Sequence 5-8 Non-Int in J033056 Second Visit (02)	1102.935844 Secs (1102.936 Secs) *[==>]*	***[2]***
7	CDFS44 G1 02 part 8	(1) J033056-284300	WFC3/IR, MULTIACCUM, GRISM1024	G102	NSAMP=12; SAMP-SEQ=SPARS100	POS TARG -.474,0.788	Sequence 5-8 Non-Int in J033056 Second Visit (02)	1102.935844 Secs (1102.936 Secs) *[==>]*	***[2]***
8	CDFS44 F1 60W part 8	(1) J033056-284300	WFC3/IR, MULTIACCUM, GRISM1024	F160W	NSAMP=14; SAMP-SEQ=SPARS25	POS TARG -.474,0.788	Sequence 5-8 Non-Int in J033056 Second Visit (02)	327.938986 Secs (327.939 Secs) *[==>]*	***[2]***

Orbit Structure





Visit

Proposal 13306, J022426 First Visit (03), implementation Wed Oct 02 01:05:16 GMT 2013

Diagnostic Status: No Diagnostics

Scientific Instruments: WFC3/IR

Special Requirements: ORIENT 0.0D TO 70.0 D; ORIENT 100D TO 140 D

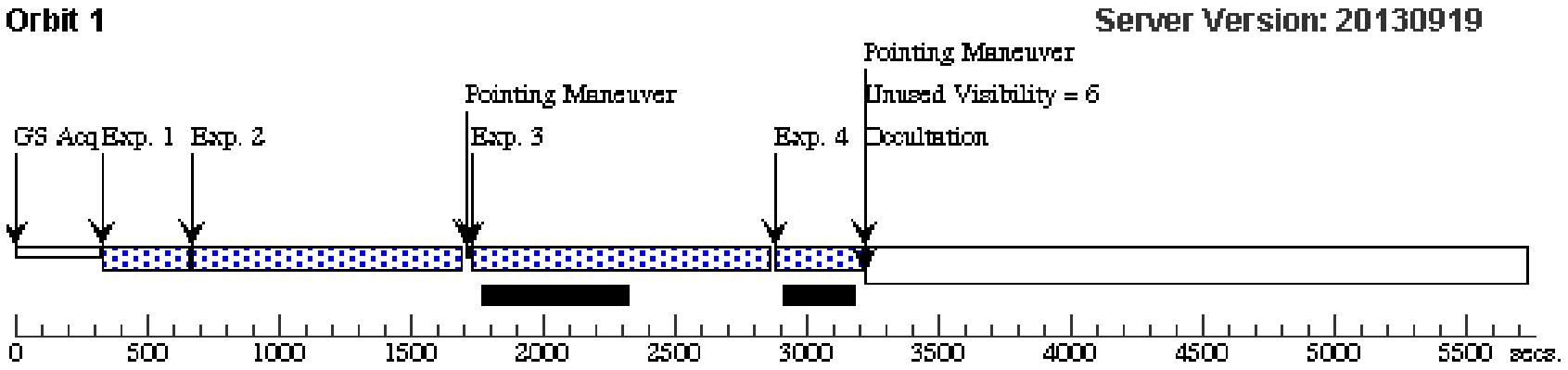
Fixed Targets

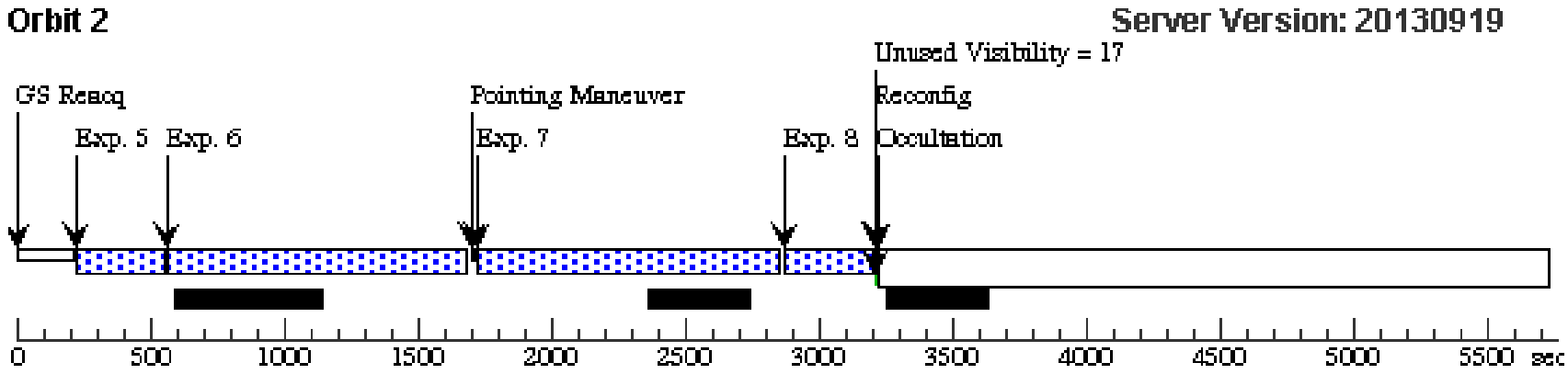
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(2)	J022426-032330	RA: 02 24 28.3251 (36.1180212d)		V=(?)	Reference Frame: ICRS
	Alt Name1: XMM113	Dec: -03 23 32.42 (-3.39234d)		J(AB)=21-27	
		Equinox: J2000			

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	XMM113 F 160W part 1	(2) J022426-032330	WFC3/IR, MULTIACCUM, GRISM1024	F160W	NSAMP=13; SAMP-SEQ=SPARS25	POS TARG 0.0,0.0; GS ACQ SCENARIO BASE1B3	Sequence 1-4 Non-Int in J022426 First Visit (03)	302.938471 Secs (302.938 Secs) *[==>]*	*[1]*
2	XMM113 G 102 part 1	(2) J022426-032330	WFC3/IR, MULTIACCUM, GRISM1024	G102	NSAMP=11; SAMP-SEQ=SPARS100	POS TARG 0.0,0.0	Sequence 1-4 Non-Int in J022426 First Visit (03)	1002.935521 Secs (1002.936 Secs) *[==>]*	*[1]*
3	XMM113 G 102 part 2	(2) J022426-032330	WFC3/IR, MULTIACCUM, GRISM1024	G102	NSAMP=12; SAMP-SEQ=SPARS100	POS TARG 1.355,0.424	Sequence 1-4 Non-Int in J022426 First Visit (03)	1102.935844 Secs (1102.936 Secs) *[==>]*	*[1]*
4	XMM113 F 160W part 2	(2) J022426-032330	WFC3/IR, MULTIACCUM, GRISM1024	F160W	NSAMP=13; SAMP-SEQ=SPARS25	POS TARG 1.355,0.424	Sequence 1-4 Non-Int in J022426 First Visit (03)	302.938471 Secs (302.938 Secs) *[==>]*	*[1]*
5	XMM113 F 160W part 3	(2) J022426-032330	WFC3/IR, MULTIACCUM, GRISM1024	F160W	NSAMP=13; SAMP-SEQ=SPARS25	POS TARG 0.881,1.212	Sequence 5-8 Non-Int in J022426 First Visit (03)	302.938471 Secs (302.938 Secs) *[==>]*	*[2]*
6	XMM113 G 102 part 3	(2) J022426-032330	WFC3/IR, MULTIACCUM, GRISM1024	G102	NSAMP=12; SAMP-SEQ=SPARS100	POS TARG 0.881,1.212	Sequence 5-8 Non-Int in J022426 First Visit (03)	1102.935844 Secs (1102.936 Secs) *[==>]*	*[2]*
7	XMM113 G 102 part 4	(2) J022426-032330	WFC3/IR, MULTIACCUM, GRISM1024	G102	NSAMP=12; SAMP-SEQ=SPARS100	POS TARG -.474,0.788	Sequence 5-8 Non-Int in J022426 First Visit (03)	1102.935844 Secs (1102.936 Secs) *[==>]*	*[2]*
8	XMM113 F 160W part 4	(2) J022426-032330	WFC3/IR, MULTIACCUM, GRISM1024	F160W	NSAMP=13; SAMP-SEQ=SPARS25	POS TARG -.474,0.788	Sequence 5-8 Non-Int in J022426 First Visit (03)	302.938471 Secs (302.938 Secs) *[==>]*	*[2]*

Orbit Structure





Visit

Proposal 13306, J022426 Second Visit (04), implementation Wed Oct 02 01:05:17 GMT 2013

Diagnostic Status: No Diagnostics

Scientific Instruments: WFC3/IR

Special Requirements: ORIENT 45D TO 135D FROM 03

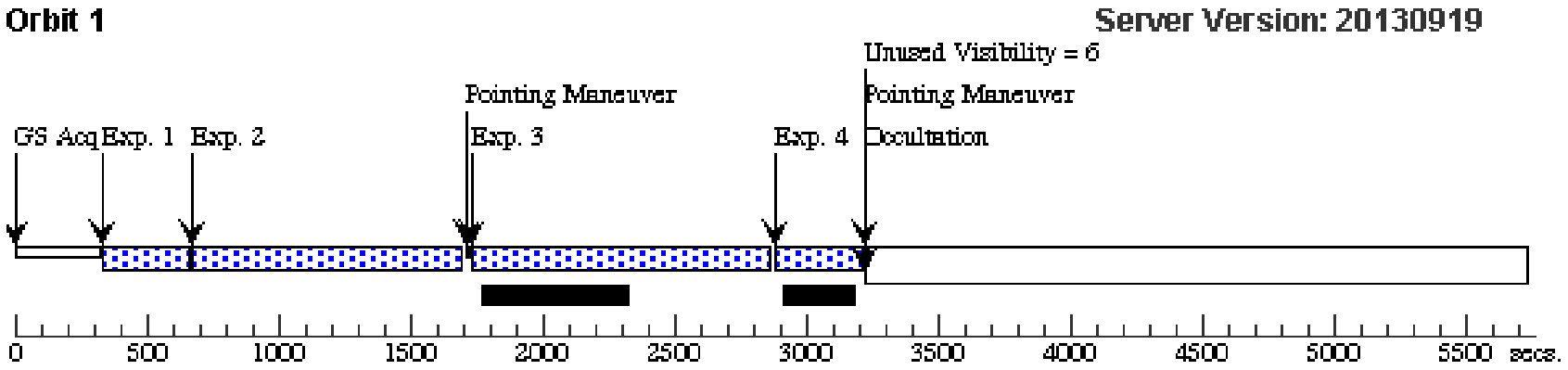
Fixed Targets

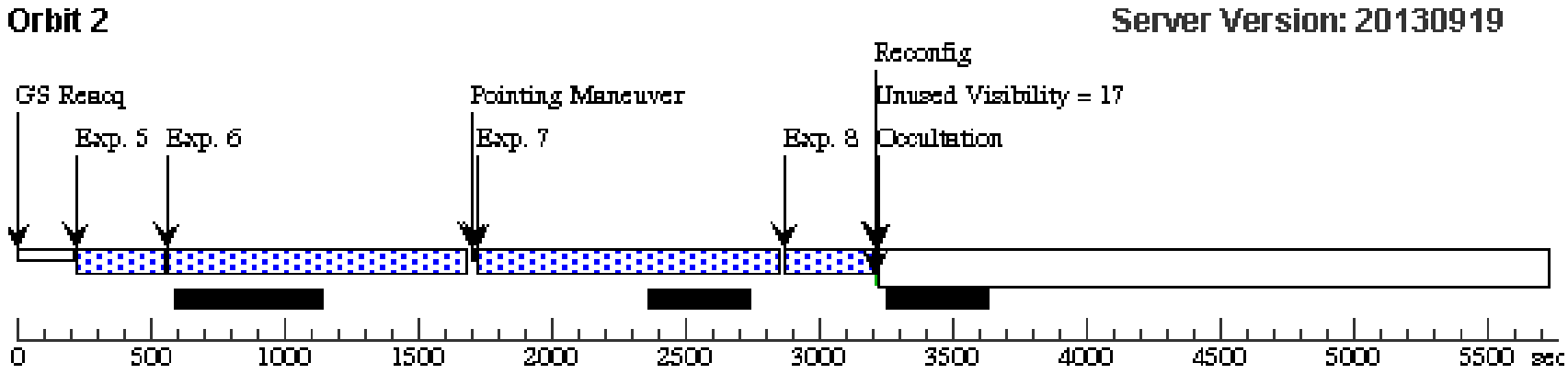
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(2)	J022426-032330	RA: 02 24 28.3251 (36.1180212d)		V=(?)	Reference Frame: ICRS
	Alt Name1: XMM113	Dec: -03 23 32.42 (-3.39234d)		J(AB)=21-27	
		Equinox: J2000			

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	XMM113 F 160W part 5	(2) J022426-032330	WFC3/IR, MULTIACCUM, GRISM1024	F160W	NSAMP=13; SAMP-SEQ=SPARS25	POS TARG 0.0,0.0; GS ACQ SCENARIO BASE1B3	Sequence 1-4 Non-Int in J022426 Second Visit (04)	302.938471 Secs (302.938 Secs) *[==>]*	***[1]***
2	XMM113 G 102 part 5	(2) J022426-032330	WFC3/IR, MULTIACCUM, GRISM1024	G102	NSAMP=11; SAMP-SEQ=SPARS100	POS TARG 0.0,0.0	Sequence 1-4 Non-Int in J022426 Second Visit (04)	1002.935521 Secs (1002.936 Secs) *[==>]*	***[1]***
3	XMM113 G 102 part 6	(2) J022426-032330	WFC3/IR, MULTIACCUM, GRISM1024	G102	NSAMP=12; SAMP-SEQ=SPARS100	POS TARG 1.355,0.424	Sequence 1-4 Non-Int in J022426 Second Visit (04)	1102.935844 Secs (1102.936 Secs) *[==>]*	***[1]***
4	XMM113 F 160W part 6	(2) J022426-032330	WFC3/IR, MULTIACCUM, GRISM1024	F160W	NSAMP=13; SAMP-SEQ=SPARS25	POS TARG 1.355,0.424	Sequence 1-4 Non-Int in J022426 Second Visit (04)	302.938471 Secs (302.938 Secs) *[==>]*	***[1]***
5	XMM113 F 160W part 7	(2) J022426-032330	WFC3/IR, MULTIACCUM, GRISM1024	F160W	NSAMP=13; SAMP-SEQ=SPARS25	POS TARG 0.881,1.212	Sequence 5-8 Non-Int in J022426 Second Visit (04)	302.938471 Secs (302.938 Secs) *[==>]*	***[2]***
6	XMM113 G 102 part 7	(2) J022426-032330	WFC3/IR, MULTIACCUM, GRISM1024	G102	NSAMP=12; SAMP-SEQ=SPARS100	POS TARG 0.881,1.212	Sequence 5-8 Non-Int in J022426 Second Visit (04)	1102.935844 Secs (1102.936 Secs) *[==>]*	***[2]***
7	XMM113 G 102 part 8	(2) J022426-032330	WFC3/IR, MULTIACCUM, GRISM1024	G102	NSAMP=12; SAMP-SEQ=SPARS100	POS TARG -.474,0.788	Sequence 5-8 Non-Int in J022426 Second Visit (04)	1102.935844 Secs (1102.936 Secs) *[==>]*	***[2]***
8	XMM113 F 160W part 8	(2) J022426-032330	WFC3/IR, MULTIACCUM, GRISM1024	F160W	NSAMP=13; SAMP-SEQ=SPARS25	POS TARG -.474,0.788	Sequence 5-8 Non-Int in J022426 Second Visit (04)	302.938471 Secs (302.938 Secs) *[==>]*	***[2]***

Orbit Structure





Visit

Proposal 13306, J022546 First Visit (05), implementation Wed Oct 02 01:05:18 GMT 2013

Diagnostic Status: No Diagnostics

Scientific Instruments: WFC3/IR

Special Requirements: (none)

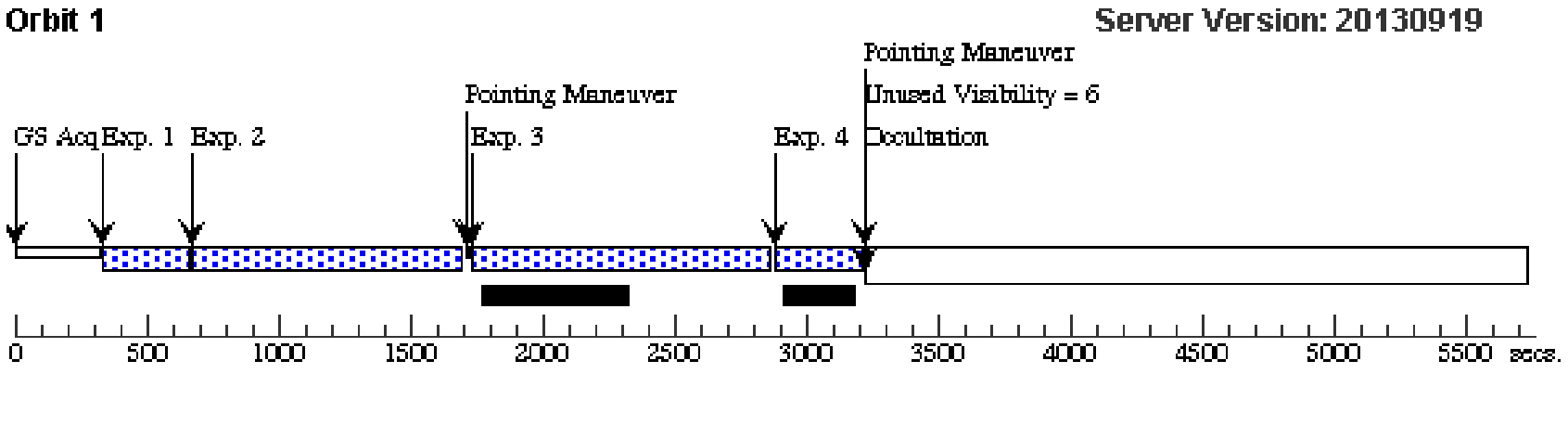
Fixed Targets

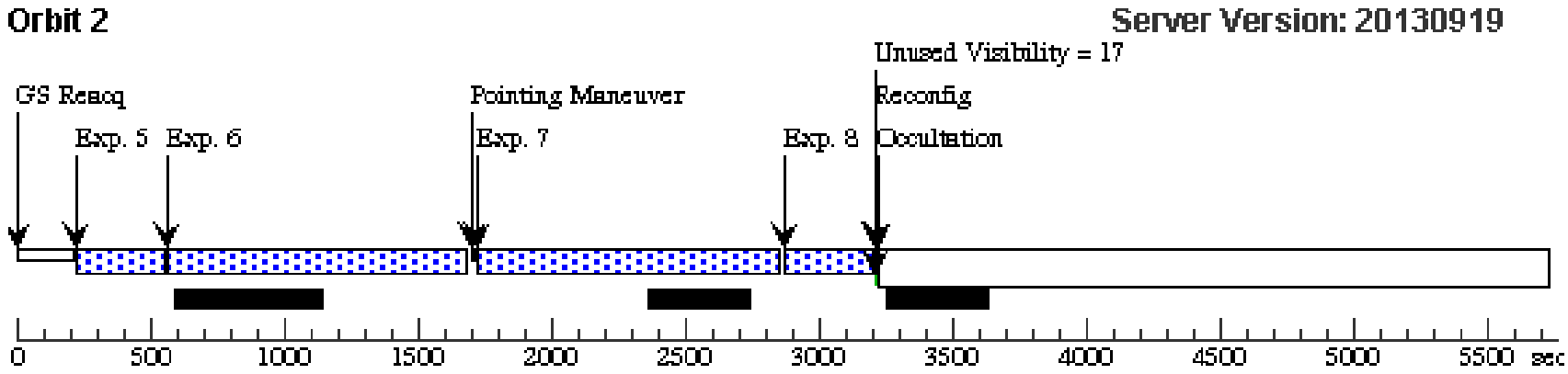
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(3)	J022546-035517	RA: 02 25 46.0900 (36.4420417d)		V=(?)	Reference Frame: ICRS
	Alt Name1: XMM105	Dec: -03 55 27.00 (-3.92417d)		J(AB)=21-27	
		Equinox: J2000			

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	XMM105 F 160W part 1	(3) J022546-035517	WFC3/IR, MULTIACCUM, GRISM1024	F160W	NSAMP=13; SAMP-SEQ=SPARS25	POS TARG 0.0,0.0; GS ACQ SCENARIO BASE1B3	Sequence 1-4 Non-Int in J022546 First Visit (05)	302.938471 Secs (302.938 Secs) *[==>]*	 ***[1]***
2	XMM105 G 102 part 1	(3) J022546-035517	WFC3/IR, MULTIACCUM, GRISM1024	G102	NSAMP=11; SAMP-SEQ=SPARS100	POS TARG 0.0,0.0	Sequence 1-4 Non-Int in J022546 First Visit (05)	1002.935521 Secs (1002.936 Secs) *[==>]*	 ***[1]***
3	XMM105 G 102 part 2	(3) J022546-035517	WFC3/IR, MULTIACCUM, GRISM1024	G102	NSAMP=12; SAMP-SEQ=SPARS100	POS TARG 1.355,0.424	Sequence 1-4 Non-Int in J022546 First Visit (05)	1102.935844 Secs (1102.936 Secs) *[==>]*	 ***[1]***
4	XMM105 F 160W part 2	(3) J022546-035517	WFC3/IR, MULTIACCUM, GRISM1024	F160W	NSAMP=13; SAMP-SEQ=SPARS25	POS TARG 1.355,0.424	Sequence 1-4 Non-Int in J022546 First Visit (05)	302.938471 Secs (302.938 Secs) *[==>]*	 ***[1]***
5	XMM105 F 160W part 3	(3) J022546-035517	WFC3/IR, MULTIACCUM, GRISM1024	F160W	NSAMP=13; SAMP-SEQ=SPARS25	POS TARG 0.881,1.212	Sequence 5-8 Non-Int in J022546 First Visit (05)	302.938471 Secs (302.938 Secs) *[==>]*	 ***[2]***
6	XMM105 G 102 part 3	(3) J022546-035517	WFC3/IR, MULTIACCUM, GRISM1024	G102	NSAMP=12; SAMP-SEQ=SPARS100	POS TARG 0.881,1.212	Sequence 5-8 Non-Int in J022546 First Visit (05)	1102.935844 Secs (1102.936 Secs) *[==>]*	 ***[2]***
7	XMM105 G 102 part 4	(3) J022546-035517	WFC3/IR, MULTIACCUM, GRISM1024	G102	NSAMP=12; SAMP-SEQ=SPARS100	POS TARG -.474,0.788	Sequence 5-8 Non-Int in J022546 First Visit (05)	1102.935844 Secs (1102.936 Secs) *[==>]*	 ***[2]***
8	XMM105 F 160W part 4	(3) J022546-035517	WFC3/IR, MULTIACCUM, GRISM1024	F160W	NSAMP=13; SAMP-SEQ=SPARS25	POS TARG -.474,0.788	Sequence 5-8 Non-Int in J022546 First Visit (05)	302.938471 Secs (302.938 Secs) *[==>]*	 ***[2]***

Orbit Structure





Visit

Proposal 13306, J022546 Second Visit (06), implementation Wed Oct 02 01:05:19 GMT 2013

Diagnostic Status: No Diagnostics

Scientific Instruments: WFC3/IR

Special Requirements: ORIENT 45D TO 135D FROM 05

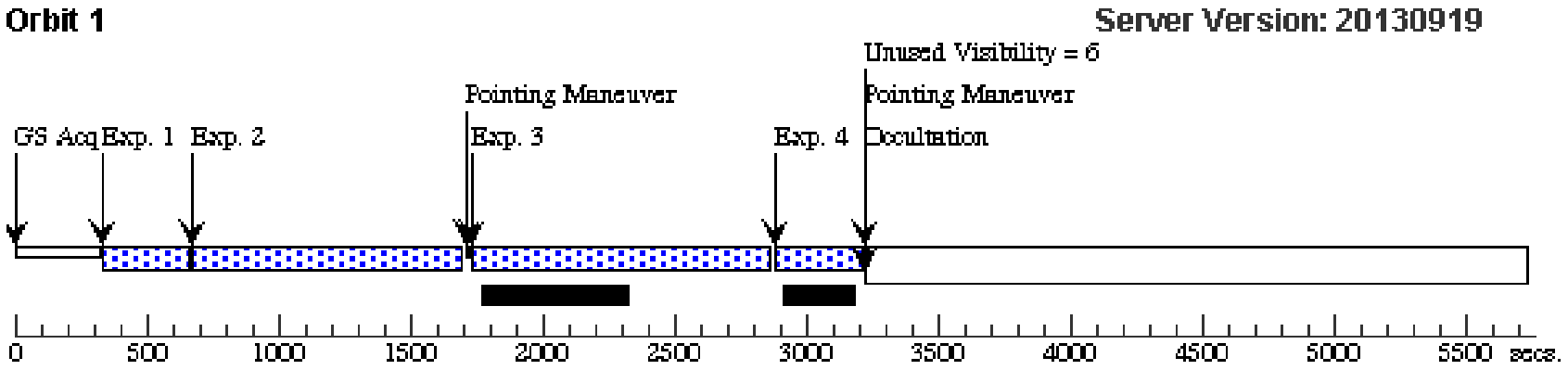
Fixed Targets

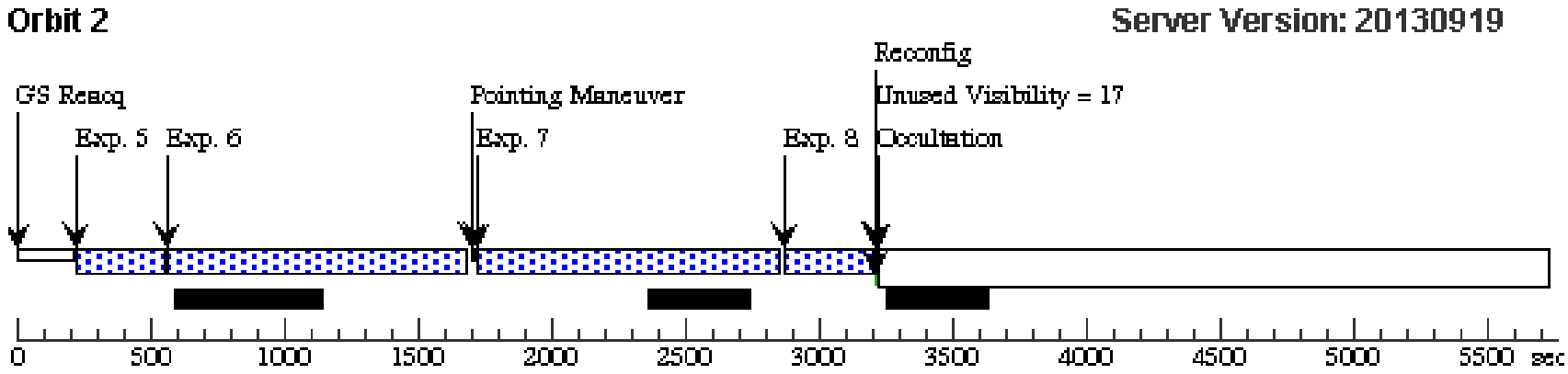
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(3)	J022546-035517	RA: 02 25 46.0900 (36.4420417d)		V=(?)	Reference Frame: ICRS
	Alt Name1: XMM105	Dec: -03 55 27.00 (-3.92417d)		J(AB)=21-27	
		Equinox: J2000			

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	XMM105 F 160W part 5	(3) J022546-035517	WFC3/IR, MULTIACCUM, GRISM1024	F160W	NSAMP=13; SAMP-SEQ=SPARS25	POS TARG 0.0,0.0; GS ACQ SCENARIO BASE1B3	Sequence 1-4 Non-Int in J022546 Second Visit (06)	302.938471 Secs (302.938 Secs) *[==>]*	***[1]***
2	XMM105 G 102 part 5	(3) J022546-035517	WFC3/IR, MULTIACCUM, GRISM1024	G102	NSAMP=11; SAMP-SEQ=SPARS100	POS TARG 0.0,0.0	Sequence 1-4 Non-Int in J022546 Second Visit (06)	1002.935521 Secs (1002.936 Secs) *[==>]*	***[1]***
3	XMM105 G 102 part 6	(3) J022546-035517	WFC3/IR, MULTIACCUM, GRISM1024	G102	NSAMP=12; SAMP-SEQ=SPARS100	POS TARG 1.355,0.424	Sequence 1-4 Non-Int in J022546 Second Visit (06)	1102.935844 Secs (1102.936 Secs) *[==>]*	***[1]***
4	XMM105 F 160W part 6	(3) J022546-035517	WFC3/IR, MULTIACCUM, GRISM1024	F160W	NSAMP=13; SAMP-SEQ=SPARS25	POS TARG 1.355,0.424	Sequence 1-4 Non-Int in J022546 Second Visit (06)	302.938471 Secs (302.938 Secs) *[==>]*	***[1]***
5	XMM105 F 160W part 7	(3) J022546-035517	WFC3/IR, MULTIACCUM, GRISM1024	F160W	NSAMP=13; SAMP-SEQ=SPARS25	POS TARG 0.881,1.212	Sequence 5-8 Non-Int in J022546 Second Visit (06)	302.938471 Secs (302.938 Secs) *[==>]*	***[2]***
6	XMM105 G 102 part 7	(3) J022546-035517	WFC3/IR, MULTIACCUM, GRISM1024	G102	NSAMP=12; SAMP-SEQ=SPARS100	POS TARG 0.881,1.212	Sequence 5-8 Non-Int in J022546 Second Visit (06)	1102.935844 Secs (1102.936 Secs) *[==>]*	***[2]***
7	XMM105 G 102 part 8	(3) J022546-035517	WFC3/IR, MULTIACCUM, GRISM1024	G102	NSAMP=12; SAMP-SEQ=SPARS100	POS TARG -.474,0.788	Sequence 5-8 Non-Int in J022546 Second Visit (06)	1102.935844 Secs (1102.936 Secs) *[==>]*	***[2]***
8	XMM105 F 160W part 8	(3) J022546-035517	WFC3/IR, MULTIACCUM, GRISM1024	F160W	NSAMP=13; SAMP-SEQ=SPARS25	POS TARG -.474,0.788	Sequence 5-8 Non-Int in J022546 Second Visit (06)	302.938471 Secs (302.938 Secs) *[==>]*	***[2]***

Orbit Structure





Visit

Proposal 13306, J105338 First Visit (07), implementation Wed Oct 02 01:05:20 GMT 2013

Diagnostic Status: No Diagnostics

Scientific Instruments: WFC3/IR

Special Requirements: ORIENT 0D TO 50 D; ORIENT 80D TO 120 D; ORIENT 160D TO 220 D

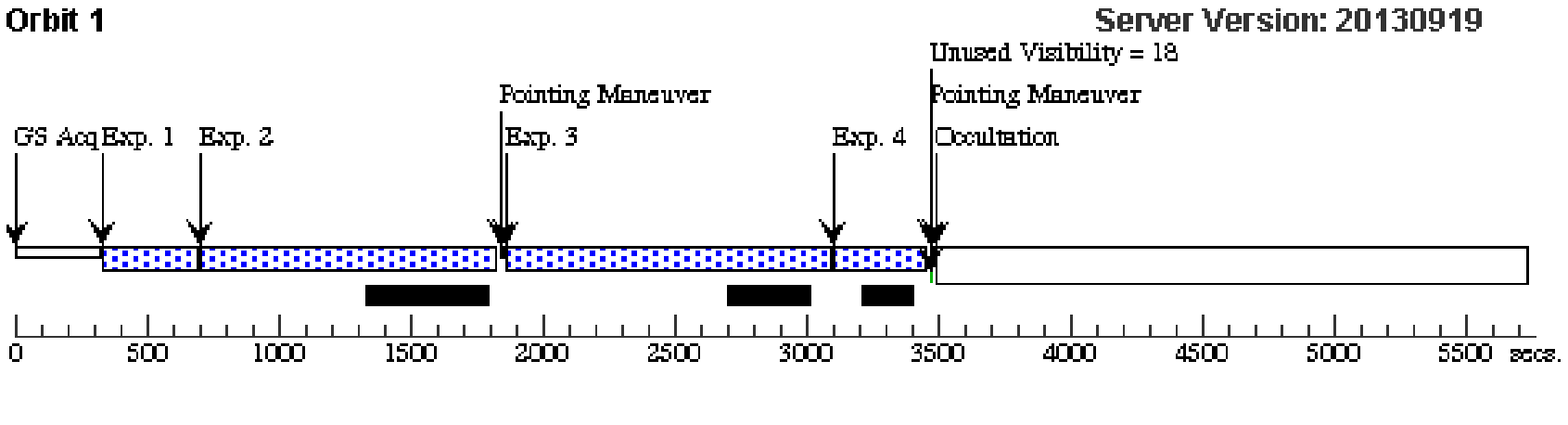
Fixed Targets

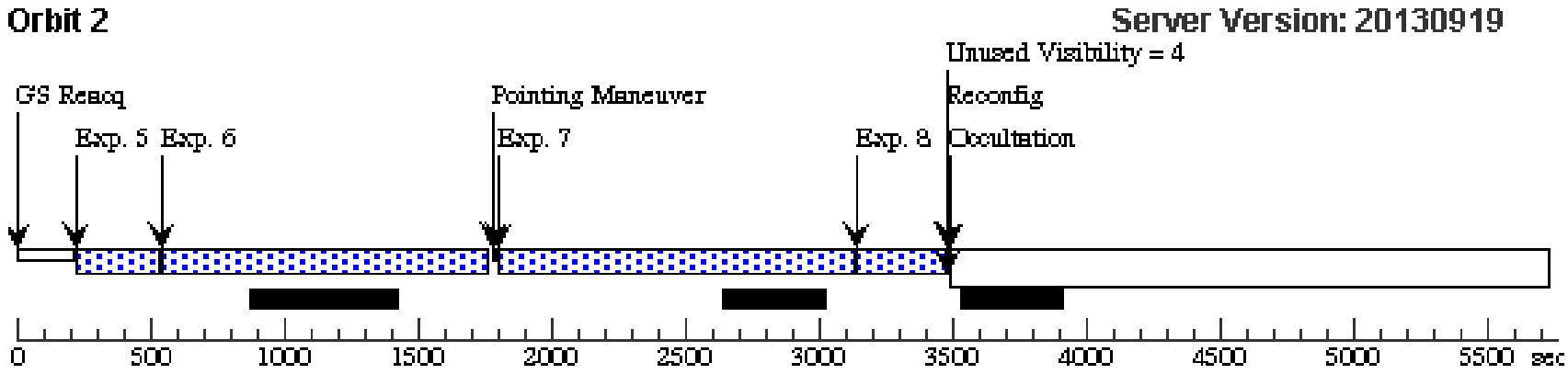
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(4)	J105348+580444	RA: 10 53 53.0000 (163.4708333d)		V=(?)	Reference Frame: ICRS
	Alt Name1: LOK200	Dec: +58 05 0.00 (58.08333d)		J(AB)=21-27	
		Equinox: J2000			

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	LOK200 F160W part 1	(4) J105348+580444	WFC3/IR, MULTIACCUM, GRISM1024	F160W	NSAMP=14; SAMP-SEQ=SPARS25	POS TARG 0.0,0.0	Sequence 1-4 Non-Int in J105338 First Visit (07)	327.938986 Secs (327.939 Secs)	
								[==>]	***[1]***
2	LOK200 G102 part 1	(4) J105348+580444	WFC3/IR, MULTIACCUM, GRISM1024	G102	NSAMP=12; SAMP-SEQ=SPARS100	POS TARG 0.0,0.0	Sequence 1-4 Non-Int in J105338 First Visit (07)	1102.935844 Secs (1102.936 Secs)	
								[==>]	***[1]***
3	LOK200 G102 part 2	(4) J105348+580444	WFC3/IR, MULTIACCUM, GRISM1024	G102	NSAMP=13; SAMP-SEQ=SPARS100	POS TARG 1.355,0.424	Sequence 1-4 Non-Int in J105338 First Visit (07)	1202.936167 Secs (1202.936 Secs)	
								[==>]	***[1]***
4	LOK200 F160W part 2	(4) J105348+580444	WFC3/IR, MULTIACCUM, GRISM1024	F160W	NSAMP=14; SAMP-SEQ=SPARS25	POS TARG 1.355,0.424	Sequence 1-4 Non-Int in J105338 First Visit (07)	327.938986 Secs (327.939 Secs)	
								[==>]	***[1]***
5	LOK200 F160W part 3	(4) J105348+580444	WFC3/IR, MULTIACCUM, GRISM1024	F160W	NSAMP=12; SAMP-SEQ=SPARS25	POS TARG 0.881,1.212	Sequence 5-8 Non-Int in J105338 First Visit (07)	277.937956 Secs (277.938 Secs)	
								[==>]	***[2]***
6	LOK200 G102 part 3	(4) J105348+580444	WFC3/IR, MULTIACCUM, GRISM1024	G102	NSAMP=13; SAMP-SEQ=SPARS100	POS TARG 0.881,1.212	Sequence 5-8 Non-Int in J105338 First Visit (07)	1202.936167 Secs (1202.936 Secs)	
								[==>]	***[2]***
7	LOK200 G102 part 4	(4) J105348+580444	WFC3/IR, MULTIACCUM, GRISM1024	G102	NSAMP=14; SAMP-SEQ=SPARS100	POS TARG -.474,0.788	Sequence 5-8 Non-Int in J105338 First Visit (07)	1302.93649 Secs (1302.936 Secs)	
								[==>]	***[2]***
8	LOK200 F160W part 4	(4) J105348+580444	WFC3/IR, MULTIACCUM, GRISM1024	F160W	NSAMP=13; SAMP-SEQ=SPARS25	POS TARG -.474,0.788	Sequence 5-8 Non-Int in J105338 First Visit (07)	302.938471 Secs (302.938 Secs)	
								[==>]	***[2]***

Orbit Structure





Visit

Proposal 13306, J105338 Second Visit (08), implementation Wed Oct 02 01:05:21 GMT 2013

Diagnostic Status: No Diagnostics

Scientific Instruments: WFC3/IR

Special Requirements: ORIENT 60D TO 120D FROM 07

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(4)	J105348+580444	RA: 10 53 53.0000 (163.4708333d)		V=(?)	Reference Frame: ICRS
	Alt Name1: LOK200	Dec: +58 05 0.00 (58.08333d)		J(AB)=21-27	
		Equinox: J2000			

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	LOK200 F160W part 5	(4) J105348+580444	WFC3/IR, MULTIACCUM, GRISM1024	F160W	NSAMP=14; SAMP-SEQ=SPARS25	POS TARG 0.0,0.0	Sequence 1-4 Non-Int in J105338 Second Visit (08)	327.938986 Secs (327.939 Secs) [==>]	[1]
2	LOK200 G102 part 5	(4) J105348+580444	WFC3/IR, MULTIACCUM, GRISM1024	G102	NSAMP=12; SAMP-SEQ=SPARS100	POS TARG 0.0,0.0	Sequence 1-4 Non-Int in J105338 Second Visit (08)	1102.935844 Secs (1102.936 Secs) [==>]	[1]
3	LOK200 G102 part 6	(4) J105348+580444	WFC3/IR, MULTIACCUM, GRISM1024	G102	NSAMP=13; SAMP-SEQ=SPARS100	POS TARG 1.355,0.424	Sequence 1-4 Non-Int in J105338 Second Visit (08)	1202.936167 Secs (1202.936 Secs) [==>]	[1]
4	LOK200 F160W part 6	(4) J105348+580444	WFC3/IR, MULTIACCUM, GRISM1024	F160W	NSAMP=14; SAMP-SEQ=SPARS25	POS TARG 1.355,0.424	Sequence 1-4 Non-Int in J105338 Second Visit (08)	327.938986 Secs (327.939 Secs) [==>]	[1]
5	LOK200 F160W part 7	(4) J105348+580444	WFC3/IR, MULTIACCUM, GRISM1024	F160W	NSAMP=12; SAMP-SEQ=SPARS25	POS TARG 0.881,1.212	Sequence 5-8 Non-Int in J105338 Second Visit (08)	277.937956 Secs (277.938 Secs) [==>]	[2]
6	LOK200 G102 part 7	(4) J105348+580444	WFC3/IR, MULTIACCUM, GRISM1024	G102	NSAMP=13; SAMP-SEQ=SPARS100	POS TARG 0.881,1.212	Sequence 5-8 Non-Int in J105338 Second Visit (08)	1202.936167 Secs (1202.936 Secs) [==>]	[2]
7	LOK200 G102 part 8	(4) J105348+580444	WFC3/IR, MULTIACCUM, GRISM1024	G102	NSAMP=14; SAMP-SEQ=SPARS100	POS TARG -.474,0.788	Sequence 5-8 Non-Int in J105338 Second Visit (08)	1302.93649 Secs (1302.936 Secs) [==>]	[2]
8	LOK200 F160W part 8	(4) J105348+580444	WFC3/IR, MULTIACCUM, GRISM1024	F160W	NSAMP=13; SAMP-SEQ=SPARS25	POS TARG -.474,0.788	Sequence 5-8 Non-Int in J105338 Second Visit (08)	302.938471 Secs (302.938 Secs) [==>]	[2]

Orbit Structure