13785 - Stellar Populations and Ionization States of Lyman Alpha Emitters During the Epoch of Peak Star Formation

Cycle: 22, 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) BOOTES-LAE1-1	WFC3/IR	2	18-Jul-2014 21:07:31.0	yes
02	(2) BOOTES-LAE1-2	WFC3/IR	2	18-Jul-2014 21:07:33.0	yes
03	(3) BOOTES-LAE1-3	WFC3/IR	2	18-Jul-2014 21:07:34.0	yes
04	(4) BOOTES-LAE1-4	WFC3/IR	2	18-Jul-2014 21:07:36.0	yes
05	(5) BOOTES-LAE1-5	WFC3/IR	2	18-Jul-2014 21:07:37.0	yes
06	(6) BOOTES-LAE3-1	WFC3/IR	2	18-Jul-2014 21:07:38.0	yes
07	(7) BOOTES-LAE3-2	WFC3/IR	2	18-Jul-2014 21:07:39.0	yes
08	(8) BOOTES-LAE3-3	WFC3/IR	2	18-Jul-2014 21:07:41.0	yes

16 Total Orbits Used

ABSTRACT

Low luminosity galaxies contribute significantly to the mass and star-formation density of the early Universe. Ly-alpha emitting galaxies (LAEs) are powerful probes of the faint-end of the luminosity function and early mass assembly. LAE studies at z>2 have typically used stacked optical and/or Spitzer data to discern their median properties, but the actual distribution of stellar masses and ionization states of LAEs remain largely unconstrained. To advance our understanding of this important population, we have successfully identified large samples of LAEs (~900 in four 0.33 deg^2 fields) at z~1.9, and have spectroscopically confirmed our selection using Keck. Here we propose to leverage our existing deep HST near-IR and Spitzer/IRAC imaging with the WFC3 G141 grism to measure [OIII]+H-beta for 76 LAE candidates from our sample, 13 of which are already spectroscopically confirmed at z=1.9+/-0.1. Combined with [OII] measurements from the ground, we will: (1) correct the emission line contribution to the HST broadband photometry and thus more accurately measure stellar masses and ages of LAEs; (2) measure ionization states with [OIII]/[OII] to discern the physical conditions in the ISM of these faint, low-mass galaxies; and (3) use systemic velocities derived from [OIII]+Hb, combined with our rest-UV spectra of the Ly-alpha and interstellar absorption lines, to deduce the kinematics of the ISM and the prevalence of galaxy-scale outflows. An economical investment of 16 orbits will enable robust stellar population, ionization, and ISM structure measurements for LAEs, thus illuminating their significance at a time when galaxies were forming most of their stars.

OBSERVING DESCRIPTION

We will be targeting 8 distinct targets with the WFC3/IR G141 grism. Each target will have a single visit consisting of two orbits. Each orbit will be split into 4 exposures. For the first orbit, the first exposure is a ~200 sec direct image in F140W at POS_TARG = (0.000,0.000). The second exposure is a ~1103 sec G141 image with the same POS_TARG as exposure 1. The third exposure is a 1203 sec G141 image at POS_TARG=(0.542,0.182). The fourth exposure isa direct image in F140W with the same POS_TARG as exposure 3. For the second orbit, the first exposure is a ~200 sec direct image in F140W at POS_TARG = (0.339,0.485). The second exposure is a ~1103 sec G141 image with the same POS_TARG as exposure 1. The third exposure is a 1203 sec G141 image at POS_TARG=(-0.203,0.303). The fourth exposure isa direct image in F140W with the same POS_TARG as exposure 3. The purpose of this sequence and POS_TARG offsets is to do a 4 point box dither with a short direct and long grism exposure at each position of the box.

Visit

Proposal 13785, BOOTES-LAE1-1-VISIT1 (01), implementation Sat Jul 19 01:07:42 GMT 2014

Diagnostic Status: Warning

Scientific Instruments: WFC3/IR

Special Requirements: (none)

Diagnostics

(BOOTES-LAE1-1-VISIT1 (01)) Warning (Orbit Planner): SAME POS MAY NOT BE APPROPRIATE

(BOOTES-LAE1-1-VISIT1 (01)) Warning (Orbit Planner): SAME POS MAY NOT BE APPROPRIATE

(BOOTES-LAE1-1-VISIT1 (01)) Warning (Orbit Planner): SAME POS MAY NOT BE APPROPRIATE

(BOOTES-LAE1-1-VISIT1 (01)) Warning (Orbit Planner): SAME POS MAY NOT BE APPROPRIATE

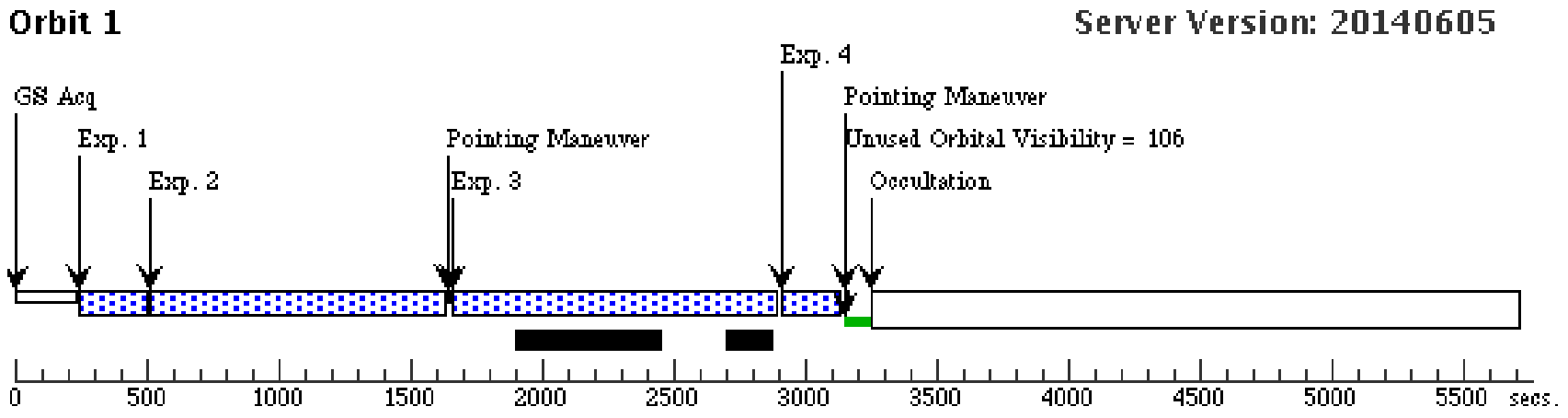
Fixed Targets

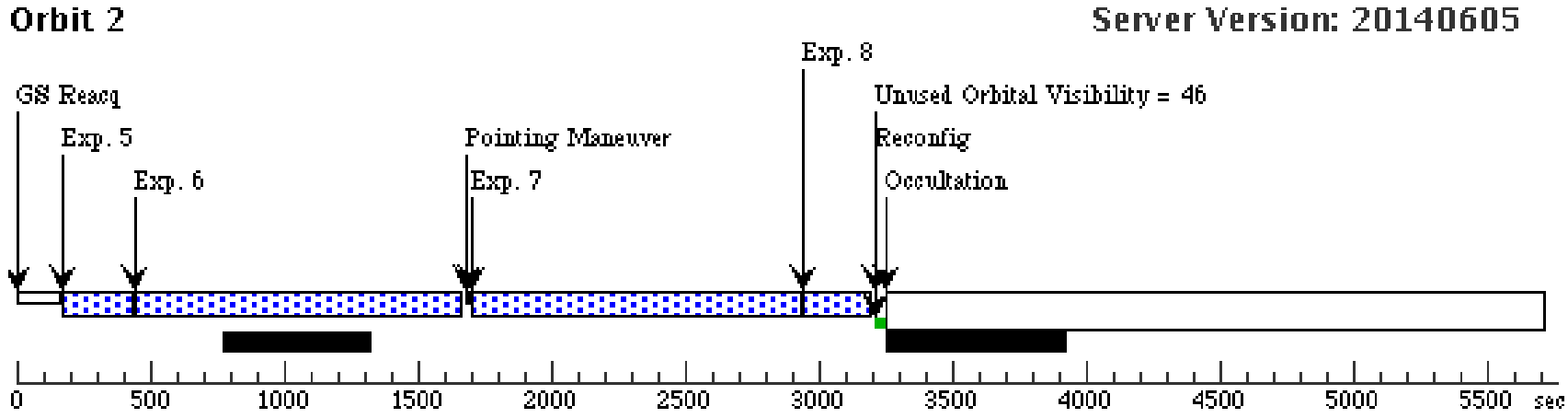
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	BOOTES-LAE1-1	RA: 14 35 3.9900 (218.7666250d) Dec: +33 25 15.55 (33.42099d) Equinox: J2000		V=26.0	Reference Frame: ICRS

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1		(1) BOOTES-LAE1-1	WFC3/IR, MULTIACCUM, GRISM1024	F140W	NSAMP=10; SAMP-SEQ=SPARS25	POS TARG 0.0,0.0; GS ACQ SCENARIO ONEB1B3		227.936926 Secs (227.937 Secs) *[==>]*	*[1]*
2		(1) BOOTES-LAE1-1	WFC3/IR, MULTIACCUM, GRISM1024	G141	NSAMP=12; SAMP-SEQ=SPARS100	SAME POS AS 1		1102.935844 Secs (1102.936 Secs) *[==>]*	*[1]*
3		(1) BOOTES-LAE1-1	WFC3/IR, MULTIACCUM, GRISM1024	G141	NSAMP=13; SAMP-SEQ=SPARS100	POS TARG 0.542,0.182		1202.936167 Secs (1202.936 Secs) *[==>]*	*[1]*
4		(1) BOOTES-LAE1-1	WFC3/IR, MULTIACCUM, GRISM1024	F140W	NSAMP=9; SAMP-SEQ=SPARS25	SAME POS AS 3		202.936411 Secs (202.936 Secs) *[==>]*	*[1]*
5		(1) BOOTES-LAE1-1	WFC3/IR, MULTIACCUM, GRISM1024	F140W	NSAMP=10; SAMP-SEQ=SPARS25	POS TARG 0.339,0.485		227.936926 Secs (227.937 Secs) *[==>]*	*[2]*
6		(1) BOOTES-LAE1-1	WFC3/IR, MULTIACCUM, GRISM1024	G141	NSAMP=13; SAMP-SEQ=SPARS100	SAME POS AS 5		1202.936167 Secs (1202.936 Secs) *[==>]*	*[2]*
7		(1) BOOTES-LAE1-1	WFC3/IR, MULTIACCUM, GRISM1024	G141	NSAMP=13; SAMP-SEQ=SPARS100	POS TARG -0.203,0.303		1202.936167 Secs (1202.936 Secs) *[==>]*	*[2]*
8		(1) BOOTES-LAE1-1	WFC3/IR, MULTIACCUM, GRISM1024	F140W	NSAMP=10; SAMP-SEQ=SPARS25	SAME POS AS 7		227.936926 Secs (227.937 Secs) *[==>]*	*[2]*

Orbit Structure





Visit

Proposal 13785, BOOTES-LAE1-2-VISIT1 (02), implementation Sat Jul 19 01:07:42 GMT 2014

Diagnostic Status: Warning

Scientific Instruments: WFC3/IR

Special Requirements: (none)

Diagnostics

(BOOTES-LAE1-2-VISIT1 (02)) Warning (Orbit Planner): SAME POS MAY NOT BE APPROPRIATE

(BOOTES-LAE1-2-VISIT1 (02)) Warning (Orbit Planner): SAME POS MAY NOT BE APPROPRIATE

(BOOTES-LAE1-2-VISIT1 (02)) Warning (Orbit Planner): SAME POS MAY NOT BE APPROPRIATE

(BOOTES-LAE1-2-VISIT1 (02)) Warning (Orbit Planner): SAME POS MAY NOT BE APPROPRIATE

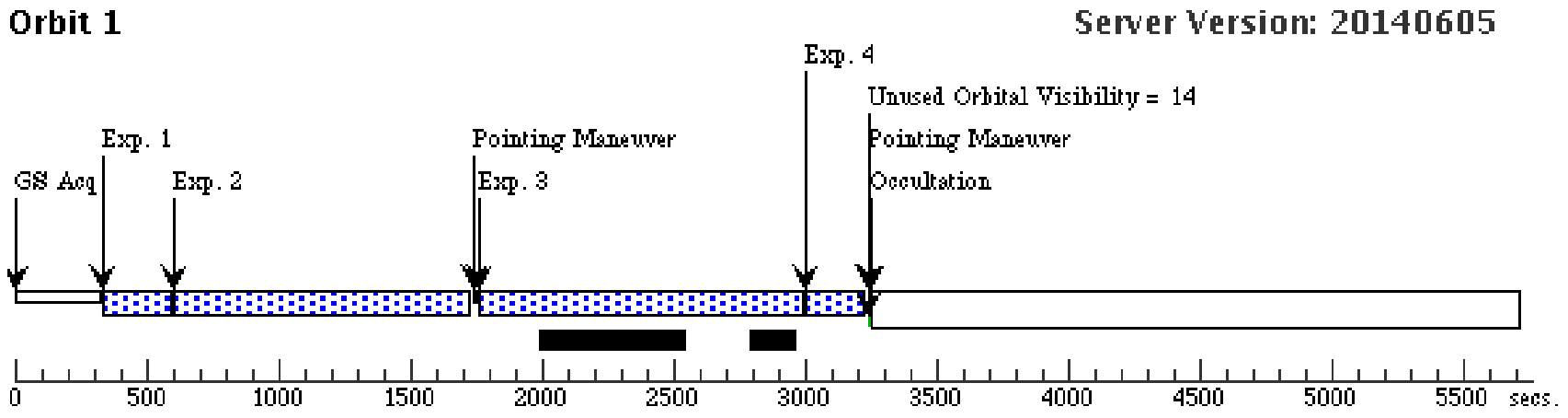
Fixed Targets

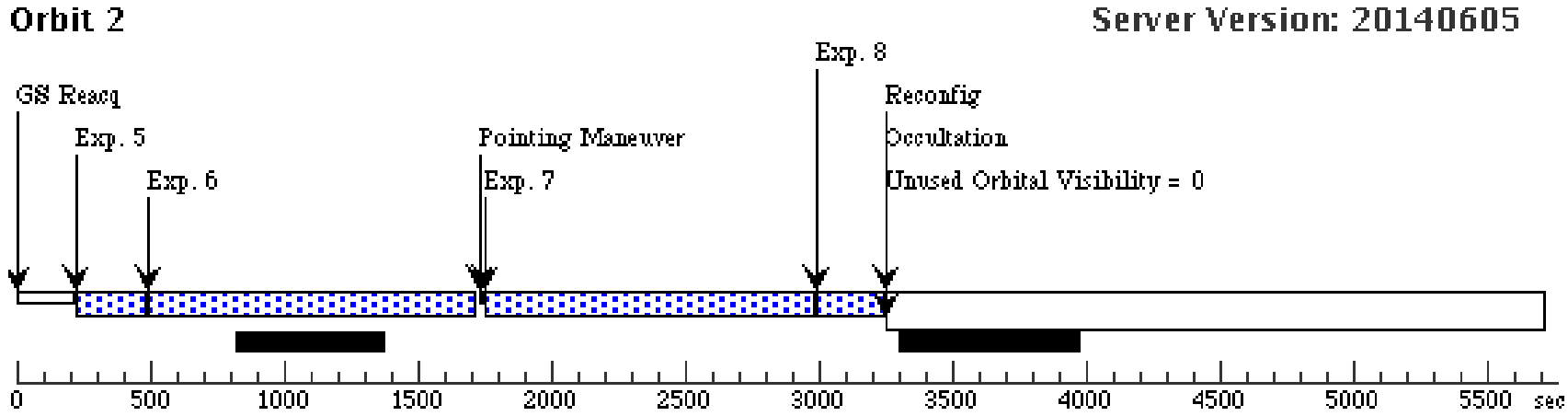
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(2)	BOOTES-LAE1-2	RA: 14 34 45.9700 (218.6915417d) Dec: +33 26 23.47 (33.43985d) Equinox: J2000		V=26.0	Reference Frame: ICRS

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1		(2) BOOTES-LAE1-2	WFC3/IR, MULTIACCUM, GRISM1024	F140W	NSAMP=10; SAMP-SEQ=SPARS25	POS TARG 0.0,0.0		227.936926 Secs (227.937 Secs) *[==>]*	*[1]*
2		(2) BOOTES-LAE1-2	WFC3/IR, MULTIACCUM, GRISM1024	G141	NSAMP=12; SAMP-SEQ=SPARS100	SAME POS AS 1		1102.935844 Secs (1102.936 Secs) *[==>]*	*[1]*
3		(2) BOOTES-LAE1-2	WFC3/IR, MULTIACCUM, GRISM1024	G141	NSAMP=13; SAMP-SEQ=SPARS100	POS TARG 0.542,0.182		1202.936167 Secs (1202.936 Secs) *[==>]*	*[1]*
4		(2) BOOTES-LAE1-2	WFC3/IR, MULTIACCUM, GRISM1024	F140W	NSAMP=9; SAMP-SEQ=SPARS25	SAME POS AS 3		202.936411 Secs (202.936 Secs) *[==>]*	*[1]*
5		(2) BOOTES-LAE1-2	WFC3/IR, MULTIACCUM, GRISM1024	F140W	NSAMP=10; SAMP-SEQ=SPARS25	POS TARG 0.339,0.485		227.936926 Secs (227.937 Secs) *[==>]*	*[2]*
6		(2) BOOTES-LAE1-2	WFC3/IR, MULTIACCUM, GRISM1024	G141	NSAMP=13; SAMP-SEQ=SPARS100	SAME POS AS 5		1202.936167 Secs (1202.936 Secs) *[==>]*	*[2]*
7		(2) BOOTES-LAE1-2	WFC3/IR, MULTIACCUM, GRISM1024	G141	NSAMP=13; SAMP-SEQ=SPARS100	POS TARG -0.203,0.303		1202.936167 Secs (1202.936 Secs) *[==>]*	*[2]*
8		(2) BOOTES-LAE1-2	WFC3/IR, MULTIACCUM, GRISM1024	F140W	NSAMP=10; SAMP-SEQ=SPARS25	SAME POS AS 7		227.936926 Secs (227.937 Secs) *[==>]*	*[2]*

Orbit Structure





Visit

Proposal 13785, BOOTES-LAE1-3-VISIT1 (03), implementation Sat Jul 19 01:07:43 GMT 2014

Diagnostic Status: Warning

Scientific Instruments: WFC3/IR

Special Requirements: (none)

Diagnostics

(BOOTES-LAE1-3-VISIT1 (03)) Warning (Orbit Planner): SAME POS MAY NOT BE APPROPRIATE

(BOOTES-LAE1-3-VISIT1 (03)) Warning (Orbit Planner): SAME POS MAY NOT BE APPROPRIATE

(BOOTES-LAE1-3-VISIT1 (03)) Warning (Orbit Planner): SAME POS MAY NOT BE APPROPRIATE

(BOOTES-LAE1-3-VISIT1 (03)) Warning (Orbit Planner): SAME POS MAY NOT BE APPROPRIATE

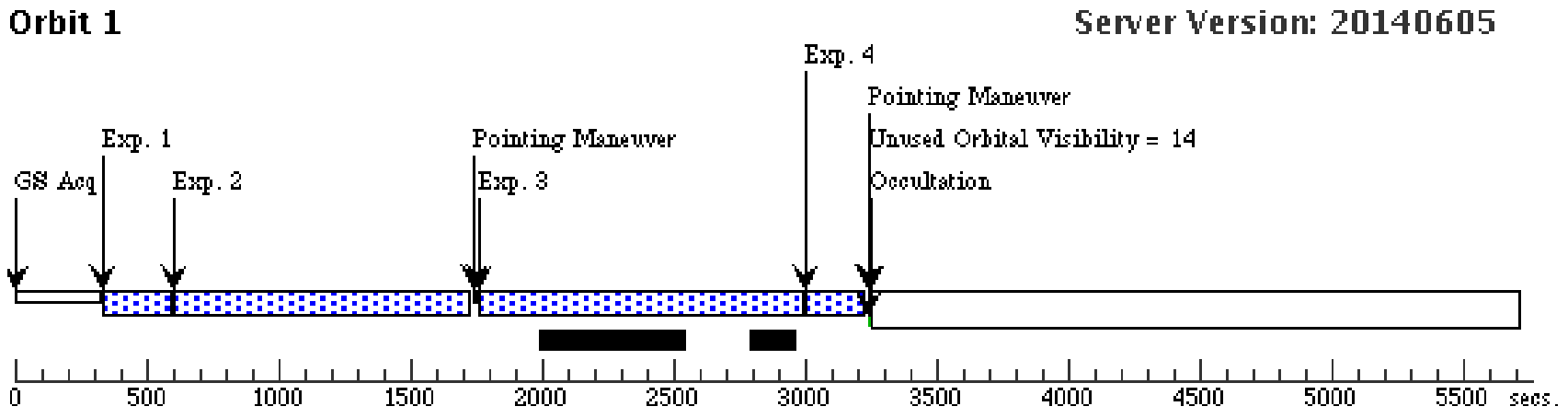
Fixed Targets

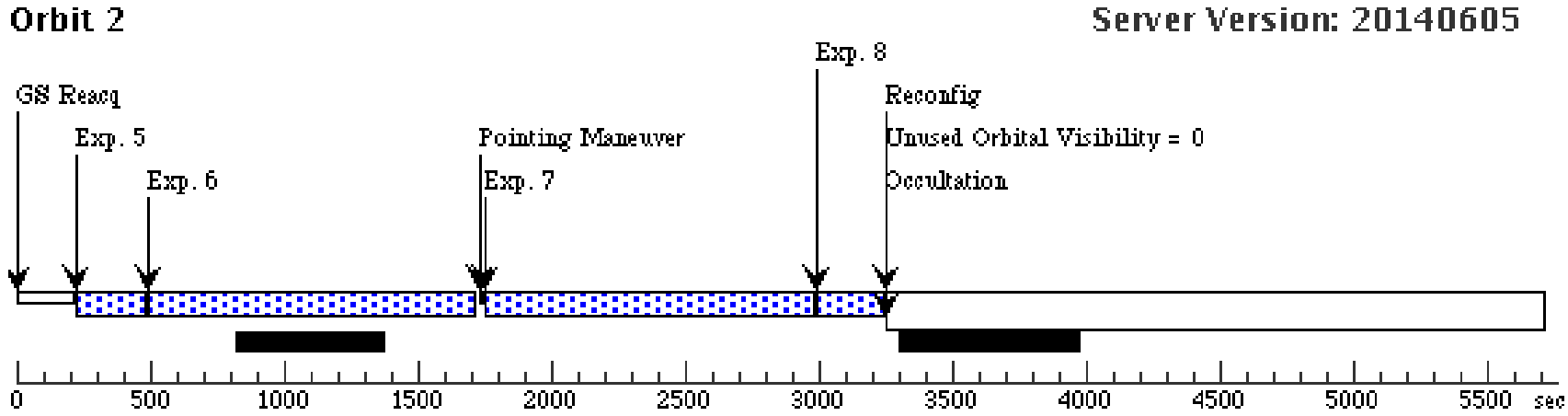
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(3)	BOOTES-LAE1-3	RA: 14 34 37.8800 (218.6578333d) Dec: +33 24 18.00 (33.40500d) Equinox: J2000		V=26.0	Reference Frame: ICRS

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1		(3) BOOTES-LAE1-3	WFC3/IR, MULTIACCUM, GRISM1024	F140W	NSAMP=10; SAMP-SEQ=SPARS25	POS TARG 0.0,0.0		227.936926 Secs (227.937 Secs) *[==>]*	*[1]*
2		(3) BOOTES-LAE1-3	WFC3/IR, MULTIACCUM, GRISM1024	G141	NSAMP=12; SAMP-SEQ=SPARS100	SAME POS AS 1		1102.935844 Secs (1102.936 Secs) *[==>]*	*[1]*
3		(3) BOOTES-LAE1-3	WFC3/IR, MULTIACCUM, GRISM1024	G141	NSAMP=13; SAMP-SEQ=SPARS100	POS TARG 0.542,0.182		1202.936167 Secs (1202.936 Secs) *[==>]*	*[1]*
4		(3) BOOTES-LAE1-3	WFC3/IR, MULTIACCUM, GRISM1024	F140W	NSAMP=9; SAMP-SEQ=SPARS25	SAME POS AS 3		202.936411 Secs (202.936 Secs) *[==>]*	*[1]*
5		(3) BOOTES-LAE1-3	WFC3/IR, MULTIACCUM, GRISM1024	F140W	NSAMP=10; SAMP-SEQ=SPARS25	POS TARG 0.339,0.485		227.936926 Secs (227.937 Secs) *[==>]*	*[2]*
6		(3) BOOTES-LAE1-3	WFC3/IR, MULTIACCUM, GRISM1024	G141	NSAMP=13; SAMP-SEQ=SPARS100	SAME POS AS 5		1202.936167 Secs (1202.936 Secs) *[==>]*	*[2]*
7		(3) BOOTES-LAE1-3	WFC3/IR, MULTIACCUM, GRISM1024	G141	NSAMP=13; SAMP-SEQ=SPARS100	POS TARG -0.203,0.303		1202.936167 Secs (1202.936 Secs) *[==>]*	*[2]*
8		(3) BOOTES-LAE1-3	WFC3/IR, MULTIACCUM, GRISM1024	F140W	NSAMP=10; SAMP-SEQ=SPARS25	SAME POS AS 7		227.936926 Secs (227.937 Secs) *[==>]*	*[2]*

Orbit Structure





Visit

Proposal 13785, BOOTES-LAE1-4-VISIT1 (04), implementation Sat Jul 19 01:07:43 GMT 2014

Diagnostic Status: Warning

Scientific Instruments: WFC3/IR

Special Requirements: (none)

Diagnostics

(BOOTES-LAE1-4-VISIT1 (04)) Warning (Orbit Planner): SAME POS MAY NOT BE APPROPRIATE

(BOOTES-LAE1-4-VISIT1 (04)) Warning (Orbit Planner): SAME POS MAY NOT BE APPROPRIATE

(BOOTES-LAE1-4-VISIT1 (04)) Warning (Orbit Planner): SAME POS MAY NOT BE APPROPRIATE

(BOOTES-LAE1-4-VISIT1 (04)) Warning (Orbit Planner): SAME POS MAY NOT BE APPROPRIATE

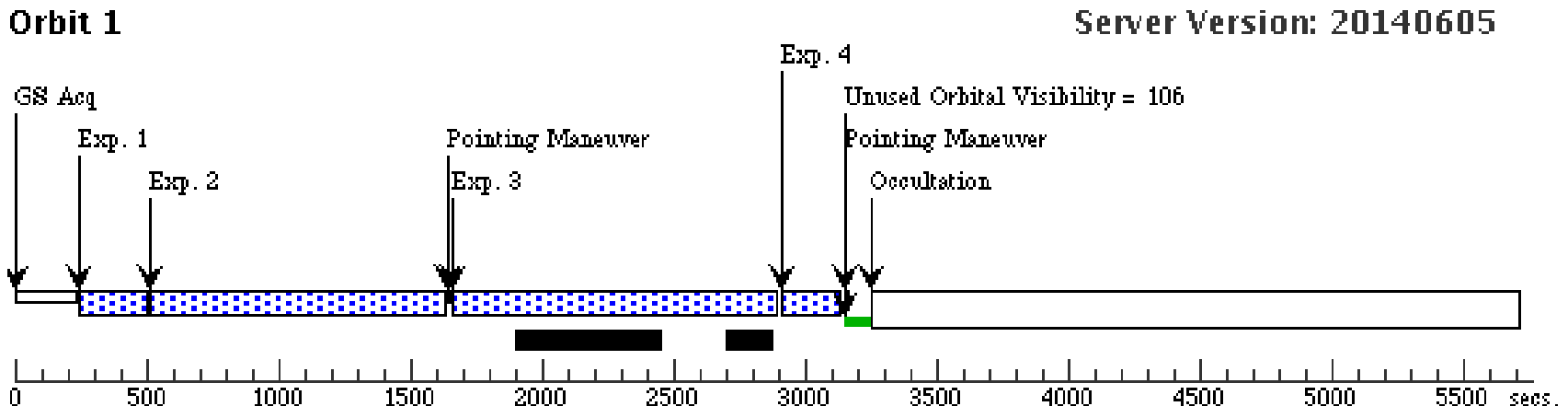
Fixed Targets

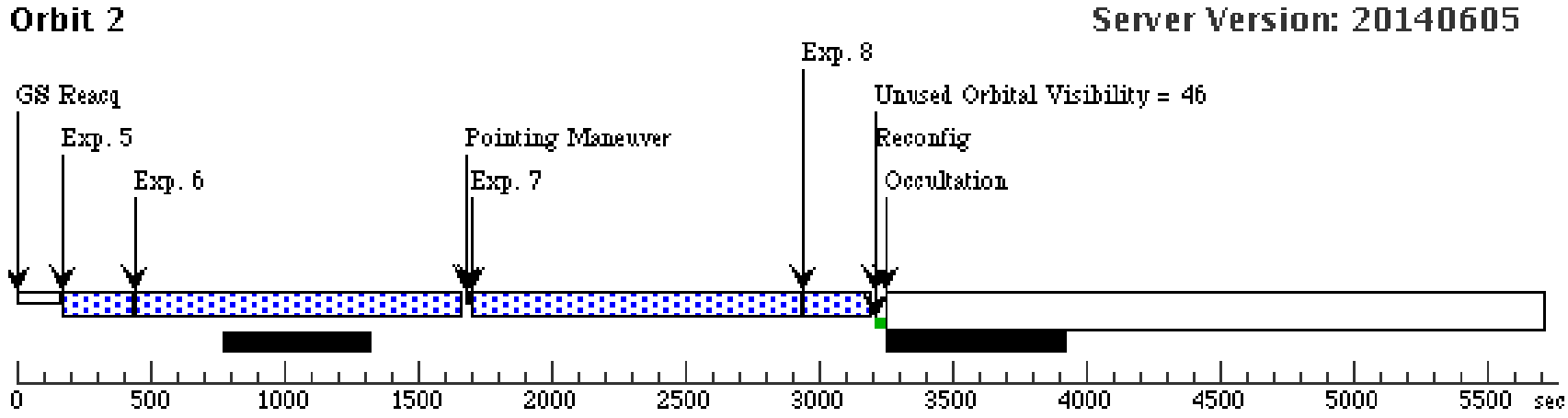
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(4)	BOOTES-LAE1-4	RA: 14 35 2.7900 (218.7616250d) Dec: +33 22 46.45 (33.37957d) Equinox: J2000		V=26.0	Reference Frame: ICRS

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1		(4) BOOTES-LAE1-4	WFC3/IR, MULTIACCUM, GRISM1024	F140W	NSAMP=10; SAMP-SEQ=SPARS25	POS TARG 0.0,0.0; GS ACQ SCENARIO ONEB1B3		227.936926 Secs (227.937 Secs) *[==>]*	*[1]*
2		(4) BOOTES-LAE1-4	WFC3/IR, MULTIACCUM, GRISM1024	G141	NSAMP=12; SAMP-SEQ=SPARS100	SAME POS AS 1		1102.935844 Secs (1102.936 Secs) *[==>]*	*[1]*
3		(4) BOOTES-LAE1-4	WFC3/IR, MULTIACCUM, GRISM1024	G141	NSAMP=13; SAMP-SEQ=SPARS100	POS TARG 0.542,0.182		1202.936167 Secs (1202.936 Secs) *[==>]*	*[1]*
4		(4) BOOTES-LAE1-4	WFC3/IR, MULTIACCUM, GRISM1024	F140W	NSAMP=9; SAMP-SEQ=SPARS25	SAME POS AS 3		202.936411 Secs (202.936 Secs) *[==>]*	*[1]*
5		(4) BOOTES-LAE1-4	WFC3/IR, MULTIACCUM, GRISM1024	F140W	NSAMP=10; SAMP-SEQ=SPARS25	POS TARG 0.339,0.485		227.936926 Secs (227.937 Secs) *[==>]*	*[2]*
6		(4) BOOTES-LAE1-4	WFC3/IR, MULTIACCUM, GRISM1024	G141	NSAMP=13; SAMP-SEQ=SPARS100	SAME POS AS 5		1202.936167 Secs (1202.936 Secs) *[==>]*	*[2]*
7		(4) BOOTES-LAE1-4	WFC3/IR, MULTIACCUM, GRISM1024	G141	NSAMP=13; SAMP-SEQ=SPARS100	POS TARG -0.203,0.303		1202.936167 Secs (1202.936 Secs) *[==>]*	*[2]*
8		(4) BOOTES-LAE1-4	WFC3/IR, MULTIACCUM, GRISM1024	F140W	NSAMP=10; SAMP-SEQ=SPARS25	SAME POS AS 7		227.936926 Secs (227.937 Secs) *[==>]*	*[2]*

Orbit Structure





Visit

Proposal 13785, BOOTES-LAE1-5-VISIT1 (05), implementation Sat Jul 19 01:07:43 GMT 2014

Diagnostic Status: Warning

Scientific Instruments: WFC3/IR

Special Requirements: (none)

Diagnostics

(BOOTES-LAE1-5-VISIT1 (05)) Warning (Orbit Planner): SAME POS MAY NOT BE APPROPRIATE

(BOOTES-LAE1-5-VISIT1 (05)) Warning (Orbit Planner): SAME POS MAY NOT BE APPROPRIATE

(BOOTES-LAE1-5-VISIT1 (05)) Warning (Orbit Planner): SAME POS MAY NOT BE APPROPRIATE

(BOOTES-LAE1-5-VISIT1 (05)) Warning (Orbit Planner): SAME POS MAY NOT BE APPROPRIATE

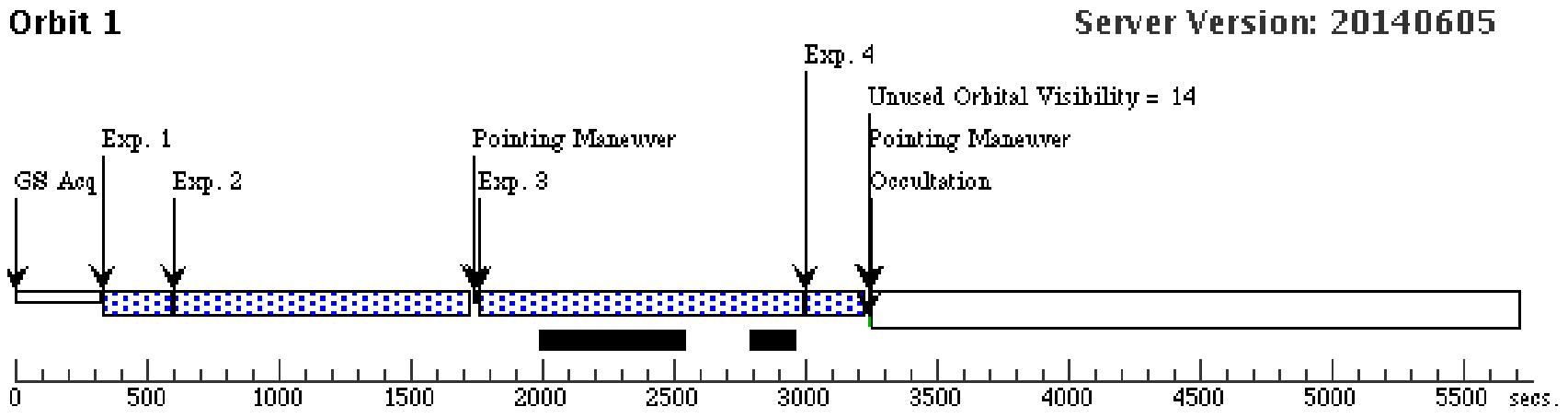
Fixed Targets

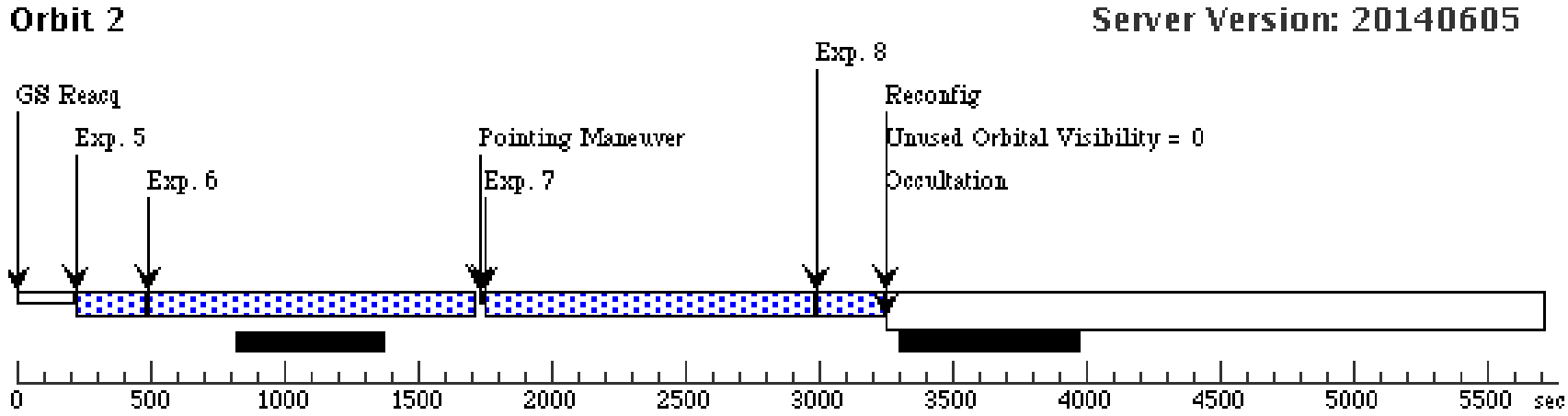
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(5)	BOOTES-LAE1-5	RA: 14 34 38.5500 (218.6606250d) Dec: +33 27 52.27 (33.46452d) Equinox: J2000		V=26.0	Reference Frame: ICRS

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1		(5) BOOTES-LAE1-5	WFC3/IR, MULTIACCUM, GRISM1024	F140W	NSAMP=10; SAMP-SEQ=SPARS25	POS TARG 0.0,0.0		227.936926 Secs (227.937 Secs) *[==>]*	*[1]*
2		(5) BOOTES-LAE1-5	WFC3/IR, MULTIACCUM, GRISM1024	G141	NSAMP=12; SAMP-SEQ=SPARS100	SAME POS AS 1		1102.935844 Secs (1102.936 Secs) *[==>]*	*[1]*
3		(5) BOOTES-LAE1-5	WFC3/IR, MULTIACCUM, GRISM1024	G141	NSAMP=13; SAMP-SEQ=SPARS100	POS TARG 0.542,0.182		1202.936167 Secs (1202.936 Secs) *[==>]*	*[1]*
4		(5) BOOTES-LAE1-5	WFC3/IR, MULTIACCUM, GRISM1024	F140W	NSAMP=9; SAMP-SEQ=SPARS25	SAME POS AS 3		202.936411 Secs (202.936 Secs) *[==>]*	*[1]*
5		(5) BOOTES-LAE1-5	WFC3/IR, MULTIACCUM, GRISM1024	F140W	NSAMP=10; SAMP-SEQ=SPARS25	POS TARG 0.339,0.485		227.936926 Secs (227.937 Secs) *[==>]*	*[2]*
6		(5) BOOTES-LAE1-5	WFC3/IR, MULTIACCUM, GRISM1024	G141	NSAMP=13; SAMP-SEQ=SPARS100	SAME POS AS 5		1202.936167 Secs (1202.936 Secs) *[==>]*	*[2]*
7		(5) BOOTES-LAE1-5	WFC3/IR, MULTIACCUM, GRISM1024	G141	NSAMP=13; SAMP-SEQ=SPARS100	POS TARG -0.203,0.303		1202.936167 Secs (1202.936 Secs) *[==>]*	*[2]*
8		(5) BOOTES-LAE1-5	WFC3/IR, MULTIACCUM, GRISM1024	F140W	NSAMP=10; SAMP-SEQ=SPARS25	SAME POS AS 7		227.936926 Secs (227.937 Secs) *[==>]*	*[2]*

Orbit Structure





Visit

Proposal 13785, BOOTES-LAE3-1-VISIT1 (06), implementation Sat Jul 19 01:07:43 GMT 2014

Diagnostic Status: Warning

Scientific Instruments: WFC3/IR

Special Requirements: (none)

Diagnostics

(BOOTES-LAE3-1-VISIT1 (06)) Warning (Orbit Planner): SAME POS MAY NOT BE APPROPRIATE

(BOOTES-LAE3-1-VISIT1 (06)) Warning (Orbit Planner): SAME POS MAY NOT BE APPROPRIATE

(BOOTES-LAE3-1-VISIT1 (06)) Warning (Orbit Planner): SAME POS MAY NOT BE APPROPRIATE

(BOOTES-LAE3-1-VISIT1 (06)) Warning (Orbit Planner): SAME POS MAY NOT BE APPROPRIATE

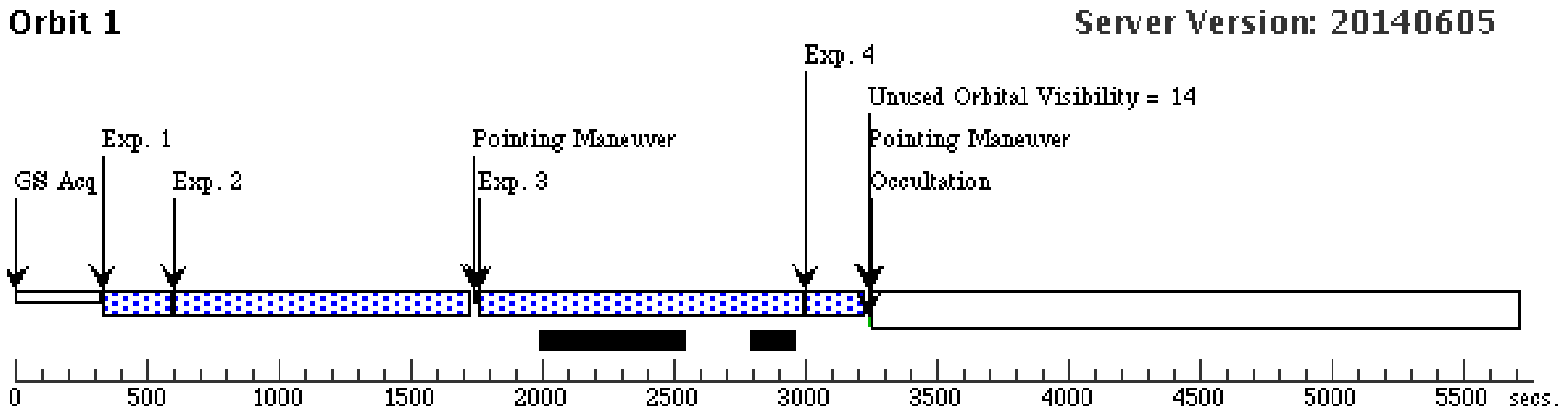
Fixed Targets

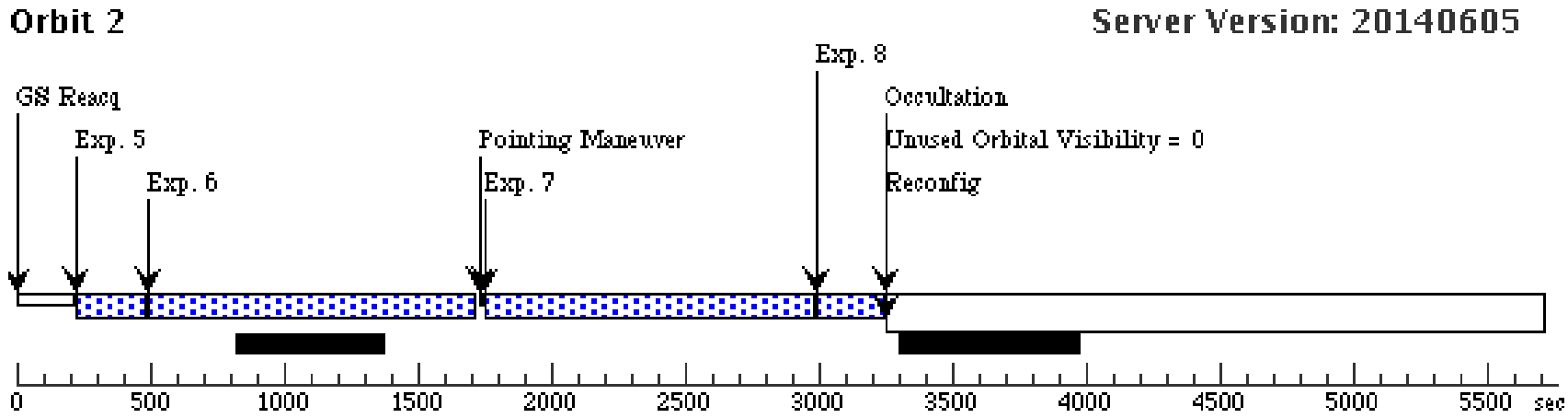
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(6)	BOOTES-LAE3-1	RA: 14 29 24.6400 (217.3526667d) Dec: +32 46 0.78 (32.76688d) Equinox: J2000		V=26.0	Reference Frame: ICRS

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1		(6) BOOTES-LAE3-1	WFC3/IR, MULTIACCUM, GRISM1024	F140W	NSAMP=10; SAMP-SEQ=SPARS25	POS TARG 0.0,0.0		227.936926 Secs (227.937 Secs) *[==>]*	*[1]*
2		(6) BOOTES-LAE3-1	WFC3/IR, MULTIACCUM, GRISM1024	G141	NSAMP=12; SAMP-SEQ=SPARS100	SAME POS AS 1		1102.935844 Secs (1102.936 Secs) *[==>]*	*[1]*
3		(6) BOOTES-LAE3-1	WFC3/IR, MULTIACCUM, GRISM1024	G141	NSAMP=13; SAMP-SEQ=SPARS100	POS TARG 0.542,0.182		1202.936167 Secs (1202.936 Secs) *[==>]*	*[1]*
4		(6) BOOTES-LAE3-1	WFC3/IR, MULTIACCUM, GRISM1024	F140W	NSAMP=9; SAMP-SEQ=SPARS25	SAME POS AS 3		202.936411 Secs (202.936 Secs) *[==>]*	*[1]*
5		(6) BOOTES-LAE3-1	WFC3/IR, MULTIACCUM, GRISM1024	F140W	NSAMP=10; SAMP-SEQ=SPARS25	POS TARG 0.339,0.485		227.936926 Secs (227.937 Secs) *[==>]*	*[2]*
6		(6) BOOTES-LAE3-1	WFC3/IR, MULTIACCUM, GRISM1024	G141	NSAMP=13; SAMP-SEQ=SPARS100	SAME POS AS 5		1202.936167 Secs (1202.936 Secs) *[==>]*	*[2]*
7		(6) BOOTES-LAE3-1	WFC3/IR, MULTIACCUM, GRISM1024	G141	NSAMP=13; SAMP-SEQ=SPARS100	POS TARG -0.203,0.303		1202.936167 Secs (1202.936 Secs) *[==>]*	*[2]*
8		(6) BOOTES-LAE3-1	WFC3/IR, MULTIACCUM, GRISM1024	F140W	NSAMP=10; SAMP-SEQ=SPARS25	SAME POS AS 7		227.936926 Secs (227.937 Secs) *[==>]*	*[2]*

Orbit Structure





Visit

Proposal 13785, BOOTES-LAE3-2-VISIT1 (07), implementation Sat Jul 19 01:07:43 GMT 2014

Diagnostic Status: Warning

Scientific Instruments: WFC3/IR

Special Requirements: (none)

Diagnostics

(BOOTES-LAE3-2-VISIT1 (07)) Warning (Orbit Planner): SAME POS MAY NOT BE APPROPRIATE

(BOOTES-LAE3-2-VISIT1 (07)) Warning (Orbit Planner): SAME POS MAY NOT BE APPROPRIATE

(BOOTES-LAE3-2-VISIT1 (07)) Warning (Orbit Planner): SAME POS MAY NOT BE APPROPRIATE

(BOOTES-LAE3-2-VISIT1 (07)) Warning (Orbit Planner): SAME POS MAY NOT BE APPROPRIATE

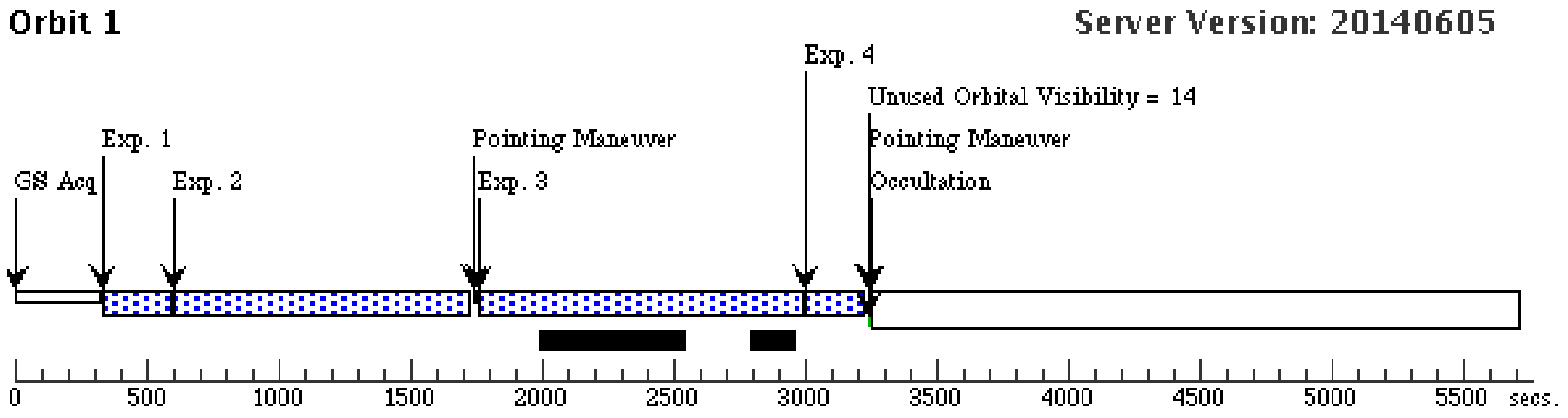
Fixed Targets

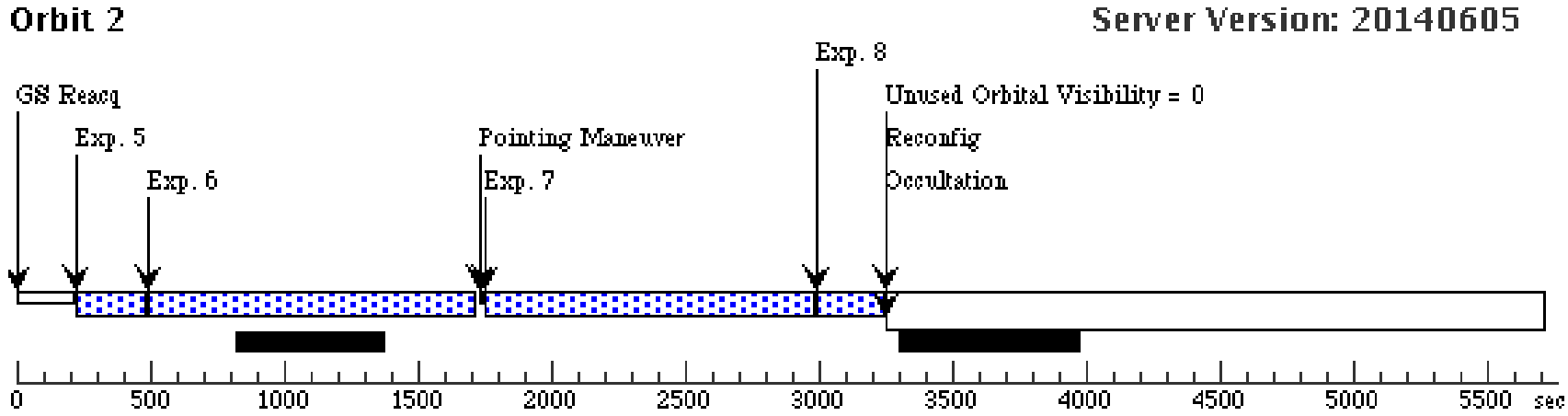
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(7)	BOOTES-LAE3-2	RA: 14 29 13.9200 (217.3080000d) Dec: +32 43 53.19 (32.73144d) Equinox: J2000		V=26.0	Reference Frame: ICRS

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1		(7) BOOTES-LAE3-2	WFC3/IR, MULTIACCUM, GRISM1024	F140W	NSAMP=10; SAMP-SEQ=SPARS25	POS TARG 0.0,0.0		227.936926 Secs (227.937 Secs) *[==>]*	*[1]*
2		(7) BOOTES-LAE3-2	WFC3/IR, MULTIACCUM, GRISM1024	G141	NSAMP=12; SAMP-SEQ=SPARS100	SAME POS AS 1		1102.935844 Secs (1102.936 Secs) *[==>]*	*[1]*
3		(7) BOOTES-LAE3-2	WFC3/IR, MULTIACCUM, GRISM1024	G141	NSAMP=13; SAMP-SEQ=SPARS100	POS TARG 0.542,0.182		1202.936167 Secs (1202.936 Secs) *[==>]*	*[1]*
4		(7) BOOTES-LAE3-2	WFC3/IR, MULTIACCUM, GRISM1024	F140W	NSAMP=9; SAMP-SEQ=SPARS25	SAME POS AS 3		202.936411 Secs (202.936 Secs) *[==>]*	*[1]*
5		(7) BOOTES-LAE3-2	WFC3/IR, MULTIACCUM, GRISM1024	F140W	NSAMP=10; SAMP-SEQ=SPARS25	POS TARG 0.339,0.485		227.936926 Secs (227.937 Secs) *[==>]*	*[2]*
6		(7) BOOTES-LAE3-2	WFC3/IR, MULTIACCUM, GRISM1024	G141	NSAMP=13; SAMP-SEQ=SPARS100	SAME POS AS 5		1202.936167 Secs (1202.936 Secs) *[==>]*	*[2]*
7		(7) BOOTES-LAE3-2	WFC3/IR, MULTIACCUM, GRISM1024	G141	NSAMP=13; SAMP-SEQ=SPARS100	POS TARG -0.203,0.303		1202.936167 Secs (1202.936 Secs) *[==>]*	*[2]*
8		(7) BOOTES-LAE3-2	WFC3/IR, MULTIACCUM, GRISM1024	F140W	NSAMP=10; SAMP-SEQ=SPARS25	SAME POS AS 7		227.936926 Secs (227.937 Secs) *[==>]*	*[2]*

Orbit Structure





Visit

Proposal 13785, BOOTES-LAE3-3-VISIT1 (08), implementation Sat Jul 19 01:07:43 GMT 2014

Diagnostic Status: Warning

Scientific Instruments: WFC3/IR

Special Requirements: (none)

Diagnostics

(BOOTES-LAE3-3-VISIT1 (08)) Warning (Orbit Planner): SAME POS MAY NOT BE APPROPRIATE

(BOOTES-LAE3-3-VISIT1 (08)) Warning (Orbit Planner): SAME POS MAY NOT BE APPROPRIATE

(BOOTES-LAE3-3-VISIT1 (08)) Warning (Orbit Planner): SAME POS MAY NOT BE APPROPRIATE

(BOOTES-LAE3-3-VISIT1 (08)) Warning (Orbit Planner): SAME POS MAY NOT BE APPROPRIATE

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(8)	BOOTES-LAE3-3	RA: 14 29 9.9200 (217.2913333d) Dec: +32 49 42.17 (32.82838d) Equinox: J2000		V=26.0	Reference Frame: ICRS

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1		(8) BOOTES-LAE3-3	WFC3/IR, MULTIACCUM, GRISM1024	F140W	NSAMP=10; SAMP-SEQ=SPARS25	POS TARG 0.0,0.0; GS ACQ SCENARIO ONEB1B3		227.936926 Secs (227.937 Secs) *[==>]*	 ***[1]***
2		(8) BOOTES-LAE3-3	WFC3/IR, MULTIACCUM, GRISM1024	G141	NSAMP=12; SAMP-SEQ=SPARS100	SAME POS AS 1		1102.935844 Secs (1102.936 Secs) *[==>]*	 ***[1]***
3		(8) BOOTES-LAE3-3	WFC3/IR, MULTIACCUM, GRISM1024	G141	NSAMP=13; SAMP-SEQ=SPARS100	POS TARG 0.542,0.182		1202.936167 Secs (1202.936 Secs) *[==>]*	 ***[1]***
4		(8) BOOTES-LAE3-3	WFC3/IR, MULTIACCUM, GRISM1024	F140W	NSAMP=9; SAMP-SEQ=SPARS25	SAME POS AS 3		202.936411 Secs (202.936 Secs) *[==>]*	 ***[1]***
5		(8) BOOTES-LAE3-3	WFC3/IR, MULTIACCUM, GRISM1024	F140W	NSAMP=10; SAMP-SEQ=SPARS25	POS TARG 0.339,0.485		227.936926 Secs (227.937 Secs) *[==>]*	 ***[2]***
6		(8) BOOTES-LAE3-3	WFC3/IR, MULTIACCUM, GRISM1024	G141	NSAMP=13; SAMP-SEQ=SPARS100	SAME POS AS 5		1202.936167 Secs (1202.936 Secs) *[==>]*	 ***[2]***
7		(8) BOOTES-LAE3-3	WFC3/IR, MULTIACCUM, GRISM1024	G141	NSAMP=13; SAMP-SEQ=SPARS100	POS TARG -0.203,0.303		1202.936167 Secs (1202.936 Secs) *[==>]*	 ***[2]***
8		(8) BOOTES-LAE3-3	WFC3/IR, MULTIACCUM, GRISM1024	F140W	NSAMP=10; SAMP-SEQ=SPARS25	SAME POS AS 7		227.936926 Secs (227.937 Secs) *[==>]*	 ***[2]***

Orbit Structure