



15266 - Imaging the Most Massive Galaxy Overdensities at $z=2.2$: The Morphology-Density Relation at High Redshift

Cycle: 25, Proposal Category: GO
(Availability Mode: SUPPORTED)

INVESTIGATORS

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VISITS

<i>Visit</i>	<i>Targets used in Visit</i>	<i>Configurations used in Visit</i>	<i>Orbits Used</i>	<i>Last Orbit Planner Run</i>	<i>OP Current with Visit?</i>
01	(1) BOSS1244P01	WFC3/IR	1	12-Jul-2017 17:09:52.0	yes
02	(2) BOSS1244P02	WFC3/IR	1	12-Jul-2017 17:09:53.0	yes
03	(3) BOSS1244P03	WFC3/IR	1	12-Jul-2017 17:09:54.0	yes
04	(4) BOSS1244P04	WFC3/IR	1	12-Jul-2017 17:09:54.0	yes
05	(5) BOSS1244P05	WFC3/IR	1	12-Jul-2017 17:09:55.0	yes
06	(6) BOSS1244P06	WFC3/IR	1	12-Jul-2017 17:09:56.0	yes
07	(7) BOSS1244P07	WFC3/IR	1	12-Jul-2017 17:09:57.0	yes
08	(8) BOSS1244P08	WFC3/IR	1	12-Jul-2017 17:09:58.0	yes

<i>Visit</i>	<i>Targets used in Visit</i>	<i>Configurations used in Visit</i>	<i>Orbits Used</i>	<i>Last Orbit Planner Run</i>	<i>OP Current with Visit?</i>
09	(9) BOSS1542P01	WFC3/IR	1	12-Jul-2017 17:09:58.0	yes
10	(10) BOSS1542P02	WFC3/IR	1	12-Jul-2017 17:09:59.0	yes
11	(11) BOSS1542P03	WFC3/IR	1	12-Jul-2017 17:10:00.0	yes
12	(12) BOSS1542P04	WFC3/IR	1	12-Jul-2017 17:10:01.0	yes
13	(13) BOSS1542P05	WFC3/IR	1	12-Jul-2017 17:10:02.0	yes
14	(14) BOSS1542P06	WFC3/IR	1	12-Jul-2017 17:10:03.0	yes
15	(15) BOSS1542P07	WFC3/IR	1	12-Jul-2017 17:10:03.0	yes
16	(16) BOSS1542P08	WFC3/IR	1	12-Jul-2017 17:10:04.0	yes

16 Total Orbits Used

ABSTRACT

We propose deep HST/WFC3 imaging in the density peak area of BOSS1244 and BOSS1542 protoclusters at $z = 2.23$ traced by the strongest groups of Ly-alpha absorbers and multiple quasars in SDSS database. These two structures are selected from a large survey volume of 1 Gpc^3 , and they are the most overdense and robustly established cluster-sized overdensities at $z \sim 2$. BOSS1244 has the overdensity of 11.0 ± 2.0 on the 15 comoving Mpc (cMpc) scale and BOSS1542 has the overdensity of 13.0 ± 2.0 on the 15cMpc scale, representing the most overdense environments at high redshift. Our dedicated LBT/LUCI and MMT/MMIRS observations have confirmed $> \sim 100$ galaxies at $z=2.23 \pm 0.02$ in each field, and confirmed the H-alpha emitters ($H < 24.0$) in these two fields, and measured the 3-D large-scale structures. Furthermore, these two fields are covered with complete wavelength observations from U-band to K-band using ground-based imaging. In Cycle-25, we propose to use eight HST/WFC3 pointings to cover the most overdense regions in each field. We will measure the detailed rest-frame optical morphology of for 78 member galaxies in BOSS1244 and 85 member galaxies in BOSS1542. These observations will determine whether the universal morphology-density relationship observed in the low-redshift Universe is already in place in and around most overdense region at $z \sim 2$. Combining the new HST observations with the existing multi-wavelength imaging ranging from 0.3 - 2.3 microns, optical spectroscopy, and narrow-band imaging, we will provide a robust sample of galaxies in the most massive protocluster at $z=2$ which could be evolved into the most massive galaxy clusters ($10^{15} M_{\text{sun}}$) in later epoch.

OBSERVING DESCRIPTION

Our project contains 16 orbits. In this project, we have 2 protocluster fields: BOSS1244 and BOSS1542. In each protocluster field, we use eight pointings to map the morphology of galaxies.

In this phase-II proposal, each target represents a different pointing (as stated above, we use 16 different pointings to map BOSS1244 and BOSS1542 fields). We use 1-orbit to populate each pointing. Each pointing contains 10 - 20 galaxies that resides at $z \sim 2.2$, and we will measure the morphology in WFC3/F160W filter for these galaxies. These galaxies are randomly distributed in the WFC3 field of view.

We have a special setting: we need to set the position angle (PA) for each pointings to a specific orientation range. The PA is chosen because we would like the longer axis of the detector perfectly aligns with the North direction for most of our pointings. From the current Phase-II, we tentatively set a Orientation Range for each visit, with the minOrient of ~ 30 and maxOrient of ~ 50 deg (~ 210 -- 230 deg). Please verify that under this range, the longer axis of the detector indeed aligns with North direction.

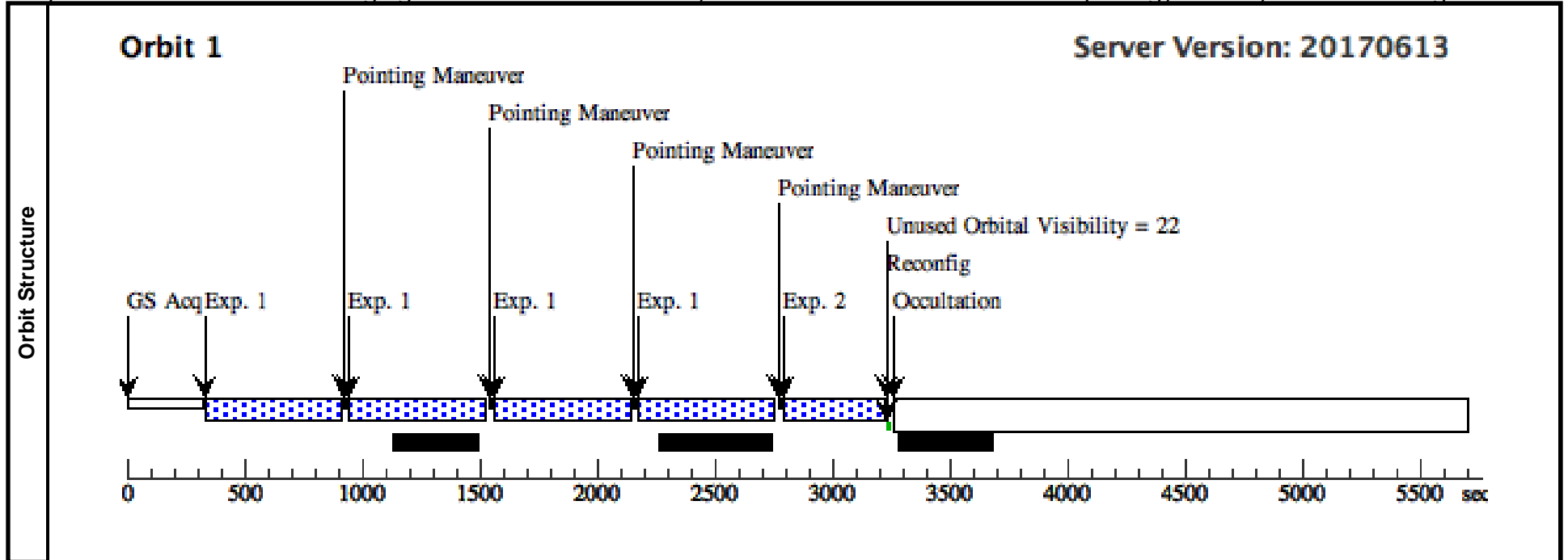
For cosmic ray rejection, we use 5 different exposures to populate each orbit. We checked the HST instrumentation handbook and we found that it suggests a 5 different exposures to populate a ~ 2600 sec exposure for a complete rejection of cosmic rays. Specifically, we use a standard 4-point small-scale dither pattern and plus an additional exposure to populate each orbit. We think these arrangements enables us to reject cosmic ray, and provide a half-pixel subsampling of the point-spread function (PSF) for each pointing.

We use a total 16 visits to populate our 16 orbits. We use each visit to populate each orbit. For each visit (orbit), we first use NSAMP= 12, SPARS=50 for the first four exposures, and then a NSAMP=9, SPARS=50 exposure for the fifth exposure. We use IR-FIX to center each pointing, enabling to perfectly center the pointing in the detector. Our galaxies are randomly distributed in each pointings.

Proposal 15266 - Visit 01 - Imaging the Most Massive Galaxy Overdensities at z=2.2: The Morphology-Density Relation at High Redshift

Wed Jul 12 21:10:05 GMT 2017

Visit	Proposal 15266, Visit 01 Diagnostic Status: No Diagnostics Scientific Instruments: WFC3/IR Special Requirements: ORIENT 33D TO 56 D; ORIENT 213D TO 235 D									
	Patterns	#	Primary Pattern	Secondary Pattern	Exposures					
		(1)	Pattern Type=WFC3-IR-DITHER-BOX-MIN Purpose=DITHER Number Of Points=4 Point Spacing=0.572 Line Spacing=0.365	Coordinate Frame=POS-TARG Pattern Orientation=18.528 Angle Between Sides=74.653 Center Pattern=false		(1)				
Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous				
	(1)	BOSS1244P01	RA: 12 43 40.9950 (190.9208125d) Dec: +35 51 19.53 (35.85543d) Equinox: J2000		V=24.00+/-0.05	Reference Frame: ICRS				
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1	BOSS1244_pos01	(1) BOSS1244P01	WFC3/IR, MULTIACCUM, IR-FIX	F160W	NSAMP=12; SAMP-SEQ=SPAR S50			Pattern 1, Exps 1-1 in Visit 01 (1)	552.937252 Secs (2211.749 Secs) [=>(Pattern 1)] [=>(Pattern 2)] [=>(Pattern 3)] [=>(Pattern 4)]
2	BOSS1244_pos01	(1) BOSS1244P01	WFC3/IR, MULTIACCUM, IR-FIX	F160W	NSAMP=9; SAMP-SEQ=SPAR S50				402.935899 Secs (402.936 Secs) [=>]	[1]



Proposal 15266 - Visit 02 - Imaging the Most Massive Galaxy Overdensities at z=2.2: The Morphology-Density Relation at High Redshift

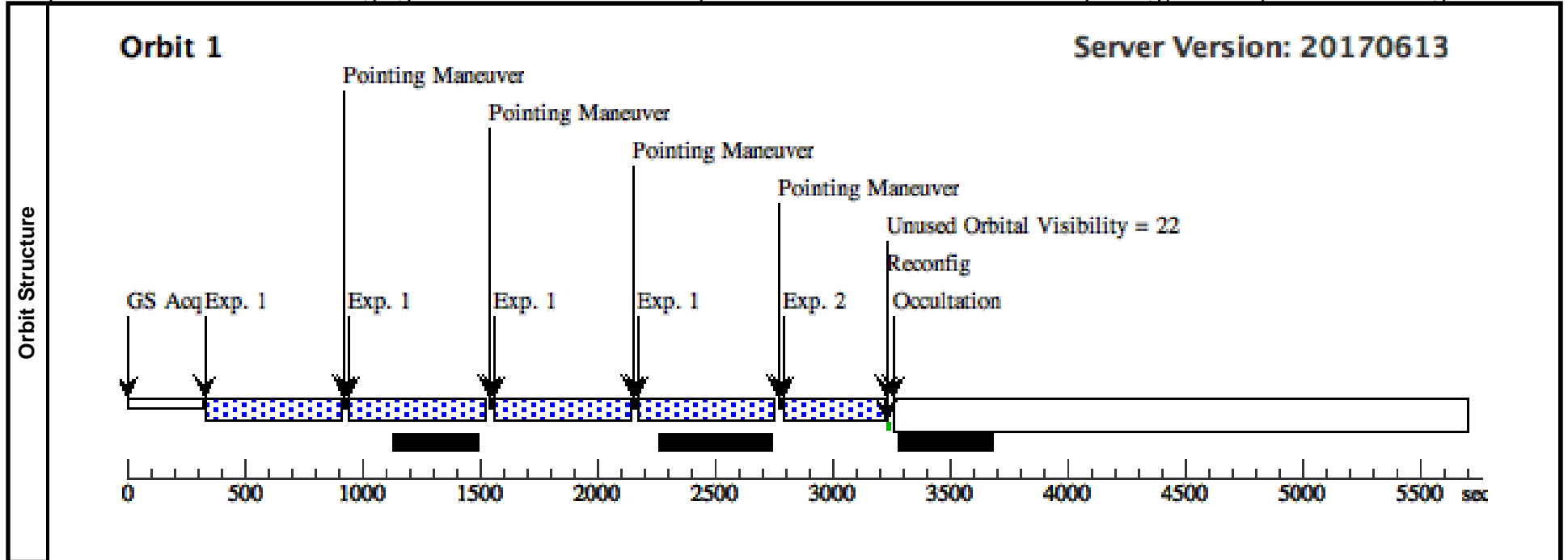
Wed Jul 12 21:10:05 GMT 2017

Visit	Proposal 15266, Visit 02 Diagnostic Status: No Diagnostics Scientific Instruments: WFC3/IR Special Requirements: ORIENT 30D TO 57 D; ORIENT 210D TO 237 D									
	Patterns	#	Primary Pattern	Secondary Pattern	Exposures					
		(1)	Pattern Type=WFC3-IR-DITHER-BOX-MIN Purpose=DITHER Number Of Points=4 Point Spacing=0.572 Line Spacing=0.365	Coordinate Frame=POS-TARG Pattern Orientation=18.528 Angle Between Sides=74.653 Center Pattern=false		(1)				
Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous				
	(2)	BOSS1244P02	RA: 12 43 31.8200 (190.8825833d) Dec: +35 53 14.32 (35.88731d) Equinox: J2000		V=24.00+/-0.05	Reference Frame: ICRS				
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1	BOSS1244_pos02	(2) BOSS1244P02	WFC3/IR, MULTIACCUM, IR-FIX	F160W	NSAMP=12; SAMP-SEQ=SPAR S50			Pattern 1, Exps 1-1 in Visit 02 (1)	552.937252 Secs (2211.749 Secs) [=>(Pattern 1)] [=>(Pattern 2)] [=>(Pattern 3)] [=>(Pattern 4)]
2	BOSS1244_pos02	(2) BOSS1244P02	WFC3/IR, MULTIACCUM, IR-FIX	F160W	NSAMP=9; SAMP-SEQ=SPAR S50				402.935899 Secs (402.936 Secs) [=>]	[1]

Proposal 15266 - Visit 03 - Imaging the Most Massive Galaxy Overdensities at z=2.2: The Morphology-Density Relation at High Redshift

Wed Jul 12 21:10:06 GMT 2017

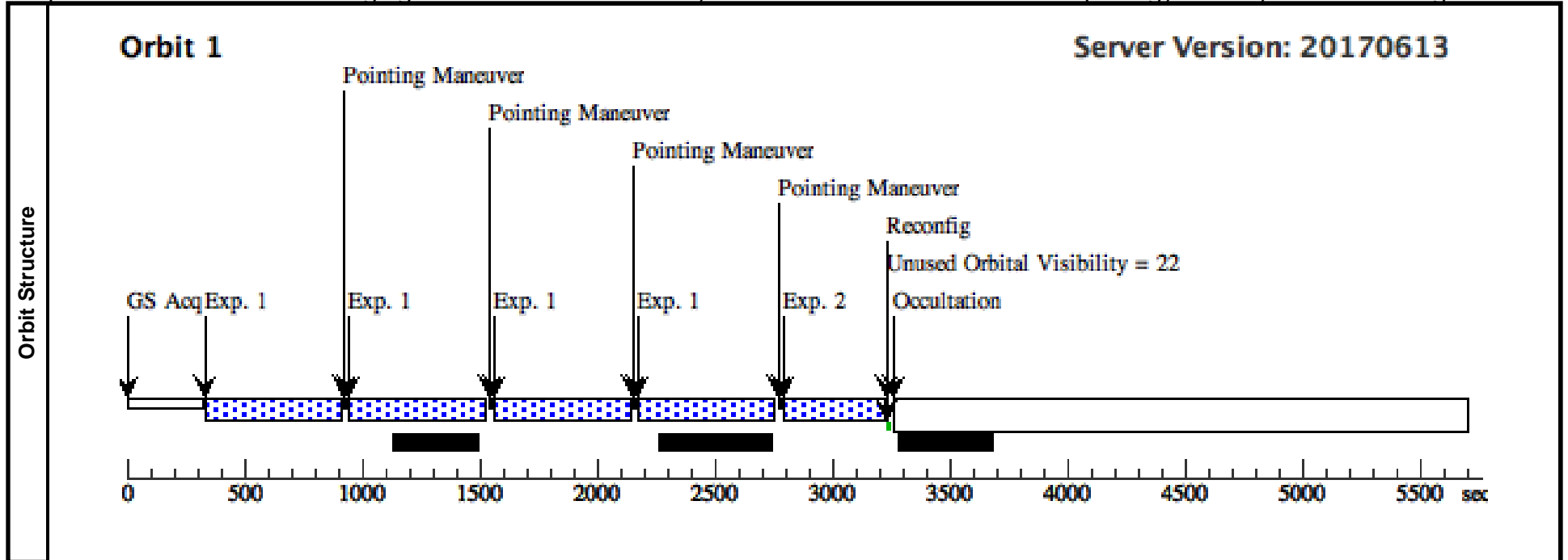
Visit	Proposal 15266, Visit 03 Diagnostic Status: No Diagnostics Scientific Instruments: WFC3/IR Special Requirements: ORIENT 34D TO 54 D; ORIENT 214D TO 234 D									
	Patterns	#	Primary Pattern	Secondary Pattern	Exposures					
		(1)	Pattern Type=WFC3-IR-DITHER-BOX-MIN Purpose=DITHER Number Of Points=4 Point Spacing=0.572 Line Spacing=0.365	Coordinate Frame=POS-TARG Pattern Orientation=18.528 Angle Between Sides=74.653 Center Pattern=false		(1)				
Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous				
	(3)	BOSS1244P03	RA: 12 43 29.5910 (190.8732958d) Dec: +35 55 4.83 (35.91801d) Equinox: J2000		V=24.00+/-0.05	Reference Frame: ICRS				
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1	BOSS1244_pos03	(3) BOSS1244P03	WFC3/IR, MULTIACCUM, IR-FIX	F160W	NSAMP=12; SAMP-SEQ=SPAR S50			Pattern 1, Exps 1-1 in Visit 03 (1)	552.937252 Secs (2211.749 Secs) [=>(Pattern 1)] [=>(Pattern 2)] [=>(Pattern 3)] [=>(Pattern 4)]
2	BOSS1244_pos03	(3) BOSS1244P03	WFC3/IR, MULTIACCUM, IR-FIX	F160W	NSAMP=9; SAMP-SEQ=SPAR S50				402.935899 Secs (402.936 Secs) [=>]	[1]



Proposal 15266 - Visit 04 - Imaging the Most Massive Galaxy Overdensities at z=2.2: The Morphology-Density Relation at High Redshift

Wed Jul 12 21:10:06 GMT 2017

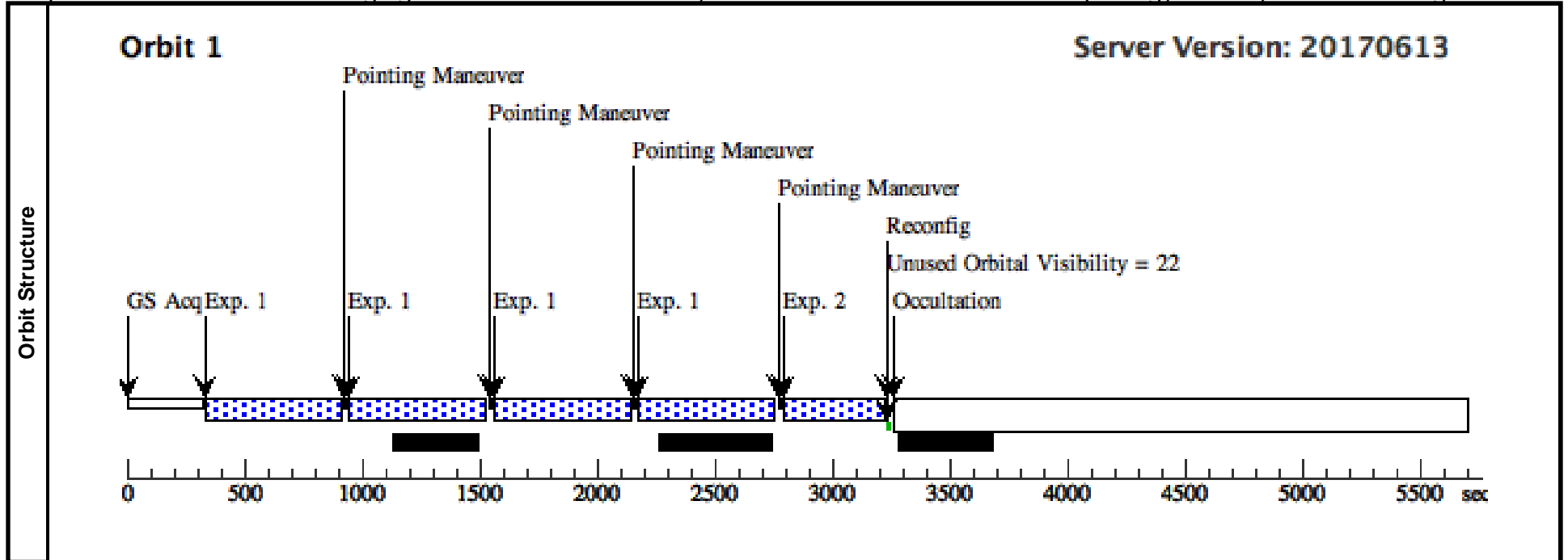
Visit	Proposal 15266, Visit 04 Diagnostic Status: No Diagnostics Scientific Instruments: WFC3/IR Special Requirements: ORIENT 34D TO 54 D; ORIENT 214D TO 234 D									
	Patterns	#	Primary Pattern				Secondary Pattern			Exposures
		(1)	Pattern Type=WFC3-IR-DITHER-BOX-MIN Purpose=DITHER Number Of Points=4 Point Spacing=0.572 Line Spacing=0.365	Coordinate Frame=POS-TARG Pattern Orientation=18.528 Angle Between Sides=74.653 Center Pattern=false						
Fixed Targets	#	Name	Target Coordinates		Targ. Coord. Corrections		Fluxes		Miscellaneous	
	(4)	BOSS1244P04	RA: 12 43 39.3460 (190.9139417d) Dec: +35 55 30.21 (35.92506d) Equinox: J2000				V=24.00+/-0.05			Reference Frame: ICRS
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1	BOSS1244_pos04	(4) BOSS1244P04	WFC3/IR, MULTIACCUM, IR-FIX	F160W	NSAMP=12; SAMP-SEQ=SPAR S50		Pattern 1, Exps 1-1 in Visit 04 (1)	552.937252 Secs (2211.749 Secs) [=>(Pattern 1)] [=>(Pattern 2)] [=>(Pattern 3)] [=>(Pattern 4)]	[1]
2	BOSS1244_pos04	(4) BOSS1244P04	WFC3/IR, MULTIACCUM, IR-FIX	F160W	NSAMP=9; SAMP-SEQ=SPAR S50			402.935899 Secs (402.936 Secs) [=>]	[1]	



Proposal 15266 - Visit 05 - Imaging the Most Massive Galaxy Overdensities at z=2.2: The Morphology-Density Relation at High Redshift

Wed Jul 12 21:10:06 GMT 2017

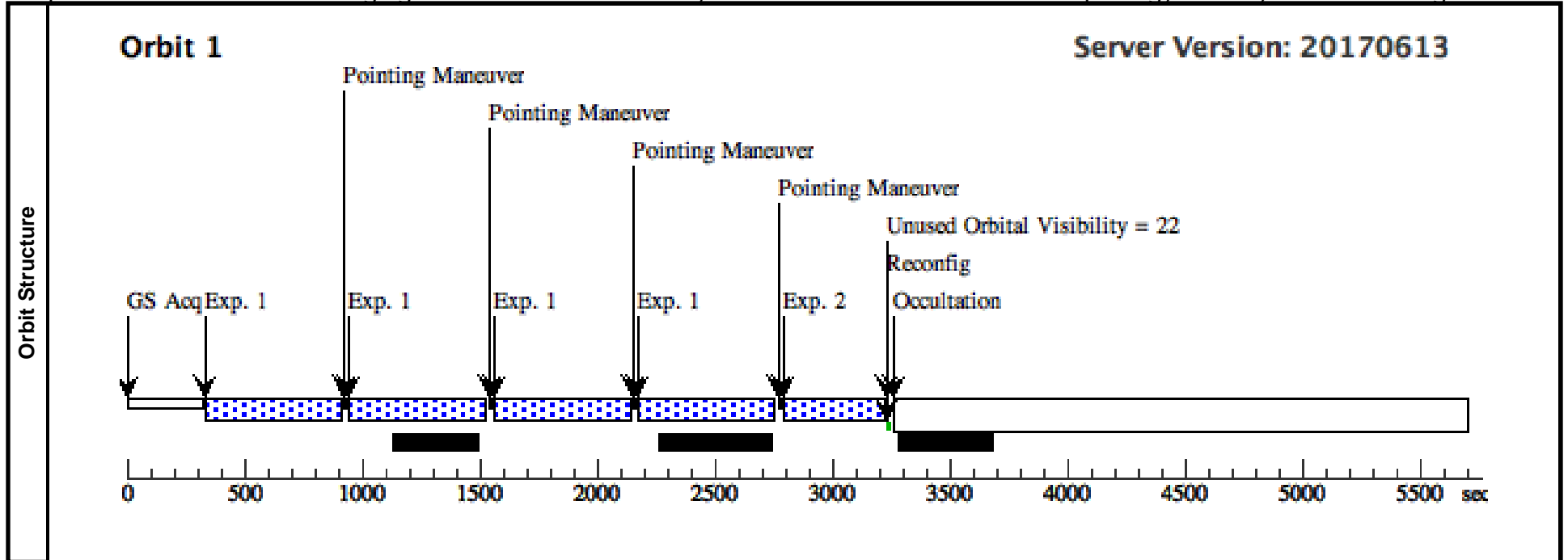
Visit	Proposal 15266, Visit 05 Diagnostic Status: No Diagnostics Scientific Instruments: WFC3/IR Special Requirements: ORIENT 34D TO 54 D; ORIENT 214D TO 234 D									
	Patterns	#	Primary Pattern	Secondary Pattern	Exposures					
		(1)	Pattern Type=WFC3-IR-DITHER-BOX-MIN Purpose=DITHER Number Of Points=4 Point Spacing=0.572 Line Spacing=0.365	Coordinate Frame=POS-TARG Pattern Orientation=18.528 Angle Between Sides=74.653 Center Pattern=false		(1)				
Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous				
	(5)	BOSS1244P05	RA: 12 43 25.7690 (190.8573708d) Dec: +35 57 52.77 (35.96466d) Equinox: J2000		V=24.00+/-0.05	Reference Frame: ICRS				
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1	BOSS1244_pos05	(5) BOSS1244P05	WFC3/IR, MULTIACCUM, IR-FIX	F160W	NSAMP=12; SAMP-SEQ=SPAR S50			Pattern 1, Exps 1-1 in Visit 05 (1)	552.937252 Secs (2211.749 Secs) [=>(Pattern 1)] [=>(Pattern 2)] [=>(Pattern 3)] [=>(Pattern 4)]
2			(5) BOSS1244P05	WFC3/IR, MULTIACCUM, IR-FIX	F160W	NSAMP=9; SAMP-SEQ=SPAR S50			402.935899 Secs (402.936 Secs) [=>]	[1]



Proposal 15266 - Visit 06 - Imaging the Most Massive Galaxy Overdensities at z=2.2: The Morphology-Density Relation at High Redshift

Wed Jul 12 21:10:06 GMT 2017

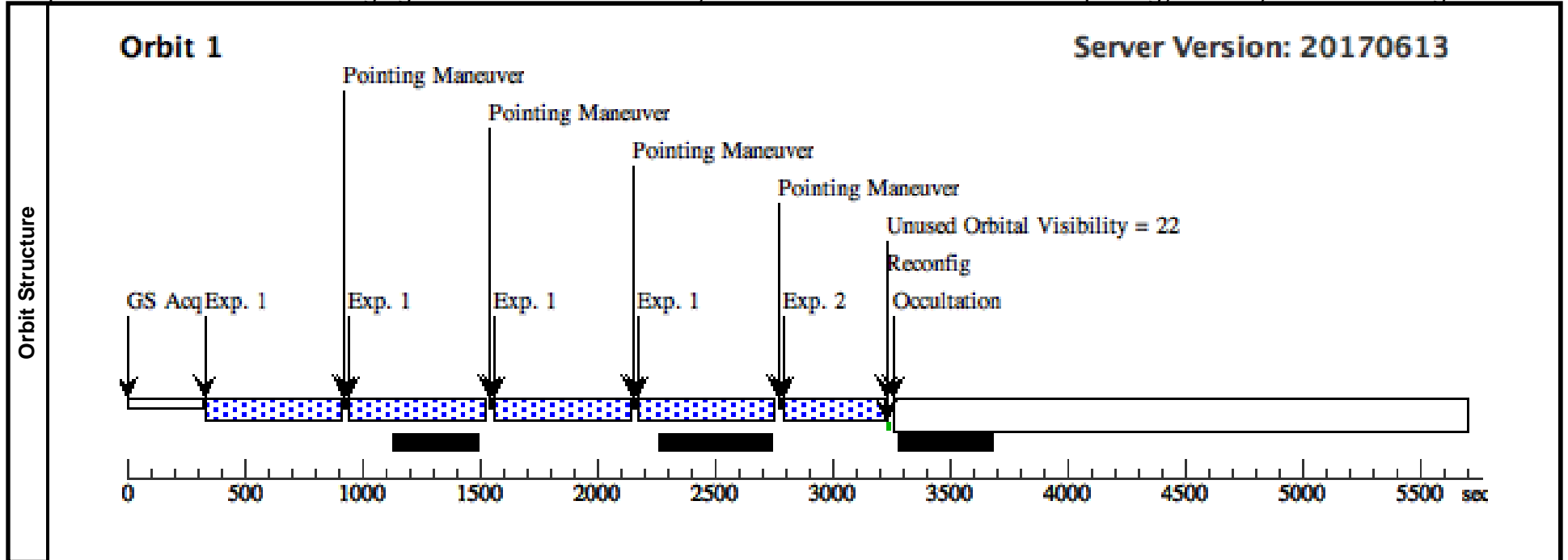
Visit	Proposal 15266, Visit 06 Diagnostic Status: No Diagnostics Scientific Instruments: WFC3/IR Special Requirements: (none)									
	Patterns	#	Primary Pattern	Secondary Pattern	Exposures					
		(1)	Pattern Type=WFC3-IR-DITHER-BOX-MIN Purpose=DITHER Number Of Points=4 Point Spacing=0.572 Line Spacing=0.365	Coordinate Frame=POS-TARG Pattern Orientation=18.528 Angle Between Sides=74.653 Center Pattern=false		(1)				
Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous				
	(6)	BOSS1244P06	RA: 12 43 23.2500 (190.8468750d) Dec: +36 01 10.40 (36.01956d) Equinox: J2000		V=24.00+/-0.05	Reference Frame: ICRS				
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1	BOSS1244_pos06	(6) BOSS1244P06	WFC3/IR, MULTIACCUM, IR-FIX	F160W	NSAMP=12; SAMP-SEQ=SPAR S50			Pattern 1, Exps 1-1 in Visit 06 (1)	552.937252 Secs (2211.749 Secs) [==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)] [==>(Pattern 4)]
2	BOSS1244_pos06	(6) BOSS1244P06	WFC3/IR, MULTIACCUM, IR-FIX	F160W	NSAMP=9; SAMP-SEQ=SPAR S50				402.935899 Secs (402.936 Secs) [==>]	[1]



Proposal 15266 - Visit 07 - Imaging the Most Massive Galaxy Overdensities at z=2.2: The Morphology-Density Relation at High Redshift

Wed Jul 12 21:10:06 GMT 2017

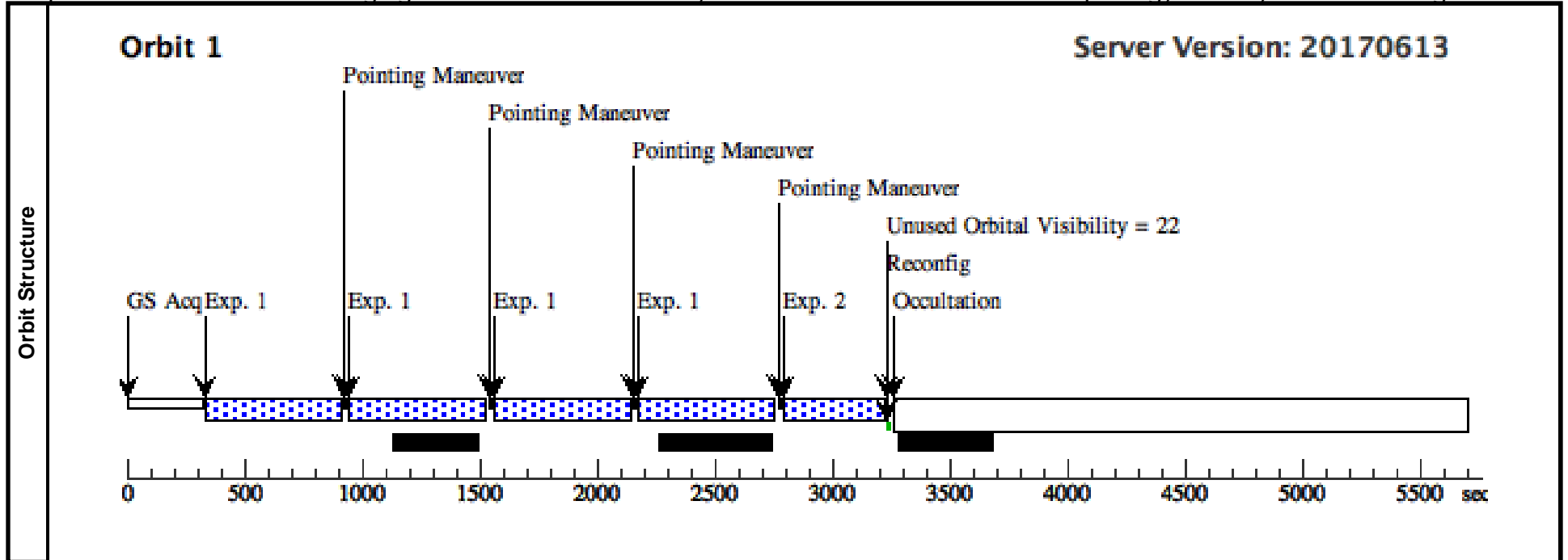
Visit	Proposal 15266, Visit 07 Diagnostic Status: No Diagnostics Scientific Instruments: WFC3/IR Special Requirements: ORIENT 24D TO 64 D; ORIENT 204D TO 244 D									
	Patterns	#	Primary Pattern	Secondary Pattern	Exposures					
		(1)	Pattern Type=WFC3-IR-DITHER-BOX-MIN Purpose=DITHER Number Of Points=4 Point Spacing=0.572 Line Spacing=0.365	Coordinate Frame=POS-TARG Pattern Orientation=18.528 Angle Between Sides=74.653 Center Pattern=false		(1)				
Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous				
	(7)	BOSS1244P07	RA: 12 43 21.7100 (190.8404583d) Dec: +36 03 22.11 (36.05614d) Equinox: J2000		V=24.00+/-0.05	Reference Frame: ICRS				
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1	BOSS1244_pos07	(7) BOSS1244P07	WFC3/IR, MULTIACCUM, IR-FIX	F160W	NSAMP=12; SAMP-SEQ=SPAR S50			Pattern 1, Exps 1-1 in Visit 07 (1)	552.937252 Secs (2211.749 Secs) [=>(Pattern 1)] [=>(Pattern 2)] [=>(Pattern 3)] [=>(Pattern 4)]
2			(7) BOSS1244P07	WFC3/IR, MULTIACCUM, IR-FIX	F160W	NSAMP=9; SAMP-SEQ=SPAR S50			402.935899 Secs (402.936 Secs) [=>]	[1]



Proposal 15266 - Visit 08 - Imaging the Most Massive Galaxy Overdensities at z=2.2: The Morphology-Density Relation at High Redshift

Wed Jul 12 21:10:06 GMT 2017

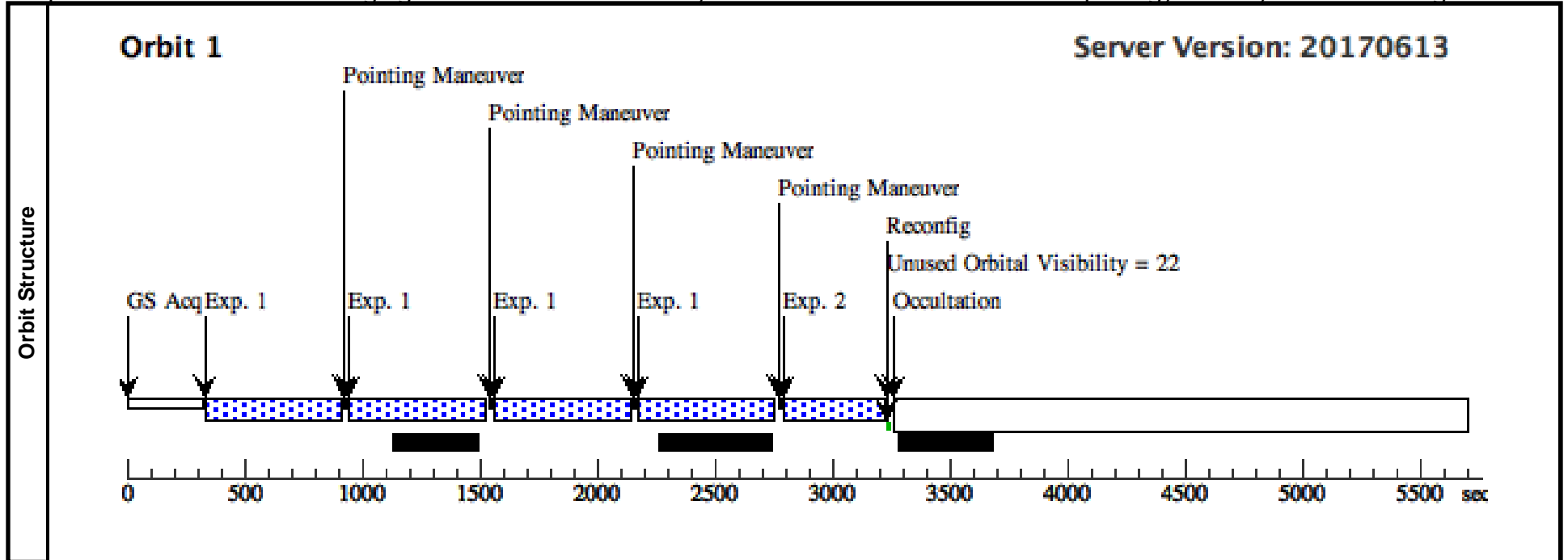
Visit	Proposal 15266, Visit 08 Diagnostic Status: No Diagnostics Scientific Instruments: WFC3/IR Special Requirements: ORIENT 123.0D TO 144 D; ORIENT 303D TO 323 D									
	Patterns	#	Primary Pattern	Secondary Pattern	Exposures					
	(1)	Pattern Type=WFC3-IR-DITHER-BOX-MIN Purpose=DITHER Number Of Points=4 Point Spacing=0.572 Line Spacing=0.365	Coordinate Frame=POS-TARG Pattern Orientation=18.528 Angle Between Sides=74.653 Center Pattern=false		(1)					
Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous				
	(8)	BOSS1244P08	RA: 12 44 0.2060 (191.0008583d) Dec: +36 04 19.55 (36.07210d) Equinox: J2000		V=24.00+/-0.05	Reference Frame: ICRS				
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1	BOSS1244_pos08	(8) BOSS1244P08	WFC3/IR, MULTIACCUM, IR-FIX	F160W	NSAMP=12; SAMP-SEQ=SPAR S50			Pattern 1, Exps 1-1 in Visit 08 (1)	552.937252 Secs (2211.749 Secs) [=>(Pattern 1)] [=>(Pattern 2)] [=>(Pattern 3)] [=>(Pattern 4)]
2	BOSS1244_pos08	(8) BOSS1244P08	WFC3/IR, MULTIACCUM, IR-FIX	F160W	NSAMP=9; SAMP-SEQ=SPAR S50				402.935899 Secs (402.936 Secs) [=>]	[1]



Proposal 15266 - Visit 09 - Imaging the Most Massive Galaxy Overdensities at z=2.2: The Morphology-Density Relation at High Redshift

Wed Jul 12 21:10:06 GMT 2017

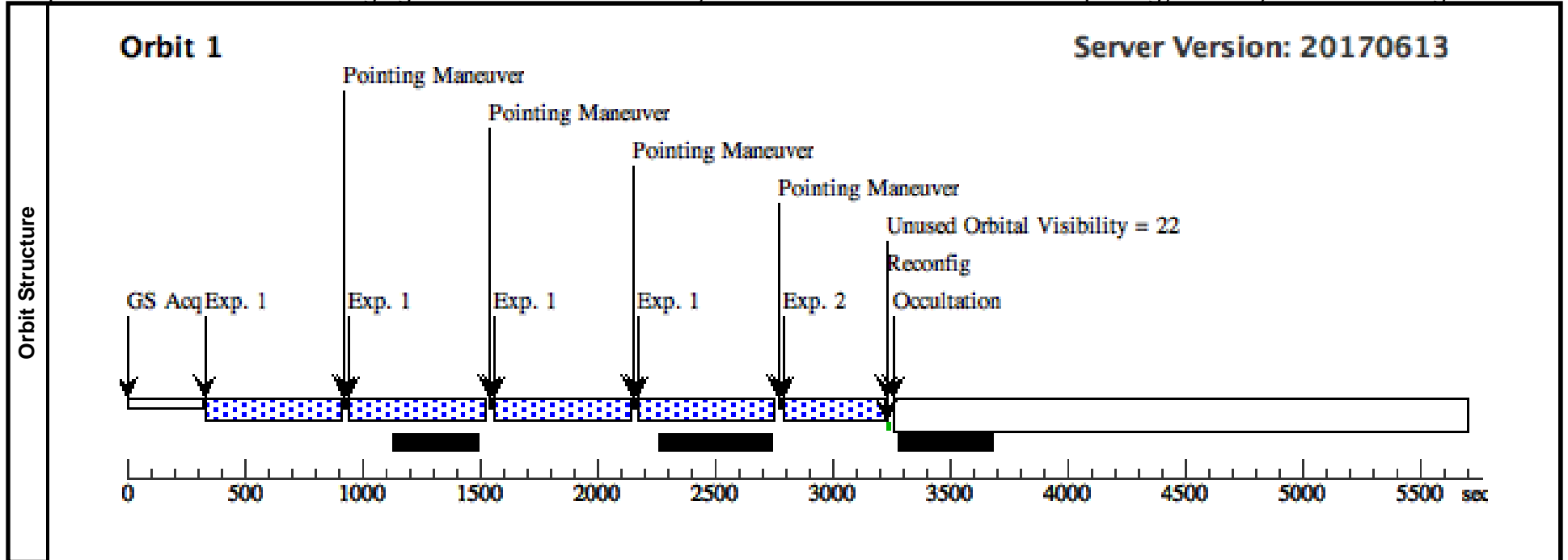
Visit	Proposal 15266, Visit 09 Diagnostic Status: No Diagnostics Scientific Instruments: WFC3/IR Special Requirements: ORIENT 35D TO 55 D; ORIENT 215D TO 235 D									
	Patterns	#	Primary Pattern	Secondary Pattern	Exposures					
		(1)	Pattern Type=WFC3-IR-DITHER-BOX-MIN Purpose=DITHER Number Of Points=4 Point Spacing=0.572 Line Spacing=0.365	Coordinate Frame=POS-TARG Pattern Orientation=18.528 Angle Between Sides=74.653 Center Pattern=false		(1)				
Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous				
	(9)	BOSS1542P01	RA: 15 43 20.2810 (235.8345042d) Dec: +38 48 35.39 (38.80983d) Equinox: J2000		V=24.00+/-0.05	Reference Frame: ICRS				
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1	BOSS1542_pos01	(9) BOSS1542P01	WFC3/IR, MULTIACCUM, IR-FIX	F160W	NSAMP=12; SAMP-SEQ=SPAR S50			Pattern 1, Exps 1-1 in Visit 09 (1)	552.937252 Secs (2211.749 Secs) [=>(Pattern 1)] [=>(Pattern 2)] [=>(Pattern 3)] [=>(Pattern 4)]
2	BOSS1542_pos01	(9) BOSS1542P01	WFC3/IR, MULTIACCUM, IR-FIX	F160W	NSAMP=9; SAMP-SEQ=SPAR S50				402.935899 Secs (402.936 Secs) [=>]	[1]



Proposal 15266 - Visit 10 - Imaging the Most Massive Galaxy Overdensities at z=2.2: The Morphology-Density Relation at High Redshift

Wed Jul 12 21:10:06 GMT 2017

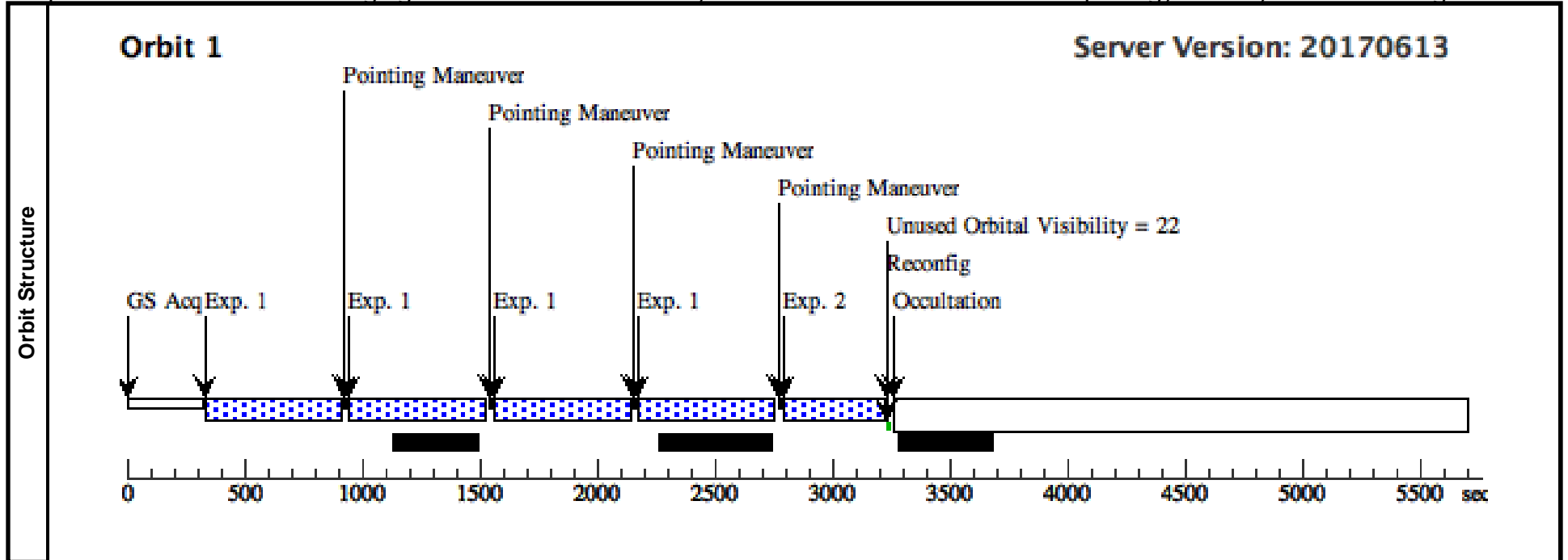
Visit	Proposal 15266, Visit 10 Diagnostic Status: No Diagnostics Scientific Instruments: WFC3/IR Special Requirements: ORIENT 35D TO 55 D; ORIENT 215D TO 235 D									
	Patterns	#	Primary Pattern	Secondary Pattern	Exposures					
	(1)	Pattern Type=WFC3-IR-DITHER-BOX-MIN Purpose=DITHER Number Of Points=4 Point Spacing=0.572 Line Spacing=0.365	Coordinate Frame=POS-TARG Pattern Orientation=18.528 Angle Between Sides=74.653 Center Pattern=false		(1)					
Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous				
	(10)	BOSS1542P02	RA: 15 42 54.6210 (235.7275875d) Dec: +38 49 48.47 (38.83013d) Equinox: J2000		V=24.00+/-0.05	Reference Frame: ICRS				
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1	BOSS1542_pos02	(10) BOSS1542P02	WFC3/IR, MULTIACCUM, IR-FIX	F160W	NSAMP=12; SAMP-SEQ=SPAR S50			Pattern 1, Exps 1-1 in Visit 10 (1)	552.937252 Secs (2211.749 Secs) [==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)] [==>(Pattern 4)]
2	BOSS1542_P02	(10) BOSS1542P02	WFC3/IR, MULTIACCUM, IR-FIX	F160W	NSAMP=9; SAMP-SEQ=SPAR S50				402.935899 Secs (402.936 Secs) [==>]	[1]



Proposal 15266 - Visit 11 - Imaging the Most Massive Galaxy Overdensities at z=2.2: The Morphology-Density Relation at High Redshift

Wed Jul 12 21:10:06 GMT 2017

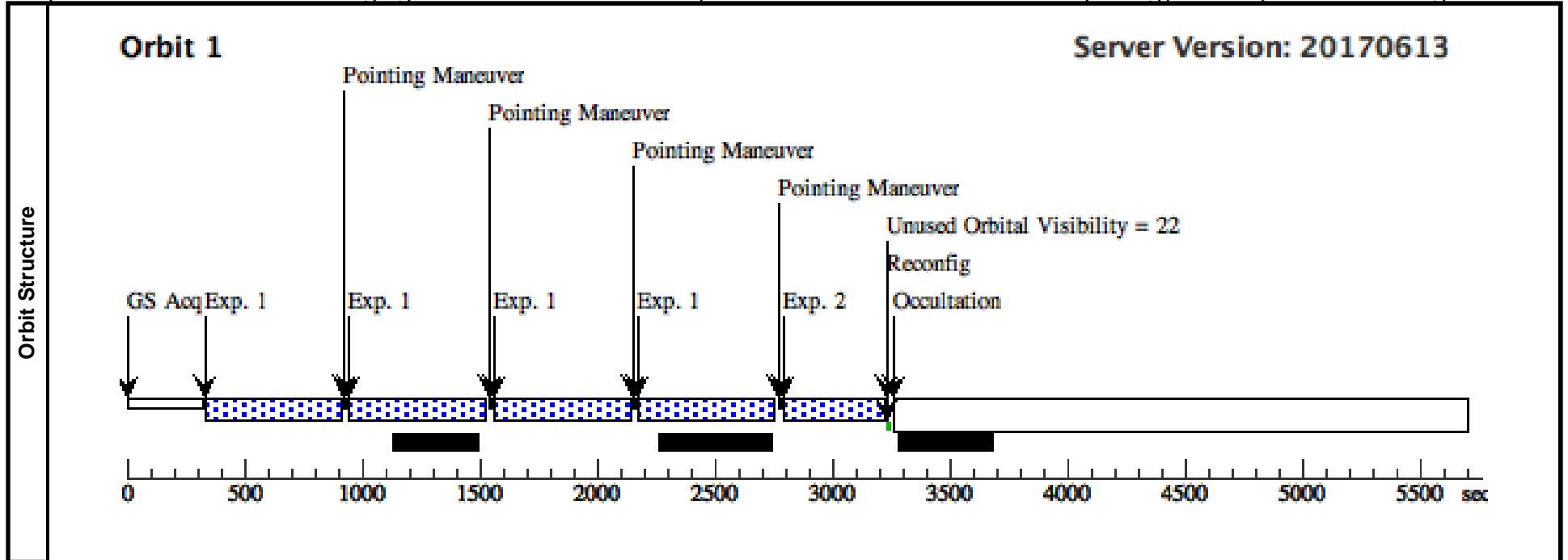
Visit	Proposal 15266, Visit 11 Diagnostic Status: No Diagnostics Scientific Instruments: WFC3/IR Special Requirements: ORIENT 35D TO 55 D; ORIENT 215D TO 235 D									
	Patterns	#	Primary Pattern	Secondary Pattern	Exposures					
		(1)	Pattern Type=WFC3-IR-DITHER-BOX-MIN Purpose=DITHER Number Of Points=4 Point Spacing=0.572 Line Spacing=0.365	Coordinate Frame=POS-TARG Pattern Orientation=18.528 Angle Between Sides=74.653 Center Pattern=false		(1)				
Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous				
	(11)	BOSS1542P03	RA: 15 43 20.9260 (235.8371917d) Dec: +38 51 6.57 (38.85182d) Equinox: J2000		V=24.00+/-0.05	Reference Frame: ICRS				
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1	BOSS1542_pos03	(11) BOSS1542P03	WFC3/IR, MULTIACCUM, IR-FIX	F160W	NSAMP=12; SAMP-SEQ=SPAR S50			Pattern 1, Exps 1-1 in Visit 11 (1)	552.937252 Secs (2211.749 Secs) [=>(Pattern 1)] [=>(Pattern 2)] [=>(Pattern 3)] [=>(Pattern 4)]
2	BOSS1542_pos03	(11) BOSS1542P03	WFC3/IR, MULTIACCUM, IR-FIX	F160W	NSAMP=9; SAMP-SEQ=SPAR S50				402.935899 Secs (402.936 Secs) [=>]	[1]



Proposal 15266 - Visit 12 - Imaging the Most Massive Galaxy Overdensities at z=2.2: The Morphology-Density Relation at High Redshift

Wed Jul 12 21:10:06 GMT 2017

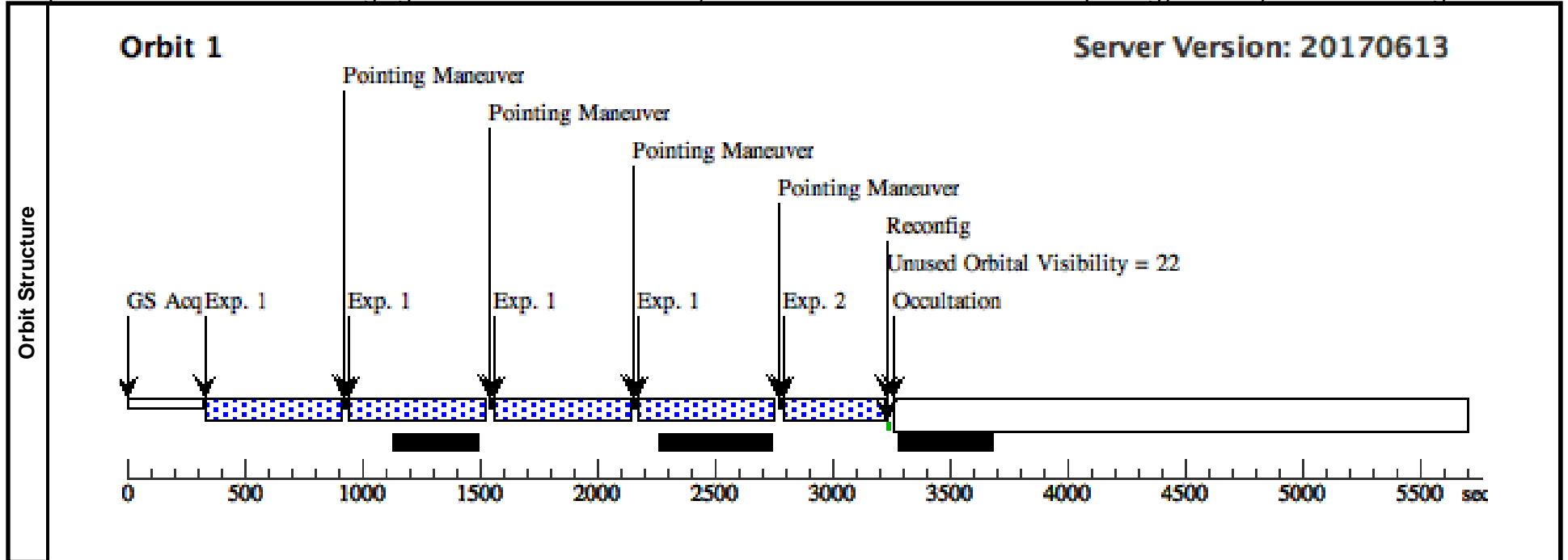
Visit	Proposal 15266, Visit 12 Diagnostic Status: No Diagnostics Scientific Instruments: WFC3/IR Special Requirements: ORIENT 35D TO 55 D; ORIENT 215D TO 235 D									
	Patterns	#	Primary Pattern	Secondary Pattern	Exposures					
	(1)	Pattern Type=WFC3-IR-DITHER-BOX-MIN Purpose=DITHER Number Of Points=4 Point Spacing=0.572 Line Spacing=0.365	Coordinate Frame=POS-TARG Pattern Orientation=18.528 Angle Between Sides=74.653 Center Pattern=false		(1)					
Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous				
	(12)	BOSS1542P04	RA: 15 42 53.0720 (235.7211333d) Dec: +38 52 9.08 (38.86919d) Equinox: J2000		V=24.00+/-0.05	Reference Frame: ICRS				
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1	BOSS1542_pos04	(12) BOSS1542P04	WFC3/IR, MULTIACCUM, IR-FIX	F160W	NSAMP=12; SAMP-SEQ=SPAR S50		Pattern 1, Exps 1-1 in Visit 12 (1)	552.937252 Secs (2211.749 Secs) [=>(Pattern 1)] [=>(Pattern 2)] [=>(Pattern 3)] [=>(Pattern 4)]	[1]
	2	BOSS1542_P04	(12) BOSS1542P04	WFC3/IR, MULTIACCUM, IR-FIX	F160W	NSAMP=9; SAMP-SEQ=SPAR S50			402.935899 Secs (402.936 Secs) [=>]	[1]



Proposal 15266 - Visit 13 - Imaging the Most Massive Galaxy Overdensities at z=2.2: The Morphology-Density Relation at High Redshift

Wed Jul 12 21:10:06 GMT 2017

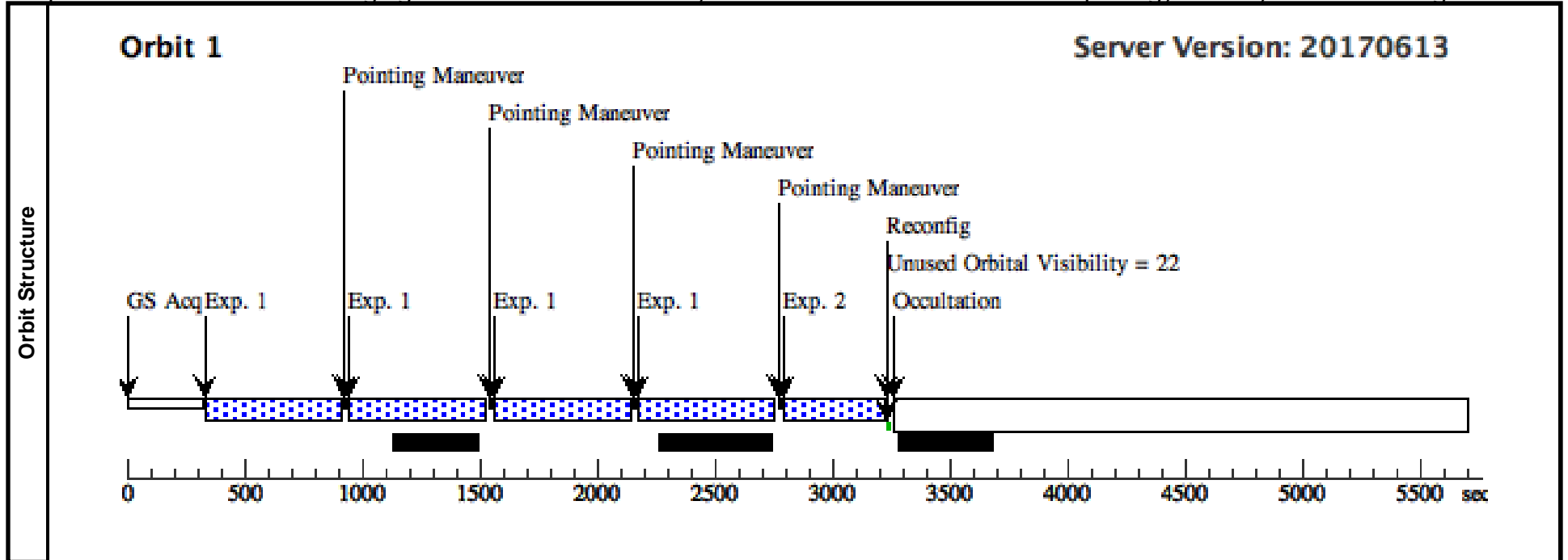
Visit	Proposal 15266, Visit 13 Diagnostic Status: No Diagnostics Scientific Instruments: WFC3/IR Special Requirements: ORIENT 35D TO 55 D; ORIENT 215D TO 235 D									
	Patterns	#	Primary Pattern	Secondary Pattern	Exposures					
	(1)	Pattern Type=WFC3-IR-DITHER-BOX-MIN Purpose=DITHER Number Of Points=4 Point Spacing=0.572 Line Spacing=0.365	Coordinate Frame=POS-TARG Pattern Orientation=18.528 Angle Between Sides=74.653 Center Pattern=false		(1)					
Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous				
	(13)	BOSS1542P05	RA: 15 42 47.9900 (235.6999583d) Dec: +38 54 9.09 (38.90252d) Equinox: J2000		V=24.00+/-0.05	Reference Frame: ICRS				
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1	BOSS1542_pos05	(13) BOSS1542P05	WFC3/IR, MULTIACCUM, IR-FIX	F160W	NSAMP=12; SAMP-SEQ=SPAR S50		Pattern 1, Exps 1-1 in Visit 13 (1)	552.937252 Secs (2211.749 Secs) [=>(Pattern 1)] [=>(Pattern 2)] [=>(Pattern 3)] [=>(Pattern 4)]	[1]
2	BOSS1542_pos05	(13) BOSS1542P05	WFC3/IR, MULTIACCUM, IR-FIX	F160W	NSAMP=9; SAMP-SEQ=SPAR S50			402.935899 Secs (402.936 Secs) [=>]	[1]	



Proposal 15266 - Visit 14 - Imaging the Most Massive Galaxy Overdensities at z=2.2: The Morphology-Density Relation at High Redshift

Wed Jul 12 21:10:06 GMT 2017

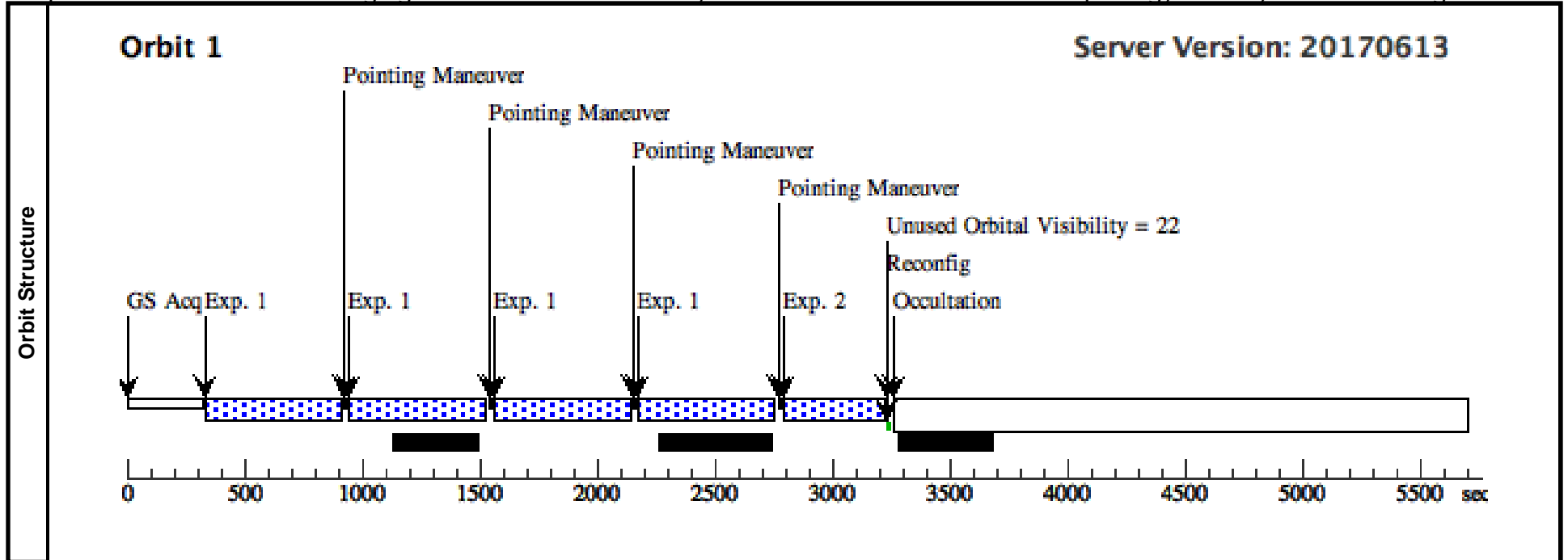
Visit	Proposal 15266, Visit 14 Diagnostic Status: No Diagnostics Scientific Instruments: WFC3/IR Special Requirements: ORIENT 25D TO 65 D; ORIENT 205D TO 245 D									
	Patterns	#	Primary Pattern	Secondary Pattern	Exposures					
		(1)	Pattern Type=WFC3-IR-DITHER-BOX-MIN Purpose=DITHER Number Of Points=4 Point Spacing=0.572 Line Spacing=0.365	Coordinate Frame=POS-TARG Pattern Orientation=18.528 Angle Between Sides=74.653 Center Pattern=false		(1)				
Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous				
	(14)	BOSS1542P06	RA: 15 43 1.0740 (235.7544750d) Dec: +38 54 32.85 (38.90912d) Equinox: J2000		V=24.00+/-0.05	Reference Frame: ICRS				
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1	BOSS1542_pos06	(14) BOSS1542P06	WFC3/IR, MULTIACCUM, IR-FIX	F160W	NSAMP=12; SAMP-SEQ=SPAR S50			Pattern 1, Exps 1-1 in Visit 14 (1)	552.937252 Secs (2211.749 Secs) [=>(Pattern 1)] [=>(Pattern 2)] [=>(Pattern 3)] [=>(Pattern 4)]
2	BOSS1542_pos06	(14) BOSS1542P06	WFC3/IR, MULTIACCUM, IR-FIX	F160W	NSAMP=9; SAMP-SEQ=SPAR S50				402.935899 Secs (402.936 Secs) [=>]	[1]



Proposal 15266 - Visit 15 - Imaging the Most Massive Galaxy Overdensities at z=2.2: The Morphology-Density Relation at High Redshift

Wed Jul 12 21:10:06 GMT 2017

Visit	Proposal 15266, Visit 15 Diagnostic Status: No Diagnostics Scientific Instruments: WFC3/IR Special Requirements: ORIENT 35D TO 55 D; ORIENT 215D TO 235 D									
	Patterns	#	Primary Pattern	Secondary Pattern	Exposures					
	(1)	Pattern Type=WFC3-IR-DITHER-BOX-MIN Purpose=DITHER Number Of Points=4 Point Spacing=0.572 Line Spacing=0.365	Coordinate Frame=POS-TARG Pattern Orientation=18.528 Angle Between Sides=74.653 Center Pattern=false		(1)					
Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous				
	(15)	BOSS1542P07	RA: 15 42 45.4490 (235.6893708d) Dec: +38 56 42.73 (38.94520d) Equinox: J2000		V=24.00+/-0.05	Reference Frame: ICRS				
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1	BOSS1542_pos07	(15) BOSS1542P07	WFC3/IR, MULTIACCUM, IR-FIX	F160W	NSAMP=12; SAMP-SEQ=SPAR S50			Pattern 1, Exps 1-1 in Visit 15 (1)	552.937252 Secs (2211.749 Secs) [=>(Pattern 1)] [=>(Pattern 2)] [=>(Pattern 3)] [=>(Pattern 4)]
2	BOSS1542_pos07	(15) BOSS1542P07	WFC3/IR, MULTIACCUM, IR-FIX	F160W	NSAMP=9; SAMP-SEQ=SPAR S50				402.935899 Secs (402.936 Secs) [=>]	[1]



Proposal 15266 - Visit 16 - Imaging the Most Massive Galaxy Overdensities at z=2.2: The Morphology-Density Relation at High Redshift

Wed Jul 12 21:10:06 GMT 2017

Visit	Proposal 15266, Visit 16 Diagnostic Status: No Diagnostics Scientific Instruments: WFC3/IR Special Requirements: ORIENT 125D TO 145 D; ORIENT 305D TO 325 D									
	Patterns	#	Primary Pattern	Secondary Pattern	Exposures					
	(1)	Pattern Type=WFC3-IR-DITHER-BOX-MIN Purpose=DITHER Number Of Points=4 Point Spacing=0.572 Line Spacing=0.365	Coordinate Frame=POS-TARG Pattern Orientation=18.528 Angle Between Sides=74.653 Center Pattern=false		(1)					
Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous				
	(16)	BOSS1542P08	RA: 15 42 38.7210 (235.6613375d) Dec: +39 00 49.07 (39.01363d) Equinox: J2000		V=24.00+/-0.05	Reference Frame: ICRS				
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1	BOSS1542_pos08	(16) BOSS1542P08	WFC3/IR, MULTIACCUM, IR-FIX	F160W	NSAMP=12; SAMP-SEQ=SPAR S50			Pattern 1, Exps 1-1 in Visit 16 (1)	552.937252 Secs (2211.749 Secs) [==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)] [==>(Pattern 4)]
2	BOSS1542_pos08	(16) BOSS1542P08	WFC3/IR, MULTIACCUM, IR-FIX	F160W	NSAMP=9; SAMP-SEQ=SPAR S50				402.935899 Secs (402.936 Secs) [==>]	[1]

