



15608 - Characterizing the most X-ray luminous galaxy clusters at $z=0.5-1$

Cycle: 26, 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) EMACSJ0256.7-1623 (2) EMACSJ0256.9-1631	ACS/WFC	3	25-Jul-2019 06:00:24.0	yes
02	(3) EMACSJ0324.0+2421	ACS/WFC WFC3/IR	2	25-Jul-2019 06:00:26.0	yes
03	(4) EMACSJ1144.2-2836	ACS/WFC	1	25-Jul-2019 06:00:27.0	yes
04	(5) EMACSJ1414.7+5446	ACS/WFC	1	25-Jul-2019 06:00:27.0	yes
05	(6) EMACSJ2026.7-1920	ACS/WFC WFC3/IR	2	25-Jul-2019 06:00:28.0	yes
06	(7) EMACSJ2315.3-2128	ACS/WFC	2	25-Jul-2019 06:00:29.0	yes

11 Total Orbits Used

ABSTRACT

We propose moderately deep ACIS-I observations, as well as HST snapshots, of 11 exceptionally X-ray luminous clusters at $z=0.5-0.9$ discovered by the eMACS project. Confirmed as massive by velocity dispersions exceeding 1100 km/s and the presence of strong-lensing features in existing HST images, nine of these systems were nonetheless missed by Planck. By yielding robust measurements of X-ray luminosity, ICM temperature, and X-ray morphology, the proposed observations will extend the redshift baseline for statistical studies of cluster growth beyond the MACS regime, identify physical biases in the eMACS and Planck cluster samples, and reveal exceptional opportunities for in-depth studies of the distribution and dynamics of luminous and dark matter in the era of JWST and 30m telescopes.

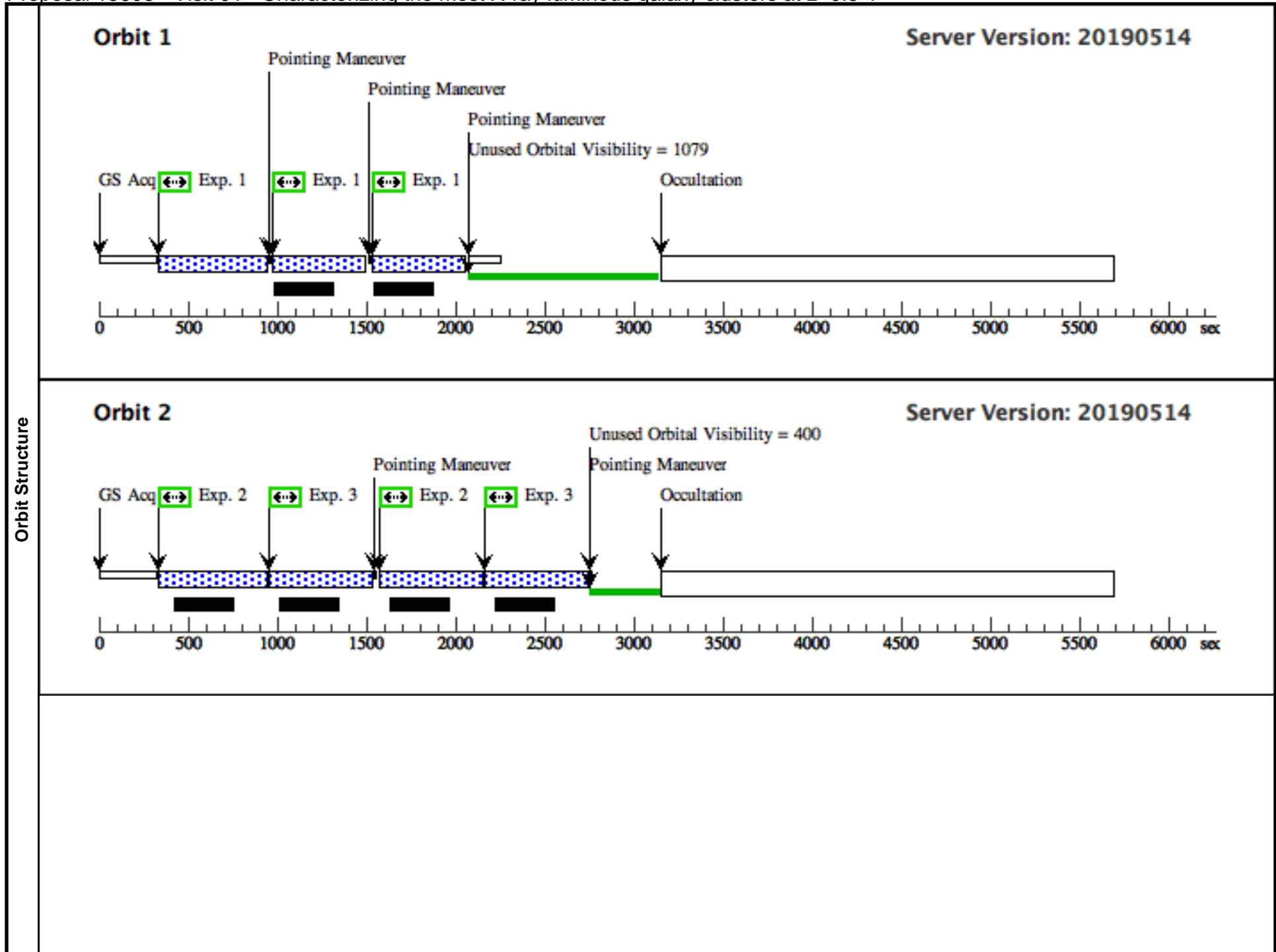
OBSERVING DESCRIPTION

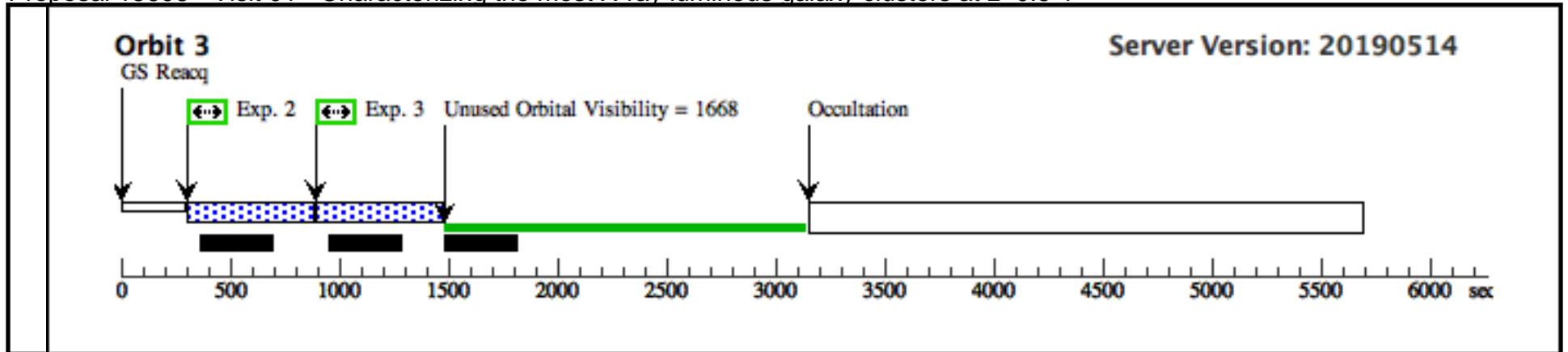
We follow the observing strategy of GO-15132 to complete SNAP observations of all targets in the same four passbands.

Proposal 15608 - Visit 01 - Characterizing the most X-ray luminous galaxy clusters at z=0.5-1

Thu Jul 25 10:00:30 GMT 2019

Visit	Proposal 15608, Visit 01, scheduled Diagnostic Status: No Diagnostics Scientific Instruments: ACS/WFC Special Requirements: (none)									
	Patterns	#	Primary Pattern	Secondary Pattern	Exposures					
		(1)	Pattern Type=ACS-WFC-DITHER-LINE Purpose=DITHER Number Of Points=3 Point Spacing=3.011 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=85.28 Angle Between Sides= Center Pattern=true		(1), (2-3)				
Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous				
	(1)	EMACSJ0256.7-1623	RA: 02 56 46.4130 (44.1933875d) Dec: -16 23 22.05 (-16.38946d) Equinox: J2000 <i>Comments:</i> Category=CLUSTER OF GALAXIES Description=[HIGH REDSHIFT CLUSTER]		V=20.0	Reference Frame: ICRS				
	(2)	EMACSJ0256.9-1631	RA: 02 56 57.3070 (44.2387792d) Dec: -16 31 5.69 (-16.51825d) Equinox: J2000 <i>Comments:</i> Category=CLUSTER OF GALAXIES Description=[HIGH REDSHIFT CLUSTER]		V=20.0	Reference Frame: ICRS				
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1	0256-16_60 6	(1) EMACSJ0256.7-1623	ACS/WFC, ACCUM, WFC	F606W	CR-SPLIT=NO			Pattern 1, Exps 1-1 in Visit 01 (1)	400 Secs (1200 Secs) [=>(Pattern 1)] [=>(Pattern 2)] [=>(Pattern 3)]
	2	0257-16_81 4	(2) EMACSJ0256.9-1631	ACS/WFC, ACCUM, WFC	F814W	CR-SPLIT=NO		Pattern 1, Exps 2-3 in Visit 01 (1)	400 Secs (1200 Secs) [=>(Pattern 1)] [=>(Pattern 2)] [=>(Pattern 3)]	[2]
	3	0257-16_60 6	(2) EMACSJ0256.9-1631	ACS/WFC, ACCUM, WFC	F606W	CR-SPLIT=NO		Pattern 1, Exps 2-3 in Visit 01 (1)	400 Secs (1200 Secs) [=>(Pattern 1)] [=>(Pattern 2)] [=>(Pattern 3)]	[2]

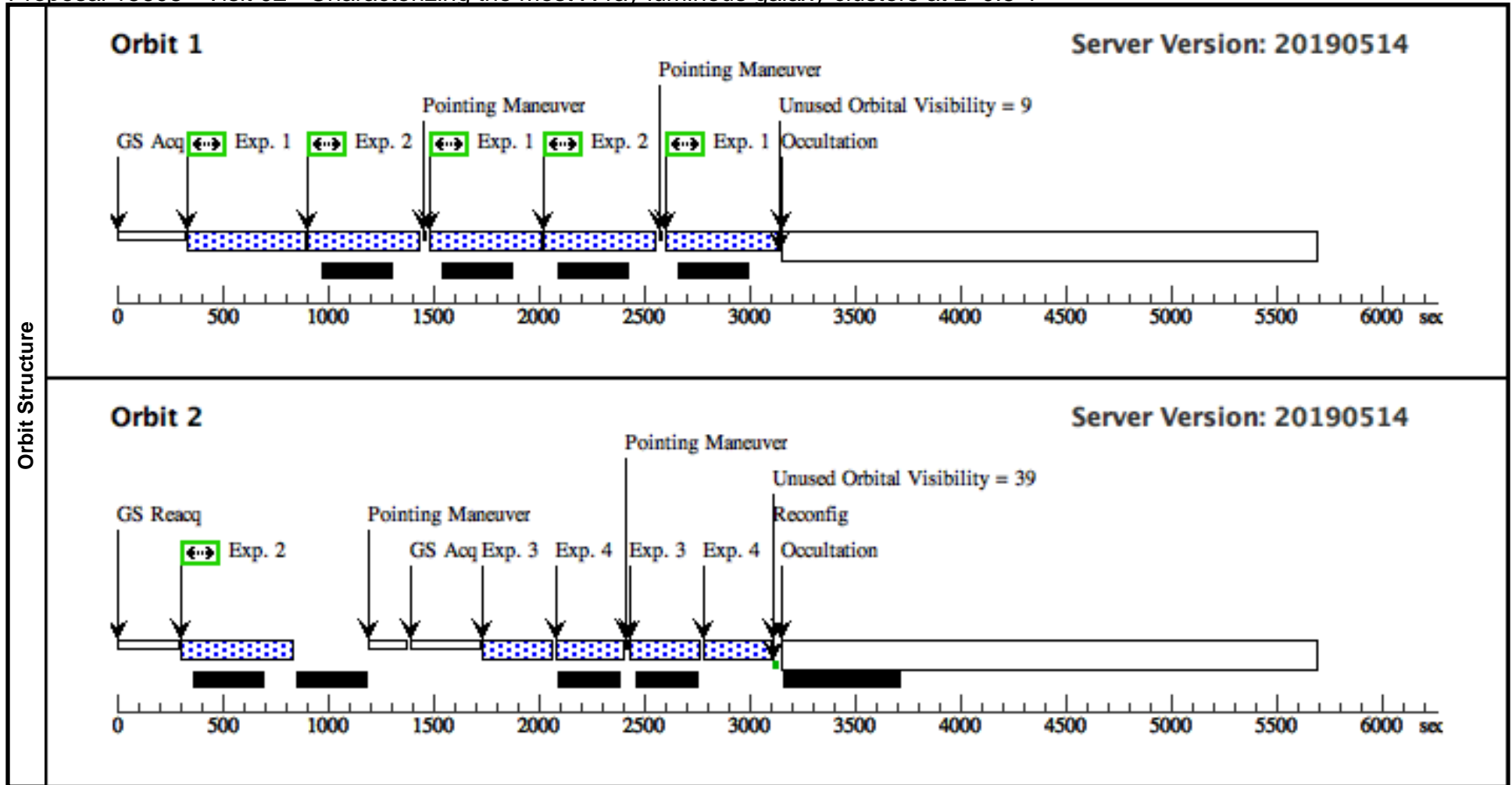




Proposal 15608 - Visit 02 - Characterizing the most X-ray luminous galaxy clusters at z=0.5-1

Thu Jul 25 10:00:30 GMT 2019

Visit	Proposal 15608, Visit 02, withdrawn Diagnostic Status: No Diagnostics Scientific Instruments: WFC3/IR, ACS/WFC Special Requirements: (none)									
	#	Primary Pattern	Secondary Pattern	Exposures						
Patterns	(1)	Pattern Type=ACS-WFC-DITHER-LINE Purpose=DITHER Number Of Points=3 Point Spacing=3.011 Line Spacing= Coordinate Frame=POS-TARG Pattern Orientation=85.28 Angle Between Sides= Center Pattern=true		(1-2)						
	(2)	Pattern Type=WFC3-IR-DITHER-LINE Purpose=DITHER Number Of Points=2 Point Spacing=0.636 Line Spacing= Coordinate Frame=POS-TARG Pattern Orientation=41.788 Angle Between Sides= Center Pattern=false		(3-4)						
Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous				
	(3)	EMACSJ0324.0+2421	RA: 03 24 0.2000 (51.0008333d) Dec: +24 21 23.00 (24.35639d) Equinox: J2000		V=20.0	Reference Frame: ICRS				
<i>Comments:</i> Category=CLUSTER OF GALAXIES Description=[HIGH REDSHIFT CLUSTER]										
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1	0324+24_60 6	(3) EMACSJ0324.0+ 2421	ACS/WFC, ACCUM, WFC	F606W			Pattern 1, Exps 1-2 in Visit 02 (1)	355 Secs (1065 Secs) [=>(Pattern 1)] [=>(Pattern 2)] [=>(Pattern 3)]	[1]
	2	0324+24_81 4	(3) EMACSJ0324.0+ 2421	ACS/WFC, ACCUM, WFC	F814W			Pattern 1, Exps 1-2 in Visit 02 (1)	355 Secs (1065 Secs) [=>(Pattern 1)] [=>(Pattern 2)] [=>(Pattern 3)]	[1] [2]
	3	0324+24_11 0	(3) EMACSJ0324.0+ 2421	WFC3/IR, MULTIACCUM, IR	F110W	SAMP-SEQ=SPARS 25; NSAMP=13	GS ACQ SCENARI O SINGLE	Pattern 2, Exps 3-4 in Visit 02 (2)	302.938471 Secs (605.877 Secs) [=>(Pattern 1)] [=>(Pattern 2)]	[2]
	4	0324+24_14 0	(3) EMACSJ0324.0+ 2421	WFC3/IR, MULTIACCUM, IR	F140W	NSAMP=13; SAMP-SEQ=SPAR S25		Pattern 2, Exps 3-4 in Visit 02 (2)	302.938471 Secs (605.877 Secs) [=>(Pattern 1)] [=>(Pattern 2)]	[2]



Proposal 15608 - Visit 03 - Characterizing the most X-ray luminous galaxy clusters at z=0.5-1

Thu Jul 25 10:00:30 GMT 2019

Visit	Proposal 15608, Visit 03, completed		
	Diagnostic Status: No Diagnostics		
	Scientific Instruments: ACS/WFC		
	Special Requirements: (none)		

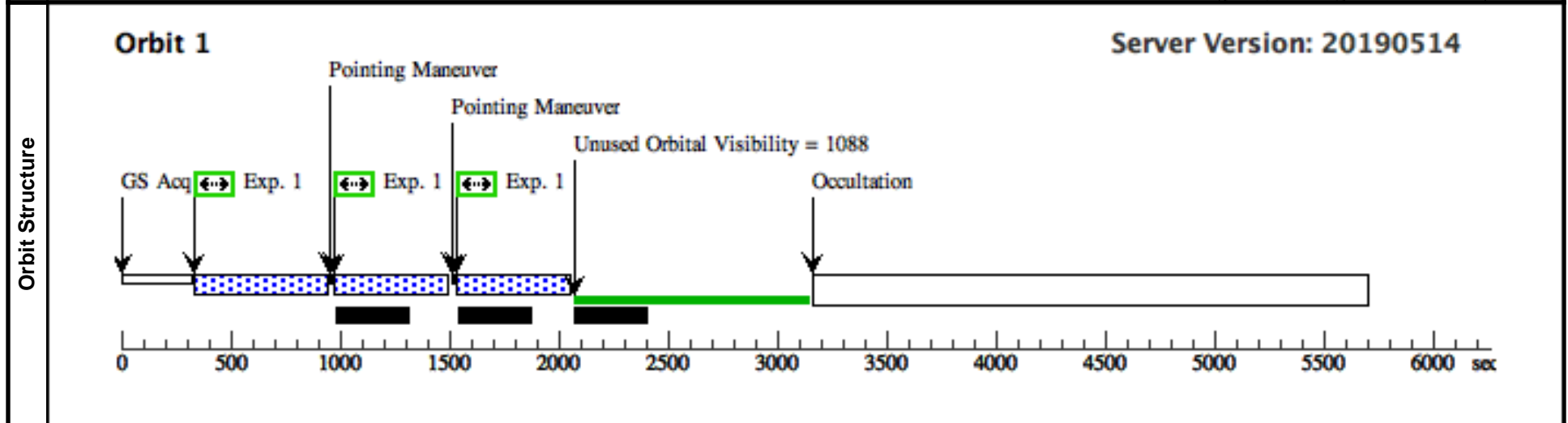
Patterns	#	Primary Pattern	Secondary Pattern	Exposures
	(1)	Pattern Type=ACS-WFC-DITHER-LINE Purpose=DITHER Number Of Points=3 Point Spacing=3.011 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=85.28 Angle Between Sides= Center Pattern=true	

Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
	(4)	EMACSJ1144.2-2836	RA: 11 44 9.4960 (176.0395667d) Dec: -28 34 59.81 (-28.58328d) Equinox: J2000		V=20.0	Reference Frame: ICRS

Comments:
 Category=CLUSTER OF GALAXIES
 Description=[HIGH REDSHIFT CLUSTER]

Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1	1144-28_814	(4) EMACSJ1144.2-2836	ACS/WFC, ACCUM, WFC	F814W	CR-SPLIT=NO			Pattern 1, Exps 1-1 in Visit 03 (1)	400 Secs (1200 Secs)

[=>(Pattern 1)]
 [=>(Pattern 2)]
 [=>(Pattern 3)]



Proposal 15608 - Visit 04 - Characterizing the most X-ray luminous galaxy clusters at z=0.5-1

Thu Jul 25 10:00:30 GMT 2019

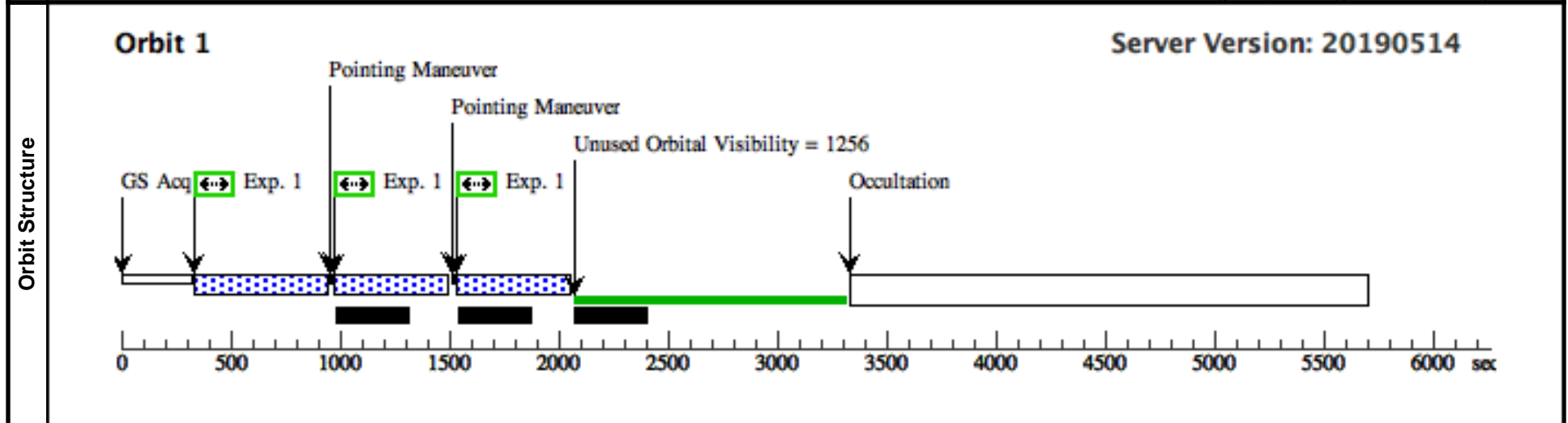
Visit	Proposal 15608, Visit 04, completed		
	Diagnostic Status: No Diagnostics		
	Scientific Instruments: ACS/WFC		
	Special Requirements: (none)		

Patterns	#	Primary Pattern	Secondary Pattern	Exposures
	(1)	Pattern Type=ACS-WFC-DITHER-LINE Purpose=DITHER Number Of Points=3 Point Spacing=3.011 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=85.28 Angle Between Sides= Center Pattern=true	

Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
	(5)	EMACSJ1414.7+5446	RA: 14 14 47.1510 (213.6964625d) Dec: +54 47 3.02 (54.78417d) Equinox: J2000		V=20.0	Reference Frame: ICRS

Comments:
 Category=CLUSTER OF GALAXIES
 Description=[HIGH REDSHIFT CLUSTER]

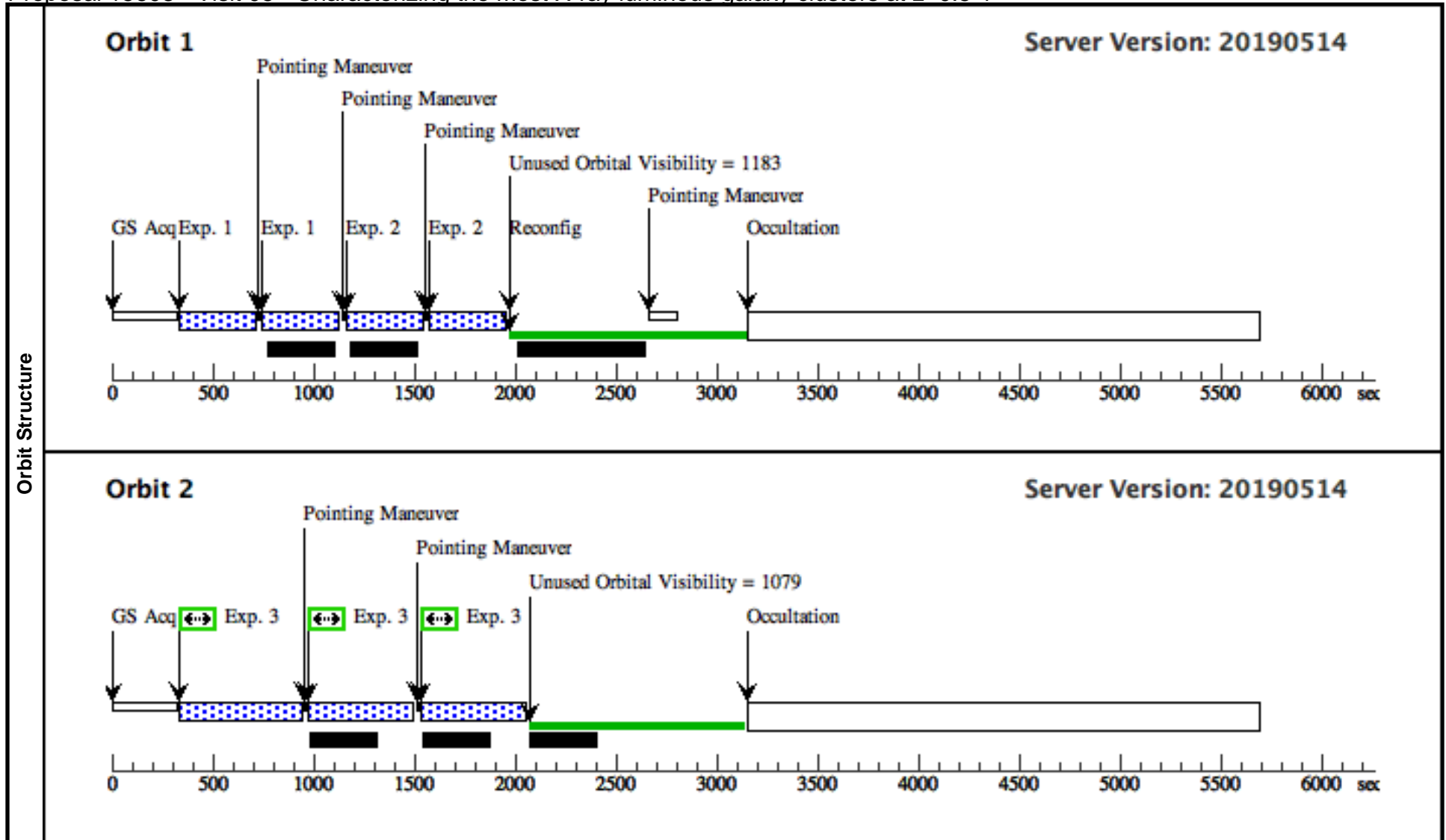
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1	1414+54_81 4	(5) EMACSJ1414.7+ 5446	ACS/WFC, ACCUM, WFC	F814W	CR-SPLIT=NO			Pattern 1, Exps 1-1 i n Visit 04 (1)	400 Secs (1200 Secs)
									[=>(Pattern 1)] [=>(Pattern 2)] [=>(Pattern 3)]	[1]



Proposal 15608 - Visit 05 - Characterizing the most X-ray luminous galaxy clusters at z=0.5-1

Thu Jul 25 10:00:30 GMT 2019

Visit	Proposal 15608, Visit 05, scheduling Diagnostic Status: No Diagnostics Scientific Instruments: WFC3/IR, ACS/WFC Special Requirements: (none)									
	#	Primary Pattern	Secondary Pattern	Exposures						
Patterns	(1)	Pattern Type=ACS-WFC-DITHER-LINE Purpose=DITHER Number Of Points=3 Point Spacing=3.011 Line Spacing= Coordinate Frame=POS-TARG Pattern Orientation=85.28 Angle Between Sides= Center Pattern=true		(3)						
	(2)	Pattern Type=WFC3-IR-DITHER-LINE Purpose=DITHER Number Of Points=2 Point Spacing=0.636 Line Spacing= Coordinate Frame=POS-TARG Pattern Orientation=41.788 Angle Between Sides= Center Pattern=false		(1), (2)						
Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous				
	(6)	EMACSJ2026.7-1920	RA: 20 26 47.5330 (306.6980542d) Dec: -19 20 18.38 (-19.33844d) Equinox: J2000		V=20	Reference Frame: ICRS				
<i>Comments:</i> Category=CLUSTER OF GALAXIES Description=[HIGH REDSHIFT CLUSTER]										
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1	2026-19_110	(6) EMACSJ2026.7-1920	WFC3/IR, MULTIACCUM, IR	F110W	SAMP-SEQ=SPARS 25; NSAMP=15		Pattern 2, Exps 1-1 in Visit 05 (2)	352.939501 Secs (705.879 Secs)	
									[=>(Pattern 1)] [=>(Pattern 2)]	[1]
	2	2026-19_140	(6) EMACSJ2026.7-1920	WFC3/IR, MULTIACCUM, IR	F140W	SAMP-SEQ=SPARS 25; NSAMP=15		Pattern 2, Exps 2-2 in Visit 05 (2)	352.939501 Secs (705.879 Secs)	
								[=>(Pattern 1)] [=>(Pattern 2)]	[1]	
3	2026-19_814	(6) EMACSJ2026.7-1920	ACS/WFC, ACCUM, WFC	F814W	CR-SPLIT=NO		Pattern 1, Exps 3-3 in Visit 05 (1)	400 Secs (1200 Secs)		
								[=>(Pattern 1)] [=>(Pattern 2)] [=>(Pattern 3)]	[2]	



Proposal 15608 - Visit 06 - Characterizing the most X-ray luminous galaxy clusters at z=0.5-1

Thu Jul 25 10:00:30 GMT 2019

Visit	Proposal 15608, Visit 06, scheduled Diagnostic Status: No Diagnostics Scientific Instruments: ACS/WFC Special Requirements: (none)									
	Patterns	#	Primary Pattern			Secondary Pattern			Exposures	
		(1)	Pattern Type=ACS-WFC-DITHER-LINE Purpose=DITHER Number Of Points=3 Point Spacing=3.011 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=85.28 Angle Between Sides= Center Pattern=true					(1-2)	
Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections		Fluxes	Miscellaneous			
	(7)	EMACSJ2315.3-2128	RA: 23 15 21.5770 (348.8399042d) Dec: -21 27 50.49 (-21.46402d) Equinox: J2000			V=20	Reference Frame: ICRS			
	<i>Comments:</i> Category=CLUSTER OF GALAXIES Description=[HIGH REDSHIFT CLUSTER]									
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1	2315-21_81_4	(7) EMACSJ2315.3-2128	ACS/WFC, ACCUM, WFC	F814W	CR-SPLIT=NO		Pattern 1, Exps 1-2 in Visit 06 (1)	400 Secs (1200 Secs)	
								[=>(Pattern 1)]	[1]	
								[=>(Pattern 2)]	[2]	
								[=>(Pattern 3)]	[2]	
2	2315-21_60_6	(7) EMACSJ2315.3-2128	ACS/WFC, ACCUM, WFC	F606W	CR-SPLIT=NO		Pattern 1, Exps 1-2 in Visit 06 (1)	400 Secs (1200 Secs)		
								[=>(Pattern 1)]	[1]	
								[=>(Pattern 2)]	[2]	
								[=>(Pattern 3)]	[2]	

