



16488 - An XMM-Newton+HST study of an extreme, high-redshift cluster merger

Cycle: 28, 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) SPT-CL-J2228-5828	ACS/WFC	1	17-Mar-2021 12:00:34.0	yes
12	(1) SPT-CL-J2228-5828	ACS/WFC	1	17-Mar-2021 12:00:35.0	yes
02	(1) SPT-CL-J2228-5828	ACS/WFC	1	17-Mar-2021 12:00:36.0	yes
03	(1) SPT-CL-J2228-5828	ACS/WFC	1	17-Mar-2021 12:00:37.0	yes
04	(1) SPT-CL-J2228-5828	ACS/WFC	1	17-Mar-2021 12:00:38.0	yes
09	(1) SPT-CL-J2228-5828	ACS/WFC	1	17-Mar-2021 12:00:39.0	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>
10	(1) SPT-CL-J2228-5828	ACS/WFC	1	17-Mar-2021 12:00:40.0	yes
11	(1) SPT-CL-J2228-5828	ACS/WFC	1	17-Mar-2021 12:00:41.0	yes
08	(1) SPT-CL-J2228-5828	WFC3/IR	1	17-Mar-2021 12:00:42.0	yes

9 Total Orbits Used

ABSTRACT

We propose XMM-Newton+HST observations of SPT-CLJ2228-5828, a high-redshift ($z = 0.73$) candidate for a dissociative galaxy cluster merger. It exhibits two major, widely-separated (940 kpc) centers in the galaxy distribution with (noisy) counterparts identified in an initial weak lensing analysis of the cluster. Traced by the SPT Sunyaev Zel'dovich signature, the hot intracluster plasma appears to be located in the middle between the two peaks of the galaxy distribution and mass map, suggesting a violent, dissociative merger. If confirmed, SPT-CLJ2228-5828 would be among the widest dissociated mergers known. These systems are extremely rare, especially at high redshifts, and provide the best conditions for constraints on the dark matter self-interaction cross-section. The requested high-resolution X-ray observations will enable us to efficiently confirm the dissociated merger nature. Additionally, they will allow us to constrain the cluster X-ray temperature and luminosity to 10%, providing the precision needed to compare its properties to its peers among the rarest violent cluster mergers known. We also request complementary HST observations to substantially improve the mass reconstruction using strong and weak gravitational lensing. This will not only allow us to compute constraints on the dark matter self-interaction from the system, but also to compare the cluster properties to expectations from mass-observable scaling relations. Complementary GMOS multi-object spectroscopy for the cluster has already been approved, yielding the final piece needed for a comprehensive multi-wavelength analysis of this extreme cluster.

OBSERVING DESCRIPTION

The observations of SPT-CL-J2228-5828 will incorporate a 2x2 mosaic with ACS in F606W and F814W, plus central observations with WFC3/IR in F140W.

All observations will be conducted during Continuous Viewing Zone (CVZ) opportunities. We request permission to "craft" the ACS observations (2 CVZ orbits per pointing), scheduling F606W imaging preferentially when HST is not observing close to Earth's bright limb,

keeping the impact of Earthshine low in this filter.

Observations will be well dithered, covering the ACS chip gap.

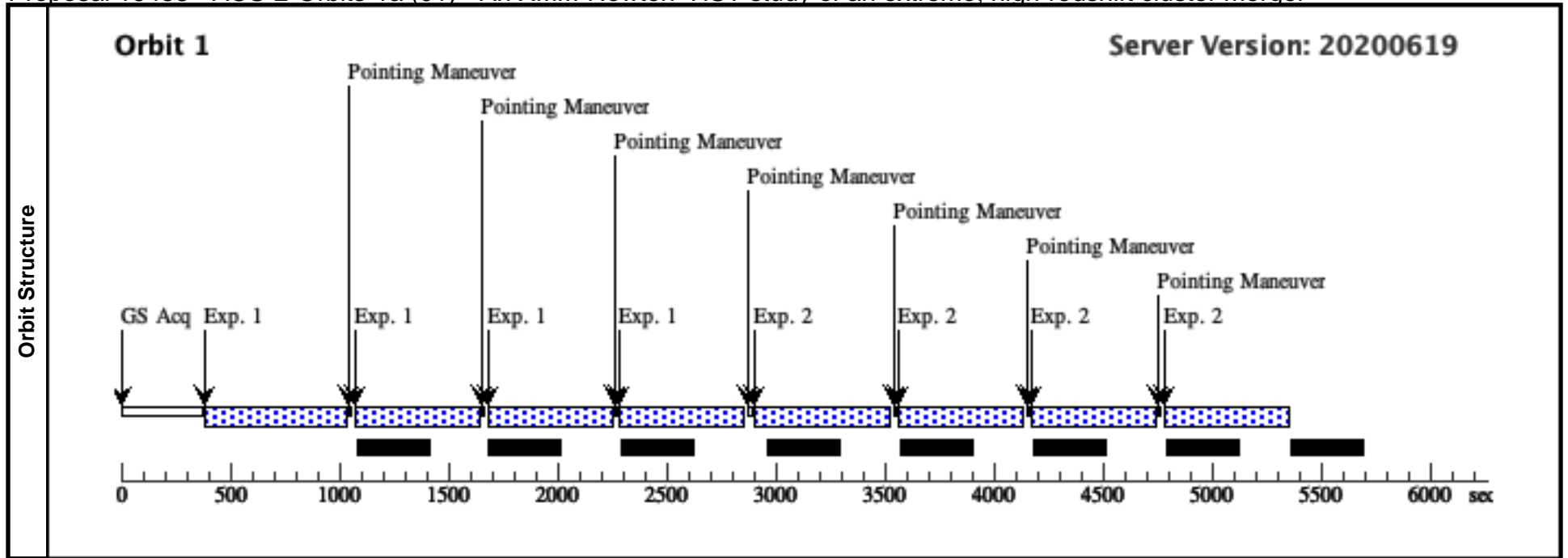
The WFC3/IR imaging (1 CVZ orbit) consists of four main overlapping pointings, each containing 3 dithered exposures.

A constraint on the overall orientation is required for the WFC3/IR visit to ensure a good coverage (6 exposures) over the inner regions of both cluster cores.

Additional peripheral cluster regions will be covered by 3 exposures.

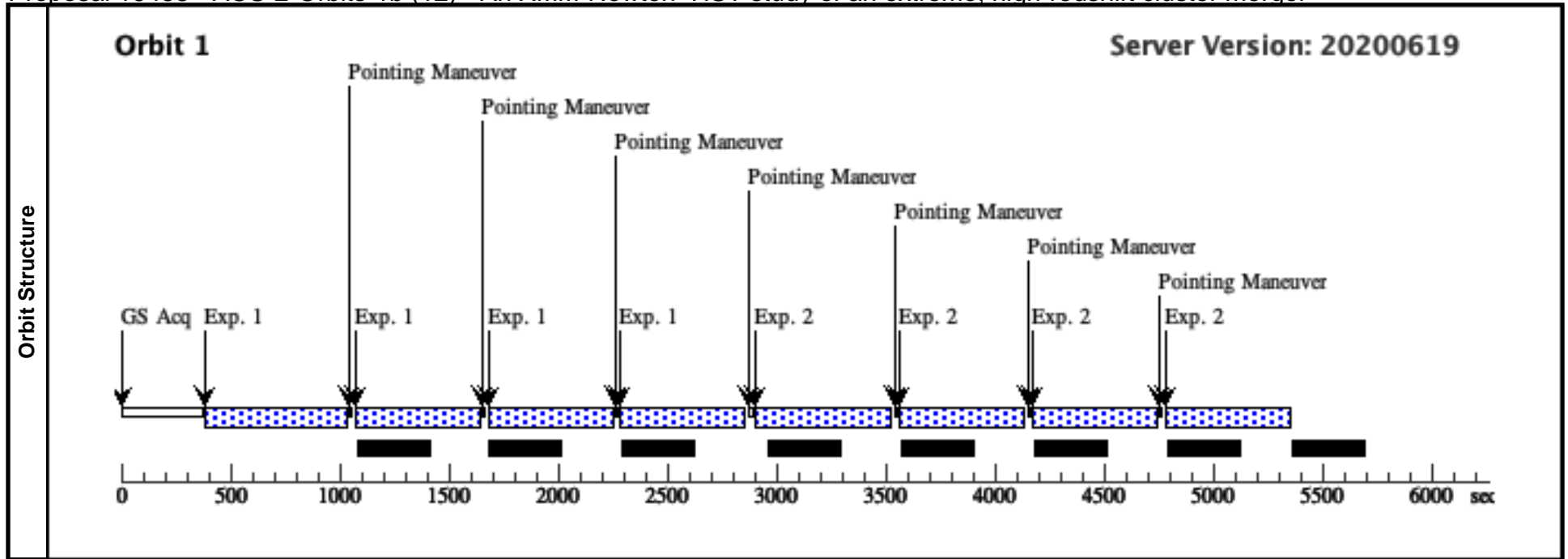
Proposal 16488 - ACS-2-Orbits-1a (01) - An XMM-Newton+HST study of an extreme, high-redshift cluster merger

Visit		Proposal 16488, ACS-2-Orbits-1a (01), implementation Diagnostic Status: No Diagnostics Scientific Instruments: ACS/WFC Special Requirements: CVZ					Wed Mar 17 16:00:43 GMT 2021			
Patterns	#	Primary Pattern		Secondary Pattern		Exposures				
	(1)	Pattern Type=ACS-WFC-DITHER-LINE Purpose=DITHER Number Of Points=4 Point Spacing=3.034 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=85.29 Angle Between Sides= Center Pattern=false			(1), (2)				
Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous				
	(1)	SPT-CL-J2228-5828	RA: 22 28 49.0000 (337.2041667d) Dec: -58 28 25.00 (-58.47361d) Equinox: J2000	Epoch of Position: 2000	V=27	Reference Frame: SIMBAD				
<i>Comments:</i> Category=CLUSTER OF GALAXIES Description=[GRAVITATIONAL LENS, HIGH REDSHIFT CLUSTER, RICH CLUSTER]										
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1		(1) SPT-CL-J2228-5828	ACS/WFC, ACCUM, WFCENTER	F606W		POS TARG -97,-98	Sequence 1-2 Non-Int in ACS-2-Orbits-1a (01) Pattern 1, Exps 1-1 in Sequence 1-2 Non-Int in ACS-2-Orbits-1a (01) (1)	446 Secs (1784 Secs) [==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)] [==>(Pattern 4)]	[1]
2		(1) SPT-CL-J2228-5828	ACS/WFC, ACCUM, WFCENTER	F814W		POS TARG -97,-98	Sequence 1-2 Non-Int in ACS-2-Orbits-1a (01) Pattern 1, Exps 2-2 in Sequence 1-2 Non-Int in ACS-2-Orbits-1a (01) (1)	446 Secs (1784 Secs) [==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)] [==>(Pattern 4)]	[1]	



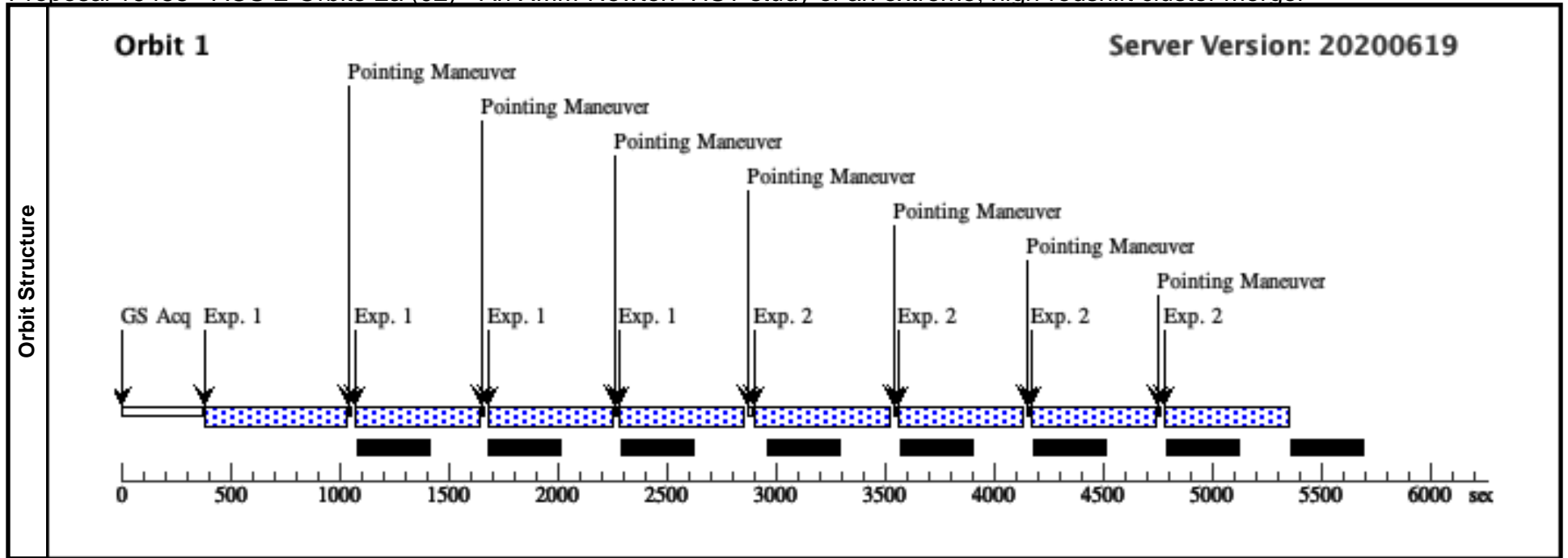
Proposal 16488 - ACS-2-Orbits-1b (12) - An XMM-Newton+HST study of an extreme, high-redshift cluster merger

Visit	Proposal 16488, ACS-2-Orbits-1b (12) Diagnostic Status: No Diagnostics Scientific Instruments: ACS/WFC Special Requirements: CVZ; SAME ORIENT AS 01					Wed Mar 17 16:00:43 GMT 2021				
Patterns	#	Primary Pattern	Secondary Pattern	Exposures						
Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous				
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	(1)	Pattern Type=ACS-WFC-DITHER-LINE Purpose=DITHER Number Of Points=4 Point Spacing=3.034 Line Spacing=		Coordinate Frame=POS-TARG Pattern Orientation=85.29 Angle Between Sides= Center Pattern=false		(1), (2)				
	(1)	SPT-CL-J2228-5828	RA: 22 28 49.0000 (337.2041667d) Dec: -58 28 25.00 (-58.47361d) Equinox: J2000	Epoch of Position: 2000	V=27	Reference Frame: SIMBAD				
<i>Comments:</i> Category=CLUSTER OF GALAXIES Description=[GRAVITATIONAL LENS, HIGH REDSHIFT CLUSTER, RICH CLUSTER]										
	1	(1) SPT-CL-J2228-5828	ACS/WFC, ACCUM, WFCENTER	F814W		POS TARG -96.03,-97.03	Sequence 1-2 Non-Int in ACS-2-Orbits-1b (12)	446 Secs (1784 Secs)	[==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)] [==>(Pattern 4)]	[1]
	2	(1) SPT-CL-J2228-5828	ACS/WFC, ACCUM, WFCENTER	F606W		POS TARG -96.03,-97.03	Sequence 1-2 Non-Int in ACS-2-Orbits-1b (12)	446 Secs (1784 Secs)	[==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)] [==>(Pattern 4)]	[1]



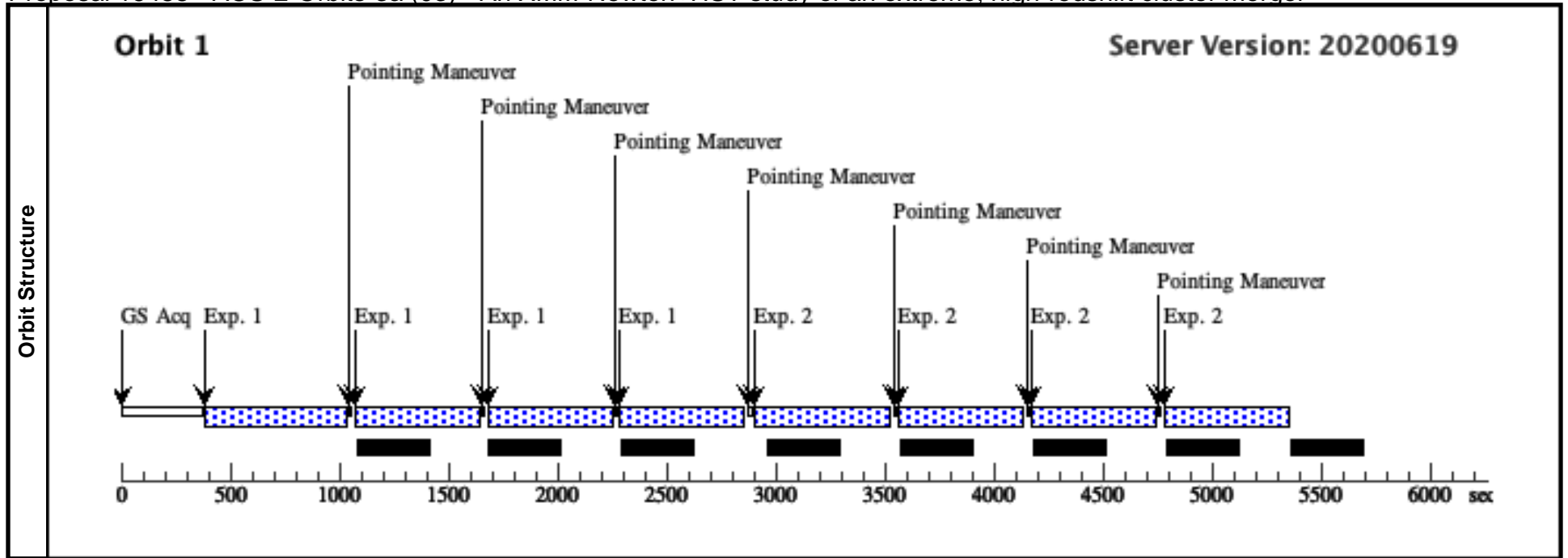
Proposal 16488 - ACS-2-Orbits-2a (02) - An XMM-Newton+HST study of an extreme, high-redshift cluster merger

Visit	Proposal 16488, ACS-2-Orbits-2a (02), implementation Wed Mar 17 16:00:43 GMT 2021									
	Diagnostic Status: No Diagnostics Scientific Instruments: ACS/WFC Special Requirements: CVZ; SAME ORIENT AS 01									
Patterns	#	Primary Pattern	Secondary Pattern	Exposures						
		(1)	Pattern Type=ACS-WFC-DITHER-LINE Purpose=DITHER Number Of Points=4 Point Spacing=3.034 Line Spacing= Coordinate Frame=POS-TARG Pattern Orientation=85.29 Angle Between Sides= Center Pattern=false		(1), (2)					
Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous				
	(1)	SPT-CL-J2228-5828	RA: 22 28 49.0000 (337.2041667d) Dec: -58 28 25.00 (-58.47361d) Equinox: J2000	Epoch of Position: 2000	V=27	Reference Frame: SIMBAD				
	<i>Comments:</i> Category=CLUSTER OF GALAXIES Description=[GRAVITATIONAL LENS, HIGH REDSHIFT CLUSTER, RICH CLUSTER]									
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1		(1) SPT-CL-J2228-5828	ACS/WFC, ACCUM, WFCENTER	F606W		POS TARG -97,98	Sequence 1-2 Non-Int in ACS-2-Orbits-2a (02)	446 Secs (1784 Secs)	
							Pattern 1, Exps 1-1 in Sequence 1-2 Non-Int in ACS-2-Orbits-2a (02) (1)	[==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)] [==>(Pattern 4)]	[1]	
2		(1) SPT-CL-J2228-5828	ACS/WFC, ACCUM, WFCENTER	F814W		POS TARG -97,98	Sequence 1-2 Non-Int in ACS-2-Orbits-2a (02)	446 Secs (1784 Secs)		
							Pattern 1, Exps 2-2 in Sequence 1-2 Non-Int in ACS-2-Orbits-2a (02) (1)	[==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)] [==>(Pattern 4)]	[1]	



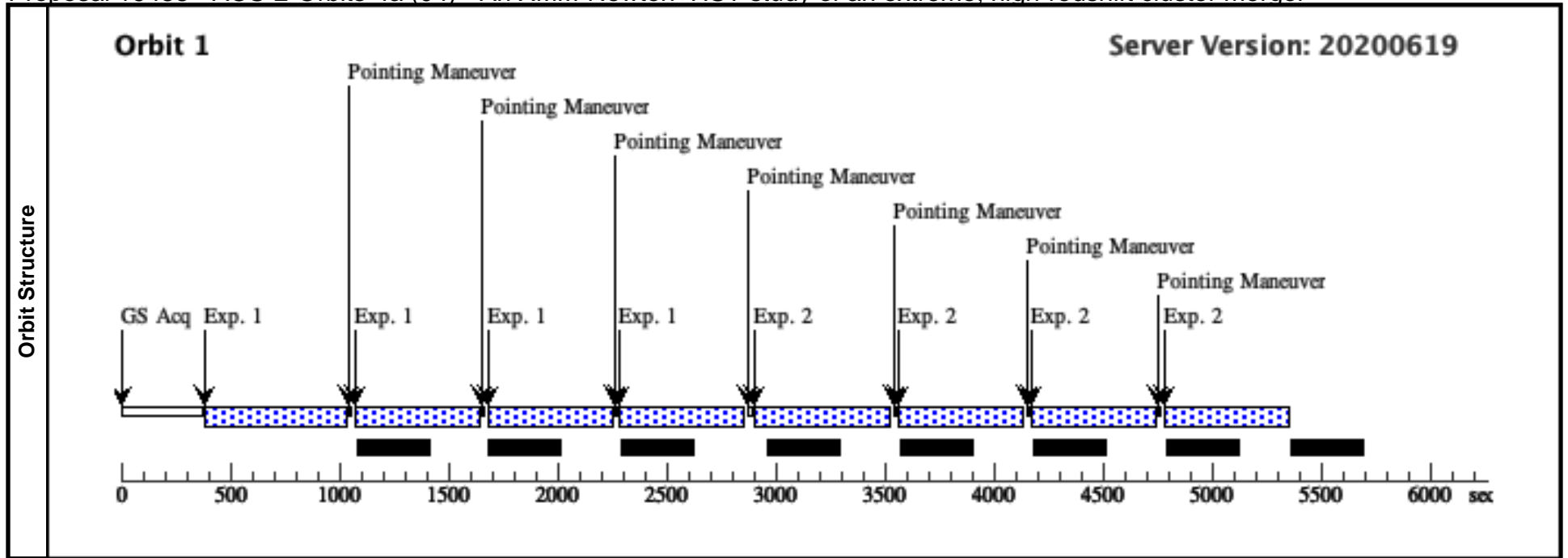
Proposal 16488 - ACS-2-Orbits-3a (03) - An XMM-Newton+HST study of an extreme, high-redshift cluster merger

Visit	Proposal 16488, ACS-2-Orbits-3a (03), implementation Wed Mar 17 16:00:43 GMT 2021									
	Diagnostic Status: No Diagnostics Scientific Instruments: ACS/WFC Special Requirements: CVZ; SAME ORIENT AS 01									
Patterns	#	Primary Pattern	Secondary Pattern	Exposures						
		(1)	Pattern Type=ACS-WFC-DITHER-LINE Purpose=DITHER Number Of Points=4 Point Spacing=3.034 Line Spacing= Coordinate Frame=POS-TARG Pattern Orientation=85.29 Angle Between Sides= Center Pattern=false		(1), (2)					
Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous				
	(1)	SPT-CL-J2228-5828	RA: 22 28 49.0000 (337.2041667d) Dec: -58 28 25.00 (-58.47361d) Equinox: J2000	Epoch of Position: 2000	V=27	Reference Frame: SIMBAD				
<i>Comments:</i> Category=CLUSTER OF GALAXIES Description=[GRAVITATIONAL LENS, HIGH REDSHIFT CLUSTER, RICH CLUSTER]										
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1		(1) SPT-CL-J2228-5828	ACS/WFC, ACCUM, WFCENTER	F606W		POS TARG 97,-98	Sequence 1-2 Non-Int in ACS-2-Orbits-3a (03)	446 Secs (1784 Secs)	
							Pattern 1, Exps 1-1 in Sequence 1-2 Non-Int in ACS-2-Orbits-3a (03) (1)	[==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)] [==>(Pattern 4)]	[1]	
2		(1) SPT-CL-J2228-5828	ACS/WFC, ACCUM, WFCENTER	F814W		POS TARG 97,-98	Sequence 1-2 Non-Int in ACS-2-Orbits-3a (03)	446 Secs (1784 Secs)		
							Pattern 1, Exps 2-2 in Sequence 1-2 Non-Int in ACS-2-Orbits-3a (03) (1)	[==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)] [==>(Pattern 4)]	[1]	



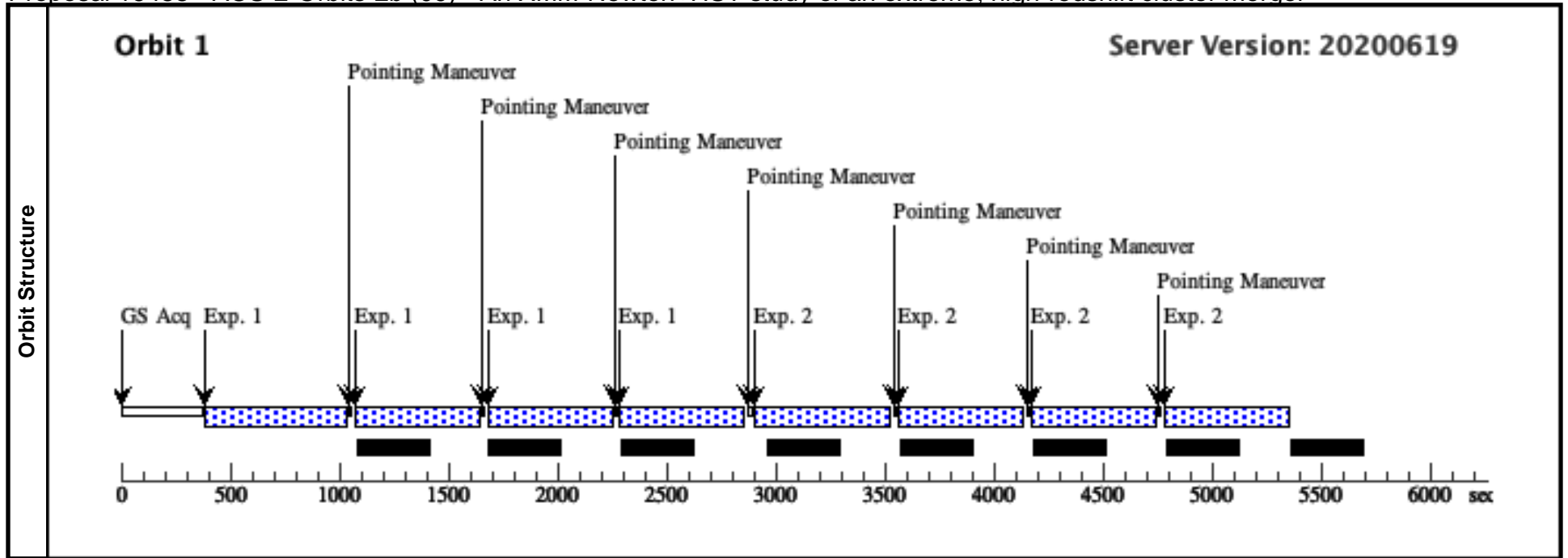
Proposal 16488 - ACS-2-Orbits-4a (04) - An XMM-Newton+HST study of an extreme, high-redshift cluster merger

Visit	Proposal 16488, ACS-2-Orbits-4a (04), implementation Wed Mar 17 16:00:43 GMT 2021									
	Diagnostic Status: No Diagnostics Scientific Instruments: ACS/WFC Special Requirements: CVZ; SAME ORIENT AS 01									
Patterns	#	Primary Pattern	Secondary Pattern	Exposures						
		(1)	Pattern Type=ACS-WFC-DITHER-LINE Purpose=DITHER Number Of Points=4 Point Spacing=3.034 Line Spacing= Coordinate Frame=POS-TARG Pattern Orientation=85.29 Angle Between Sides= Center Pattern=false		(1), (2)					
Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous				
	(1)	SPT-CL-J2228-5828	RA: 22 28 49.0000 (337.2041667d) Dec: -58 28 25.00 (-58.47361d) Equinox: J2000	Epoch of Position: 2000	V=27	Reference Frame: SIMBAD				
<i>Comments:</i> Category=CLUSTER OF GALAXIES Description=[GRAVITATIONAL LENS, HIGH REDSHIFT CLUSTER, RICH CLUSTER]										
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1		(1) SPT-CL-J2228-5828	ACS/WFC, ACCUM, WFCENTER	F606W		POS TARG 97,98	Sequence 1-2 Non-Int in ACS-2-Orbits-4a (04)	446 Secs (1784 Secs)	
								Pattern 1, Exps 1-1 in Sequence 1-2 Non-Int in ACS-2-Orbits-4a (04) (1)	[==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)] [==>(Pattern 4)]	[1]
2		(1) SPT-CL-J2228-5828	ACS/WFC, ACCUM, WFCENTER	F814W		POS TARG 97,98	Sequence 1-2 Non-Int in ACS-2-Orbits-4a (04)	446 Secs (1784 Secs)		
							Pattern 1, Exps 2-2 in Sequence 1-2 Non-Int in ACS-2-Orbits-4a (04) (1)	[==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)] [==>(Pattern 4)]	[1]	



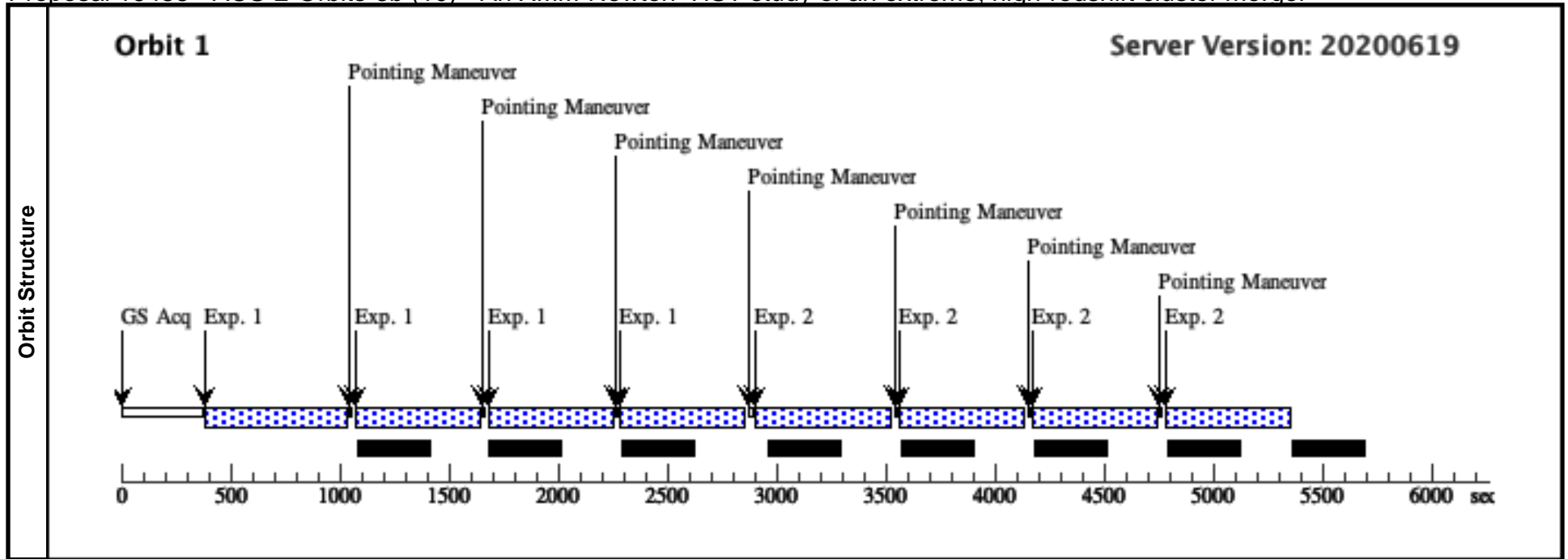
Proposal 16488 - ACS-2-Orbits-2b (09) - An XMM-Newton+HST study of an extreme, high-redshift cluster merger

Visit	Proposal 16488, ACS-2-Orbits-2b (09) Wed Mar 17 16:00:43 GMT 2021 Diagnostic Status: No Diagnostics Scientific Instruments: ACS/WFC Special Requirements: CVZ; SAME ORIENT AS 01									
	Patterns	#	Primary Pattern	Secondary Pattern	Exposures					
	(1)	Pattern Type=ACS-WFC-DITHER-LINE Purpose=DITHER Number Of Points=4 Point Spacing=3.034 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=85.29 Angle Between Sides= Center Pattern=false		(1), (2)					
Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous				
	(1)	SPT-CL-J2228-5828	RA: 22 28 49.0000 (337.2041667d) Dec: -58 28 25.00 (-58.47361d) Equinox: J2000	Epoch of Position: 2000	V=27	Reference Frame: SIMBAD				
	<i>Comments:</i> Category=CLUSTER OF GALAXIES Description=[GRAVITATIONAL LENS, HIGH REDSHIFT CLUSTER, RICH CLUSTER]									
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1		(1) SPT-CL-J2228-5828	ACS/WFC, ACCUM, WFCENTER	F814W		POS TARG -96.03,97.03	Sequence 1-2 Non-Int in ACS-2-Orbits-2b (09) Pattern 1, Exps 1-1 in Sequence 1-2 Non-Int in ACS-2-Orbits-2b (09) (1)	446 Secs (1784 Secs) [==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)] [==>(Pattern 4)]	[1]
	2		(1) SPT-CL-J2228-5828	ACS/WFC, ACCUM, WFCENTER	F606W		POS TARG -96.03,97.03	Sequence 1-2 Non-Int in ACS-2-Orbits-2b (09) Pattern 1, Exps 2-2 in Sequence 1-2 Non-Int in ACS-2-Orbits-2b (09) (1)	446 Secs (1784 Secs) [==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)] [==>(Pattern 4)]	[1]



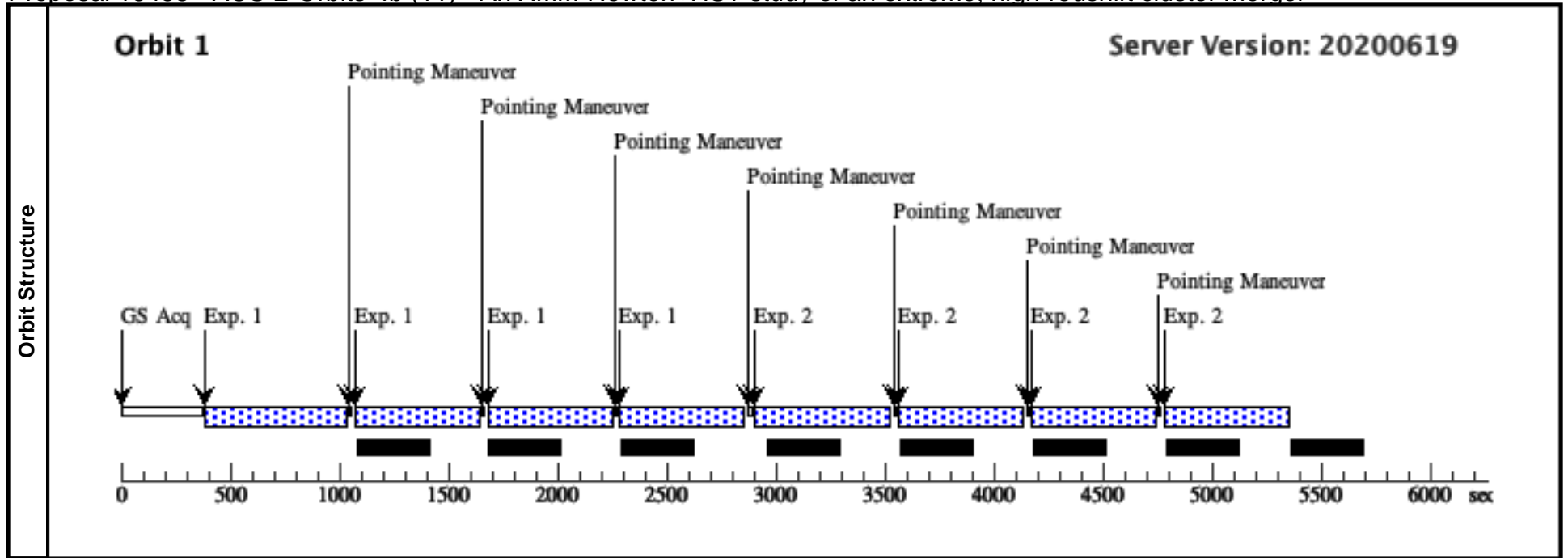
Proposal 16488 - ACS-2-Orbits-3b (10) - An XMM-Newton+HST study of an extreme, high-redshift cluster merger

Visit	Proposal 16488, ACS-2-Orbits-3b (10) Wed Mar 17 16:00:44 GMT 2021 Diagnostic Status: No Diagnostics Scientific Instruments: ACS/WFC Special Requirements: CVZ; SAME ORIENT AS 01									
	Patterns	#	Primary Pattern	Secondary Pattern	Exposures					
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Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous				
	(1)	SPT-CL-J2228-5828	RA: 22 28 49.0000 (337.2041667d) Dec: -58 28 25.00 (-58.47361d) Equinox: J2000	Epoch of Position: 2000	V=27	Reference Frame: SIMBAD				
<i>Comments:</i> Category=CLUSTER OF GALAXIES Description=[GRAVITATIONAL LENS, HIGH REDSHIFT CLUSTER, RICH CLUSTER]										
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1		(1) SPT-CL-J2228-5828	ACS/WFC, ACCUM, WFCENTER	F814W		POS TARG 96.03,-97.03	Sequence 1-2 Non-Int in ACS-2-Orbits-3b (10)	446 Secs (1784 Secs)	
								Pattern 1, Exps 1-1 in Sequence 1-2 Non-Int in ACS-2-Orbits-3b (10) (1)	[==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)] [==>(Pattern 4)]	[1]
2		(1) SPT-CL-J2228-5828	ACS/WFC, ACCUM, WFCENTER	F606W		POS TARG 96.03,-97.03	Sequence 1-2 Non-Int in ACS-2-Orbits-3b (10)	446 Secs (1784 Secs)		
							Pattern 1, Exps 2-2 in Sequence 1-2 Non-Int in ACS-2-Orbits-3b (10) (1)	[==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)] [==>(Pattern 4)]	[1]	



Proposal 16488 - ACS-2-Orbits-4b (11) - An XMM-Newton+HST study of an extreme, high-redshift cluster merger

Visit		Proposal 16488, ACS-2-Orbits-4b (11) Diagnostic Status: No Diagnostics Scientific Instruments: ACS/WFC Special Requirements: CVZ; SAME ORIENT AS 01					Wed Mar 17 16:00:44 GMT 2021			
Patterns	#	Primary Pattern		Secondary Pattern		Exposures				
	(1)	Pattern Type=ACS-WFC-DITHER-LINE Purpose=DITHER Number Of Points=4 Point Spacing=3.034 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=85.29 Angle Between Sides= Center Pattern=false			(1), (2)				
Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous				
	(1)	SPT-CL-J2228-5828	RA: 22 28 49.0000 (337.2041667d) Dec: -58 28 25.00 (-58.47361d) Equinox: J2000	Epoch of Position: 2000	V=27	Reference Frame: SIMBAD				
<i>Comments:</i> Category=CLUSTER OF GALAXIES Description=[GRAVITATIONAL LENS, HIGH REDSHIFT CLUSTER, RICH CLUSTER]										
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1		(1) SPT-CL-J2228-5828	ACS/WFC, ACCUM, WFCENTER	F814W		POS TARG 96.03,97.03	Sequence 1-2 Non-Int in ACS-2-Orbits-4b (11) Pattern 1, Exps 1-1 in Sequence 1-2 Non-Int in ACS-2-Orbits-4b (11) (1)	446 Secs (1784 Secs) [=>(Pattern 1)] [=>(Pattern 2)] [=>(Pattern 3)] [=>(Pattern 4)]	[1]
	2		(1) SPT-CL-J2228-5828	ACS/WFC, ACCUM, WFCENTER	F606W		POS TARG 96.03,97.03	Sequence 1-2 Non-Int in ACS-2-Orbits-4b (11) Pattern 1, Exps 2-2 in Sequence 1-2 Non-Int in ACS-2-Orbits-4b (11) (1)	446 Secs (1784 Secs) [=>(Pattern 1)] [=>(Pattern 2)] [=>(Pattern 3)] [=>(Pattern 4)]	[1]



Proposal 16488 - F140W-Double-Depth-Core-Wings (08) - An XMM-Newton+HST study of an extreme, high-redshift cluster merger

Visit	Proposal 16488, F140W-Double-Depth-Core-Wings (08), implementation Wed Mar 17 16:00:44 GMT 2021 Diagnostic Status: Warning Scientific Instruments: WFC3/IR Special Requirements: CVZ; ORIENT 43D TO 47 D; ORIENT 220D TO 222 D					
	Diagnosics (F140W (08.001) special requirements) Warning (Form): Be very careful mixing POS TARG and Center_Pattern = Yes (F140W (08.002) special requirements) Warning (Form): Be very careful mixing POS TARG and Center_Pattern = Yes (F140W (08.003) special requirements) Warning (Form): Be very careful mixing POS TARG and Center_Pattern = Yes (F140W (08.004) special requirements) Warning (Form): Be very careful mixing POS TARG and Center_Pattern = Yes					
Patterns	#	Primary Pattern	Secondary Pattern	Exposures		
	(3)	Pattern Type=WFC3-IR-DITHER- BLOB Purpose=DITHER Number Of Points=3 Point Spacing=5.183 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=81.859 Angle Between Sides= Center Pattern=true	(1), (2), (3), (4)		
Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
	(1)	SPT-CL-J2228-5828	RA: 22 28 49.0000 (337.2041667d) Dec: -58 28 25.00 (-58.47361d) Equinox: J2000	Epoch of Position: 2000	V=27	Reference Frame: SIMBAD
Comments: Category=CLUSTER OF GALAXIES Description=[GRAVITATIONAL LENS, HIGH REDSHIFT CLUSTER, RICH CLUSTER]						

Proposal 16488 - F140W-Double-Depth-Core-Wings (08) - An XMM-Newton+HST study of an extreme, high-redshift cluster merger

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit	
Exposures	1	F140W	(1) SPT-CL-J2228-5 828	WFC3/IR, MULTIACCUM, IR-FIX	F140W	SAMP-SEQ=SPARS 25; NSAMP=13	POS TARG 15.,-54	Sequence 1-4 Non-Int in F140W-Double-Depth-Core-Wings (08) Pattern 3, Exps 1-1 in Sequence 1-4 Non-Int in F140W-Double-Depth-Core-Wings (08) (3)	302.938471 Secs (908.815 Secs) [==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)]	[1]
	2	F140W	(1) SPT-CL-J2228-5 828	WFC3/IR, MULTIACCUM, IR-FIX	F140W	SAMP-SEQ=SPARS 25; NSAMP=14	POS TARG -15.37,-54.37	Sequence 1-4 Non-Int in F140W-Double-Depth-Core-Wings (08) Pattern 3, Exps 2-2 in Sequence 1-4 Non-Int in F140W-Double-Depth-Core-Wings (08) (3)	327.938986 Secs (983.817 Secs) [==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)]	[1]
	3	F140W	(1) SPT-CL-J2228-5 828	WFC3/IR, MULTIACCUM, IR-FIX	F140W	SAMP-SEQ=SPARS 25; NSAMP=14	POS TARG -15.54	Sequence 1-4 Non-Int in F140W-Double-Depth-Core-Wings (08) Pattern 3, Exps 3-3 in Sequence 1-4 Non-Int in F140W-Double-Depth-Core-Wings (08) (3)	327.938986 Secs (983.817 Secs) [==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)]	[1]
	4	F140W	(1) SPT-CL-J2228-5 828	WFC3/IR, MULTIACCUM, IR-FIX	F140W	SAMP-SEQ=SPARS 25; NSAMP=13	POS TARG 15.37,54.37	Sequence 1-4 Non-Int in F140W-Double-Depth-Core-Wings (08) Pattern 3, Exps 4-4 in Sequence 1-4 Non-Int in F140W-Double-Depth-Core-Wings (08) (3)	302.938471 Secs (908.815 Secs) [==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)]	[1]

