



17231 - The high redshift universe in full color and high resolution: the power of HST and JWST

Cycle: 29, Proposal Category: GO/DD

(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) ABELL-2744-NIRCAM-PARALLEL	ACS/WFC	2	26-Jul-2022 11:00:28.0	yes
02	(1) ABELL-2744-NIRCAM-PARALLEL	ACS/WFC	3	26-Jul-2022 11:00:29.0	yes
03	(1) ABELL-2744-NIRCAM-PARALLEL	ACS/WFC	2	26-Jul-2022 11:00:30.0	yes
04	(1) ABELL-2744-NIRCAM-PARALLEL	ACS/WFC	2	26-Jul-2022 11:00:30.0	yes
05	(1) ABELL-2744-NIRCAM-PARALLEL	ACS/WFC	2	26-Jul-2022 11:00:31.0	yes
06	(1) ABELL-2744-NIRCAM-PARALLEL	ACS/WFC	2	26-Jul-2022 11:00:32.0	yes
07	(1) ABELL-2744-NIRCAM-PARALLEL	ACS/WFC	2	26-Jul-2022 11:00:32.0	yes

15 Total Orbits Used

ABSTRACT

What is the cosmic star formation history? How do galaxies assemble and grow their stellar mass? Answering those questions requires multiwavelength high resolution data, covering from the ultraviolet tracers of current star formation to the optical/infrared tracers of older stellar populations. This kind of data is limited to $z \sim 3$ in existing HST surveys.

We propose to obtain the first deep high resolution panchromatic view of galaxies at $z > 4$ by taking deep ACS-F606W/F775W images of the very first deep public extragalactic field to be imaged by NIRCAM as part of the ERS-1324 program (reaching 29AB in 7 bands from F090W to F444W). The combined dataset will be public immediately and provide the community with a sample of > 100 galaxies at $z < 4 < 6$ with full rest frame UV-to optical coverage.

This sample will provide first answers to the following specific questions: 1) Does the spatial distribution of starforming regions and underlying quiescent stellar populations evolve in the same way? 2) Is star formation mostly in situ or merger driven? 3) Is our current measurement of the global star formation history reliable? 4) How clumpy is star formation and dust extinction at high redshift?

We will make the reduced data public immediately to provide rapid understanding in the community of galaxy evolution in this epoch in time for JWST Cycle-2 proposals. We anticipate that the images will be used by the community for many more

applications, beyond those listed above.

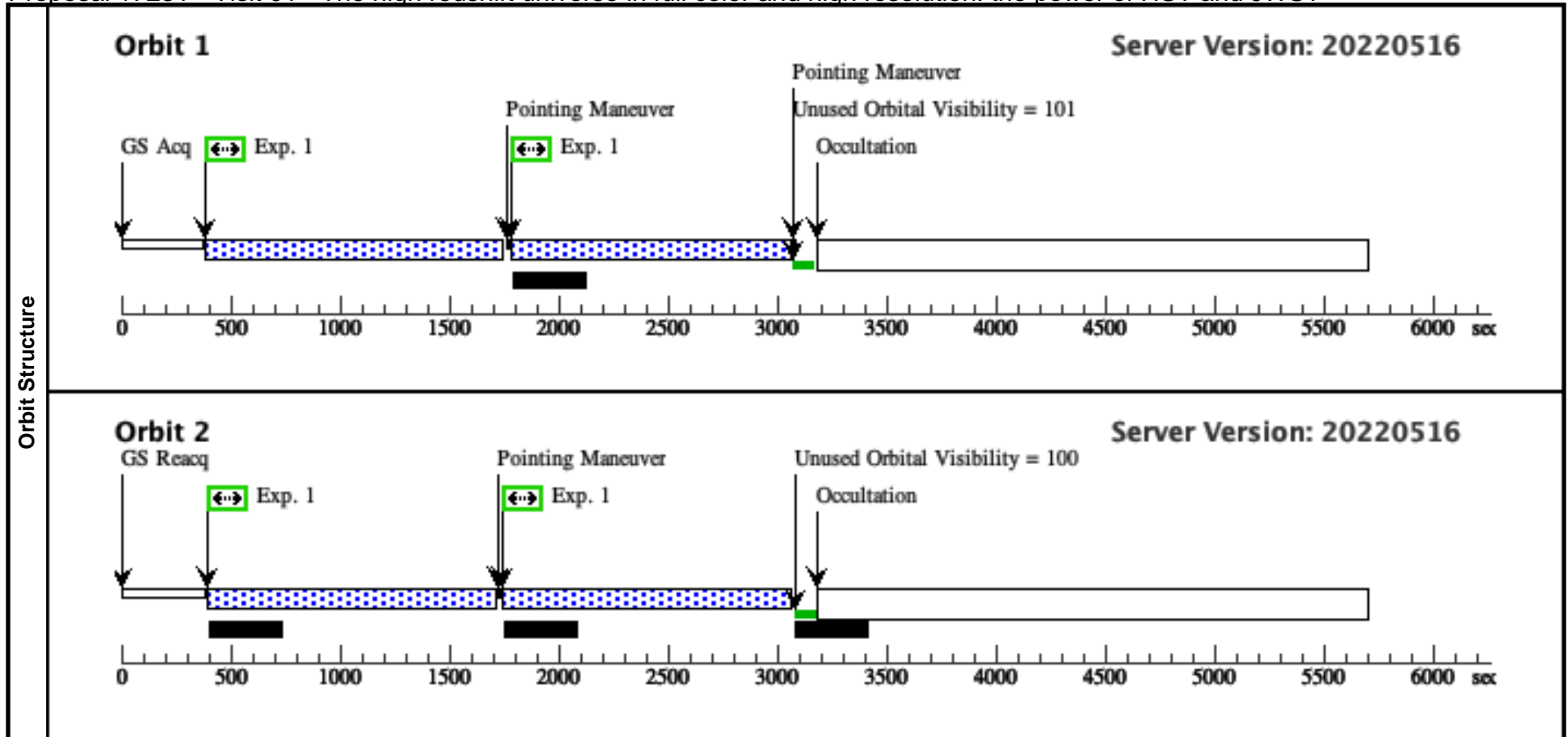
OBSERVING DESCRIPTION

Following standard practice, each orbit will be split into two observations, collecting a total of 10/20 exposures to eliminate defects and cosmic rays. We will use a dithering pattern spaced by semi-integer pixel offsets to recover the sampling of the point spread function as well as cover the ACS gap. The observations are broken into 2-orbit visits to maximize schedulability.

Proposal 17231 - Visit 01 - The high redshift universe in full color and high resolution: the power of HST and JWST

Tue Jul 26 15:00:33 GMT 2022

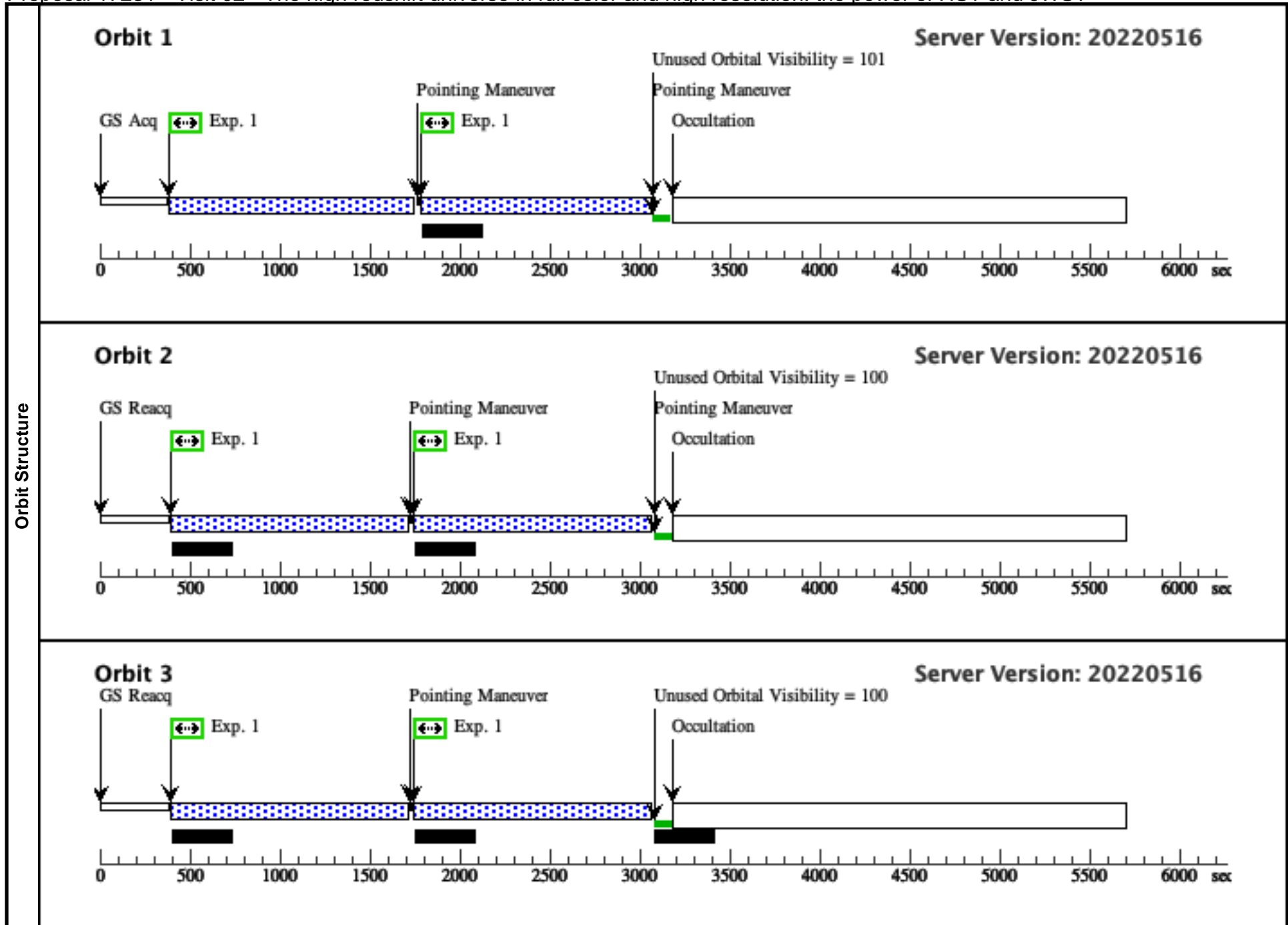
Visit	Proposal 17231, Visit 01, scheduling Diagnostic Status: No Diagnostics Scientific Instruments: ACS/WFC Special Requirements: (none)										
	Patterns	#	Primary Pattern				Secondary Pattern			Exposures	
		(1)	Pattern Type=ACS-WFC-DITHER-BOX Purpose=DITHER Number Of Points=4 Point Spacing=0.2637 Line Spacing=0.1856	Coordinate Frame=POS-TARG Pattern Orientation=20.70 Angle Between Sides=69.02 Center Pattern=false							(1)
Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous					
	(1)	ABELL-2744-NIRCAM-PARALLEL	RA: 00 13 58.2000 (3.4925000d) Dec: -30 18 55.00 (-30.31528d) Equinox: J2000		V=25	Reference Frame: Other...					
	<i>Comments:</i> Category=UNIDENTIFIED Description=[PARALLEL FIELD]										
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]		Orbit
	1		(1) ABELL-2744-NIRCAM-PARALLEL	ACS/WFC, ACCUM, WFCENTER	F606W	CR-SPLIT=NO		Pattern 1, Exps 1-1 in Visit 01 (1)	1000 Secs (4710 Secs)		
									[=>1159.0 Secs (Pattern 1)]		[1]
									[=>1159.0 Secs (Pattern 2)]		
									[=>1196.0 Secs (Pattern 3)]		
									[=>1196.0 Secs (Pattern 4)]		[2]



Proposal 17231 - Visit 02 - The high redshift universe in full color and high resolution: the power of HST and JWST

Tue Jul 26 15:00:33 GMT 2022

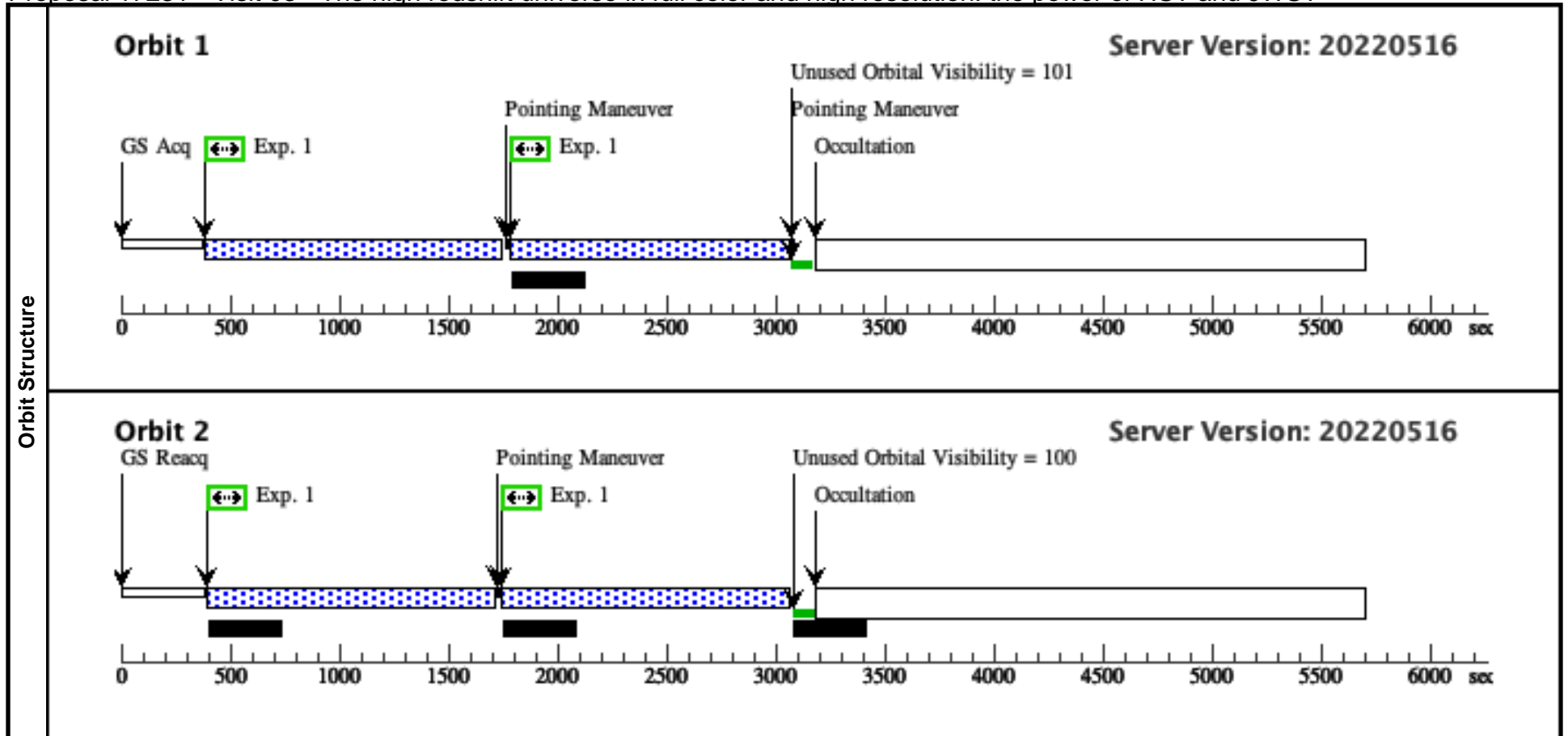
Visit	Proposal 17231, Visit 02, scheduling Diagnostic Status: No Diagnostics Scientific Instruments: ACS/WFC Special Requirements: SAME ORIENT AS 01									
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		(2)	Pattern Type=ACS-WFC-DITHER-LINE Purpose=DITHER Number Of Points=3 Point Spacing=0.2637 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=20.70 Angle Between Sides= Center Pattern=false	Pattern Type=LINE Purpose=DITHER Number Of Points=2 Point Spacing=0.1856 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=110.70 Angle Between Sides= Center Pattern=false	(1)			
Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous				
	(1)	ABELL-2744-NIRCAM-PARALLEL	RA: 00 13 58.2000 (3.4925000d) Dec: -30 18 55.00 (-30.31528d) Equinox: J2000		V=25	Reference Frame: Other...				
	<i>Comments:</i> Category=UNIDENTIFIED Description=[PARALLEL FIELD]									
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1		(1) ABELL-2744-NIRCAM-PARALLEL	ACS/WFC, ACCUM, WFCENTER	F606W	CR-SPLIT=NO	POS TARG 0,3	Pattern 2, Exps 1-1 in Visit 02 (2)	1000 Secs (7102 Secs)	
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								[==>1196.0 Secs (Pattern 2,1)]	[3]	
								[==>1196.0 Secs (Pattern 2,2)]	[1]	
								[==>1196.0 Secs (Pattern 3,1)]	[2]	
								[==>1196.0 Secs (Pattern 3,2)]	[3]	



Proposal 17231 - Visit 03 - The high redshift universe in full color and high resolution: the power of HST and JWST

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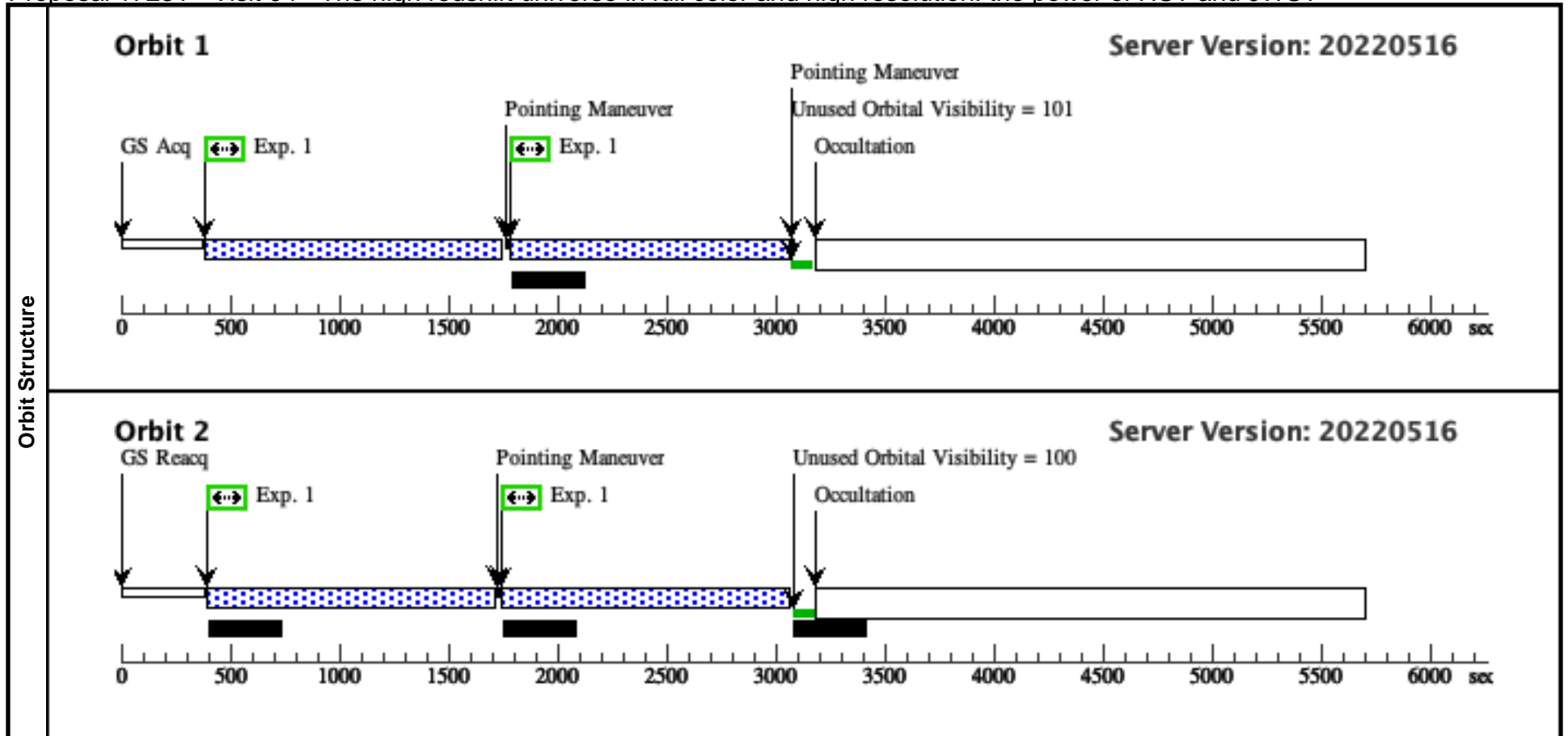
Visit	Proposal 17231, Visit 03, scheduling Diagnostic Status: No Diagnostics Scientific Instruments: ACS/WFC Special Requirements: SAME ORIENT AS 01										
	Patterns	#	Primary Pattern				Secondary Pattern			Exposures	
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Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous					
	(1)	ABELL-2744-NIRCAM-PARALLEL	RA: 00 13 58.2000 (3.4925000d) Dec: -30 18 55.00 (-30.31528d) Equinox: J2000		V=25	Reference Frame: Other...					
	<i>Comments:</i> Category=UNIDENTIFIED Description=[PARALLEL FIELD]										
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]		Orbit
	1		(1) ABELL-2744-NIRCAM-PARALLEL	ACS/WFC, ACCUM, WFCENTER	F775W	CR-SPLIT=NO		Pattern 1, Exps 1-1 in Visit 03 (1)	1000 Secs (4710 Secs)		
									[=>1159.0 Secs (Pattern 1)]		[1]
									[=>1159.0 Secs (Pattern 2)]		
									[=>1196.0 Secs (Pattern 3)]		
									[=>1196.0 Secs (Pattern 4)]		[2]



Proposal 17231 - Visit 04 - The high redshift universe in full color and high resolution: the power of HST and JWST

Tue Jul 26 15:00:33 GMT 2022

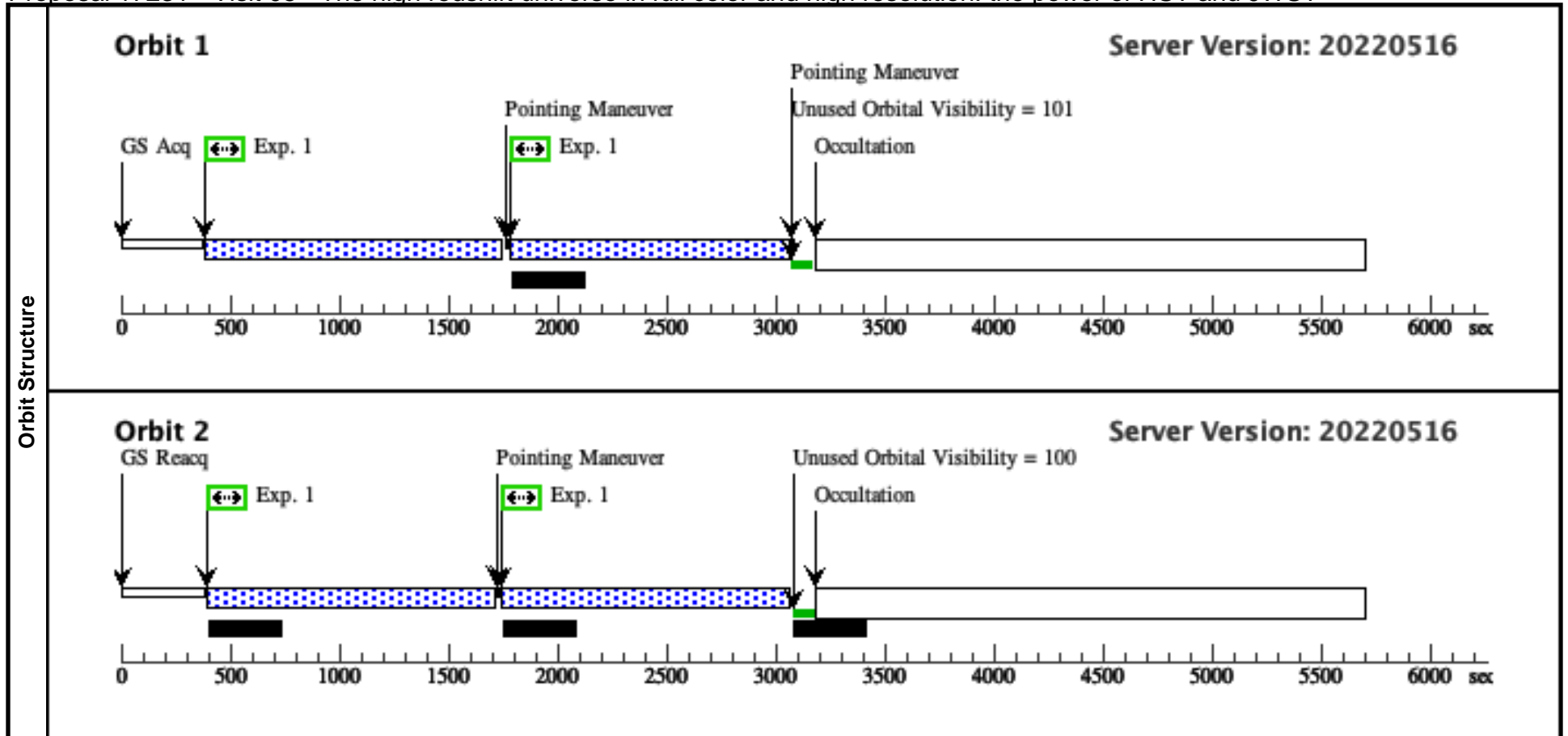
Visit	Proposal 17231, Visit 04, scheduling Diagnostic Status: No Diagnostics Scientific Instruments: ACS/WFC Special Requirements: SAME ORIENT AS 01										
	Patterns	#	Primary Pattern				Secondary Pattern			Exposures	
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Fixed Targets	#	Name	Target Coordinates		Targ. Coord. Corrections		Fluxes	Miscellaneous			
	(1)	ABELL-2744-NIRCAM-PARALLEL	RA: 00 13 58.2000 (3.4925000d)	Dec: -30 18 55.00 (-30.31528d)			V=25	Reference Frame: Other...			
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Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]		Orbit
	1		(1) ABELL-2744-NIRCAM-PARALLEL	ACS/WFC, ACCUM, WFCENTER	F775W	CR-SPLIT=NO	POS TARG 0,3	Pattern 1, Exps 1-1 in Visit 04 (1)	1000 Secs (4710 Secs)		
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									[=>1159.0 Secs (Pattern 2)]		
									[=>1196.0 Secs (Pattern 3)]		
									[=>1196.0 Secs (Pattern 4)]		[2]



Proposal 17231 - Visit 05 - The high redshift universe in full color and high resolution: the power of HST and JWST

Tue Jul 26 15:00:33 GMT 2022

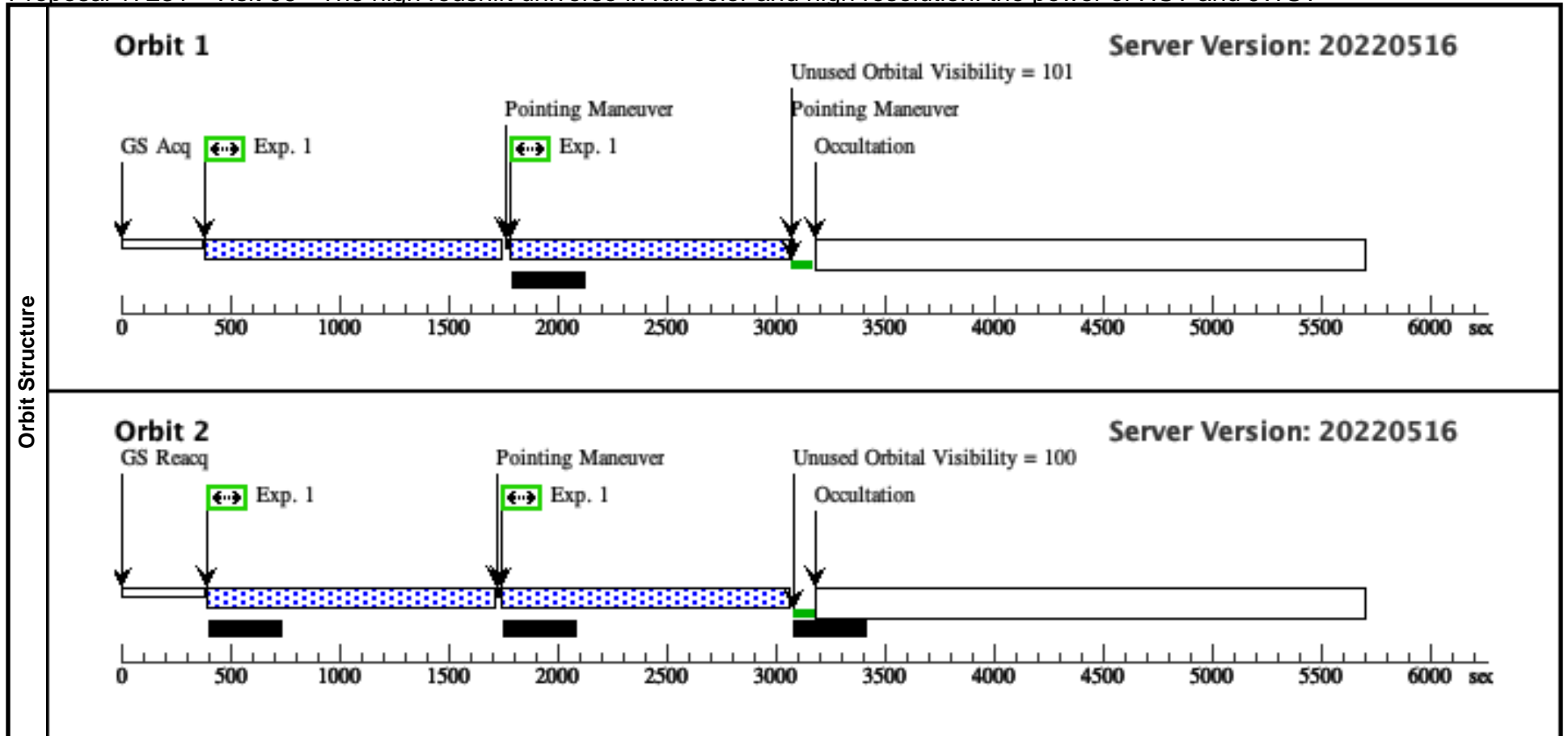
Visit	Proposal 17231, Visit 05, scheduling Diagnostic Status: No Diagnostics Scientific Instruments: ACS/WFC Special Requirements: SAME ORIENT AS 01										
	Patterns	#	Primary Pattern				Secondary Pattern			Exposures	
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Fixed Targets	#	Name	Target Coordinates		Targ. Coord. Corrections		Fluxes		Miscellaneous		
	(1)	ABELL-2744-NIRCAM-PARALLEL	RA: 00 13 58.2000 (3.4925000d) Dec: -30 18 55.00 (-30.31528d) Equinox: J2000				V=25		Reference Frame: Other...		
	<i>Comments:</i> Category=UNIDENTIFIED Description=[PARALLEL FIELD]										
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]		Orbit
	1		(1) ABELL-2744-NIRCAM-PARALLEL	ACS/WFC, ACCUM, WFCENTER	F775W	CR-SPLIT=NO	POS TARG 0,-3	Pattern 1, Exps 1-1 in Visit 05 (1)	1000 Secs (4710 Secs)		
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Proposal 17231 - Visit 06 - The high redshift universe in full color and high resolution: the power of HST and JWST

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Visit	Proposal 17231, Visit 06, scheduling Diagnostic Status: No Diagnostics Scientific Instruments: ACS/WFC Special Requirements: SAME ORIENT AS 01										
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Fixed Targets	#	Name	Target Coordinates		Targ. Coord. Corrections		Fluxes		Miscellaneous		
	(1)	ABELL-2744-NIRCAM-PARALLEL	RA: 00 13 58.2000 (3.4925000d) Dec: -30 18 55.00 (-30.31528d) Equinox: J2000				V=25			Reference Frame: Other...	
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Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]		Orbit
	1		(1) ABELL-2744-NIRCAM-PARALLEL	ACS/WFC, ACCUM, WFCENTER	F775W	CR-SPLIT=NO	POS TARG -1,3	Pattern 1, Exps 1-1 in Visit 06 (1)	1000 Secs (4710 Secs)		
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									[=>1196.0 Secs (Pattern 4)]		[2]



Proposal 17231 - Visit 07 - The high redshift universe in full color and high resolution: the power of HST and JWST

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Visit	Proposal 17231, Visit 07, scheduling Diagnostic Status: No Diagnostics Scientific Instruments: ACS/WFC Special Requirements: 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)	ABELL-2744-NIRCAM-PARALLEL	RA: 00 13 58.2000 (3.4925000d) Dec: -30 18 55.00 (-30.31528d) Equinox: J2000		V=25	Reference Frame: Other...					
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Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]		Orbit
	1		(1) ABELL-2744-NIRCAM-PARALLEL	ACS/WFC, ACCUM, WFCENTER	F775W	CR-SPLIT=NO	POS TARG +1,-3	Pattern 1, Exps 1-1 in Visit 07 (1)	1000 Secs (4710 Secs)		
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									[=>1159.0 Secs (Pattern 2)]		
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									[=>1196.0 Secs (Pattern 4)]		[2]

