



14209 - The Final UV Frontier: Legacy Near-UV Imaging of the Frontier Fields

Cycle: 23, Proposal Category: GO

(UV Initiative, Treasury)

(Availability Mode: SUPPORTED)

INVESTIGATORS

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VISITS

Proposal 14209 (STScI Edit Number: 1, Created: Thursday, July 23, 2015 9:37:31 PM EST) - Overview

<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) MACSJ0416 ANY	ACS/WFC WFC3/UVIS	4	23-Jul-2015 22:37:06.0	yes
02	(1) MACSJ0416 ANY	ACS/WFC WFC3/UVIS	4	23-Jul-2015 22:37:08.0	yes
03	(1) MACSJ0416 ANY	ACS/WFC WFC3/UVIS	4	23-Jul-2015 22:37:11.0	yes
04	(1) MACSJ0416 ANY	ACS/WFC WFC3/UVIS	4	23-Jul-2015 22:37:13.0	yes
05	(3) ABELLS1063 ANY	ACS/WFC WFC3/UVIS	4	23-Jul-2015 22:37:15.0	yes
06	(3) ABELLS1063 ANY	ACS/WFC WFC3/UVIS	4	23-Jul-2015 22:37:17.0	yes
07	(3) ABELLS1063 ANY	ACS/WFC WFC3/UVIS	4	23-Jul-2015 22:37:19.0	yes
08	(3) ABELLS1063 ANY	ACS/WFC WFC3/UVIS	4	23-Jul-2015 22:37:22.0	yes
09	(2) ABELL370 ANY	ACS/WFC WFC3/UVIS	4	23-Jul-2015 22:37:24.0	yes
10	(2) ABELL370 ANY	ACS/WFC WFC3/UVIS	4	23-Jul-2015 22:37:26.0	yes
11	(2) ABELL370 ANY	ACS/WFC WFC3/UVIS	4	23-Jul-2015 22:37:28.0	yes
12	(2) ABELL370 ANY	ACS/WFC WFC3/UVIS	4	23-Jul-2015 22:37:30.0	yes

48 Total Orbits Used

ABSTRACT

Proposal 14209 (STScI Edit Number: 1, Created: Thursday, July 23, 2015 9:37:31 PM EST) - Overview

The Hubble Frontier Fields (HFFs) are proving to be as scientifically interesting at $z < 3.5$, as at $z > 7$, the epoch for which it was designed. In Cycle 21, we observed three HFFs with WFC3/UVIS near-UV (NUV) imaging (8 orbits each of F275W, F336W). Here we propose to image the remaining three fields (which offer higher magnification at $z < 1.5$) to enable the following:

The high magnification provided by gravitational lensing enables study of star formation (SF) in dwarf galaxies at $0.75 < z < 1.5$. With typical sensitivities of $> 0.03 M_{\text{sun}}/\text{yr}$, we can study the burstiness of SF (by comparing to grism H α), the UV spectral slopes and extinction curves, and the sizes and luminosities of SF clumps on scales < 100 pc.

The NUV identifies the Lyman break of dwarf galaxies at $1.5 < z < 3.5$ that often have featureless continua, enabling measure of the global SF rate density at its peak epoch. This is the redshift range of 80% of multiply-imaged systems, the primary constraints on the cluster mass models. The NUV will help identify multiply-imaged systems, ensuring that the HFF program attains its stated goals.

At $z \sim 2.4$, F275W can detect escaping Lyman continuum behind clusters much more efficiently than in the field.

Within cluster galaxies, the NUV provides a high-resolution probe of SF ($> 0.02 M_{\text{sun}}/\text{yr}$) not available with existing data sets. We will characterize galaxies transitioning between the blue cloud and red sequence, including "jellyfish" galaxies with SF tails of stripped gas, and ellipticals and S0s with residual SF only apparent in the UV. Completing the sample will provide insight into how cluster mass and dynamical state affect quenching of cluster galaxies.

OBSERVING DESCRIPTION

We are targeting the remaining three Frontier Field clusters (MACSJ0416, Abell S1063, Abell 370) with the WFC3/UVIS camera.

Filters and Depths:

We will observe each cluster for 8 orbits in both F275W and F336W. Because we are required to add post-flash to have a background of 12 e⁻ in each exposure, our depth goes as the $\sqrt{\text{number of exposures}}$, regardless of exposure time. Thus, we are doing full-orbit exposures (as with our previous program, 13389) to minimize the number of exposures and maximize depth. We will be doing 4 orbit visits, with a standard four point dither pattern (WFC3-UVIS-DITHER-BOX) performed during each visit. Each visit will be offset in both x and y to cover the chip gap and to smooth out the "blotchy" dark structure that isn't fully removed (see Rafelski et al. 2015). Specifically, one dither pattern will be centered at ($x = -0.42''$, $y = -2.02''$) from the center coordinates and the other dither pattern will be centered at ($x = 0.42''$, $y = 2.02''$). These offsets (POSTARGs) are 4.13"

away from each other, ensuring that we can remove (or smooth out) artifacts smaller than this (like the blotchy dark pattern).

Pointing:

We will center the UVIS field (UVIS-CENTER aperture) at the same position as the Hubble Frontier Field WFC3/IR pointings. We will also use the exact same orientation to ensure that the coordinated parallels with ACS/WFC lie on the HFF parallel fields as well.

Post-flash:

The current recommendation to mitigate charge transfer inefficiency (CTI) is to have a background of at least 12 e-/pix per exposure. This recommended level has apparently not increased as CTI increases. We want to ensure that all regions of the detector achieve this average level of flux. We have used our other UVIS observations to determine conservative (low) estimates for the expected background per orbit of 0 e-/pix in F275W and 6 e-/pix in F336W. However, both the WFC3 ETC and some of the exposures from program 13872 show that the expected background can be a bit lower in F336W (3-4 e-/pix). We also expect a dark current of nearly 5 electrons/pixel/0.75 hours (where 0.75 hours is the approximate exposure time). Thus, without post-flash, we expect a (conservatively low) background of >5 e- and >9 e- in F275W and F336W, respectively. Keeping in mind that some parts of the detector will have 20% less post-flash than the requested average, we then determine that we need 9 e- and 4e- in F275W and F336W, respectively. We believe this will result in > 12 e-, on average, in all regions of the detector.

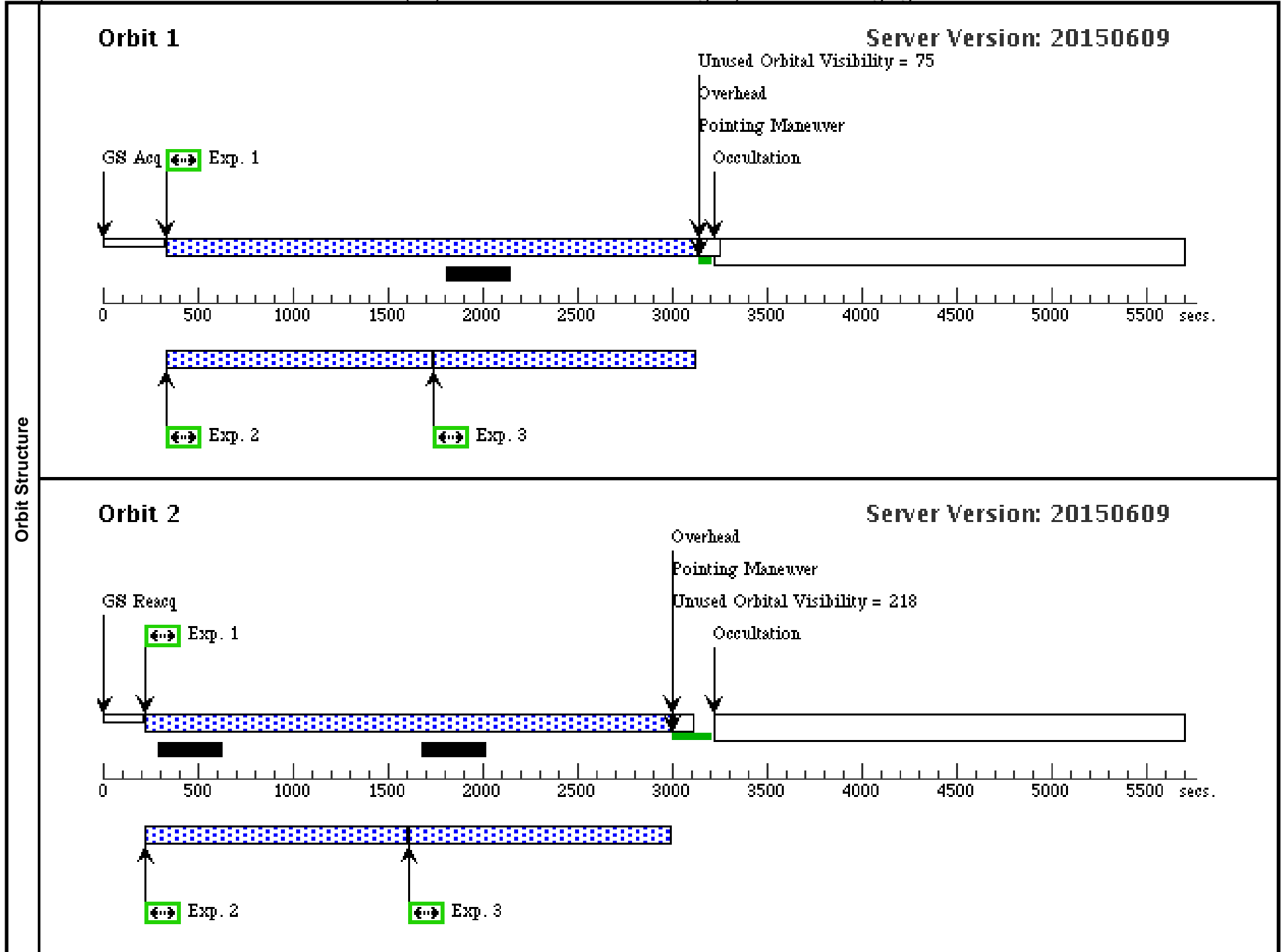
Coordinated Parallels:

For coordinated parallels, we will allocate 10 orbits to F435W and 6 orbits in F606W, to approximately increase the exposure in these filters by ~55%. We use these filters because observations at these wavelengths will not be possible with JWST, but will nonetheless be very important for studying the rest-frame UV at $2 < z < 4$.

Proposal 14209 - MACSJ0416 F275W - 1 (01) - The Final UV Frontier: Legacy Near-UV Imaging of the Frontier Fields

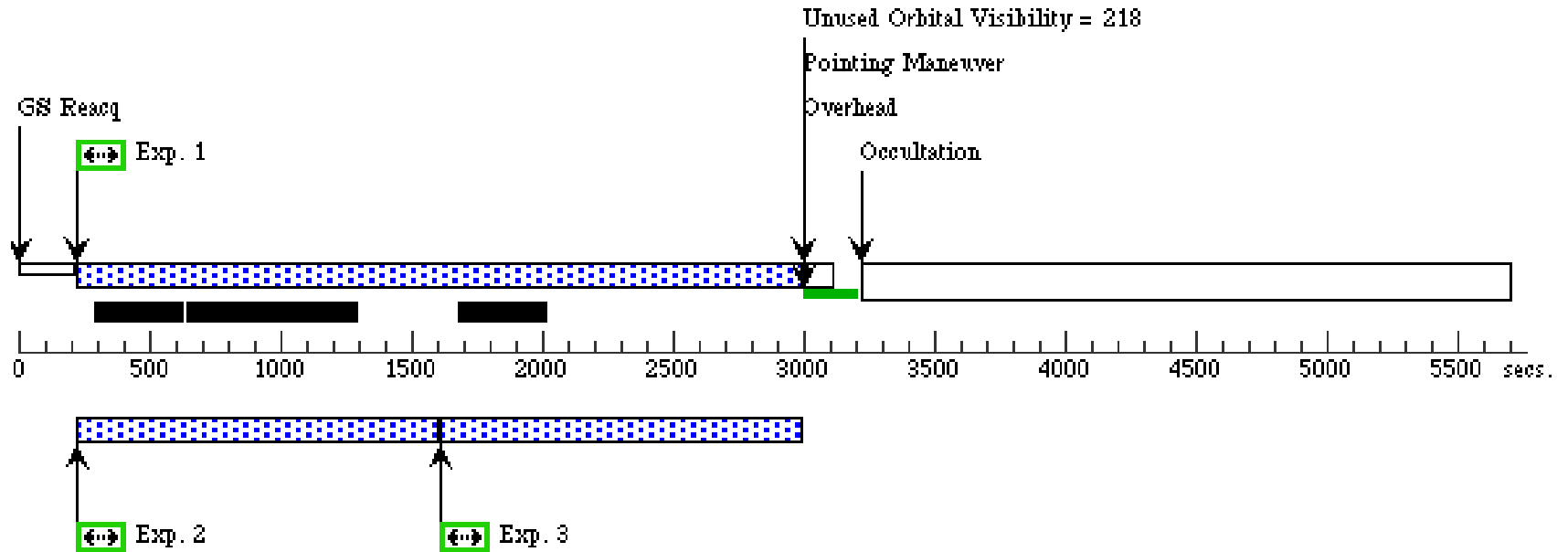
Fri Jul 24 02:37:31 GMT 2015

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Diagnosics										
Patterns	#	Primary Pattern	Secondary Pattern		Exposures					
	(1)	Pattern Type=WFC3-UVIS-DITHER-BOX Purpose=DITHER Number Of Points=4 Point Spacing=0.173 Line Spacing=0.112	Coordinate Frame=POS-TARG Pattern Orientation=23.884 Angle Between Sides=81.785 Center Pattern=false		(1-3)					
Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous				
	(1)	MACSJ0416	RA: 04 16 8.9000 (64.0370833d) Dec: -24 04 28.70 (-24.07464d) Equinox: J2000		V=26+/-2	Reference Frame: ICRS				
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1	(1) MACSJ0416	(1) MACSJ0416	WFC3/UVIS, ACCUM, UVIS-CENTER	F275W	FLASH=9	POS TARG -0.42,-2.02	Pattern 1, Exps 1-3 in MACSJ0416 F275W - 1 (01) (1) Prime + Parallel Group 1-3 in Pattern 1, Exps 1-3 in MACSJ0416 F275W - 1 (01)	2770 Secs (11080 Secs) [==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)] [==>(Pattern 4)]	[1] [2] [3] [4]
	2	ANY	ANY	ACS/WFC, ACCUM, WFC1	F435W			Pattern 1, Exps 1-3 in MACSJ0416 F275W - 1 (01) (1) Prime + Parallel Group 1-3 in Pattern 1, Exps 1-3 in MACSJ0416 F275W - 1 (01)	1190 Secs (4760 Secs) [==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)] [==>(Pattern 4)]	[1] [2] [3] [4]
	3	ANY	ANY	ACS/WFC, ACCUM, WFC1	F606W			Pattern 1, Exps 1-3 in MACSJ0416 F275W - 1 (01) (1) Prime + Parallel Group 1-3 in Pattern 1, Exps 1-3 in MACSJ0416 F275W - 1 (01)	1190 Secs (4760 Secs) [==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)] [==>(Pattern 4)]	[1] [2] [3] [4]



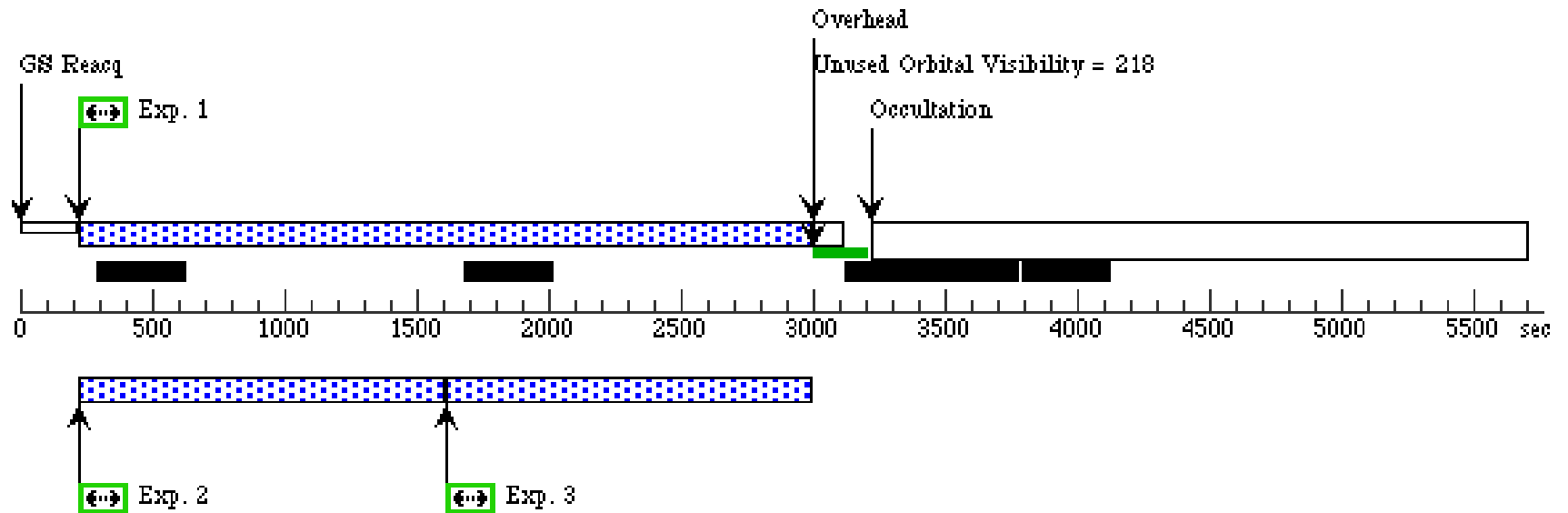
Orbit 3

Server Version: 20150609



Orbit 4

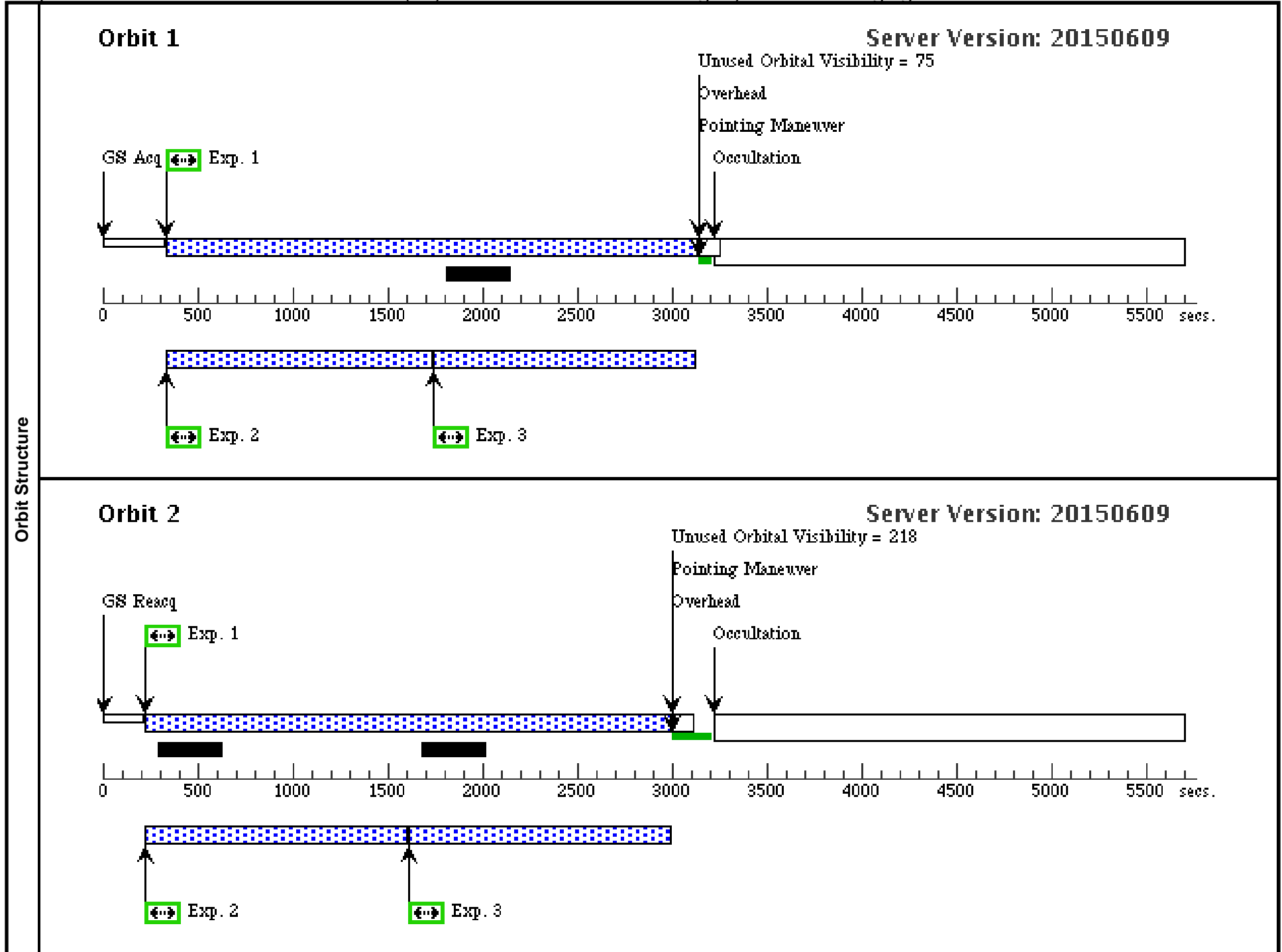
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Proposal 14209 - MACSJ0416 F275W - 2 (02) - The Final UV Frontier: Legacy Near-UV Imaging of the Frontier Fields

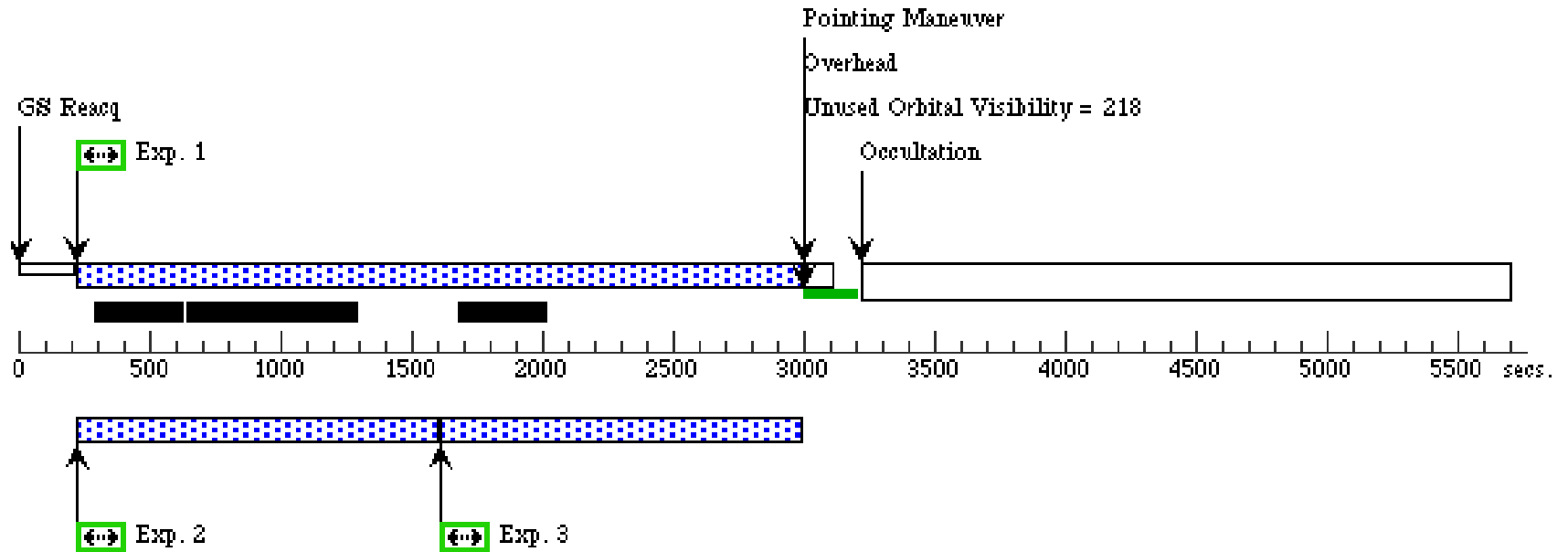
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Visit	Proposal 14209, MACSJ0416 F275W - 2 (02), implementation Diagnostic Status: Warning Scientific Instruments: WFC3/UVIS, ACS/WFC Special Requirements: ORIENT 247D TO 247 D									
	(Primary Exposure 1 (Prime + Parallel Group 1-3 in Pattern 1, Exps 1-3 in MACSJ0416 F275W - 2 (02))) Warning (Form): FLASH level may be too high for this exposure or a long subexposure. See extended explanation in the diagnostic browser									
Diagnosics										
Patterns	#	Primary Pattern			Secondary Pattern		Exposures			
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Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous				
	(1)	MACSJ0416	RA: 04 16 8.9000 (64.0370833d) Dec: -24 04 28.70 (-24.07464d) Equinox: J2000		V=26+/-2	Reference Frame: ICRS				
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1		(1) MACSJ0416	WFC3/UVIS, ACCUM, UVIS-CENTER	F275W	FLASH=9	POS TARG 0.42,2.0 2	Pattern 1, Exps 1-3 in MACSJ0416 F275W - 2 (02) (1) Prime + Parallel Group 1-3 in Pattern 1, Exps 1-3 in MACSJ0416 F275W - 2 (02)	2770 Secs (11080 Secs) [==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)] [==>(Pattern 4)]	[1] [2] [3] [4]
	2		ANY	ACS/WFC, ACCUM, WFC1	F435W			Pattern 1, Exps 1-3 in MACSJ0416 F275W - 2 (02) (1) Prime + Parallel Group 1-3 in Pattern 1, Exps 1-3 in MACSJ0416 F275W - 2 (02)	1190 Secs (4760 Secs) [==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)] [==>(Pattern 4)]	[1] [2] [3] [4]
	3		ANY	ACS/WFC, ACCUM, WFC1	F606W			Pattern 1, Exps 1-3 in MACSJ0416 F275W - 2 (02) (1) Prime + Parallel Group 1-3 in Pattern 1, Exps 1-3 in MACSJ0416 F275W - 2 (02)	1190 Secs (4760 Secs) [==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)] [==>(Pattern 4)]	[1] [2] [3] [4]



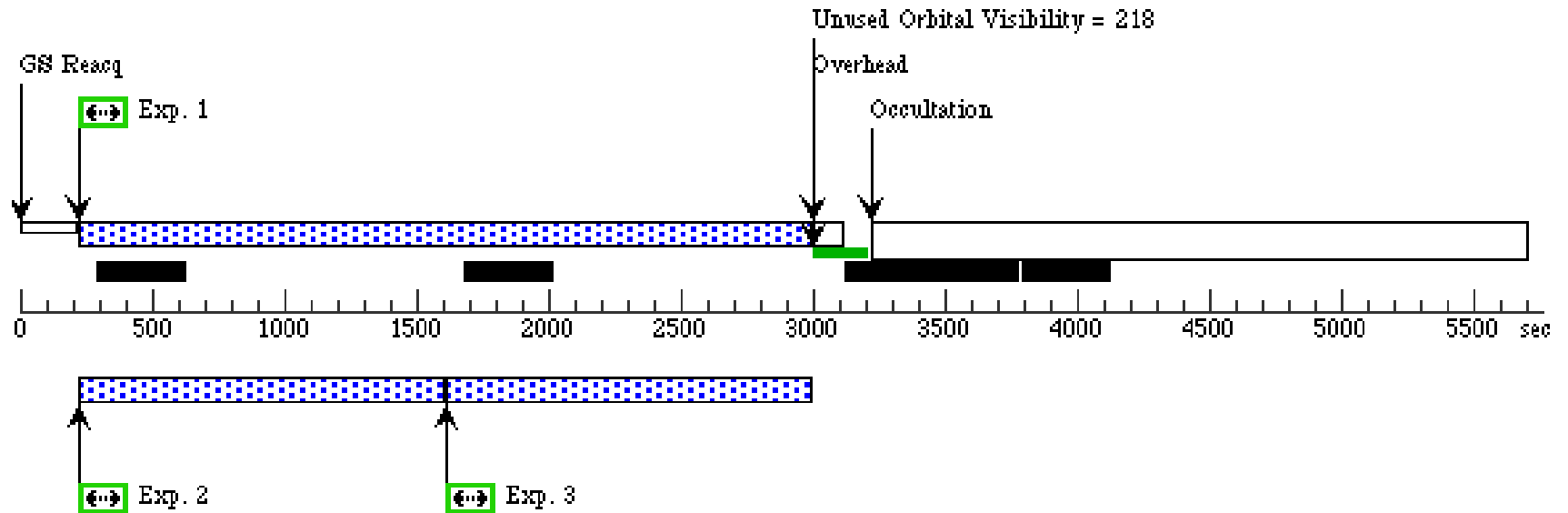
Orbit 3

Server Version: 20150609



Orbit 4

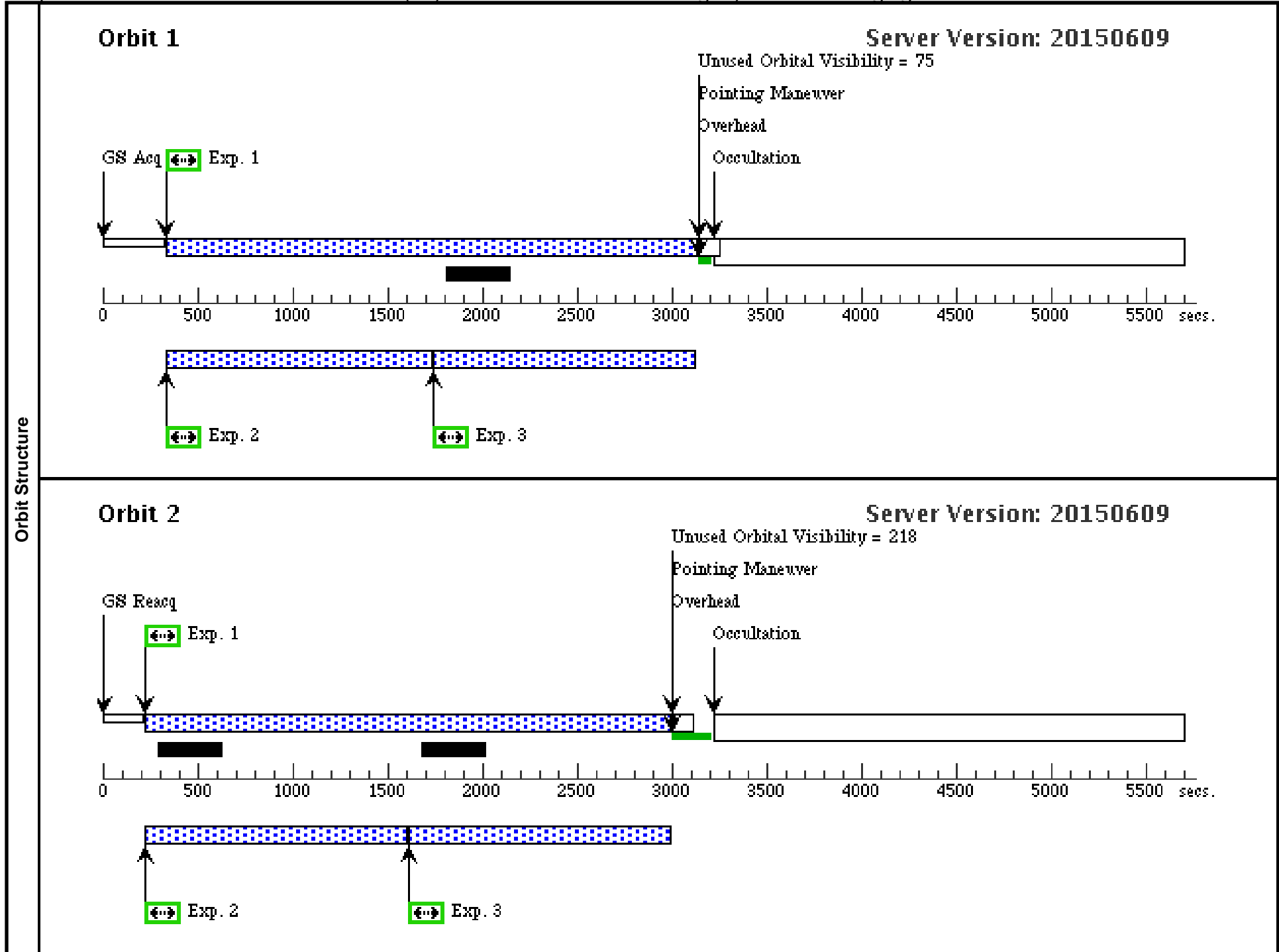
Server Version: 20150609



Proposal 14209 - MACSJ0416 F336W - 1 (03) - The Final UV Frontier: Legacy Near-UV Imaging of the Frontier Fields

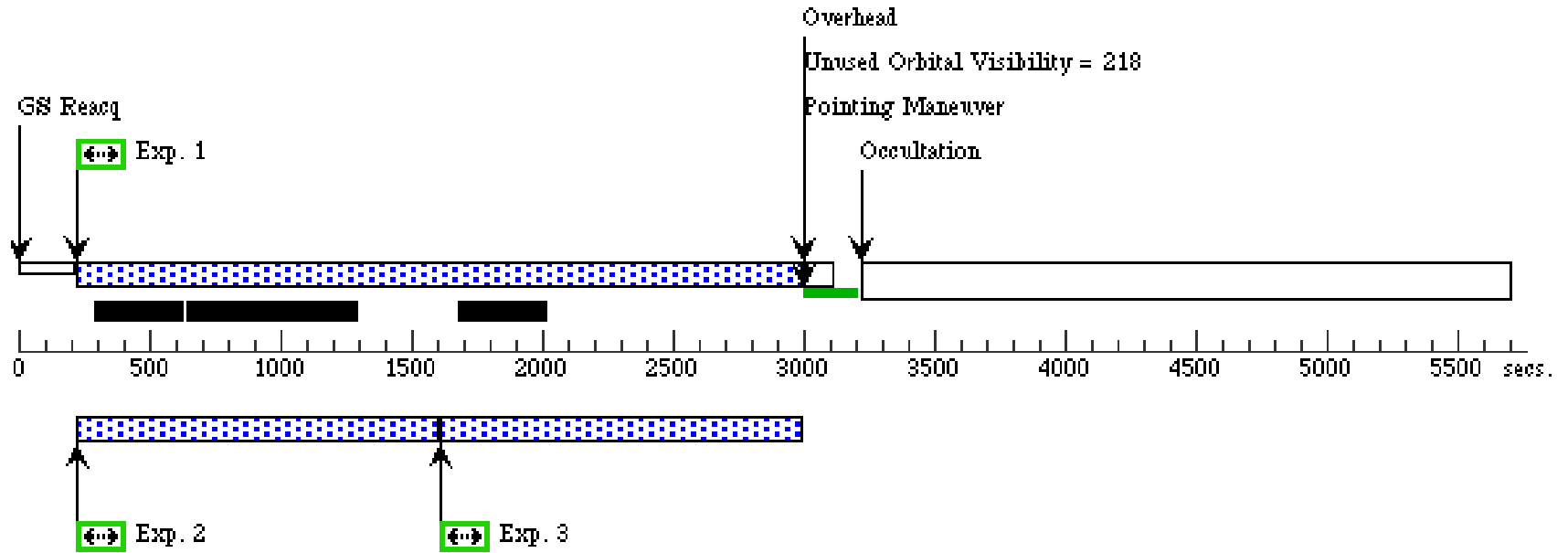
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Visit	Proposal 14209, MACSJ0416 F336W - 1 (03), implementation Diagnostic Status: No Diagnostics Scientific Instruments: WFC3/UVIS, ACS/WFC Special Requirements: ORIENT 247D TO 247 D									
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Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous				
	(1)	MACSJ0416	RA: 04 16 8.9000 (64.0370833d) Dec: -24 04 28.70 (-24.07464d) Equinox: J2000		V=26+/-2	Reference Frame: ICRS				
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1		(1) MACSJ0416	WFC3/UVIS, ACCUM, UVIS-CENTER	F336W	FLASH=4	POS TARG -0.42,-2.02	Pattern 1, Exps 1-3 in MACSJ0416 F336W - 1 (03) (1) Prime + Parallel Group 1-3 in Pattern 1, Exps 1-3 in MACSJ0416 F336W - 1 (03)	2770 Secs (11080 Secs) [==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)] [==>(Pattern 4)]	[1] [2] [3] [4]
	2		ANY	ACS/WFC, ACCUM, WFC1	F435W			Pattern 1, Exps 1-3 in MACSJ0416 F336W - 1 (03) (1) Prime + Parallel Group 1-3 in Pattern 1, Exps 1-3 in MACSJ0416 F336W - 1 (03)	1190 Secs (4760 Secs) [==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)] [==>(Pattern 4)]	[1] [2] [3] [4]
	3		ANY	ACS/WFC, ACCUM, WFC1	F606W			Pattern 1, Exps 1-3 in MACSJ0416 F336W - 1 (03) (1) Prime + Parallel Group 1-3 in Pattern 1, Exps 1-3 in MACSJ0416 F336W - 1 (03)	1190 Secs (4760 Secs) [==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)] [==>(Pattern 4)]	[1] [2] [3] [4]



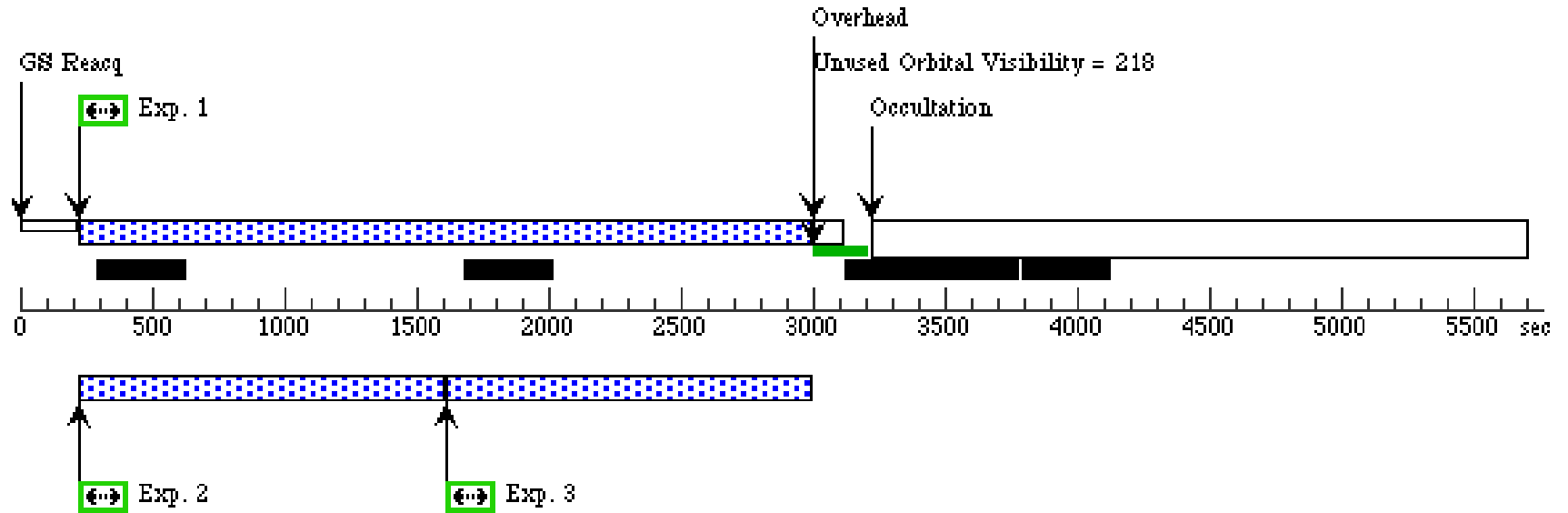
Orbit 3

Server Version: 20150609



Orbit 4

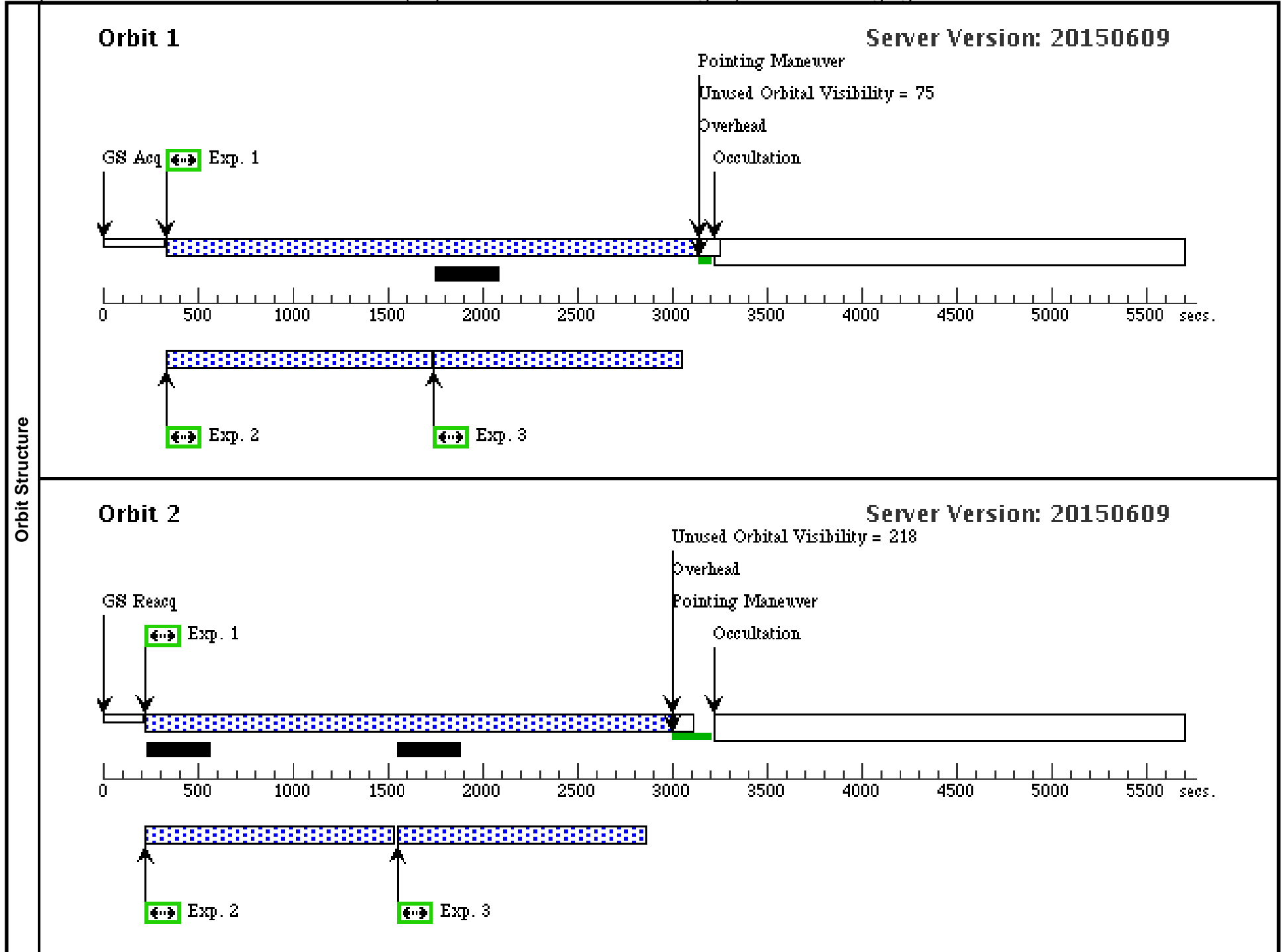
Server Version: 20150609



Proposal 14209 - MACSJ0416 F336W - 2 (04) - The Final UV Frontier: Legacy Near-UV Imaging of the Frontier Fields

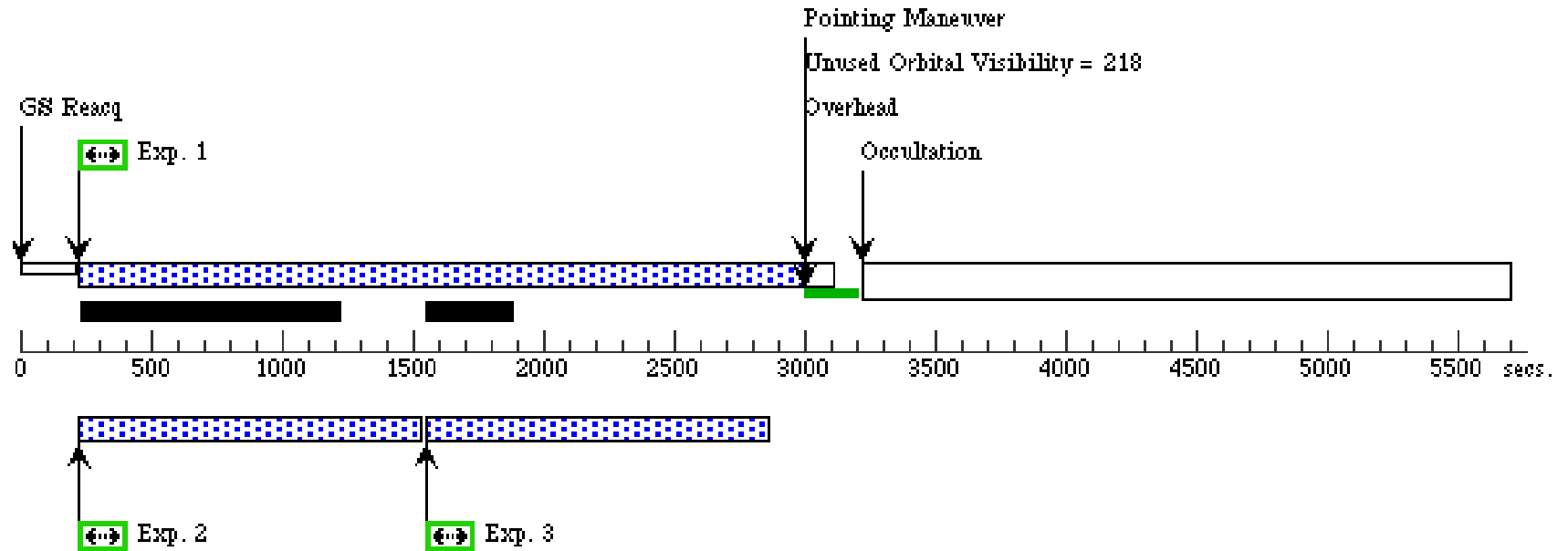
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Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous				
	(1)	MACSJ0416	RA: 04 16 8.9000 (64.0370833d) Dec: -24 04 28.70 (-24.07464d) Equinox: J2000		V=26+/-2	Reference Frame: ICRS				
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1	(1) MACSJ0416	WFC3/UVIS, ACCUM, UVIS-CENTER	F336W	FLASH=4	POS TARG 0.42,2.0	Pattern 1, Exps 1-3 in MACSJ0416 F336W - 2 (04) (1)	2770 Secs (11080 Secs)		
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								[==>(Pattern 2)]	[2]	
								[==>(Pattern 3)]	[3]	
	2	ANY	ACS/WFC, ACCUM, WFC1	F435W	Prime + Parallel Group 1-3 in Pattern 1, Exps 1-3 in MACSJ0416 F336W - 2 (04)	1190 Secs (4760 Secs)				
						[==>(Pattern 1)]	[1]			
						[==>(Pattern 2)]	[2]			
						[==>(Pattern 3)]	[3]			
	3	ANY	ACS/WFC, ACCUM, WFC1	F435W	Prime + Parallel Group 1-3 in Pattern 1, Exps 1-3 in MACSJ0416 F336W - 2 (04)	1190 Secs (4760 Secs)				
						[==>(Pattern 1)]	[1]			
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								[4]		



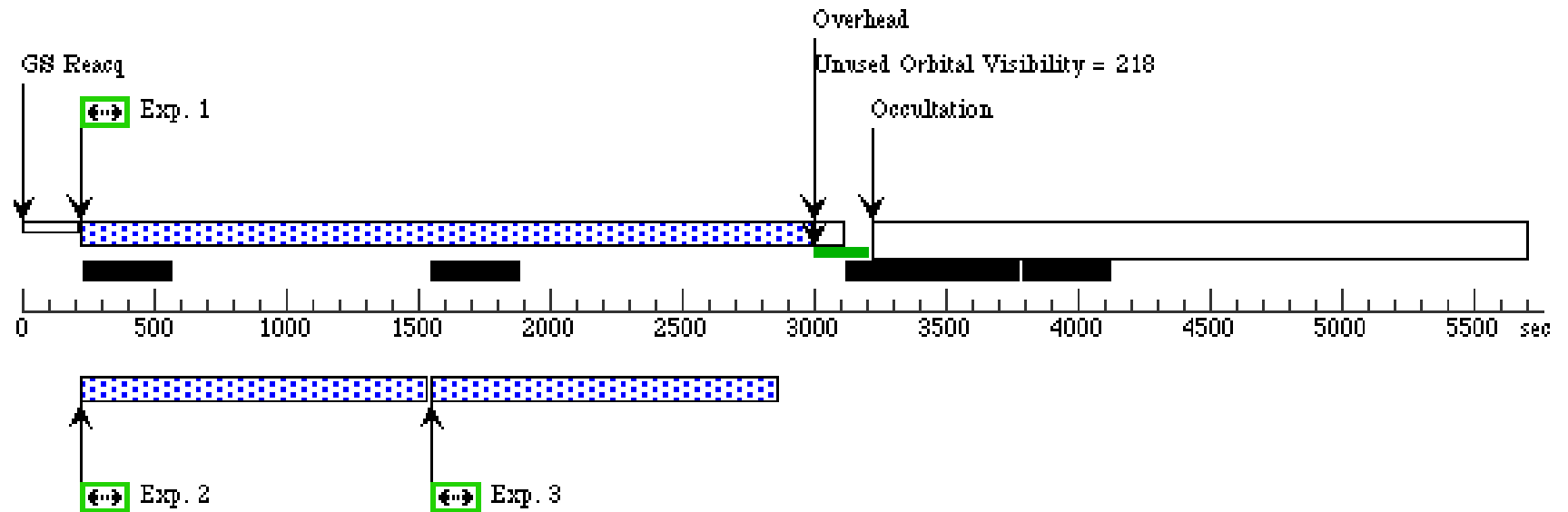
Orbit 3

Server Version: 20150609



Orbit 4

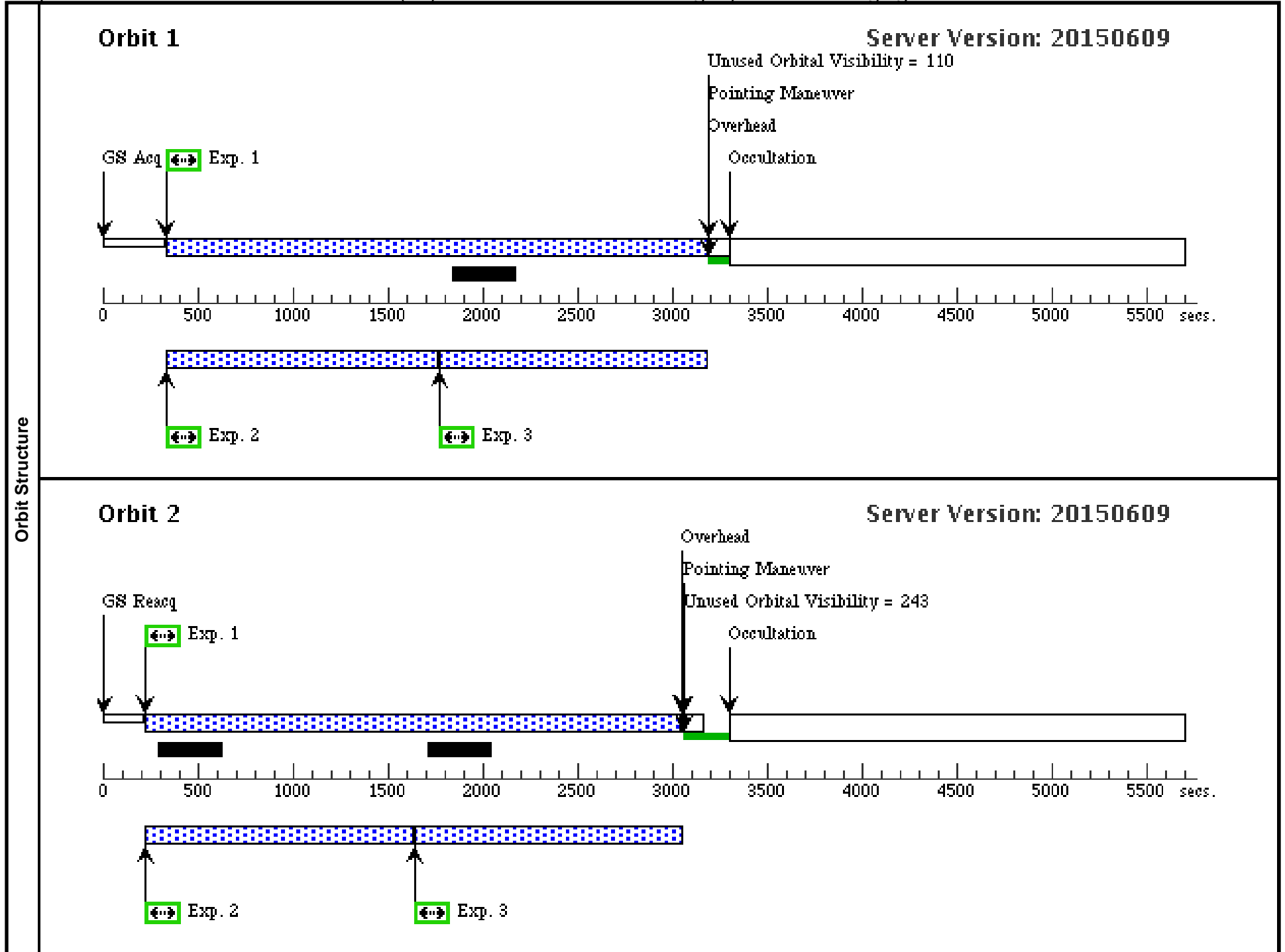
Server Version: 20150609



Proposal 14209 - Abell S1063 F275W - 1 (05) - The Final UV Frontier: Legacy Near-UV Imaging of the Frontier Fields

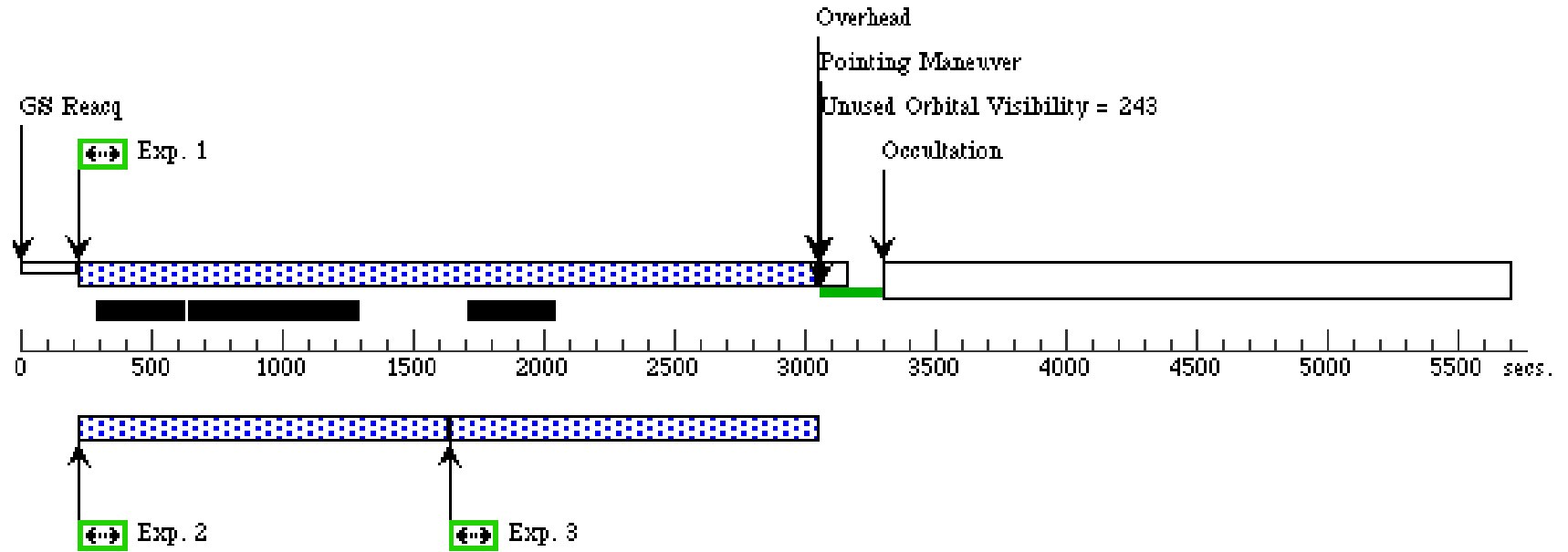
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Visit	Proposal 14209, Abell S1063 F275W - 1 (05), implementation Diagnostic Status: Warning Scientific Instruments: WFC3/UVIS, ACS/WFC Special Requirements: ORIENT 233D TO 233 D										
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Diagnosics											
Patterns	#	Primary Pattern				Secondary Pattern				Exposures	
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Fixed Targets	#	Name	Target Coordinates		Targ. Coord. Corrections		Fluxes		Miscellaneous		
	(3)	ABELLS1063	RA: 22 48 44.3000 (342.1845833d) Dec: -44 31 48.40 (-44.53011d) Equinox: J2000				V=26+/-2		Reference Frame: ICRS		
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]		Orbit
	1	(3) ABELLS1063	WFC3/UVIS, ACCUM, UVIS-CENTER		F275W	FLASH=9	POS TARG -0.42,-2.02; GS ACQ SCENARI O BASE1B3	Pattern 1, Exps 1-3 in Abell S1063 F275W - 1 (05) (1)	2820 Secs (11280 Secs)		
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									[==>(Pattern 2)]		[2]
									[==>(Pattern 3)]		[3]
	2	ANY	ACS/WFC, ACCUM, WFC1		F435W			Pattern 1, Exps 1-3 in Abell S1063 F275W - 1 (05) (1)	1220 Secs (4880 Secs)		
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									[==>(Pattern 2)]		[2]
									[==>(Pattern 3)]		[3]
	3	ANY	ACS/WFC, ACCUM, WFC1		F606W			Pattern 1, Exps 1-3 in Abell S1063 F275W - 1 (05) (1)	1220 Secs (4880 Secs)		
									[==>(Pattern 1)]		[1]
									[==>(Pattern 2)]		[2]
									[==>(Pattern 3)]		[3]
3	ANY	ACS/WFC, ACCUM, WFC1		F606W			Prime + Parallel Group 1-3 in Pattern 1, Exps 1-3 in Abell S1063 F275W - 1 (05)	[==>(Pattern 4)]		[4]	
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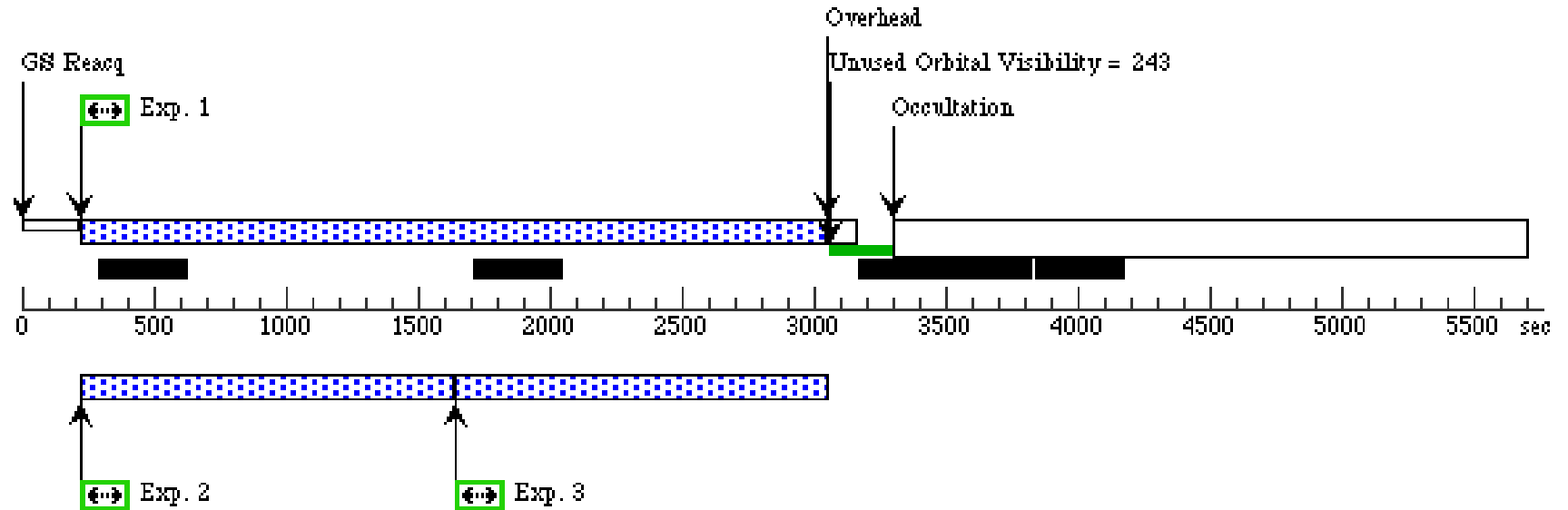
Orbit 3

Server Version: 20150609



Orbit 4

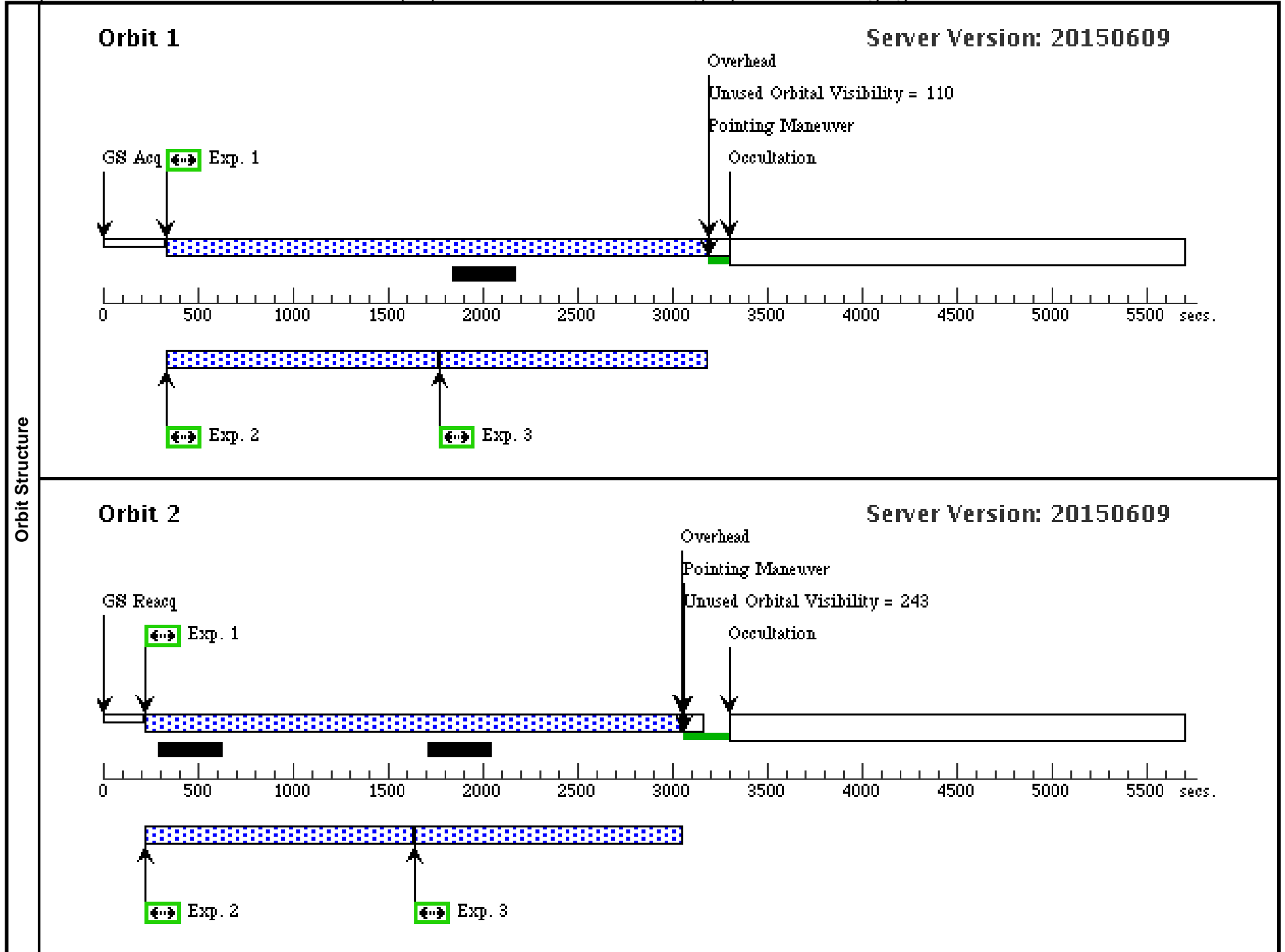
Server Version: 20150609



Proposal 14209 - Abell S1063 F275W - 2 (06) - The Final UV Frontier: Legacy Near-UV Imaging of the Frontier Fields

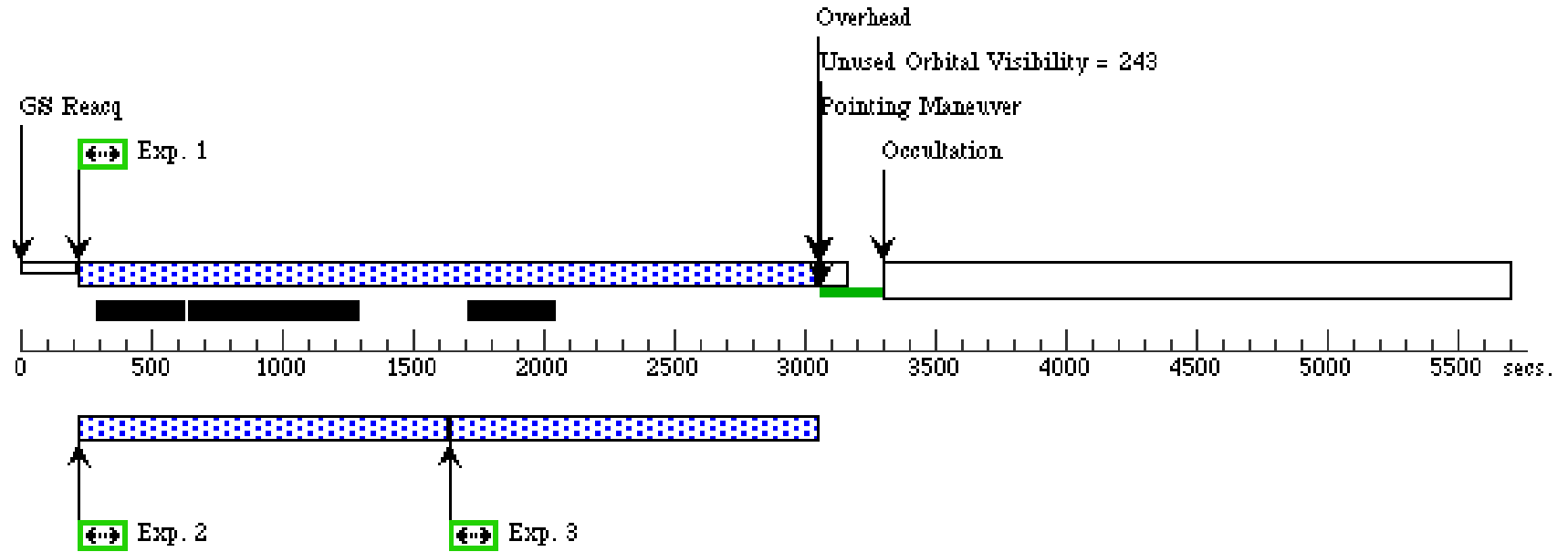
Fri Jul 24 02:37:33 GMT 2015

Visit	Proposal 14209, Abell S1063 F275W - 2 (06), implementation Diagnostic Status: Warning Scientific Instruments: WFC3/UVIS, ACS/WFC Special Requirements: ORIENT 233D TO 233 D										
	(Primary Exposure 1 (Prime + Parallel Group 1-3 in Pattern 1, Exps 1-3 in Abell S1063 F275W - 2 (06))) Warning (Form): FLASH level may be too high for this exposure or a long subexposure. See extended explanation in the diagnostic browser										
Diagnosics											
Patterns	#	Primary Pattern				Secondary Pattern				Exposures	
	(1)	Pattern Type=WFC3-UVIS-DITHER-BOX Purpose=DITHER Number Of Points=4 Point Spacing=0.173 Line Spacing=0.112				Coordinate Frame=POS-TARG Pattern Orientation=23.884 Angle Between Sides=81.785 Center Pattern=false				(1-3)	
Fixed Targets	#	Name	Target Coordinates		Targ. Coord. Corrections		Fluxes		Miscellaneous		
	(3)	ABELLS1063	RA: 22 48 44.3000 (342.1845833d) Dec: -44 31 48.40 (-44.53011d) Equinox: J2000				V=26+/-2		Reference Frame: ICRS		
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]		Orbit
	1		(3) ABELLS1063	WFC3/UVIS, ACCUM, UVIS-CENTER	F275W	FLASH=9	POS TARG 0.42,2.0 2; GS ACQ SCENARI O BASE1B3	Pattern 1, Exps 1-3 in Abell S1063 F275W - 2 (06) (1) Prime + Parallel Group 1-3 in Pattern 1, Exps 1-3 in Abell S1063 F275W - 2 (06)	2820 Secs (11280 Secs)		
									[==>(Pattern 1)]		[1]
									[==>(Pattern 2)]		[2]
									[==>(Pattern 3)]		[3]
									[==>(Pattern 4)]		[4]
	2		ANY	ACS/WFC, ACCUM, WFC1	F435W			Pattern 1, Exps 1-3 in Abell S1063 F275W - 2 (06) (1) Prime + Parallel Group 1-3 in Pattern 1, Exps 1-3 in Abell S1063 F275W - 2 (06)	1220 Secs (4880 Secs)		
									[==>(Pattern 1)]		[1]
									[==>(Pattern 2)]		[2]
									[==>(Pattern 3)]		[3]
									[==>(Pattern 4)]		[4]
	3		ANY	ACS/WFC, ACCUM, WFC1	F606W			Pattern 1, Exps 1-3 in Abell S1063 F275W - 2 (06) (1) Prime + Parallel Group 1-3 in Pattern 1, Exps 1-3 in Abell S1063 F275W - 2 (06)	1220 Secs (4880 Secs)		
									[==>(Pattern 1)]		[1]
									[==>(Pattern 2)]		[2]
									[==>(Pattern 3)]		[3]
								[==>(Pattern 4)]		[4]	



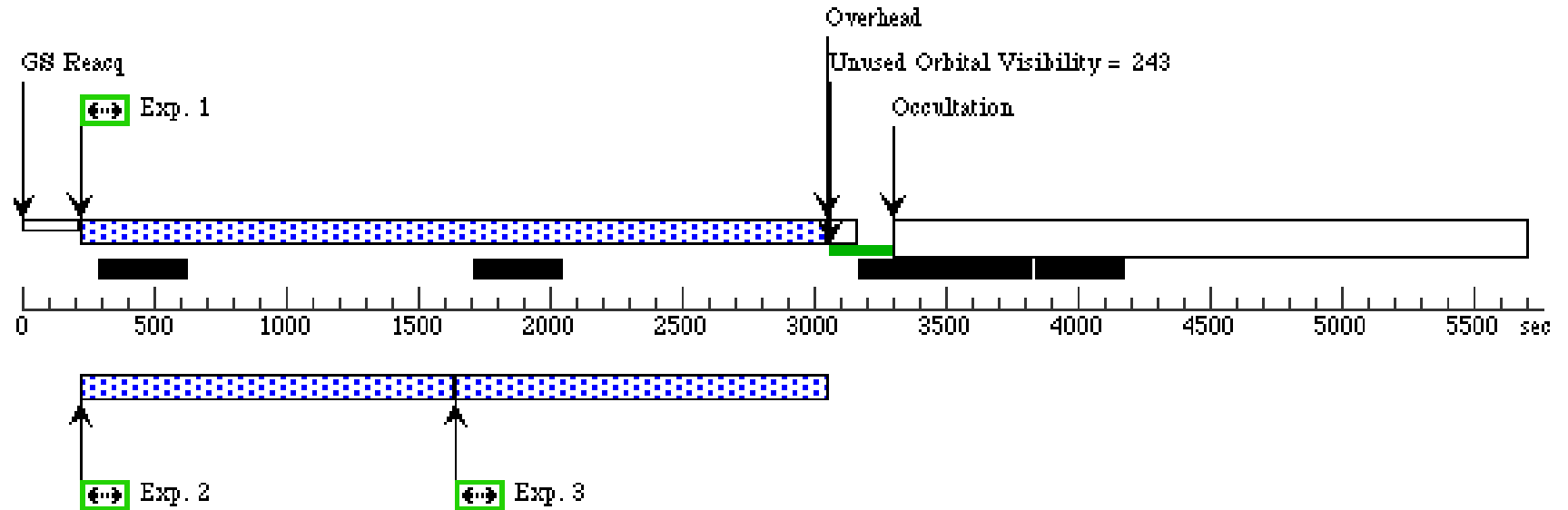
Orbit 3

Server Version: 20150609



Orbit 4

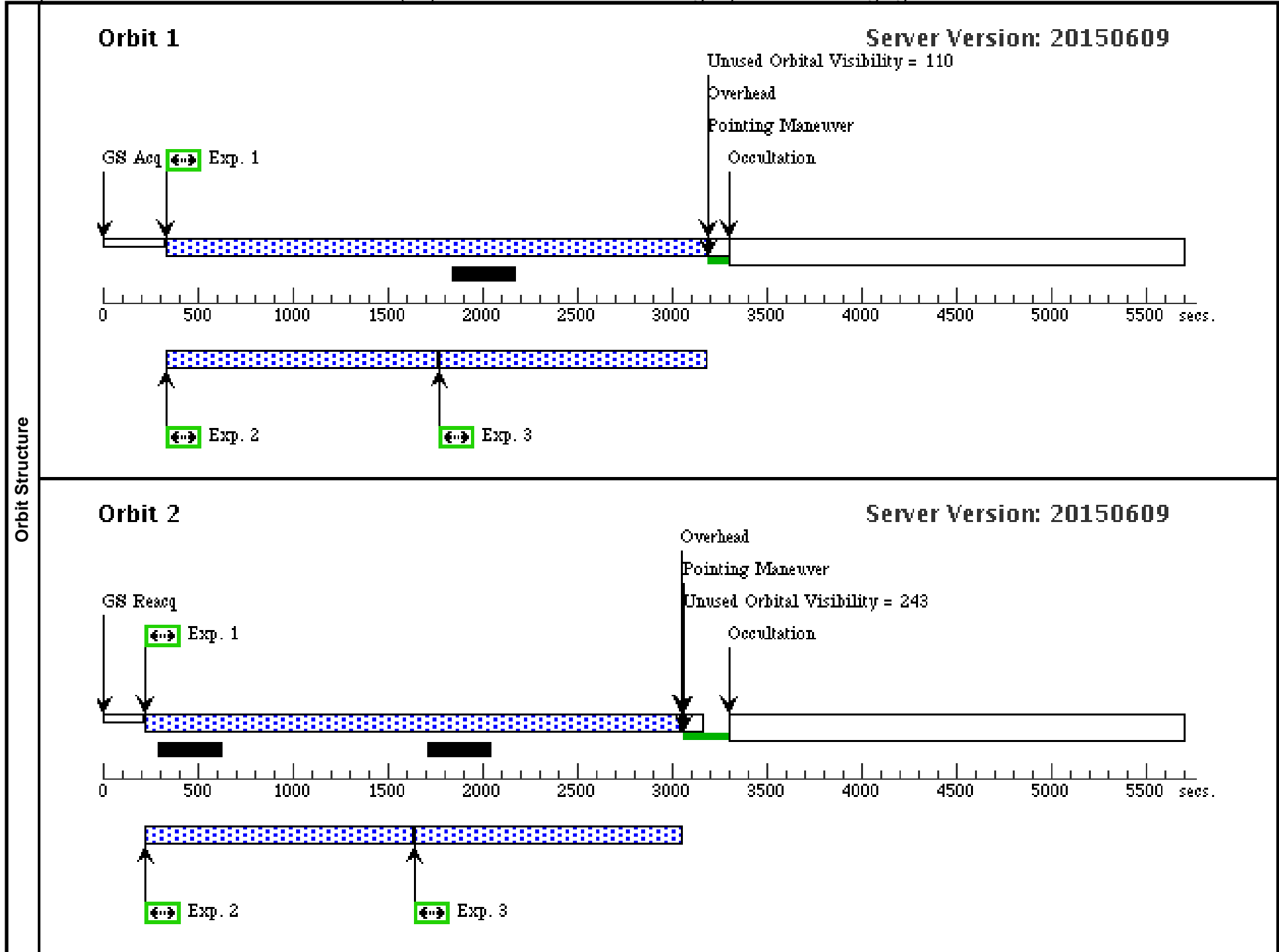
Server Version: 20150609



Proposal 14209 - Abell S1063 F336W - 1 (07) - The Final UV Frontier: Legacy Near-UV Imaging of the Frontier Fields

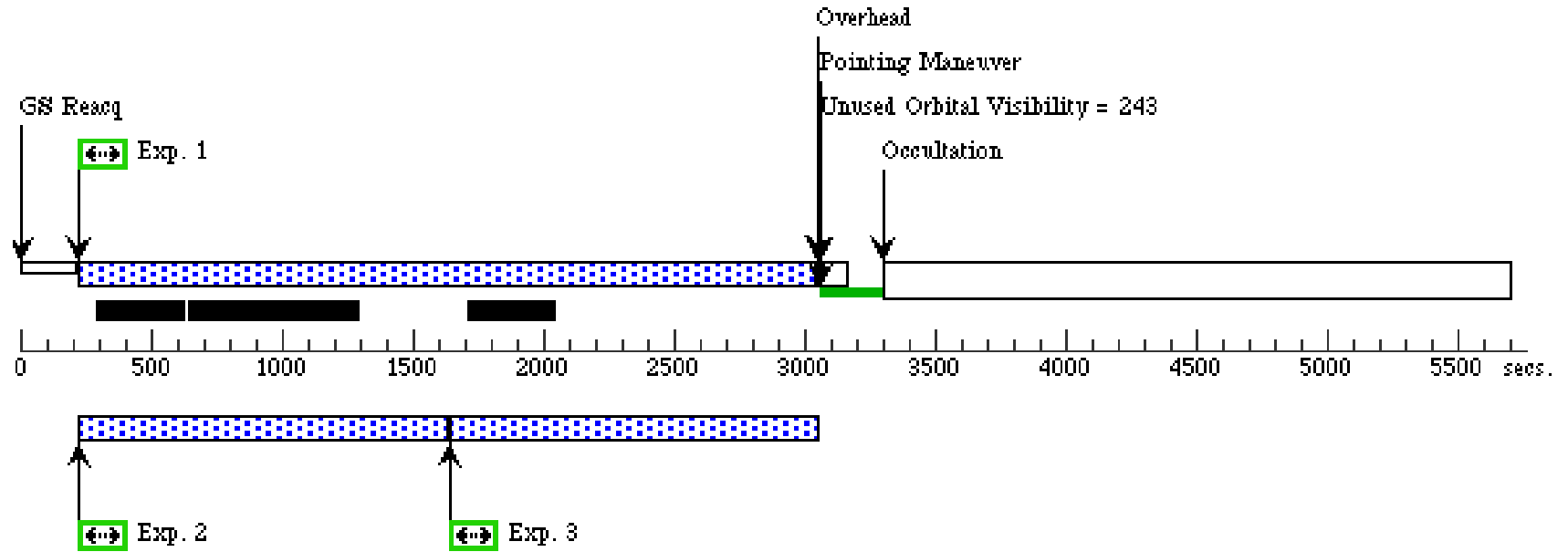
Fri Jul 24 02:37:33 GMT 2015

Visit	Proposal 14209, Abell S1063 F336W - 1 (07), implementation Diagnostic Status: No Diagnostics Scientific Instruments: WFC3/UVIS, ACS/WFC Special Requirements: ORIENT 233D TO 233 D									
	Patterns	#	Primary Pattern	Secondary Pattern	Exposures					
		(1)	Pattern Type=WFC3-UVIS-DITHER-BOX Purpose=DITHER Number Of Points=4 Point Spacing=0.173 Line Spacing=0.112	Coordinate Frame=POS-TARG Pattern Orientation=23.884 Angle Between Sides=81.785 Center Pattern=false		(1-3)				
Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous				
	(3)	ABELLS1063	RA: 22 48 44.3000 (342.1845833d) Dec: -44 31 48.40 (-44.53011d) Equinox: J2000		V=26+/-2	Reference Frame: ICRS				
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1		(3) ABELLS1063	WFC3/UVIS, ACCUM, UVIS-CENTER	F336W	FLASH=4	POS TARG -0.42,-2.02; GS ACQ SCENARIO BASE1B3	Pattern 1, Exps 1-3 in Abell S1063 F336W - 1 (07) (1) Prime + Parallel Group 1-3 in Pattern 1, Exps 1-3 in Abell S1063 F336W - 1 (07)	2820 Secs (11280 Secs)	
									[==>(Pattern 1)]	[1]
									[==>(Pattern 2)]	[2]
									[==>(Pattern 3)]	[3]
	2	ANY	ACS/WFC, ACCUM, WFC1	F435W				Pattern 1, Exps 1-3 in Abell S1063 F336W - 1 (07) (1) Prime + Parallel Group 1-3 in Pattern 1, Exps 1-3 in Abell S1063 F336W - 1 (07)	1220 Secs (4880 Secs)	
									[==>(Pattern 1)]	[1]
									[==>(Pattern 2)]	[2]
									[==>(Pattern 3)]	[3]
	3	ANY	ACS/WFC, ACCUM, WFC1	F606W				Pattern 1, Exps 1-3 in Abell S1063 F336W - 1 (07) (1) Prime + Parallel Group 1-3 in Pattern 1, Exps 1-3 in Abell S1063 F336W - 1 (07)	1220 Secs (4880 Secs)	
									[==>(Pattern 1)]	[1]
									[==>(Pattern 2)]	[2]
[==>(Pattern 3)]									[3]	
								[4]		



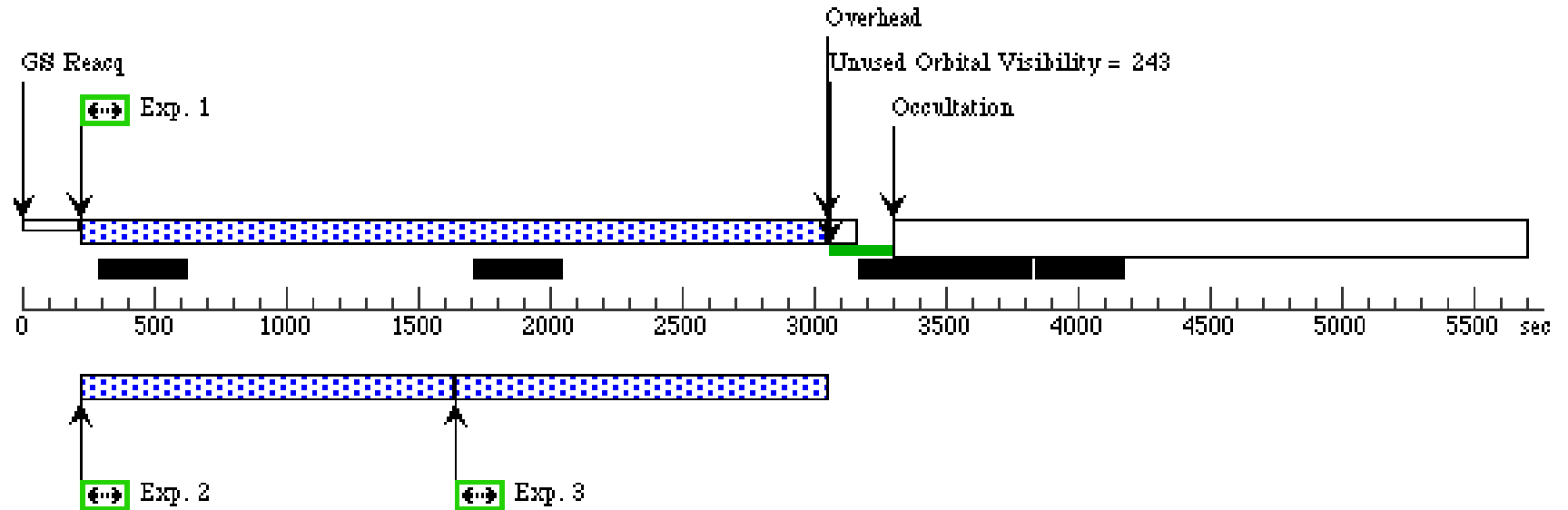
Orbit 3

Server Version: 20150609



Orbit 4

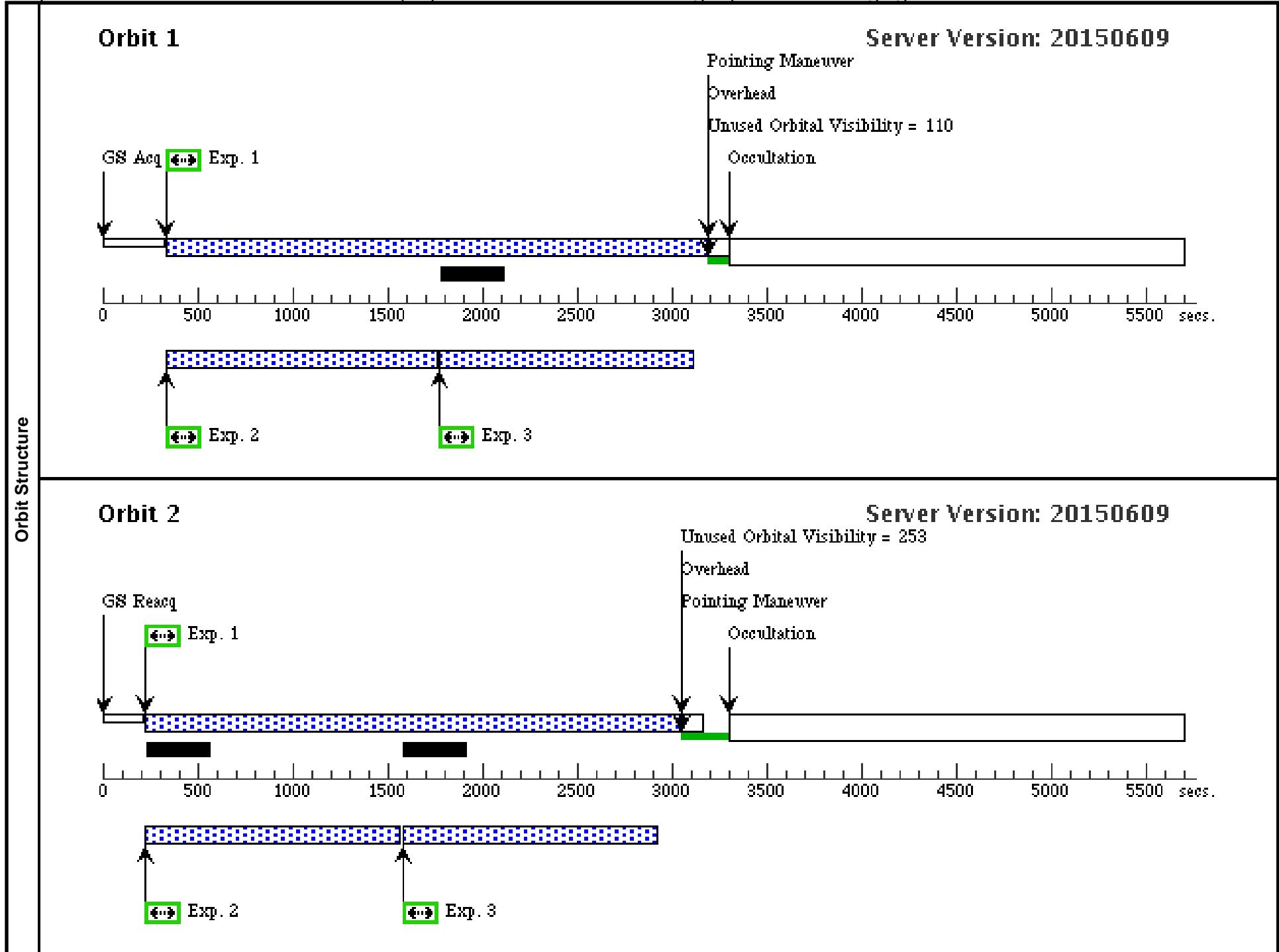
Server Version: 20150609



Proposal 14209 - Abell S1063 F336W - 2 (08) - The Final UV Frontier: Legacy Near-UV Imaging of the Frontier Fields

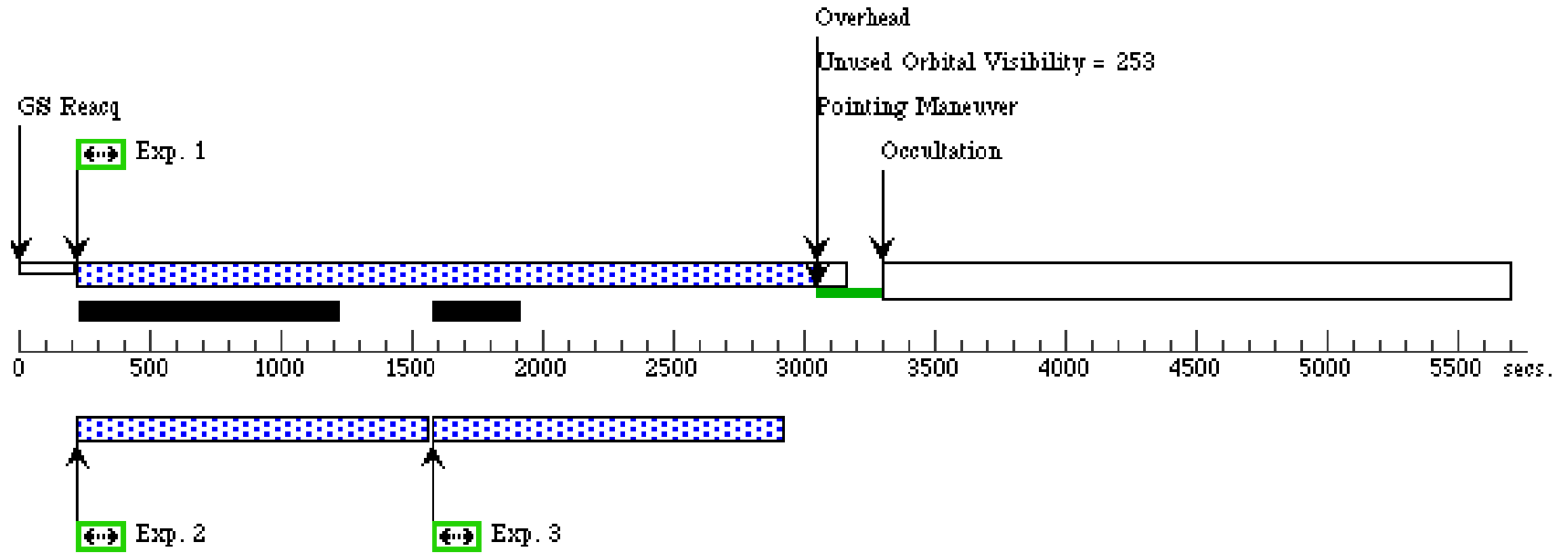
Fri Jul 24 02:37:33 GMT 2015

Visit	Proposal 14209, Abell S1063 F336W - 2 (08), implementation Diagnostic Status: No Diagnostics Scientific Instruments: WFC3/UVIS, ACS/WFC Special Requirements: ORIENT 233D TO 233 D									
	Patterns	#	Primary Pattern	Secondary Pattern	Exposures					
		(1)	Pattern Type=WFC3-UVIS-DITHER-BOX Purpose=DITHER Number Of Points=4 Point Spacing=0.173 Line Spacing=0.112	Coordinate Frame=POS-TARG Pattern Orientation=23.884 Angle Between Sides=81.785 Center Pattern=false		(1-3)				
Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous				
	(3)	ABELLS1063	RA: 22 48 44.3000 (342.1845833d) Dec: -44 31 48.40 (-44.53011d) Equinox: J2000		V=26+/-2	Reference Frame: ICRS				
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1		(3) ABELLS1063	WFC3/UVIS, ACCUM, UVIS-CENTER	F336W	FLASH=4	POS TARG 0.42,2.0 2; GS ACQ SCENARIO BASE1B3	Pattern 1, Exps 1-3 in Abell S1063 F336W - 2 (08) (1) Prime + Parallel Group 1-3 in Pattern 1, Exps 1-3 in Abell S1063 F336W - 2 (08)	2820 Secs (11280 Secs)	
									[==>(Pattern 1)]	[1]
									[==>(Pattern 2)]	[2]
									[==>(Pattern 3)]	[3]
	2	ANY	ACS/WFC, ACCUM, WFC1	F435W				Pattern 1, Exps 1-3 in Abell S1063 F336W - 2 (08) (1) Prime + Parallel Group 1-3 in Pattern 1, Exps 1-3 in Abell S1063 F336W - 2 (08)	1220 Secs (4880 Secs)	
									[==>(Pattern 1)]	[1]
									[==>(Pattern 2)]	[2]
									[==>(Pattern 3)]	[3]
	3	ANY	ACS/WFC, ACCUM, WFC1	F435W				Pattern 1, Exps 1-3 in Abell S1063 F336W - 2 (08) (1) Prime + Parallel Group 1-3 in Pattern 1, Exps 1-3 in Abell S1063 F336W - 2 (08)	1220 Secs (4880 Secs)	
									[==>(Pattern 1)]	[1]
									[==>(Pattern 2)]	[2]
									[==>(Pattern 3)]	[3]
								[4]		



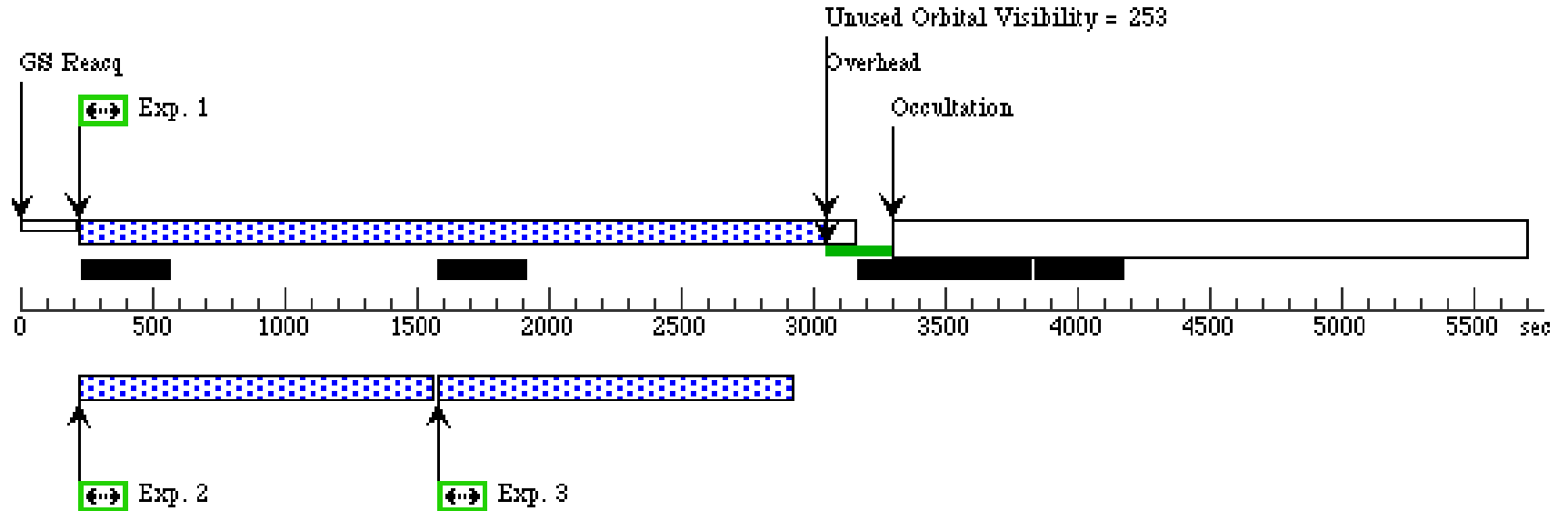
Orbit 3

Server Version: 20150609



Orbit 4

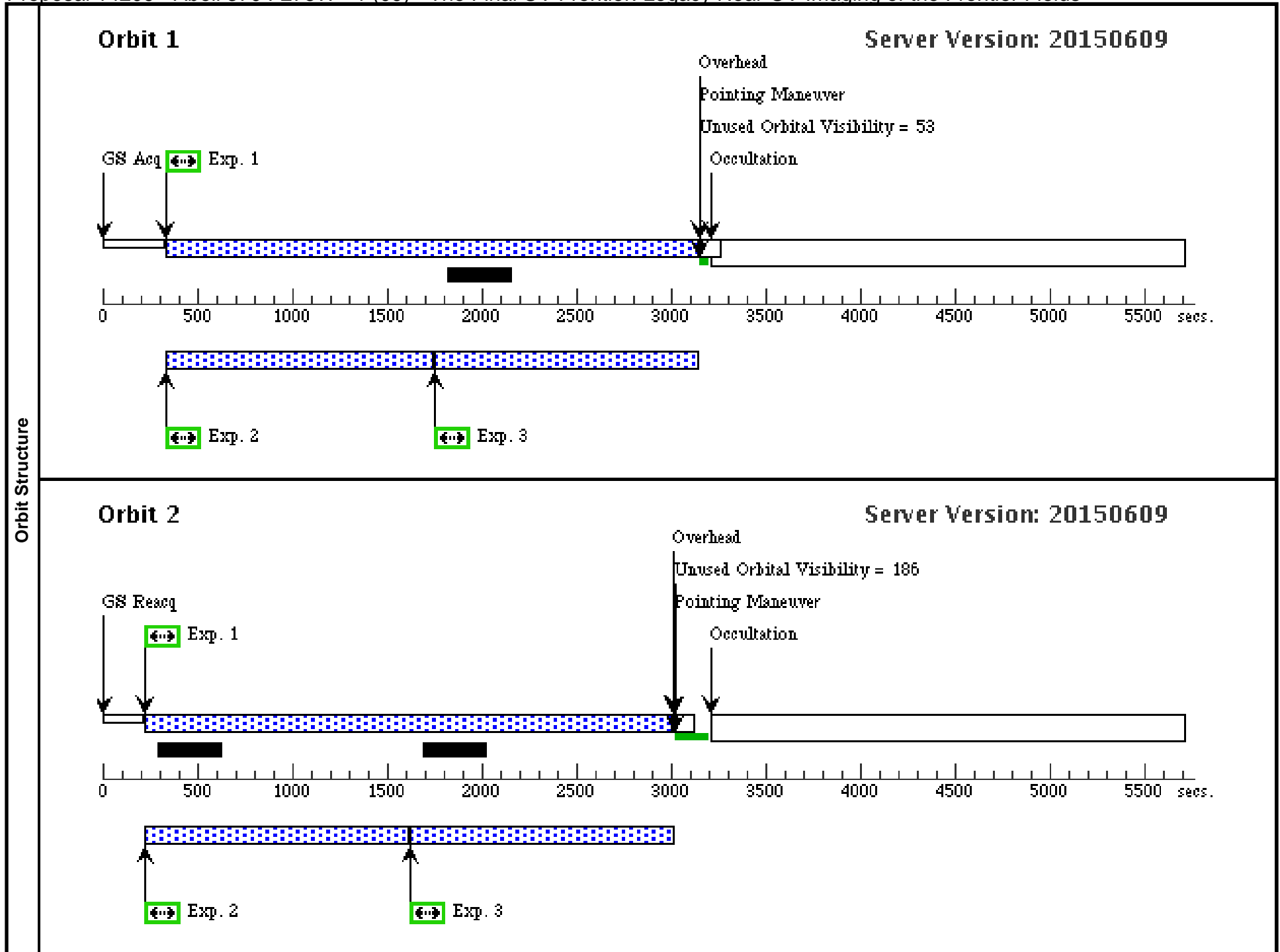
Server Version: 20150609



Proposal 14209 - Abell 370 F275W - 1 (09) - The Final UV Frontier: Legacy Near-UV Imaging of the Frontier Fields

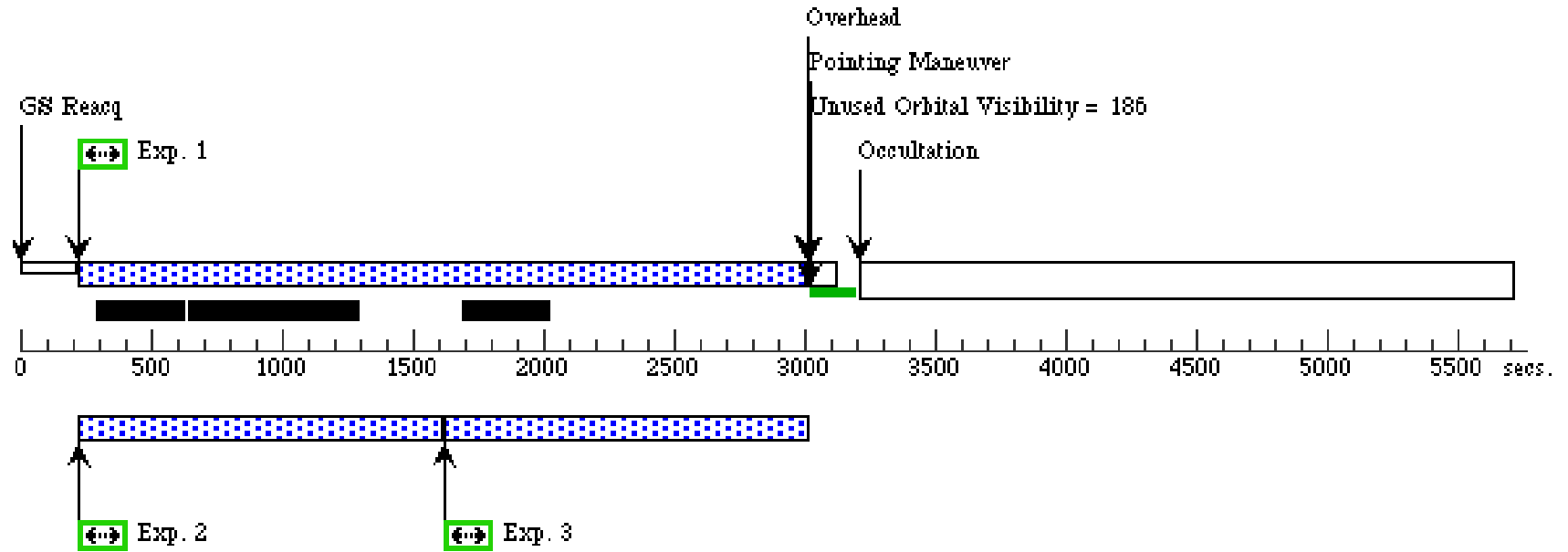
Fri Jul 24 02:37:34 GMT 2015

Visit	Proposal 14209, Abell 370 F275W - 1 (09), implementation Diagnostic Status: Warning Scientific Instruments: WFC3/UVIS, ACS/WFC Special Requirements: ORIENT 253D TO 253 D									
	(Primary Exposure 1 (Prime + Parallel Group 1-3 in Pattern 1, Exps 1-3 in Abell 370 F275W - 1 (09))) Warning (Form): FLASH level may be too high for this exposure or a long subexposure. See extended explanation in the diagnostic browser									
Diagnosics										
Patterns	#	Primary Pattern	Secondary Pattern		Exposures					
	(1)	Pattern Type=WFC3-UVIS-DITHER-BOX Purpose=DITHER Number Of Points=4 Point Spacing=0.173 Line Spacing=0.112	Coordinate Frame=POS-TARG Pattern Orientation=23.884 Angle Between Sides=81.785 Center Pattern=false		(1-3)					
Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous				
	(2)	ABELL370	RA: 02 39 52.8000 (39.9700000d) Dec: -01 34 36.00 (-1.57667d) Equinox: J2000		V=26+/-2	Reference Frame: ICRS				
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1		(2) ABELL370	WFC3/UVIS, ACCUM, UVIS-CENTER	F275W	FLASH=9	POS TARG -0.42,-2.02; GS ACQ SCENARIO BASE1B3	Pattern 1, Exps 1-3 in Abell 370 F275W - 1 (09) (1) Prime + Parallel Group 1-3 in Pattern 1, Exps 1-3 in Abell 370 F275W - 1 (09)	2780 Secs (11120 Secs) [==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)] [==>(Pattern 4)]	[1] [2] [3] [4]
	2		ANY	ACS/WFC, ACCUM, WFC1	F435W			Pattern 1, Exps 1-3 in Abell 370 F275W - 1 (09) (1) Prime + Parallel Group 1-3 in Pattern 1, Exps 1-3 in Abell 370 F275W - 1 (09)	1200 Secs (4800 Secs) [==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)] [==>(Pattern 4)]	[1] [2] [3] [4]
	3		ANY	ACS/WFC, ACCUM, WFC1	F606W			Pattern 1, Exps 1-3 in Abell 370 F275W - 1 (09) (1) Prime + Parallel Group 1-3 in Pattern 1, Exps 1-3 in Abell 370 F275W - 1 (09)	1200 Secs (4800 Secs) [==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)] [==>(Pattern 4)]	[1] [2] [3] [4]



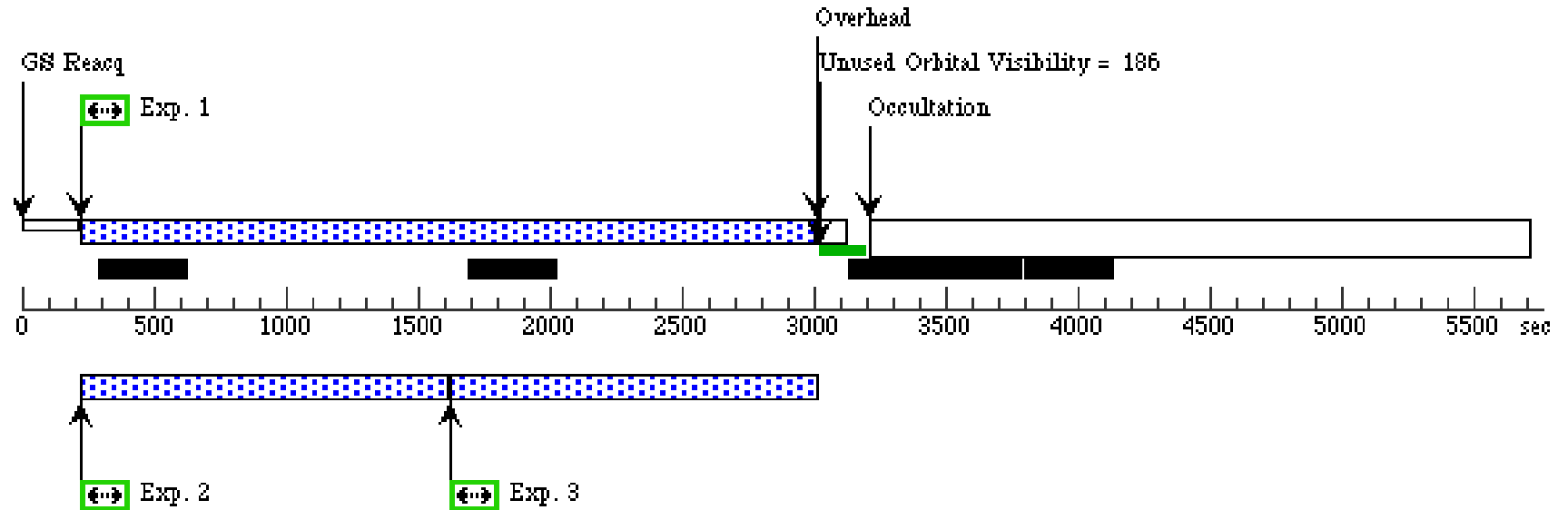
Orbit 3

Server Version: 20150609



Orbit 4

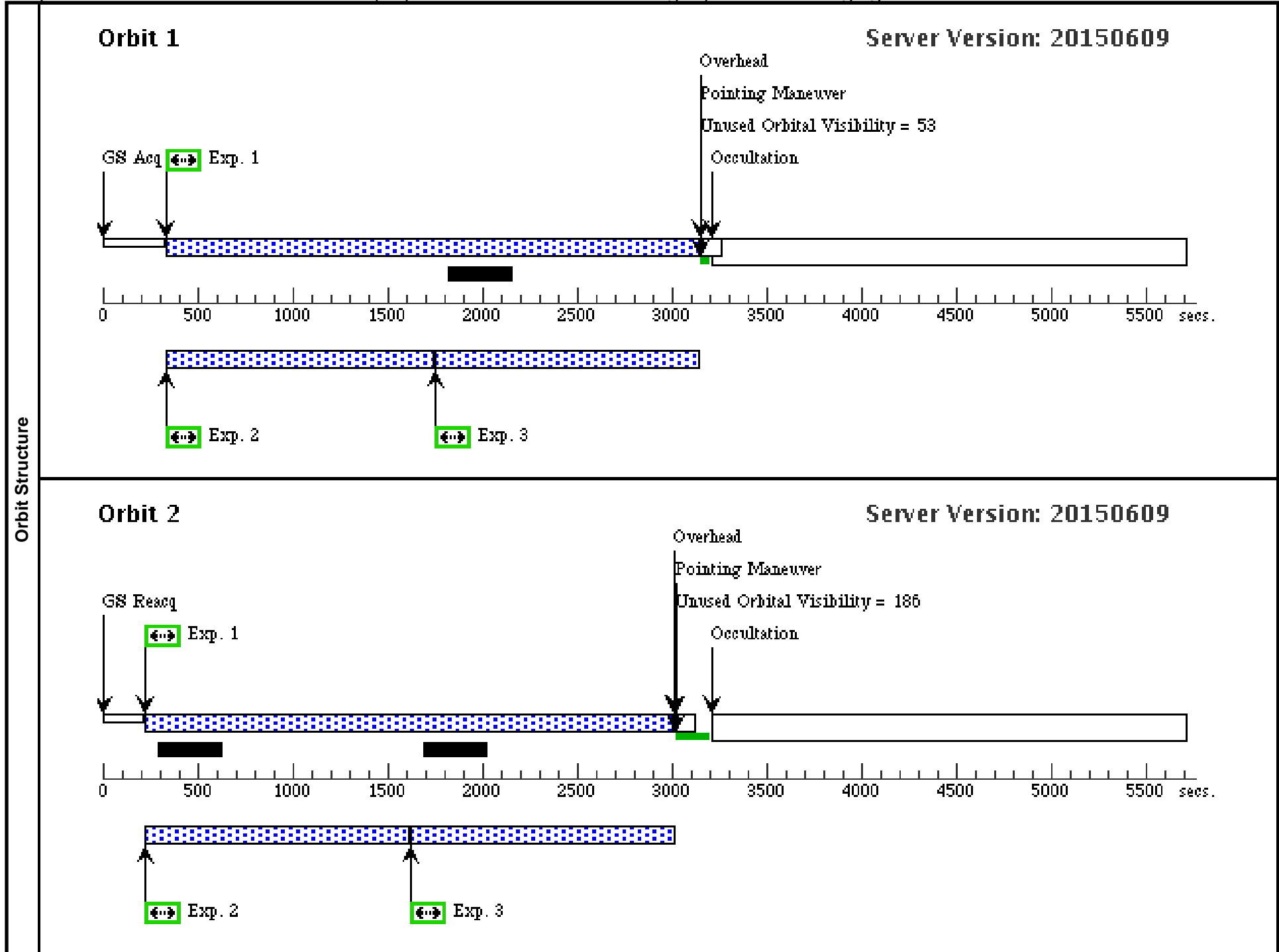
Server Version: 20150609



Proposal 14209 - Abell 370 F275W - 2 (10) - The Final UV Frontier: Legacy Near-UV Imaging of the Frontier Fields

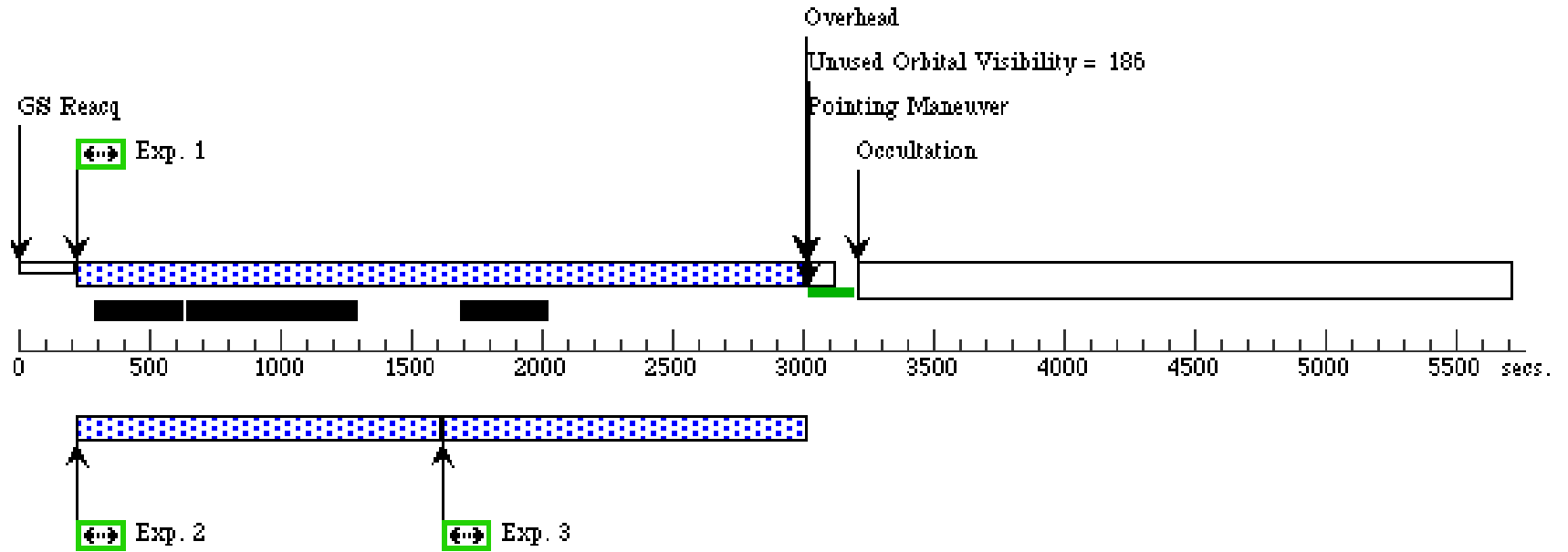
Fri Jul 24 02:37:34 GMT 2015

Visit	Proposal 14209, Abell 370 F275W - 2 (10), implementation Diagnostic Status: Warning Scientific Instruments: WFC3/UVIS, ACS/WFC Special Requirements: ORIENT 253D TO 253 D									
	(Primary Exposure 1 (Prime + Parallel Group 1-3 in Pattern 1, Exps 1-3 in Abell 370 F275W - 2 (10))) Warning (Form): FLASH level may be too high for this exposure or a long subexposure. See extended explanation in the diagnostic browser									
Diagnosics										
Patterns	#	Primary Pattern	Secondary Pattern		Exposures					
	(1)	Pattern Type=WFC3-UVIS-DITHER-BOX Purpose=DITHER Number Of Points=4 Point Spacing=0.173 Line Spacing=0.112	Coordinate Frame=POS-TARG Pattern Orientation=23.884 Angle Between Sides=81.785 Center Pattern=false		(1-3)					
Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous				
	(2)	ABELL370	RA: 02 39 52.8000 (39.9700000d) Dec: -01 34 36.00 (-1.57667d) Equinox: J2000		V=26+/-2	Reference Frame: ICRS				
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1		(2) ABELL370	WFC3/UVIS, ACCUM, UVIS-CENTER	F275W	FLASH=9	POS TARG 0.42,2.0 2; GS ACQ SCENARIO BASE1B3	Pattern 1, Exps 1-3 in Abell 370 F275W - 2 (10) (1) Prime + Parallel Group 1-3 in Pattern 1, Exps 1-3 in Abell 370 F275W - 2 (10)	2780 Secs (11120 Secs) [==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)] [==>(Pattern 4)]	[1] [2] [3] [4]
	2		ANY	ACS/WFC, ACCUM, WFC1	F435W			Pattern 1, Exps 1-3 in Abell 370 F275W - 2 (10) (1) Prime + Parallel Group 1-3 in Pattern 1, Exps 1-3 in Abell 370 F275W - 2 (10)	1200 Secs (4800 Secs) [==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)] [==>(Pattern 4)]	[1] [2] [3] [4]
	3		ANY	ACS/WFC, ACCUM, WFC1	F606W			Pattern 1, Exps 1-3 in Abell 370 F275W - 2 (10) (1) Prime + Parallel Group 1-3 in Pattern 1, Exps 1-3 in Abell 370 F275W - 2 (10)	1200 Secs (4800 Secs) [==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)] [==>(Pattern 4)]	[1] [2] [3] [4]



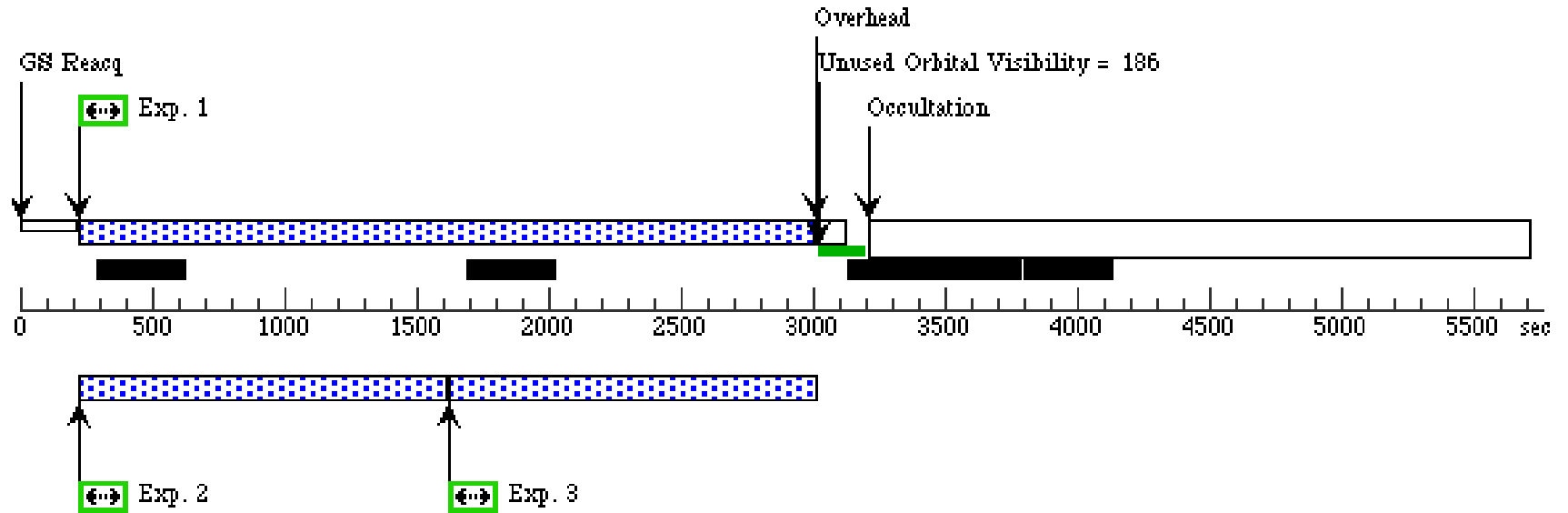
Orbit 3

Server Version: 20150609



Orbit 4

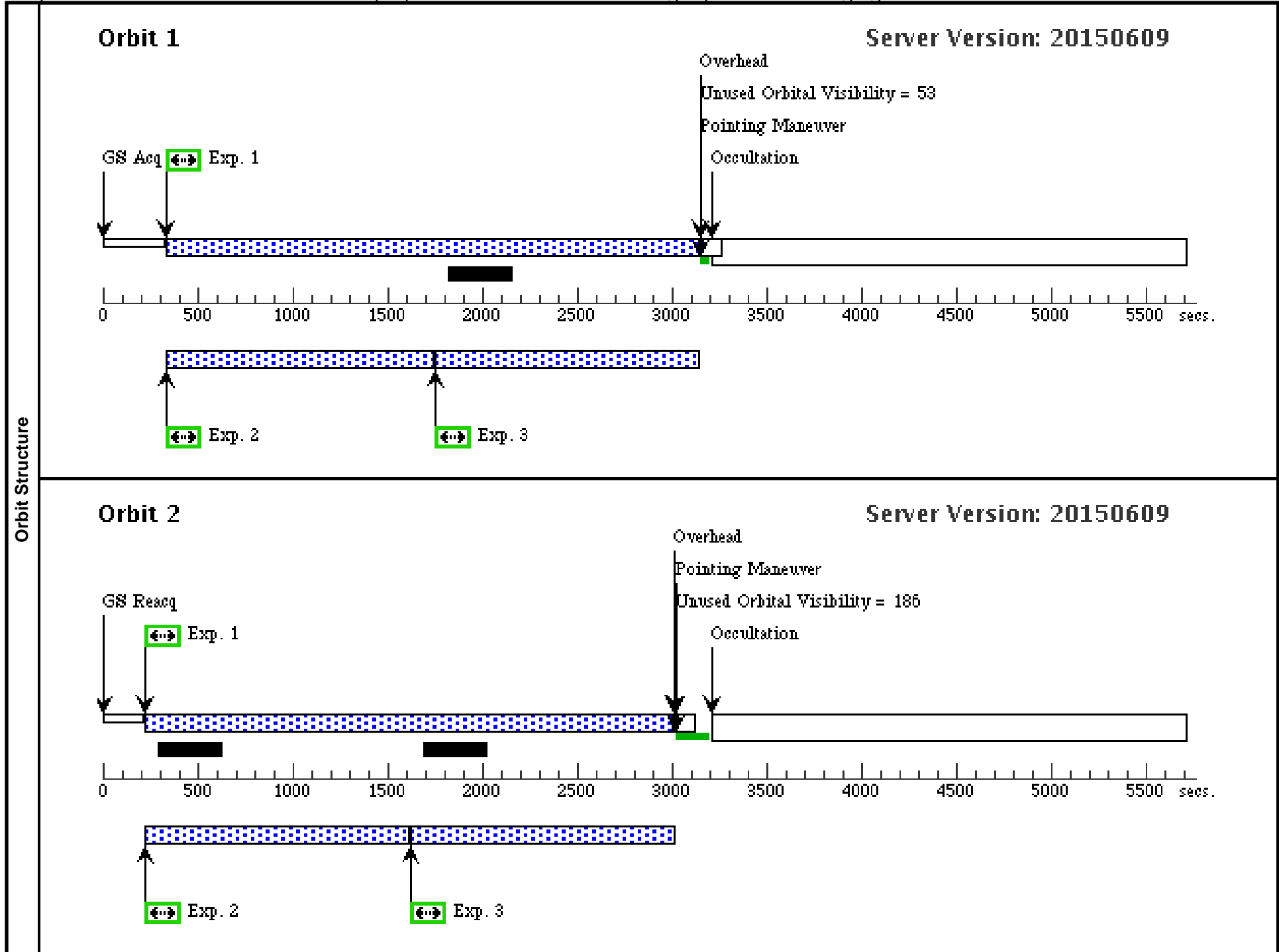
Server Version: 20150609



Proposal 14209 - Abell 370 F336W - 1 (11) - The Final UV Frontier: Legacy Near-UV Imaging of the Frontier Fields

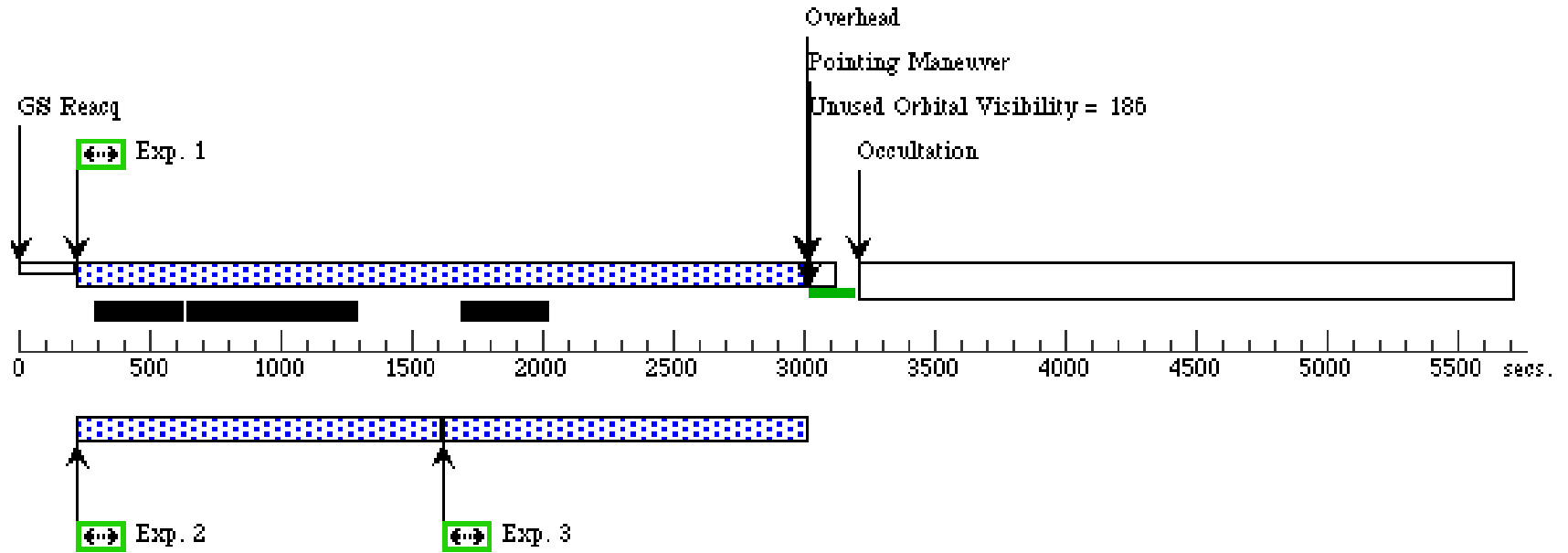
Fri Jul 24 02:37:34 GMT 2015

Visit	Proposal 14209, Abell 370 F336W - 1 (11), implementation Diagnostic Status: No Diagnostics Scientific Instruments: WFC3/UVIS, ACS/WFC Special Requirements: ORIENT 253D TO 253 D									
	Patterns	#	Primary Pattern	Secondary Pattern	Exposures					
		(1)	Pattern Type=WFC3-UVIS-DITHER-BOX Purpose=DITHER Number Of Points=4 Point Spacing=0.173 Line Spacing=0.112	Coordinate Frame=POS-TARG Pattern Orientation=23.884 Angle Between Sides=81.785 Center Pattern=false		(1-3)				
Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous				
	(2)	ABELL370	RA: 02 39 52.8000 (39.9700000d) Dec: -01 34 36.00 (-1.57667d) Equinox: J2000		V=26+/-2	Reference Frame: ICRS				
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1		(2) ABELL370	WFC3/UVIS, ACCUM, UVIS-CENTER	F336W	FLASH=4	POS TARG -0.42,-2.02; GS ACQ SCENARIO BASE1B3	Pattern 1, Exps 1-3 in Abell 370 F336W - 1 (11) (1) Prime + Parallel Group 1-3 in Pattern 1, Exps 1-3 in Abell 370 F336W - 1 (11)	2780 Secs (11120 Secs)	
									[==>(Pattern 1)]	[1]
									[==>(Pattern 2)]	[2]
									[==>(Pattern 3)]	[3]
	2	ANY	ACS/WFC, ACCUM, WFC1	F435W				Pattern 1, Exps 1-3 in Abell 370 F336W - 1 (11) (1) Prime + Parallel Group 1-3 in Pattern 1, Exps 1-3 in Abell 370 F336W - 1 (11)	1200 Secs (4800 Secs)	
									[==>(Pattern 1)]	[1]
									[==>(Pattern 2)]	[2]
									[==>(Pattern 3)]	[3]
	3	ANY	ACS/WFC, ACCUM, WFC1	F606W				Pattern 1, Exps 1-3 in Abell 370 F336W - 1 (11) (1) Prime + Parallel Group 1-3 in Pattern 1, Exps 1-3 in Abell 370 F336W - 1 (11)	1200 Secs (4800 Secs)	
									[==>(Pattern 1)]	[1]
									[==>(Pattern 2)]	[2]
									[==>(Pattern 3)]	[3]
								[==>(Pattern 4)]	[4]	



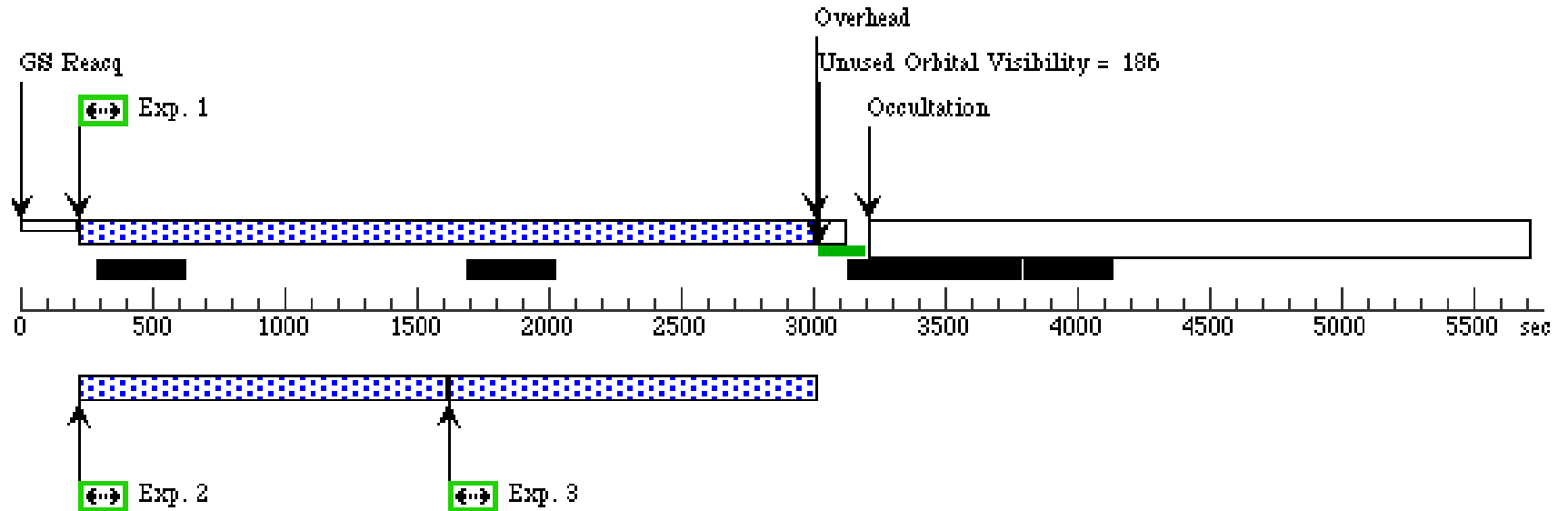
Orbit 3

Server Version: 20150609



Orbit 4

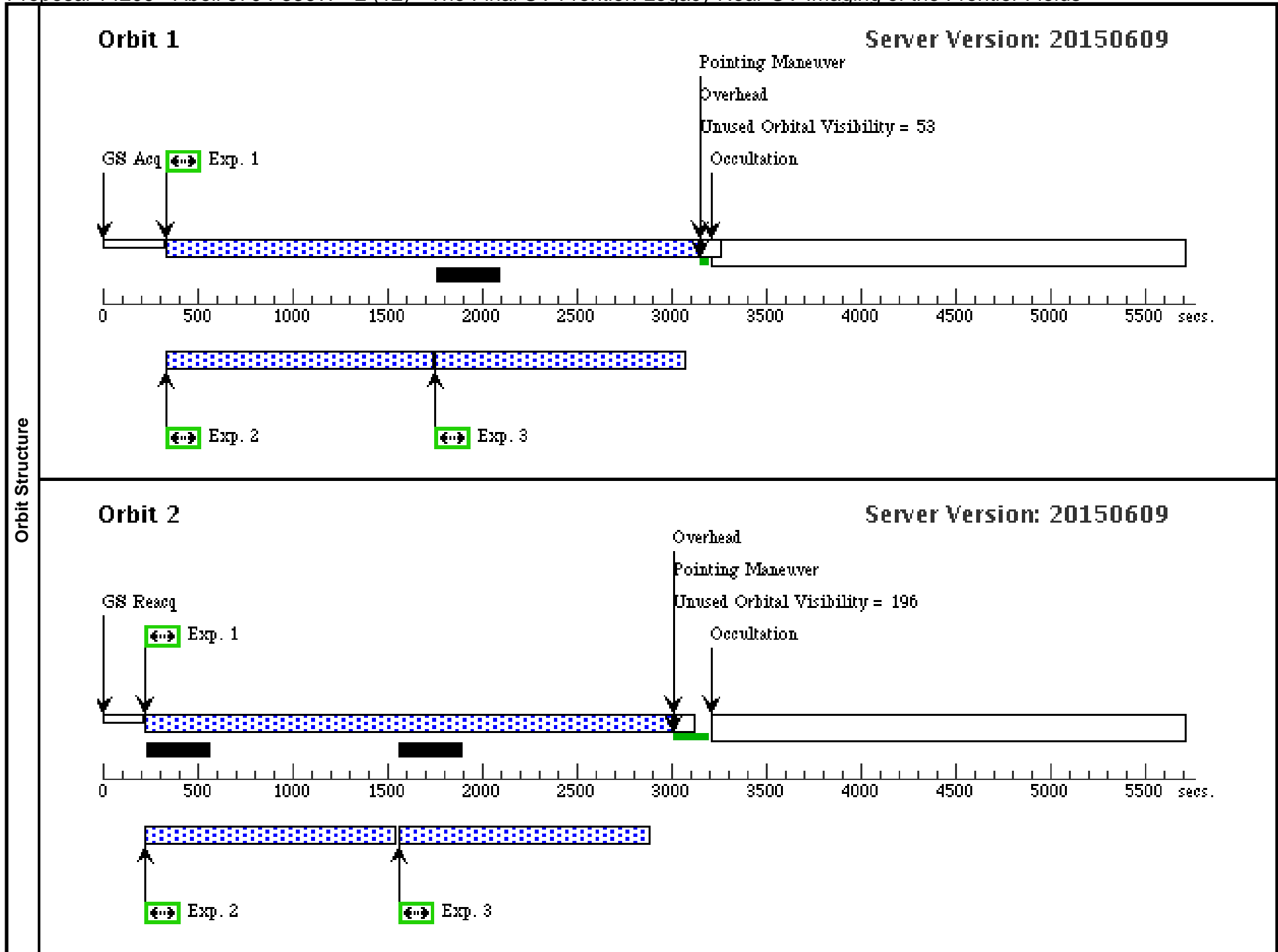
Server Version: 20150609



Proposal 14209 - Abell 370 F336W - 2 (12) - The Final UV Frontier: Legacy Near-UV Imaging of the Frontier Fields

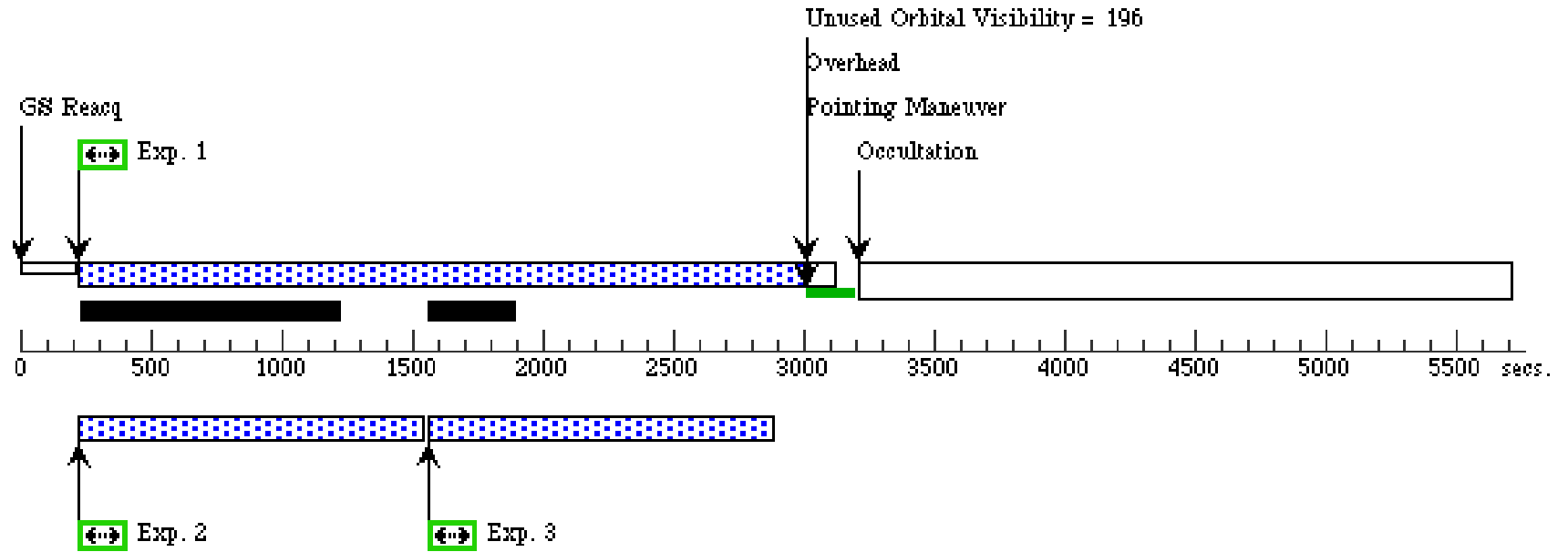
Fri Jul 24 02:37:34 GMT 2015

Visit	Proposal 14209, Abell 370 F336W - 2 (12), implementation Diagnostic Status: No Diagnostics Scientific Instruments: WFC3/UVIS, ACS/WFC Special Requirements: ORIENT 253D TO 253 D									
	Patterns	#	Primary Pattern				Secondary Pattern			Exposures
		(1)	Pattern Type=WFC3-UVIS-DITHER-BOX Purpose=DITHER Number Of Points=4 Point Spacing=0.173 Line Spacing=0.112	Coordinate Frame=POS-TARG Pattern Orientation=23.884 Angle Between Sides=81.785 Center Pattern=false						(1-3)
Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections		Fluxes	Miscellaneous			
	(2)	ABELL370	RA: 02 39 52.8000 (39.9700000d) Dec: -01 34 36.00 (-1.57667d) Equinox: J2000			V=26+/-2	Reference Frame: ICRS			
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1		(2) ABELL370	WFC3/UVIS, ACCUM, UVIS-CENTER	F336W	FLASH=4	POS TARG 0.42,2.0 2; GS ACQ SCENARIO BASE1B3	Pattern 1, Exps 1-3 in Abell 370 F336W - 2 (12) (1) Prime + Parallel Group 1-3 in Pattern 1, Exps 1-3 in Abell 370 F336W - 2 (12)	2780 Secs (11120 Secs) [=>(Pattern 1)] [=>(Pattern 2)] [=>(Pattern 3)] [=>(Pattern 4)]	[1] [2] [3] [4]
	2		ANY	ACS/WFC, ACCUM, WFC1	F435W			Pattern 1, Exps 1-3 in Abell 370 F336W - 2 (12) (1) Prime + Parallel Group 1-3 in Pattern 1, Exps 1-3 in Abell 370 F336W - 2 (12)	1200 Secs (4800 Secs) [=>(Pattern 1)] [=>(Pattern 2)] [=>(Pattern 3)] [=>(Pattern 4)]	[1] [2] [3] [4]
	3		ANY	ACS/WFC, ACCUM, WFC1	F435W			Pattern 1, Exps 1-3 in Abell 370 F336W - 2 (12) (1) Prime + Parallel Group 1-3 in Pattern 1, Exps 1-3 in Abell 370 F336W - 2 (12)	1200 Secs (4800 Secs) [=>(Pattern 1)] [=>(Pattern 2)] [=>(Pattern 3)] [=>(Pattern 4)]	[1] [2] [3] [4]



Orbit 3

Server Version: 20150609



Orbit 4

Server Version: 20150609

