



17908 - To the Frontiers of Time Domain: Supermassive Black Holes and Exotic Stellar Transients in the Early Universe

Cycle: 32, Proposal Category: GO

(Availability Mode: SUPPORTED)

INVESTIGATORS

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Dr. Devesh Nandal (CoI)	The University of Virginia

VISITS

Proposal 17908 (STScI Edit Number: 0, Created: Tuesday, June 3, 2025, 3:00:37PM Eastern Standard Time) - 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>
11	(1) MACSJ0416.1-2403 ANY	ACS/WFC WFC3/IR	2	03-Jun-2025 16:00:30.0	yes
12	(1) MACSJ0416.1-2403 ANY	ACS/WFC WFC3/IR	2	03-Jun-2025 16:00:31.0	yes
13	(1) MACSJ0416.1-2403 ANY	ACS/WFC WFC3/IR	2	03-Jun-2025 16:00:32.0	yes
14	(1) MACSJ0416.1-2403 ANY	ACS/WFC WFC3/IR	2	03-Jun-2025 16:00:32.0	yes
15	(1) MACSJ0416.1-2403 ANY	ACS/WFC WFC3/IR	2	03-Jun-2025 16:00:33.0	yes
21	(2) ABELL-S1063 ANY	ACS/WFC WFC3/IR	2	03-Jun-2025 16:00:34.0	yes
Z1	(2) ABELL-S1063 ANY	ACS/WFC WFC3/IR	1	03-Jun-2025 16:00:34.0	yes
22	(2) ABELL-S1063 ANY	ACS/WFC WFC3/IR	2	03-Jun-2025 16:00:35.0	yes
23	(2) ABELL-S1063 ANY	ACS/WFC WFC3/IR	2	03-Jun-2025 16:00:35.0	yes
24	(2) ABELL-S1063 ANY	ACS/WFC WFC3/IR	2	03-Jun-2025 16:00:36.0	yes
25	(2) ABELL-S1063 ANY	ACS/WFC WFC3/IR	2	03-Jun-2025 16:00:37.0	yes
Z5	(2) ABELL-S1063 ANY	ACS/WFC WFC3/IR	1	03-Jun-2025 16:00:37.0	yes

22 Total Orbits Used

ABSTRACT

Proposal 17908 (STScI Edit Number: 0, Created: Tuesday, June 3, 2025, 3:00:37PM Eastern Standard Time) - Overview

We propose to obtain deep WFC3/IR images of the two strongest galaxy cluster gravitational lensing fields, and to match the depth and pointing obtained 10 years ago in the Hubble Frontier Fields (HFF) program. Both clusters were recently observed with the deepest JWST programs, and in concert have 20 band imaging from the two telescopes. The new images will leverage HST's legacy data and anchor HST-JWST photometry at a single epoch. We will begin the assembly of a time-series dataset that could ultimately extend over three decades, in a campaign that is closely aligned with the bridge program philosophy.

The program will focus on a survey of the universe at redshifts above 6 to search for variable AGN and exotic supernovae. The AGN campaign will identify supermassive black holes (SMBHs) in galaxies of luminosities that hitherto could not be tested at these redshifts, and measure the number density of SMBHs in the reionization epoch. Its results will determine (or place the strongest practical constraints on) SMBH formation mechanisms, which are critical to our theoretical understanding of galaxy evolution. The SN campaign is optimized to identify and monitor the rarest transients including super-luminous SNe and pair-instability SNe, as well as a foreground of lensed SNe at lower- z . The progenitor stars of these SNe represent the very highest masses, and will facilitate unique tests of the upper end of the IMF at an epoch when there are contested claims regarding its evolution.

OBSERVING DESCRIPTION

This program aims to obtain deep imaging with the WFC/IR/F140W filter.

There are two targets: the central regions of two galaxy clusters.

The total program is 20 orbits, of which we dedicate 10 orbits to each cluster

The observations for the 2 clusters are identical.

Each visit comprises 2 orbits (giving 5 visits per cluster)

Each visit takes 4 images with WFC3/IR.

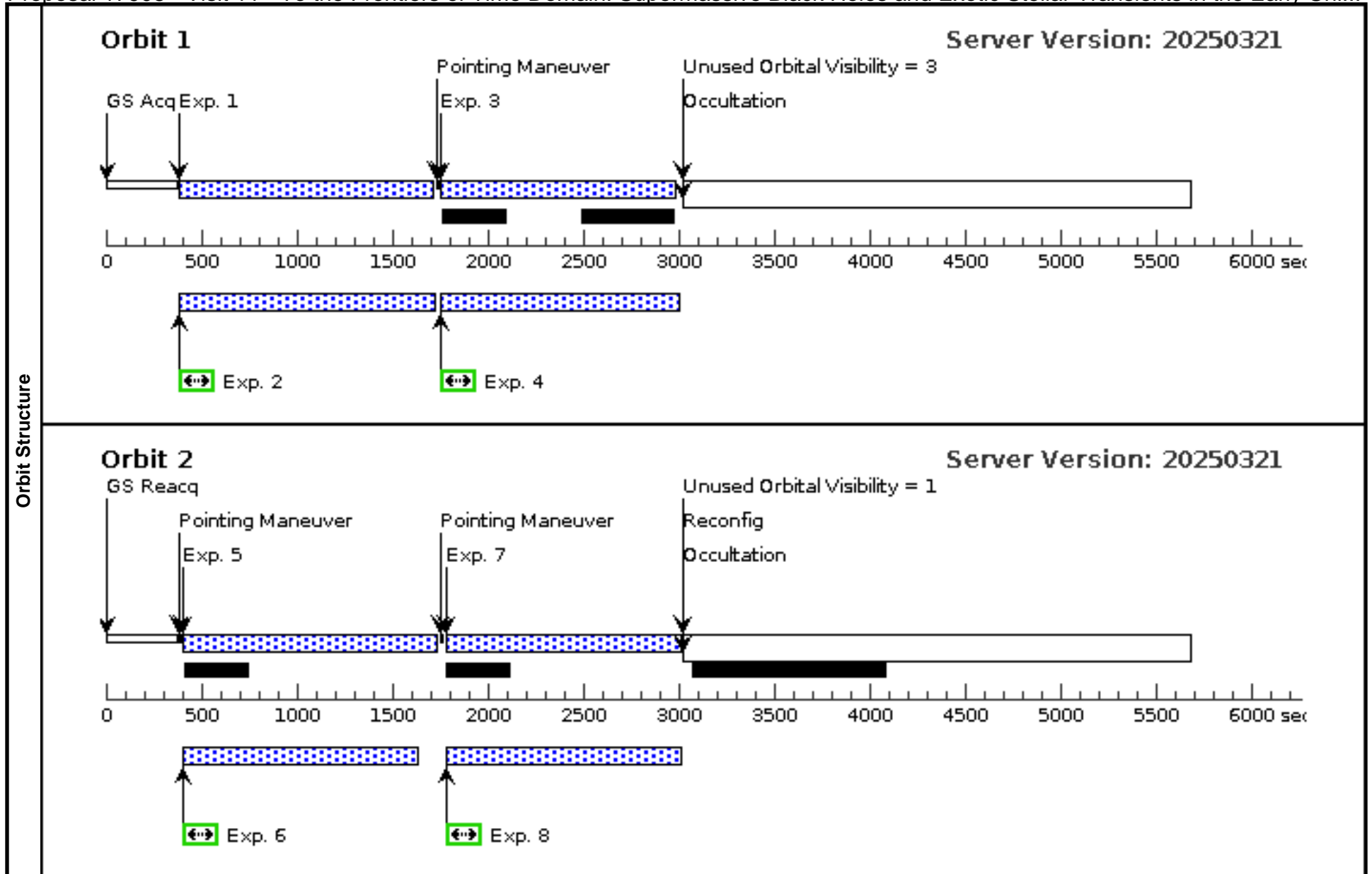
The dithering pattern is implemented using POS-TARGs. Each step is designed to dither over the death star. We first use integer pixel dithers, and then add $0.25 * \{0,1,2,3\}$ pixel steps for better PSF reconstruction.

Parallel observations are added in the ACS/WFC/F814W filter, with one exposure matching to each of the WFC3 integrations. these exposure time are tuned so as not to overrun the orbits.

Proposal 17908 - Visit 11 - To the Frontiers of Time Domain: Supermassive Black Holes and Exotic Stellar Transients in the Early Uni...

Tue Jun 03 20:00:38 GMT 2025

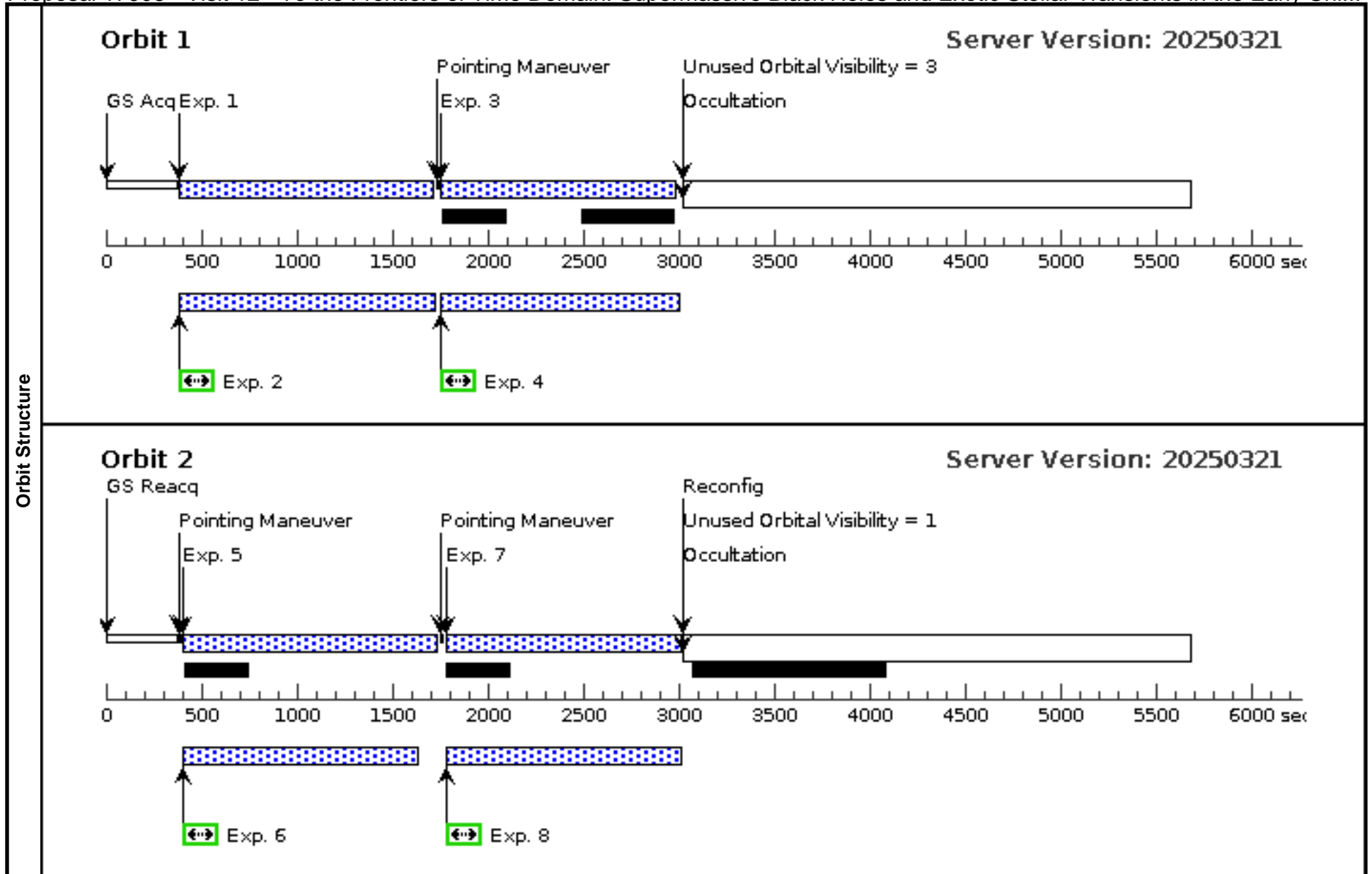
Visit	Proposal 17908, Visit 11, scheduling Diagnostic Status: No Diagnostics Scientific Instruments: WFC3/IR, ACS/WFC Special Requirements: (none)									
	Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous			
	(1)	MACSJ0416.1-2403	RA: 04 16 8.9000 (64.0370833d) Dec: -24 04 28.70 (-24.07464d) Equinox: J2000		V=27	Reference Frame: ICRS				
	<i>Comments:</i> Category= <i>CLUSTER OF GALAXIES</i> Description= <i>[GRAVITATIONAL LENS]</i>									
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1		(1) MACSJ0416.1-2403	WFC3/IR, MULTIACCUM, IR-FIX	F140W	NSAMP=14; SAMP-SEQ=SPAR S100	POS TARG -3.0225, -3.0225	Prime + Parallel Group 1-2 in Visit 11	1302.93649 Secs (1302.936 Secs) [==>]	[1]
	2		ANY	ACS/WFC, ACCUM, WFC	F814W			Prime + Parallel Group 1-2 in Visit 11	1130 Secs (1130 Secs) [==>]	[1]
	3		(1) MACSJ0416.1-2403	WFC3/IR, MULTIACCUM, IR-FIX	F140W	NSAMP=13; SAMP-SEQ=SPAR S100	POS TARG -2.99,2. 99	Prime + Parallel Group 3-4 in Visit 11	1202.936167 Secs (1202.936 Secs) [==>]	[1]
	4		ANY	ACS/WFC, ACCUM, WFC	F814W			Prime + Parallel Group 3-4 in Visit 11	1130 Secs (1130 Secs) [==>]	[1]
	5		(1) MACSJ0416.1-2403	WFC3/IR, MULTIACCUM, IR-FIX	F140W	NSAMP=14; SAMP-SEQ=SPAR S100	POS TARG 3.0225,- 2.9575	Prime + Parallel Group 5-6 in Visit 11	1302.93649 Secs (1302.936 Secs) [==>]	[2]
	6		ANY	ACS/WFC, ACCUM, WFC	F814W			Prime + Parallel Group 5-6 in Visit 11	1108 Secs (1108 Secs) [==>]	[2]
	7		(1) MACSJ0416.1-2403	WFC3/IR, MULTIACCUM, IR-FIX	F140W	NSAMP=13; SAMP-SEQ=SPAR S100	POS TARG 3.055,2. 925	Prime + Parallel Group 7-8 in Visit 11	1202.936167 Secs (1202.936 Secs) [==>]	[2]
	8		ANY	ACS/WFC, ACCUM, WFC	F814W			Prime + Parallel Group 7-8 in Visit 11	1108 Secs (1108 Secs) [==>]	[2]



Proposal 17908 - Visit 12 - To the Frontiers of Time Domain: Supermassive Black Holes and Exotic Stellar Transients in the Early Uni...

Tue Jun 03 20:00:38 GMT 2025

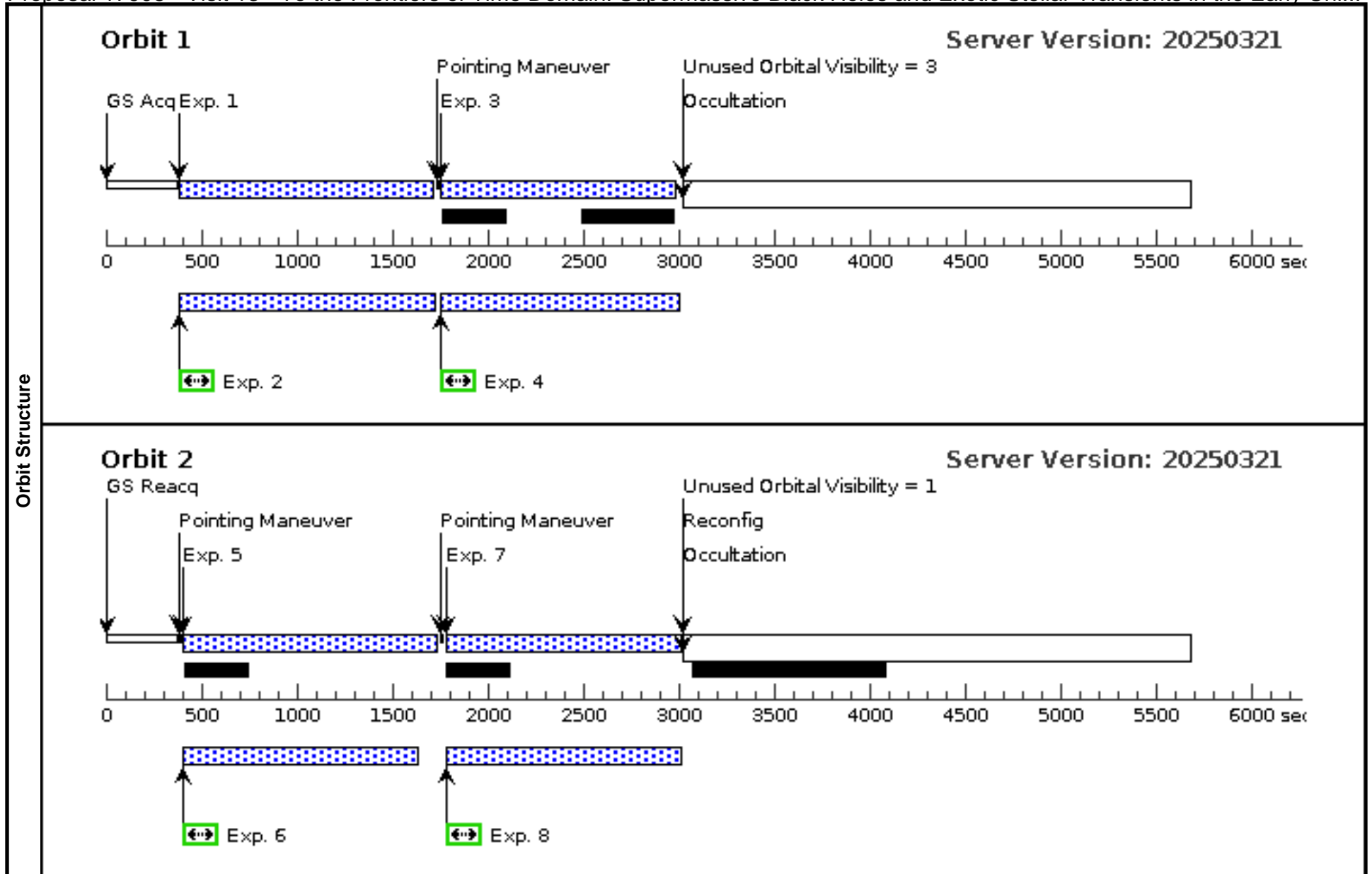
Visit	Proposal 17908, Visit 12, scheduling Diagnostic Status: No Diagnostics Scientific Instruments: WFC3/IR, ACS/WFC Special Requirements: (none)									
	Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous			
	(1)	MACSJ0416.1-2403	RA: 04 16 8.9000 (64.0370833d) Dec: -24 04 28.70 (-24.07464d) Equinox: J2000		V=27	Reference Frame: ICRS				
	<i>Comments:</i> Category= <i>CLUSTER OF GALAXIES</i> Description= <i>[GRAVITATIONAL LENS]</i>									
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1		(1) MACSJ0416.1-2403	WFC3/IR, MULTIACCUM, IR-FIX	F140W	NSAMP=14; SAMP-SEQ=SPAR S100	POS TARG -3.0225, -3.0225	Prime + Parallel Group 1-2 in Visit 12	1302.93649 Secs (1302.936 Secs) [==>]	[1]
	2		ANY	ACS/WFC, ACCUM, WFC	F814W			Prime + Parallel Group 1-2 in Visit 12	1130 Secs (1130 Secs) [==>]	[1]
	3		(1) MACSJ0416.1-2403	WFC3/IR, MULTIACCUM, IR-FIX	F140W	NSAMP=13; SAMP-SEQ=SPAR S100	POS TARG -2.99,2. 99	Prime + Parallel Group 3-4 in Visit 12	1202.936167 Secs (1202.936 Secs) [==>]	[1]
	4		ANY	ACS/WFC, ACCUM, WFC	F814W			Prime + Parallel Group 3-4 in Visit 12	1130 Secs (1130 Secs) [==>]	[1]
	5		(1) MACSJ0416.1-2403	WFC3/IR, MULTIACCUM, IR-FIX	F140W	NSAMP=14; SAMP-SEQ=SPAR S100	POS TARG 3.0225,- 2.9575	Prime + Parallel Group 5-6 in Visit 12	1302.93649 Secs (1302.936 Secs) [==>]	[2]
	6		ANY	ACS/WFC, ACCUM, WFC	F814W			Prime + Parallel Group 5-6 in Visit 12	1108 Secs (1108 Secs) [==>]	[2]
	7		(1) MACSJ0416.1-2403	WFC3/IR, MULTIACCUM, IR-FIX	F140W	NSAMP=13; SAMP-SEQ=SPAR S100	POS TARG 3.055,2. 925	Prime + Parallel Group 7-8 in Visit 12	1202.936167 Secs (1202.936 Secs) [==>]	[2]
	8		ANY	ACS/WFC, ACCUM, WFC	F814W			Prime + Parallel Group 7-8 in Visit 12	1108 Secs (1108 Secs) [==>]	[2]



Proposal 17908 - Visit 13 - To the Frontiers of Time Domain: Supermassive Black Holes and Exotic Stellar Transients in the Early Uni...

Tue Jun 03 20:00:38 GMT 2025

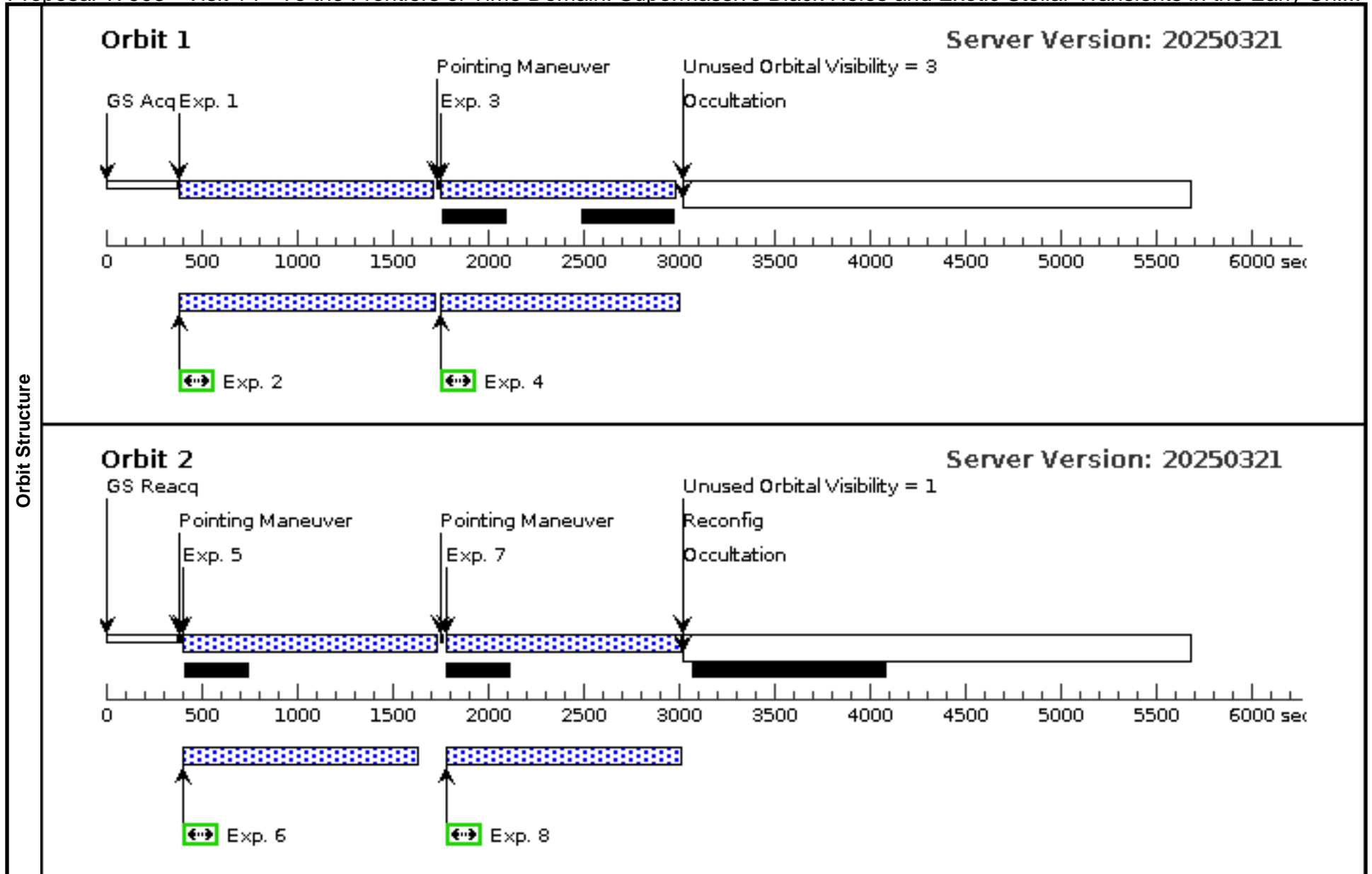
Visit	Proposal 17908, Visit 13, scheduling Diagnostic Status: No Diagnostics Scientific Instruments: WFC3/IR, ACS/WFC Special Requirements: (none)									
	Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous			
	(1)	MACSJ0416.1-2403	RA: 04 16 8.9000 (64.0370833d) Dec: -24 04 28.70 (-24.07464d) Equinox: J2000		V=27	Reference Frame: ICRS				
	<i>Comments:</i> Category=CLUSTER OF GALAXIES Description=[GRAVITATIONAL LENS]									
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1		(1) MACSJ0416.1-2403	WFC3/IR, MULTIACCUM, IR-FIX	F140W	NSAMP=14; SAMP-SEQ=SPAR S100	POS TARG -3.0225, -3.0225	Prime + Parallel Group 1-2 in Visit 13	1302.93649 Secs (1302.936 Secs) [==>]	[1]
	2		ANY	ACS/WFC, ACCUM, WFC	F814W			Prime + Parallel Group 1-2 in Visit 13	1130 Secs (1130 Secs) [==>]	[1]
	3		(1) MACSJ0416.1-2403	WFC3/IR, MULTIACCUM, IR-FIX	F140W	NSAMP=13; SAMP-SEQ=SPAR S100	POS TARG -2.99,2. 99	Prime + Parallel Group 3-4 in Visit 13	1202.936167 Secs (1202.936 Secs) [==>]	[1]
	4		ANY	ACS/WFC, ACCUM, WFC	F814W			Prime + Parallel Group 3-4 in Visit 13	1130 Secs (1130 Secs) [==>]	[1]
	5		(1) MACSJ0416.1-2403	WFC3/IR, MULTIACCUM, IR-FIX	F140W	NSAMP=14; SAMP-SEQ=SPAR S100	POS TARG 3.0225,- 2.9575	Prime + Parallel Group 5-6 in Visit 13	1302.93649 Secs (1302.936 Secs) [==>]	[2]
	6		ANY	ACS/WFC, ACCUM, WFC	F814W			Prime + Parallel Group 5-6 in Visit 13	1108 Secs (1108 Secs) [==>]	[2]
	7		(1) MACSJ0416.1-2403	WFC3/IR, MULTIACCUM, IR-FIX	F140W	NSAMP=13; SAMP-SEQ=SPAR S100	POS TARG 3.055,2. 925	Prime + Parallel Group 7-8 in Visit 13	1202.936167 Secs (1202.936 Secs) [==>]	[2]
	8		ANY	ACS/WFC, ACCUM, WFC	F814W			Prime + Parallel Group 7-8 in Visit 13	1108 Secs (1108 Secs) [==>]	[2]



Proposal 17908 - Visit 14 - To the Frontiers of Time Domain: Supermassive Black Holes and Exotic Stellar Transients in the Early Uni...

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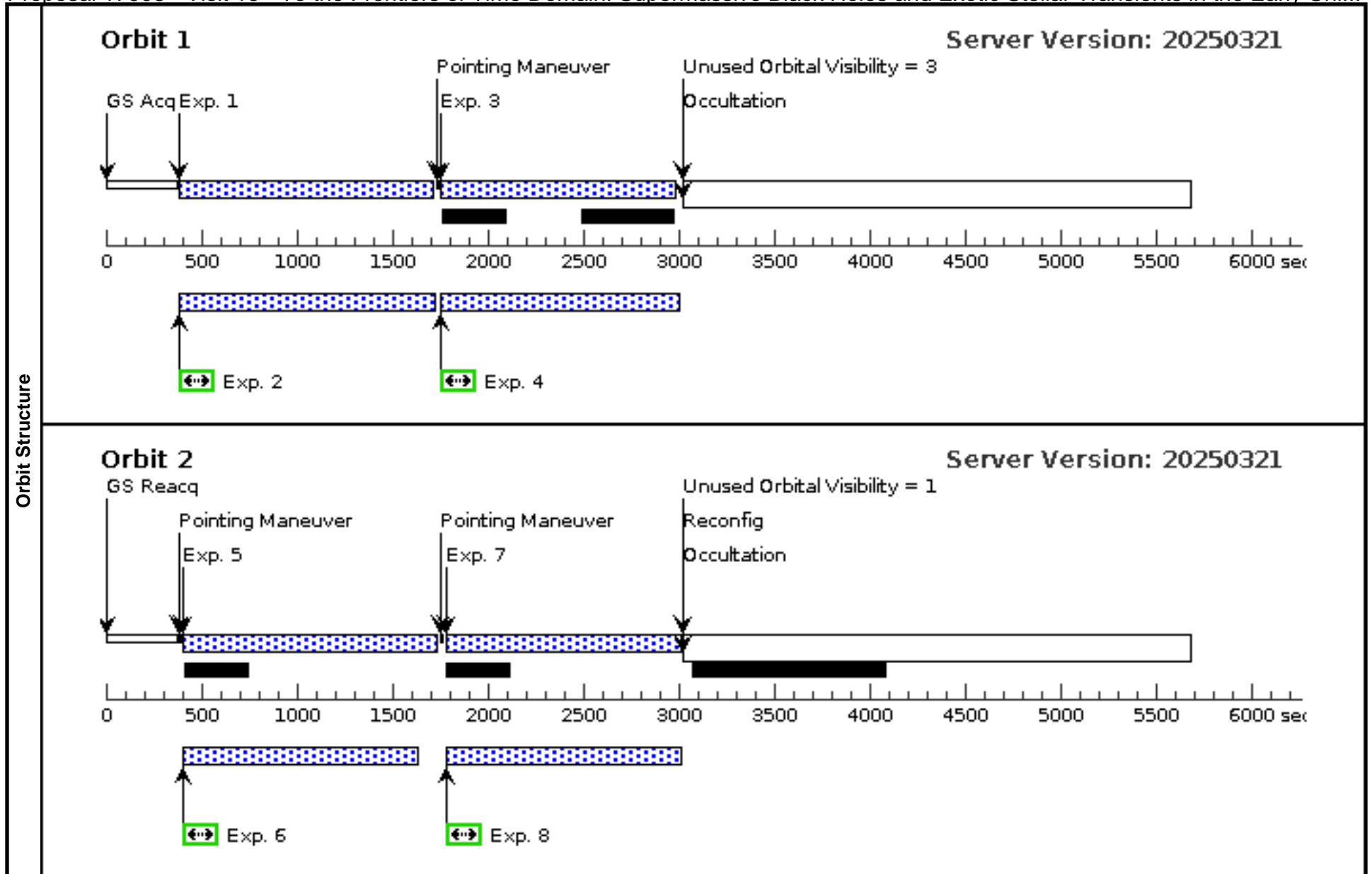
Visit	Proposal 17908, Visit 14, scheduling Diagnostic Status: No Diagnostics Scientific Instruments: WFC3/IR, ACS/WFC Special Requirements: (none)									
	Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous			
	(1)	MACSJ0416.1-2403	RA: 04 16 8.9000 (64.0370833d) Dec: -24 04 28.70 (-24.07464d) Equinox: J2000		V=27	Reference Frame: ICRS				
	<i>Comments:</i> Category= <i>CLUSTER OF GALAXIES</i> Description= <i>[GRAVITATIONAL LENS]</i>									
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1		(1) MACSJ0416.1-2403	WFC3/IR, MULTIACCUM, IR-FIX	F140W	NSAMP=14; SAMP-SEQ=SPAR S100	POS TARG -3.0225, -3.0225	Prime + Parallel Group 1-2 in Visit 14	1302.93649 Secs (1302.936 Secs) [==>]	[1]
	2		ANY	ACS/WFC, ACCUM, WFC	F814W			Prime + Parallel Group 1-2 in Visit 14	1130 Secs (1130 Secs) [==>]	[1]
	3		(1) MACSJ0416.1-2403	WFC3/IR, MULTIACCUM, IR-FIX	F140W	NSAMP=13; SAMP-SEQ=SPAR S100	POS TARG -2.99,2. 99	Prime + Parallel Group 3-4 in Visit 14	1202.936167 Secs (1202.936 Secs) [==>]	[1]
	4		ANY	ACS/WFC, ACCUM, WFC	F814W			Prime + Parallel Group 3-4 in Visit 14	1130 Secs (1130 Secs) [==>]	[1]
	5		(1) MACSJ0416.1-2403	WFC3/IR, MULTIACCUM, IR-FIX	F140W	NSAMP=14; SAMP-SEQ=SPAR S100	POS TARG 3.0225,- 2.9575	Prime + Parallel Group 5-6 in Visit 14	1302.93649 Secs (1302.936 Secs) [==>]	[2]
	6		ANY	ACS/WFC, ACCUM, WFC	F814W			Prime + Parallel Group 5-6 in Visit 14	1108 Secs (1108 Secs) [==>]	[2]
	7		(1) MACSJ0416.1-2403	WFC3/IR, MULTIACCUM, IR-FIX	F140W	NSAMP=13; SAMP-SEQ=SPAR S100	POS TARG 3.055,2. 925	Prime + Parallel Group 7-8 in Visit 14	1202.936167 Secs (1202.936 Secs) [==>]	[2]
	8		ANY	ACS/WFC, ACCUM, WFC	F814W			Prime + Parallel Group 7-8 in Visit 14	1108 Secs (1108 Secs) [==>]	[2]



Proposal 17908 - Visit 15 - To the Frontiers of Time Domain: Supermassive Black Holes and Exotic Stellar Transients in the Early Uni...

Tue Jun 03 20:00:38 GMT 2025

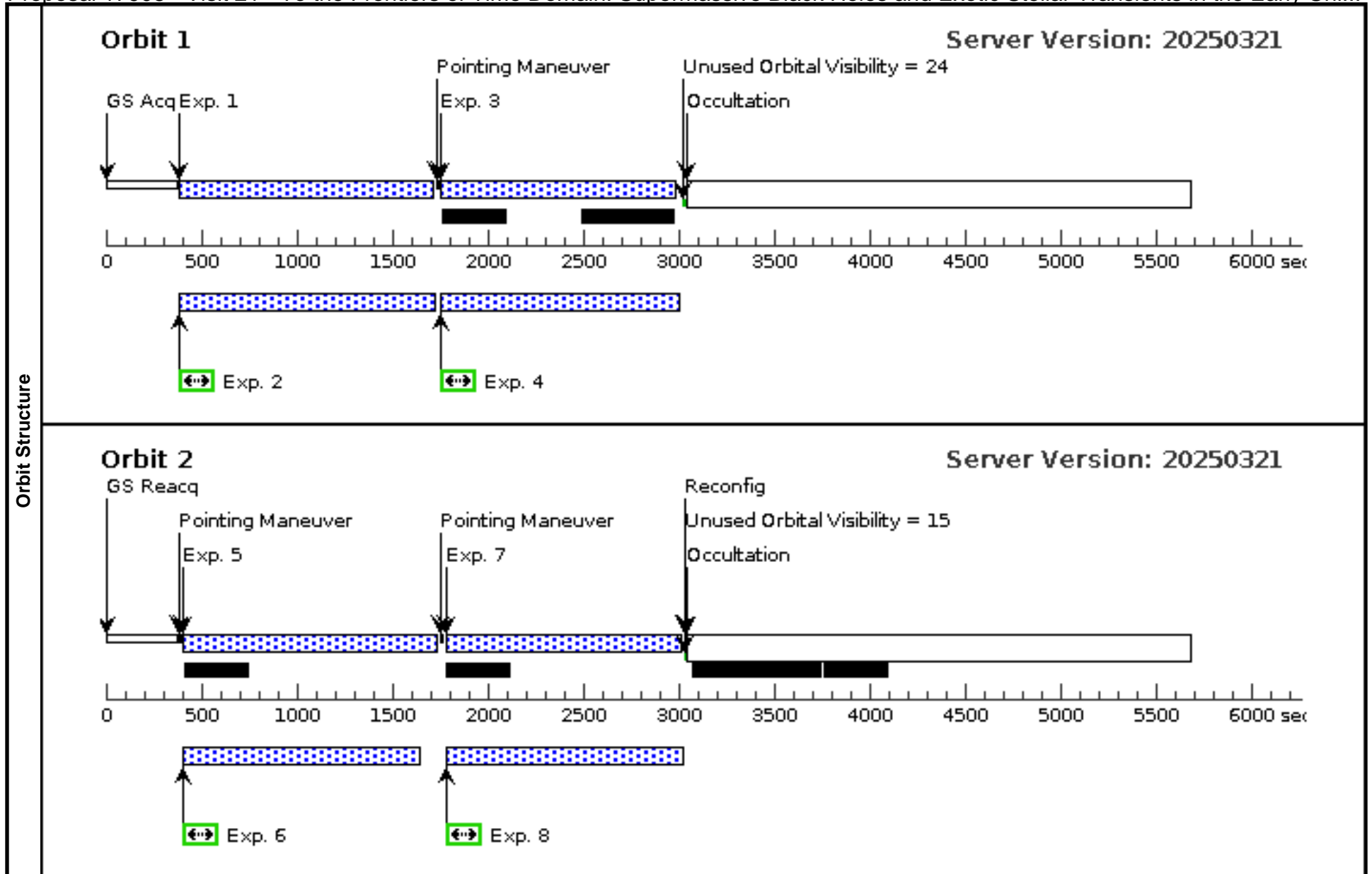
Visit	Proposal 17908, Visit 15, scheduling Diagnostic Status: No Diagnostics Scientific Instruments: WFC3/IR, ACS/WFC Special Requirements: (none)									
	Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous			
	(1)	MACSJ0416.1-2403	RA: 04 16 8.9000 (64.0370833d) Dec: -24 04 28.70 (-24.07464d) Equinox: J2000		V=27	Reference Frame: ICRS				
	<i>Comments:</i> Category= <i>CLUSTER OF GALAXIES</i> Description= <i>[GRAVITATIONAL LENS]</i>									
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1		(1) MACSJ0416.1-2403	WFC3/IR, MULTIACCUM, IR-FIX	F140W	NSAMP=14; SAMP-SEQ=SPAR S100	POS TARG -3.0225, -3.0225	Prime + Parallel Group 1-2 in Visit 15	1302.93649 Secs (1302.936 Secs) [==>]	[1]
	2		ANY	ACS/WFC, ACCUM, WFC	F814W			Prime + Parallel Group 1-2 in Visit 15	1130 Secs (1130 Secs) [==>]	[1]
	3		(1) MACSJ0416.1-2403	WFC3/IR, MULTIACCUM, IR-FIX	F140W	NSAMP=13; SAMP-SEQ=SPAR S100	POS TARG -2.99,2. 99	Prime + Parallel Group 3-4 in Visit 15	1202.936167 Secs (1202.936 Secs) [==>]	[1]
	4		ANY	ACS/WFC, ACCUM, WFC	F814W			Prime + Parallel Group 3-4 in Visit 15	1130 Secs (1130 Secs) [==>]	[1]
	5		(1) MACSJ0416.1-2403	WFC3/IR, MULTIACCUM, IR-FIX	F140W	NSAMP=14; SAMP-SEQ=SPAR S100	POS TARG 3.0225,- 2.9575	Prime + Parallel Group 5-6 in Visit 15	1302.93649 Secs (1302.936 Secs) [==>]	[2]
	6		ANY	ACS/WFC, ACCUM, WFC	F814W			Prime + Parallel Group 5-6 in Visit 15	1108 Secs (1108 Secs) [==>]	[2]
	7		(1) MACSJ0416.1-2403	WFC3/IR, MULTIACCUM, IR-FIX	F140W	NSAMP=13; SAMP-SEQ=SPAR S100	POS TARG 3.055,2. 925	Prime + Parallel Group 7-8 in Visit 15	1202.936167 Secs (1202.936 Secs) [==>]	[2]
	8		ANY	ACS/WFC, ACCUM, WFC	F814W			Prime + Parallel Group 7-8 in Visit 15	1108 Secs (1108 Secs) [==>]	[2]



Proposal 17908 - Visit 21 - To the Frontiers of Time Domain: Supermassive Black Holes and Exotic Stellar Transients in the Early Uni...

Tue Jun 03 20:00:38 GMT 2025

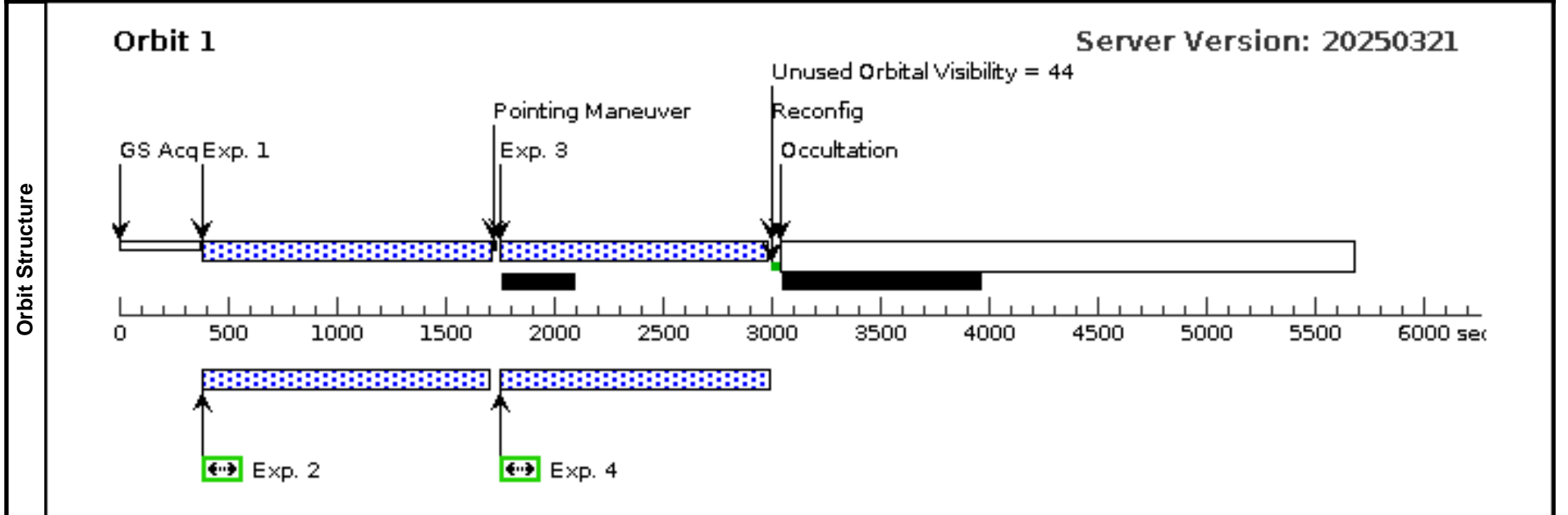
Visit	Proposal 17908, Visit 21, failed Diagnostic Status: No Diagnostics Scientific Instruments: WFC3/IR, ACS/WFC Special Requirements: (none)									
	Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous			
	(2)	ABELL-S1063	RA: 22 48 44.3000 (342.1845833d) Dec: -44 31 48.40 (-44.53011d) Equinox: J2000		V=27	Reference Frame: ICRS				
	<i>Comments:</i> Category=CLUSTER OF GALAXIES Description=[GRAVITATIONAL LENS]									
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1	(2) ABELL-S1063	WFC3/IR, MULTIACCUM, IR-FIX	F140W	NSAMP=14; SAMP-SEQ=SPAR S100	POS TARG -3.0225, -3.0225	Prime + Parallel Group 1-2 in Visit 21	1302.93649 Secs (1302.936 Secs) [==>]	[1]	
	2	ANY	ACS/WFC, ACCUM, WFC	F814W			Prime + Parallel Group 1-2 in Visit 21	1130 Secs (1130 Secs) [==>]	[1]	
	3	(2) ABELL-S1063	WFC3/IR, MULTIACCUM, IR-FIX	F140W	NSAMP=13; SAMP-SEQ=SPAR S100	POS TARG -2.99,2. 99	Prime + Parallel Group 3-4 in Visit 21	1202.936167 Secs (1202.936 Secs) [==>]	[1]	
	4	ANY	ACS/WFC, ACCUM, WFC	F814W			Prime + Parallel Group 3-4 in Visit 21	1130 Secs (1130 Secs) [==>]	[1]	
	5	(2) ABELL-S1063	WFC3/IR, MULTIACCUM, IR-FIX	F140W	NSAMP=14; SAMP-SEQ=SPAR S100	POS TARG 3.0225,- 2.9575	Prime + Parallel Group 5-6 in Visit 21	1302.93649 Secs (1302.936 Secs) [==>]	[2]	
	6	ANY	ACS/WFC, ACCUM, WFC	F814W			Prime + Parallel Group 5-6 in Visit 21	1115 Secs (1115 Secs) [==>]	[2]	
	7	(2) ABELL-S1063	WFC3/IR, MULTIACCUM, IR-FIX	F140W	NSAMP=13; SAMP-SEQ=SPAR S100	POS TARG 3.055,2. 925	Prime + Parallel Group 7-8 in Visit 21	1202.936167 Secs (1202.936 Secs) [==>]	[2]	
	8	ANY	ACS/WFC, ACCUM, WFC	F814W			Prime + Parallel Group 7-8 in Visit 21	1115 Secs (1115 Secs) [==>]	[2]	



Visit	Proposal 17908, Copy of visit 21 orbit 2 (HOPR 93244) (Z1), implementation				
	Diagnostic Status: No Diagnostics				
	Scientific Instruments: WFC3/IR, ACS/WFC				
	Special Requirements: (none)				

Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
	(2)	ABELL-S1063	RA: 22 48 44.3000 (342.1845833d) Dec: -44 31 48.40 (-44.53011d) Equinox: J2000		V=27	Reference Frame: ICRS
<i>Comments:</i> Category=CLUSTER OF GALAXIES Description=[GRAVITATIONAL LENS]						

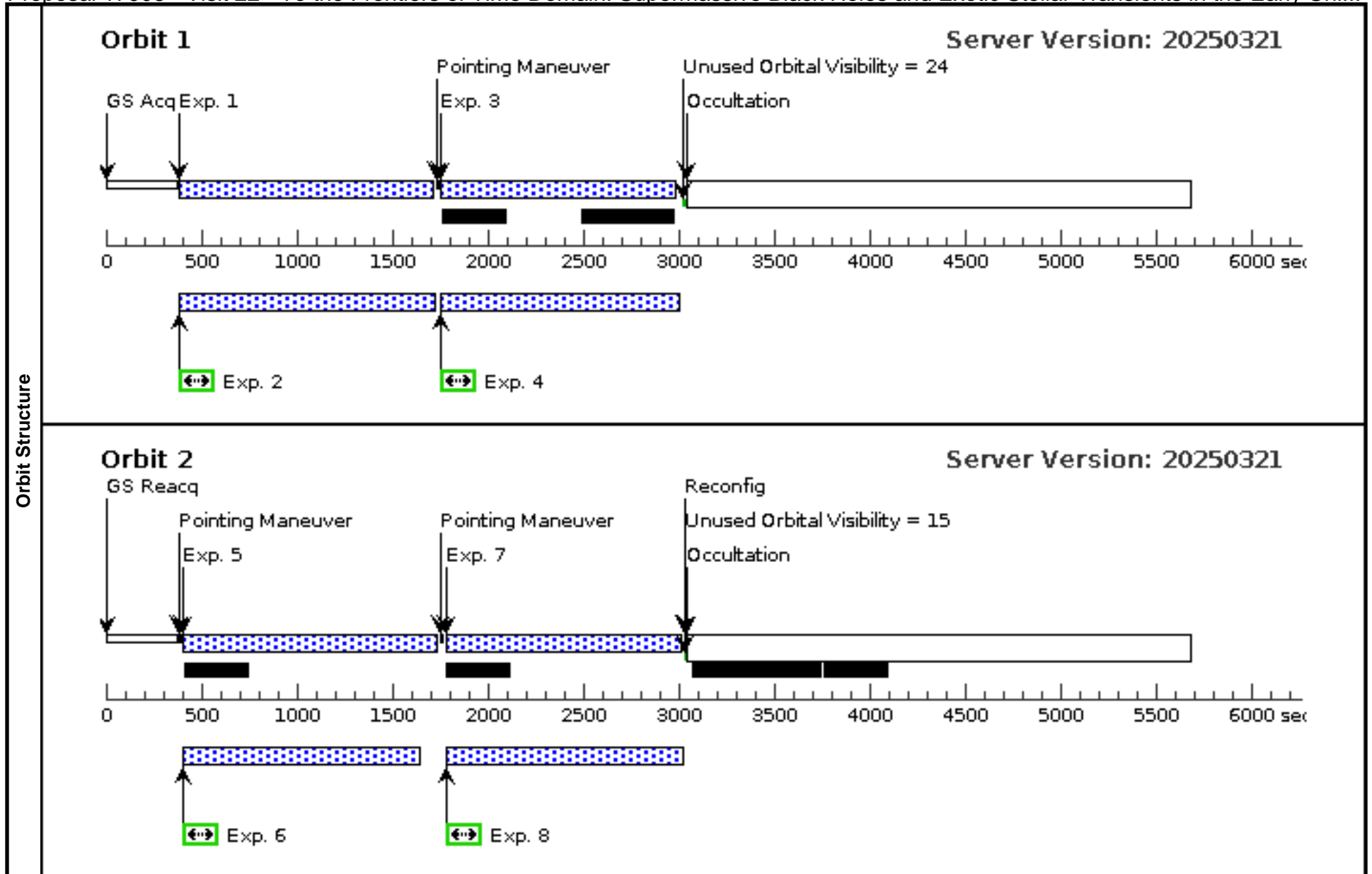
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1		(2) ABELL-S1063	WFC3/IR, MULTIACCUM, IR-FIX	F140W	NSAMP=14; SAMP-SEQ=SPAR S100	POS TARG 3.0225,- 2.9575	Prime + Parallel Group 1-2 in Copy of visit 21 orbit 2 (HOPR 93244) (Z1)	1302.93649 Secs (1302.936 Secs) [==>]	[1]
	2		ANY	ACS/WFC, ACCUM, WFC	F814W			Prime + Parallel Group 1-2 in Copy of visit 21 orbit 2 (HOPR 93244) (Z1)	1115 Secs (1115 Secs) [==>]	[1]
	3		(2) ABELL-S1063	WFC3/IR, MULTIACCUM, IR-FIX	F140W	NSAMP=13; SAMP-SEQ=SPAR S100	POS TARG 3.055,2. 925	Prime + Parallel Group 3-4 in Copy of visit 21 orbit 2 (HOPR 93244) (Z1)	1202.936167 Secs (1202.936 Secs) [==>]	[1]
	4		ANY	ACS/WFC, ACCUM, WFC	F814W			Prime + Parallel Group 3-4 in Copy of visit 21 orbit 2 (HOPR 93244) (Z1)	1115 Secs (1115 Secs) [==>]	[1]



Proposal 17908 - Visit 22 - To the Frontiers of Time Domain: Supermassive Black Holes and Exotic Stellar Transients in the Early Uni...

Tue Jun 03 20:00:38 GMT 2025

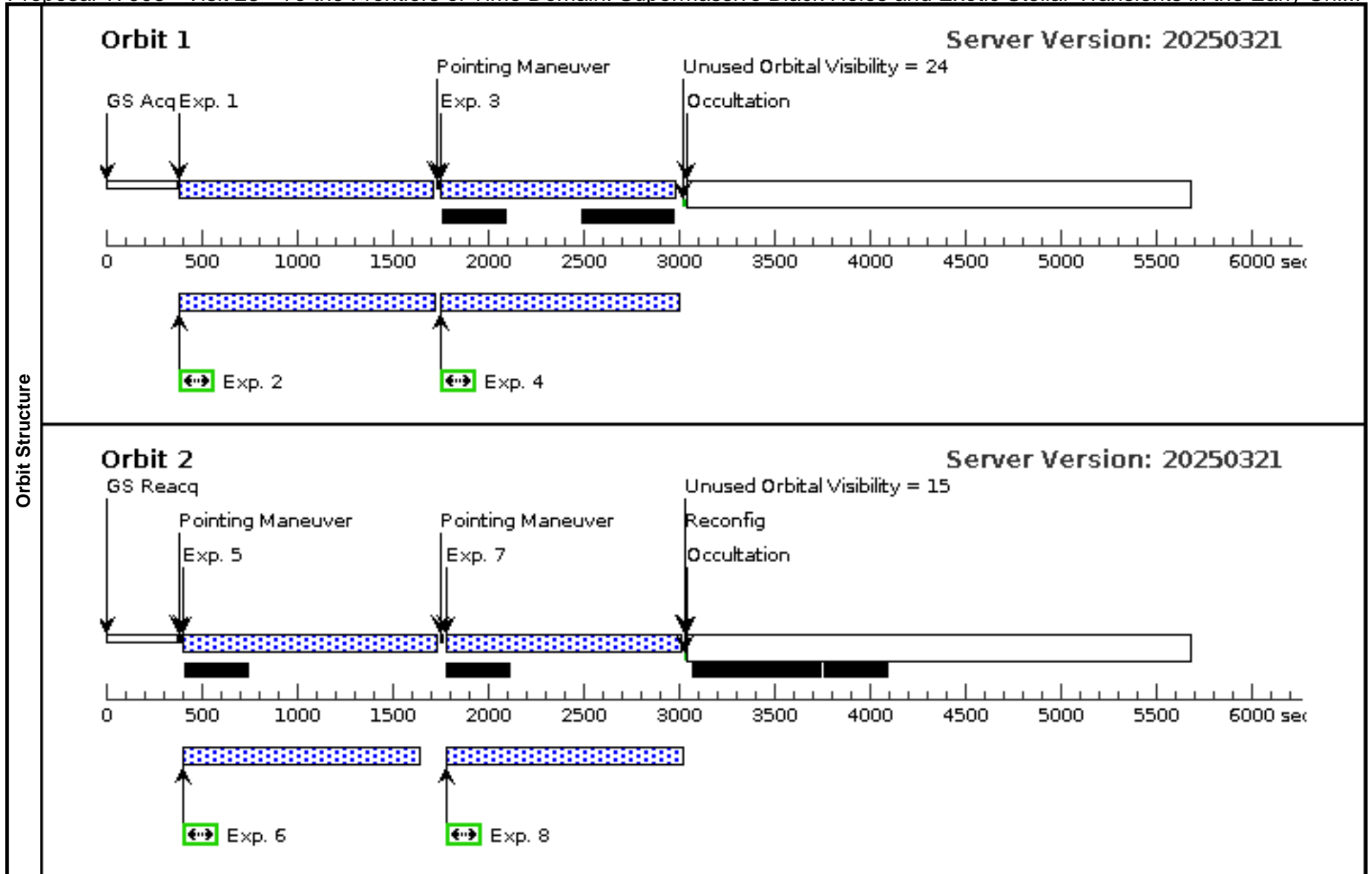
Visit	Proposal 17908, Visit 22, completed Diagnostic Status: No Diagnostics Scientific Instruments: WFC3/IR, ACS/WFC Special Requirements: (none)									
	Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous			
	(2)	ABELL-S1063	RA: 22 48 44.3000 (342.1845833d) Dec: -44 31 48.40 (-44.53011d) Equinox: J2000		V=27	Reference Frame: ICRS				
	<i>Comments:</i> Category= <i>CLUSTER OF GALAXIES</i> Description= <i>[GRAVITATIONAL LENS]</i>									
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1	(2) ABELL-S1063	WFC3/IR, MULTIACCUM, IR-FIX	F140W	NSAMP=14; SAMP-SEQ=SPAR S100	POS TARG -3.0225, -3.0225	Prime + Parallel Group 1-2 in Visit 22	1302.93649 Secs (1302.936 Secs) [==>]	[1]	
	2	ANY	ACS/WFC, ACCUM, WFC	F814W			Prime + Parallel Group 1-2 in Visit 22	1130 Secs (1130 Secs) [==>]	[1]	
	3	(2) ABELL-S1063	WFC3/IR, MULTIACCUM, IR-FIX	F140W	NSAMP=13; SAMP-SEQ=SPAR S100	POS TARG -2.99,2. 99	Prime + Parallel Group 3-4 in Visit 22	1202.936167 Secs (1202.936 Secs) [==>]	[1]	
	4	ANY	ACS/WFC, ACCUM, WFC	F814W			Prime + Parallel Group 3-4 in Visit 22	1130 Secs (1130 Secs) [==>]	[1]	
	5	(2) ABELL-S1063	WFC3/IR, MULTIACCUM, IR-FIX	F140W	NSAMP=14; SAMP-SEQ=SPAR S100	POS TARG 3.0225,- 2.9575	Prime + Parallel Group 5-6 in Visit 22	1302.93649 Secs (1302.936 Secs) [==>]	[2]	
	6	ANY	ACS/WFC, ACCUM, WFC	F814W			Prime + Parallel Group 5-6 in Visit 22	1115 Secs (1115 Secs) [==>]	[2]	
	7	(2) ABELL-S1063	WFC3/IR, MULTIACCUM, IR-FIX	F140W	NSAMP=13; SAMP-SEQ=SPAR S100	POS TARG 3.055,2. 925	Prime + Parallel Group 7-8 in Visit 22	1202.936167 Secs (1202.936 Secs) [==>]	[2]	
	8	ANY	ACS/WFC, ACCUM, WFC	F814W			Prime + Parallel Group 7-8 in Visit 22	1115 Secs (1115 Secs) [==>]	[2]	



Proposal 17908 - Visit 23 - To the Frontiers of Time Domain: Supermassive Black Holes and Exotic Stellar Transients in the Early Uni...

Tue Jun 03 20:00:38 GMT 2025

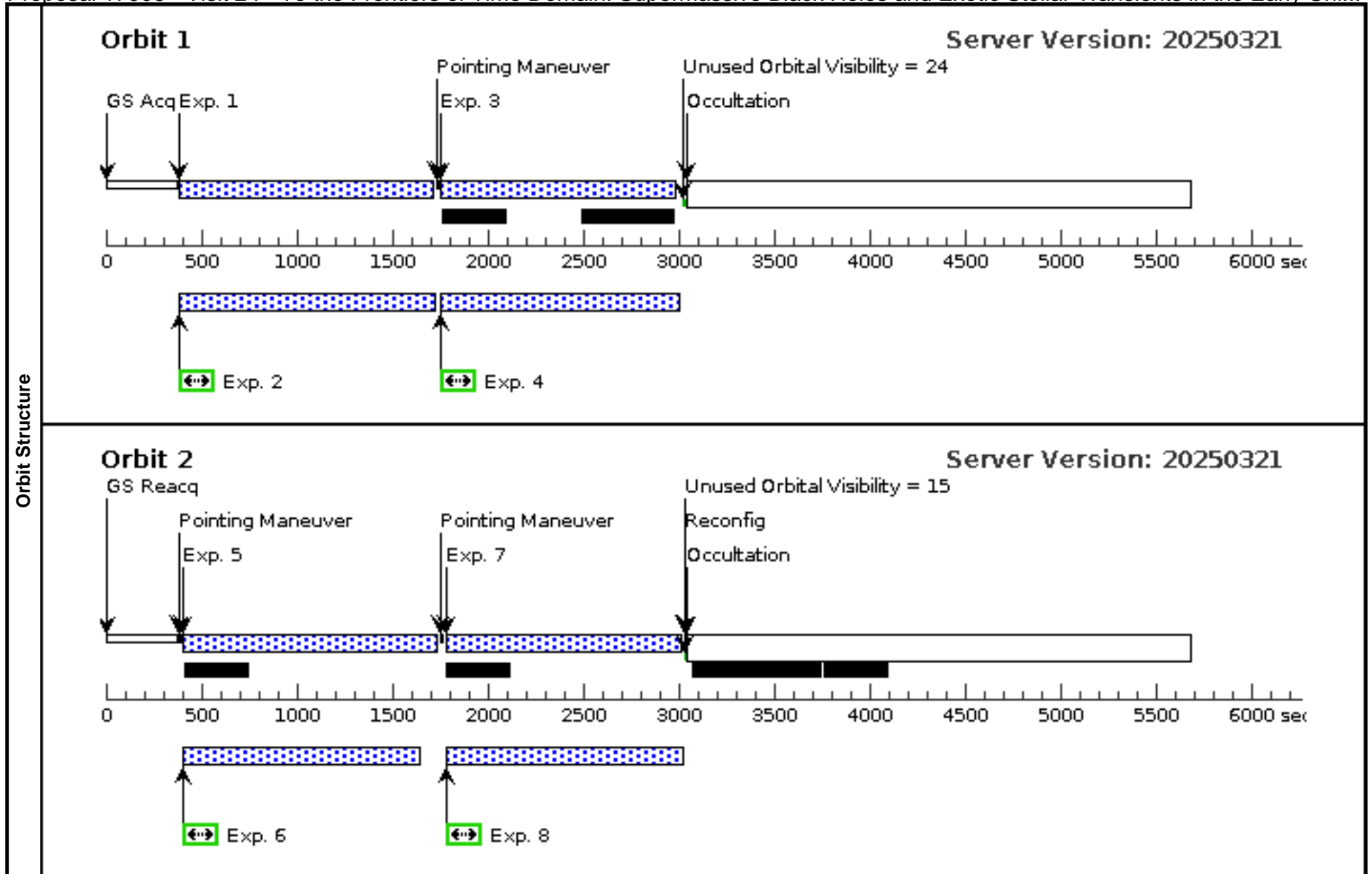
Visit	Proposal 17908, Visit 23, completed Diagnostic Status: No Diagnostics Scientific Instruments: WFC3/IR, ACS/WFC Special Requirements: (none)									
	Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous			
	(2)	ABELL-S1063	RA: 22 48 44.3000 (342.1845833d) Dec: -44 31 48.40 (-44.53011d) Equinox: J2000		V=27	Reference Frame: ICRS				
	<i>Comments:</i> Category=CLUSTER OF GALAXIES Description=[GRAVITATIONAL LENS]									
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1	(2) ABELL-S1063	WFC3/IR, MULTIACCUM, IR-FIX	F140W	NSAMP=14; SAMP-SEQ=SPAR S100	POS TARG -3.0225, -3.0225	Prime + Parallel Group 1-2 in Visit 23	1302.93649 Secs (1302.936 Secs) [==>]	[1]	
	2	ANY	ACS/WFC, ACCUM, WFC	F814W			Prime + Parallel Group 1-2 in Visit 23	1130 Secs (1130 Secs) [==>]	[1]	
	3	(2) ABELL-S1063	WFC3/IR, MULTIACCUM, IR-FIX	F140W	NSAMP=13; SAMP-SEQ=SPAR S100	POS TARG -2.99,2. 99	Prime + Parallel Group 3-4 in Visit 23	1202.936167 Secs (1202.936 Secs) [==>]	[1]	
	4	ANY	ACS/WFC, ACCUM, WFC	F814W			Prime + Parallel Group 3-4 in Visit 23	1130 Secs (1130 Secs) [==>]	[1]	
	5	(2) ABELL-S1063	WFC3/IR, MULTIACCUM, IR-FIX	F140W	NSAMP=14; SAMP-SEQ=SPAR S100	POS TARG 3.0225,- 2.9575	Prime + Parallel Group 5-6 in Visit 23	1302.93649 Secs (1302.936 Secs) [==>]	[2]	
	6	ANY	ACS/WFC, ACCUM, WFC	F814W			Prime + Parallel Group 5-6 in Visit 23	1115 Secs (1115 Secs) [==>]	[2]	
	7	(2) ABELL-S1063	WFC3/IR, MULTIACCUM, IR-FIX	F140W	NSAMP=13; SAMP-SEQ=SPAR S100	POS TARG 3.055,2. 925	Prime + Parallel Group 7-8 in Visit 23	1202.936167 Secs (1202.936 Secs) [==>]	[2]	
	8	ANY	ACS/WFC, ACCUM, WFC	F814W			Prime + Parallel Group 7-8 in Visit 23	1115 Secs (1115 Secs) [==>]	[2]	



Proposal 17908 - Visit 24 - To the Frontiers of Time Domain: Supermassive Black Holes and Exotic Stellar Transients in the Early Uni...

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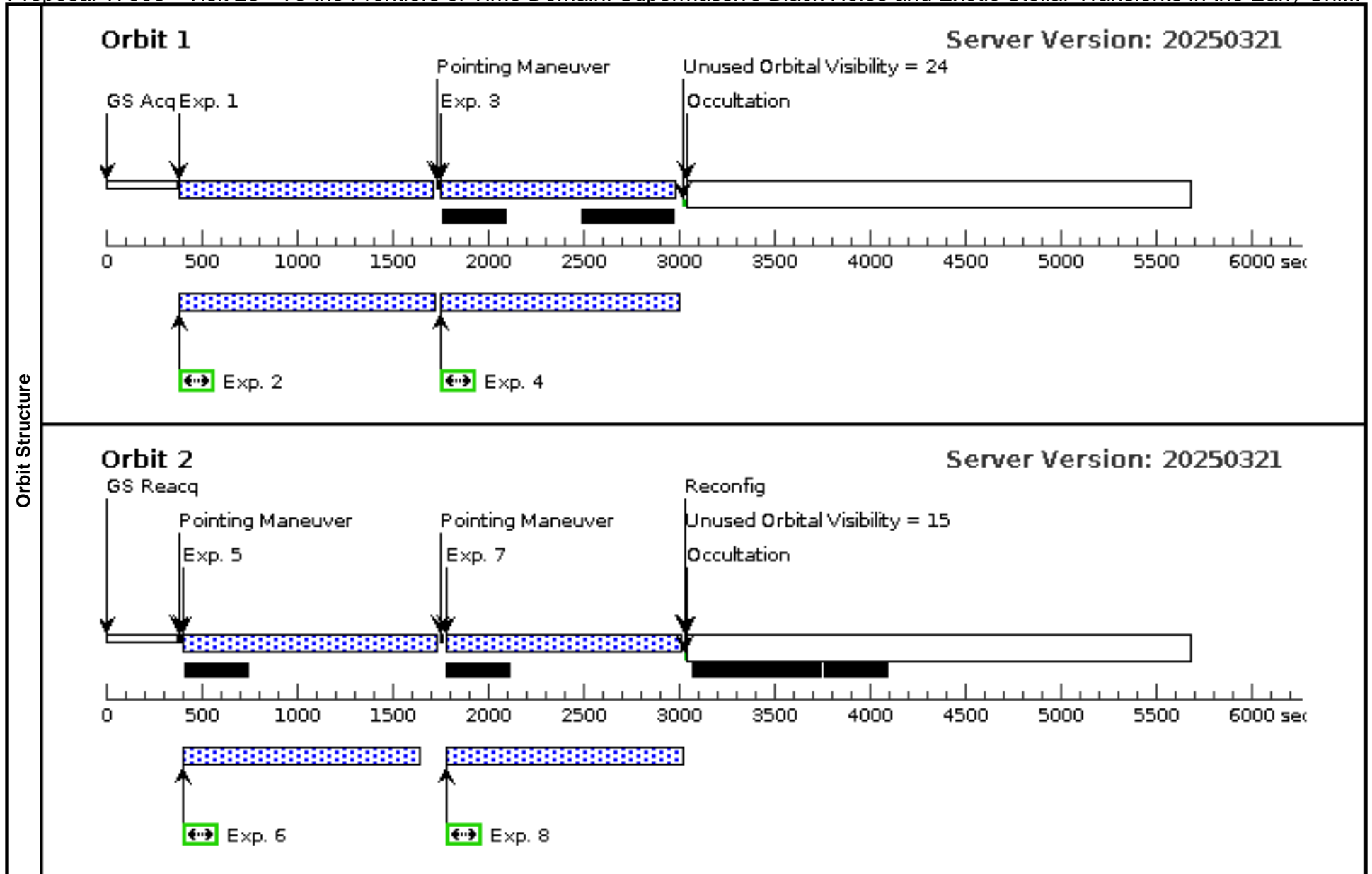
Visit	Proposal 17908, Visit 24, completed Diagnostic Status: No Diagnostics Scientific Instruments: WFC3/IR, ACS/WFC Special Requirements: (none)									
	Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous			
	(2)	ABELL-S1063	RA: 22 48 44.3000 (342.1845833d) Dec: -44 31 48.40 (-44.53011d) Equinox: J2000		V=27	Reference Frame: ICRS				
	<i>Comments:</i> Category=CLUSTER OF GALAXIES Description=[GRAVITATIONAL LENS]									
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1	(2) ABELL-S1063	WFC3/IR, MULTIACCUM, IR-FIX	F140W	NSAMP=14; SAMP-SEQ=SPAR S100	POS TARG -3.0225, -3.0225	Prime + Parallel Group 1-2 in Visit 24	1302.93649 Secs (1302.936 Secs) [==>]	[1]	
	2	ANY	ACS/WFC, ACCUM, WFC	F814W			Prime + Parallel Group 1-2 in Visit 24	1130 Secs (1130 Secs) [==>]	[1]	
	3	(2) ABELL-S1063	WFC3/IR, MULTIACCUM, IR-FIX	F140W	NSAMP=13; SAMP-SEQ=SPAR S100	POS TARG -2.99,2. 99	Prime + Parallel Group 3-4 in Visit 24	1202.936167 Secs (1202.936 Secs) [==>]	[1]	
	4	ANY	ACS/WFC, ACCUM, WFC	F814W			Prime + Parallel Group 3-4 in Visit 24	1130 Secs (1130 Secs) [==>]	[1]	
	5	(2) ABELL-S1063	WFC3/IR, MULTIACCUM, IR-FIX	F140W	NSAMP=14; SAMP-SEQ=SPAR S100	POS TARG 3.0225,- 2.9575	Prime + Parallel Group 5-6 in Visit 24	1302.93649 Secs (1302.936 Secs) [==>]	[2]	
	6	ANY	ACS/WFC, ACCUM, WFC	F814W			Prime + Parallel Group 5-6 in Visit 24	1115 Secs (1115 Secs) [==>]	[2]	
	7	(2) ABELL-S1063	WFC3/IR, MULTIACCUM, IR-FIX	F140W	NSAMP=13; SAMP-SEQ=SPAR S100	POS TARG 3.055,2. 925	Prime + Parallel Group 7-8 in Visit 24	1202.936167 Secs (1202.936 Secs) [==>]	[2]	
	8	ANY	ACS/WFC, ACCUM, WFC	F814W			Prime + Parallel Group 7-8 in Visit 24	1115 Secs (1115 Secs) [==>]	[2]	



Proposal 17908 - Visit 25 - To the Frontiers of Time Domain: Supermassive Black Holes and Exotic Stellar Transients in the Early Uni...

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Visit	Proposal 17908, Visit 25, completed Diagnostic Status: No Diagnostics Scientific Instruments: WFC3/IR, ACS/WFC Special Requirements: (none)									
	Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous			
	(2)	ABELL-S1063	RA: 22 48 44.3000 (342.1845833d) Dec: -44 31 48.40 (-44.53011d) Equinox: J2000		V=27	Reference Frame: ICRS				
	<i>Comments:</i> Category=CLUSTER OF GALAXIES Description=[GRAVITATIONAL LENS]									
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1	(2) ABELL-S1063	WFC3/IR, MULTIACCUM, IR-FIX	F140W	NSAMP=14; SAMP-SEQ=SPAR S100	POS TARG -3.0225, -3.0225	Prime + Parallel Group 1-2 in Visit 25	1302.93649 Secs (1302.936 Secs) [==>]	[1]	
	2	ANY	ACS/WFC, ACCUM, WFC	F814W			Prime + Parallel Group 1-2 in Visit 25	1130 Secs (1130 Secs) [==>]	[1]	
	3	(2) ABELL-S1063	WFC3/IR, MULTIACCUM, IR-FIX	F140W	NSAMP=13; SAMP-SEQ=SPAR S100	POS TARG -2.99,2. 99	Prime + Parallel Group 3-4 in Visit 25	1202.936167 Secs (1202.936 Secs) [==>]	[1]	
	4	ANY	ACS/WFC, ACCUM, WFC	F814W			Prime + Parallel Group 3-4 in Visit 25	1130 Secs (1130 Secs) [==>]	[1]	
	5	(2) ABELL-S1063	WFC3/IR, MULTIACCUM, IR-FIX	F140W	NSAMP=14; SAMP-SEQ=SPAR S100	POS TARG 3.0225,- 2.9575	Prime + Parallel Group 5-6 in Visit 25	1302.93649 Secs (1302.936 Secs) [==>]	[2]	
	6	ANY	ACS/WFC, ACCUM, WFC	F814W			Prime + Parallel Group 5-6 in Visit 25	1115 Secs (1115 Secs) [==>]	[2]	
	7	(2) ABELL-S1063	WFC3/IR, MULTIACCUM, IR-FIX	F140W	NSAMP=13; SAMP-SEQ=SPAR S100	POS TARG 3.055,2. 925	Prime + Parallel Group 7-8 in Visit 25	1202.936167 Secs (1202.936 Secs) [==>]	[2]	
	8	ANY	ACS/WFC, ACCUM, WFC	F814W			Prime + Parallel Group 7-8 in Visit 25	1115 Secs (1115 Secs) [==>]	[2]	



Visit	Proposal 17908, Copy of visit 25 (HOPR 93254) (Z5)				
	Diagnostic Status: No Diagnostics				
	Scientific Instruments: WFC3/IR, ACS/WFC				
	Special Requirements: (none)				

Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
	(2)	ABELL-S1063	RA: 22 48 44.3000 (342.1845833d) Dec: -44 31 48.40 (-44.53011d) Equinox: J2000		V=27	Reference Frame: ICRS
	<i>Comments:</i> Category=CLUSTER OF GALAXIES Description=[GRAVITATIONAL LENS]					

Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1		(2) ABELL-S1063	WFC3/IR, MULTIACCUM, IR-FIX	F140W	NSAMP=14; SAMP-SEQ=SPAR S100	POS TARG 3.0225,- 2.9575	Prime + Parallel Group 1-2 in Copy of visit 25 (HOPR 93254) (Z5)	1302.93649 Secs (1302.936 Secs) [==>]	[1]
	2		ANY	ACS/WFC, ACCUM, WFC	F814W			Prime + Parallel Group 1-2 in Copy of visit 25 (HOPR 93254) (Z5)	1115 Secs (1115 Secs) [==>]	[1]
	3		(2) ABELL-S1063	WFC3/IR, MULTIACCUM, IR-FIX	F140W	NSAMP=13; SAMP-SEQ=SPAR S100	POS TARG 3.055,2. 925	Prime + Parallel Group 3-4 in Copy of visit 25 (HOPR 93254) (Z5)	1202.936167 Secs (1202.936 Secs) [==>]	[1]
	4		ANY	ACS/WFC, ACCUM, WFC	F814W			Prime + Parallel Group 3-4 in Copy of visit 25 (HOPR 93254) (Z5)	1115 Secs (1115 Secs) [==>]	[1]

