



# 17710 - Establishing quasar-host scaling relations with strong gravitational lensing

Cycle: 32, Proposal Category: GO

(Availability Mode: SUPPORTED)

## INVESTIGATORS

<i>Name</i>	<i>Institution</i>
<b>Dr. Martin Millon (PI) (ESA Member) (Contact)</b>	<b>ETH Zurich</b>
Prof. Frederic Courbin (CoI) (ESA Member)	Ecole Polytechnique Federale de Lausanne
Mr. Frederic Dux (CoI) (ESA Member)	Ecole Polytechnique Federale de Lausanne
Dr. Meredith Powell (CoI)	Stanford University
Everett McArthur (CoI)	Stanford University
Dr. Dominique Sluse (CoI) (ESA Member)	Universite de Liege
Dr. Romain Alexis Meyer (CoI) (ESA Member)	University of Geneva, Department of Astronomy
Prof. S. George Djorgovski (CoI)	California Institute of Technology

## 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) SDSS-J005030.65+150134.0	WFC3/UVIS	2	15-Jan-2025 13:00:24.0	yes
02	(2) SDSS-J014819.57+032424.9	WFC3/UVIS	2	15-Jan-2025 13:00:25.0	yes
03	(3) SDSS-J092012.67-022230.4	WFC3/UVIS	2	15-Jan-2025 13:00:26.0	yes
04	(4) SDSS-J114059.35+000727.3	WFC3/UVIS	2	15-Jan-2025 13:00:27.0	yes
05	(5) SDSS-J122905.05+215659.8	WFC3/UVIS	2	15-Jan-2025 13:00:27.0	yes
06	(6) SDSS-J091318.66+604529.8	WFC3/UVIS	2	15-Jan-2025 13:00:28.0	yes
07	(7) SDSS-J151020.36+185632.2	WFC3/UVIS	2	15-Jan-2025 13:00:29.0	yes
08	(8) SDSS-J233443.68+302159.9	WFC3/UVIS	2	15-Jan-2025 13:00:30.0	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>
09	(9) SDSS-J013934.97+010629.8	WFC3/UVIS	2	15-Jan-2025 13:00:31.0	yes
10	(10) SDSS-J101625.37+503426.5	WFC3/UVIS	2	15-Jan-2025 13:00:32.0	yes
11	(11) NGC-136	WFC3/UVIS	1	15-Jan-2025 13:00:33.0	yes

21 Total Orbits Used

## **ABSTRACT**

We aim to characterize the evolution of the supermassive black hole - host galaxy correlations using the unique power of strong gravitational lensing. We employ a pioneering technique that leverages strong gravitational lensing by quasars to probe the SMBH mass-galaxy mass relation at intermediate redshift. Our proposal seeks to potentially triple the number of known quasars acting as gravitational lenses.

With HST's superior spatial resolution, we aim to detect faint Einstein rings hidden in the glare of 10 carefully selected quasars. The mass modelling of these lenses will provide highly precise measurements (<5%) of the host galaxy's mass. Our findings will offer crucial insights into galaxy evolution scenarios, help resolving current controversies in the evolution of the scaling relations with redshift, and be a precious benchmark for cosmological simulations.

## **OBSERVING DESCRIPTION**

This proposal aims to obtain WFC3 F475W and F814W images of 10 intermediate-redshift quasars that act as gravitational lenses on higher-redshift emission-line galaxies. These systems have been selected from quasar spectra in the eBOSS survey. The goal of the program is to detect the Einstein rings produced by the quasar host galaxies, enabling precise mass measurements of these galaxies.

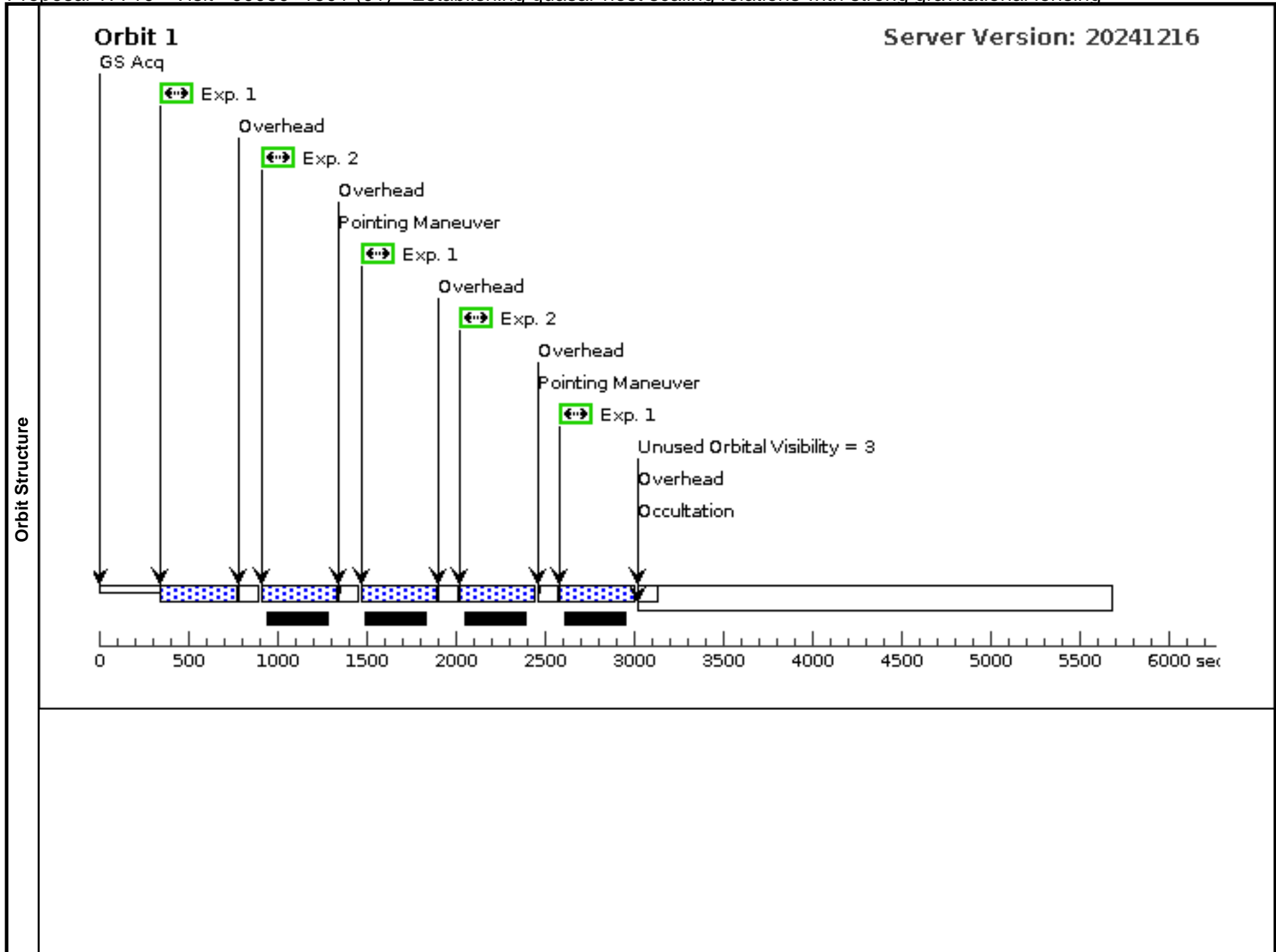
For each object, we will use two orbits per visit, one for each filter, with 5 exposures of 400 seconds per filter. We have selected the "DITHER-LINE" dithering pattern, using 5 exposures centered on UVIS2.

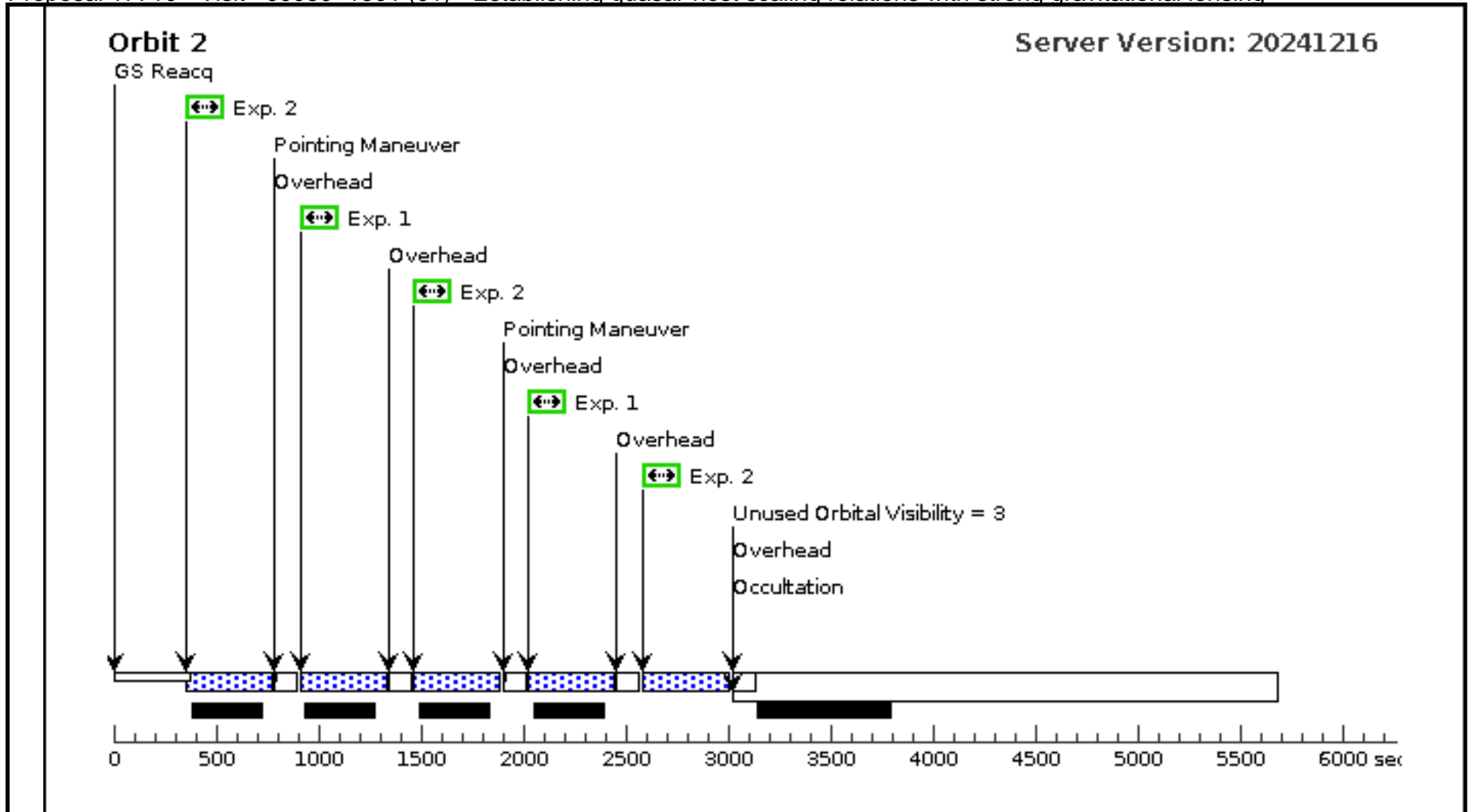
Additionally, one orbit is dedicated to measuring the PSF of the HST in both filters under the same observing conditions as the quasar lenses. The field chosen for this purpose is the open cluster NGC 136, which provides good spatial sampling of the PSF and across different spectral types. An accurate PSF model is critical for this program, as we expect the Einstein rings to be hidden in the glare of the brighter foreground quasar. The PSF model will be used for lens modeling and deconvolution purposes. This orbit is divided into 8 exposures: 1x60s + 2x470s in F475W, followed by 1x60s + 2x470s in F814W.

Proposal 17710 - Visit - J0050+1501 (01) - Establishing quasar-host scaling relations with strong gravitational lensing

Wed Jan 15 18:00:33 GMT 2025

Visit	<b>Proposal 17710, Visit - J0050+1501 (01), implementation</b> <b>Diagnostic Status: No Diagnostics</b> Scientific Instruments: WFC3/UVIS Special Requirements: (none)									
	Patterns	#	Primary Pattern	Secondary Pattern	Exposures					
	(2)	Pattern Type=WFC3-UVIS-DITHER-LINE Purpose=DITHER Number Of Points=5 Point Spacing=0.145 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=46.84 Angle Between Sides= Center Pattern=false		(1-2)					
Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous				
	(1)	SDSS-J005030.65+150134.0	RA: 00 50 30.6536 (12.6277233d) Dec: +15 01 34.03 (15.02612d) Equinox: J2000	Proper Motion RA: 7.503218640408413E-5 sec of time/yr Proper Motion Dec: 4.58E-4 arcsec/yr Epoch of Position: 2015.5	V=20.30	Reference Frame: SIMBAD				
<i>Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.</i> Category=GALAXY Description=[GRAVITATIONAL LENS, QSO, QUASAR]										
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1	F814W	(1) SDSS-J005030.65+150134.0	WFC3/UVIS, ACCUM, UVIS2	F814W	CR-SPLIT=NO; FLASH=10			Pattern 2, Exps 1-2 in Visit - J0050+1501 (01) (2) 400 Secs (2000 Secs) [==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)] [==>(Pattern 4)] [==>(Pattern 5)]	[1] [2]
2	F475W	(1) SDSS-J005030.65+150134.0	WFC3/UVIS, ACCUM, UVIS2	F475W	CR-SPLIT=NO; FLASH=10			Pattern 2, Exps 1-2 in Visit - J0050+1501 (01) (2) 400 Secs (2000 Secs) [==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)] [==>(Pattern 4)] [==>(Pattern 5)]	[1] [2]	



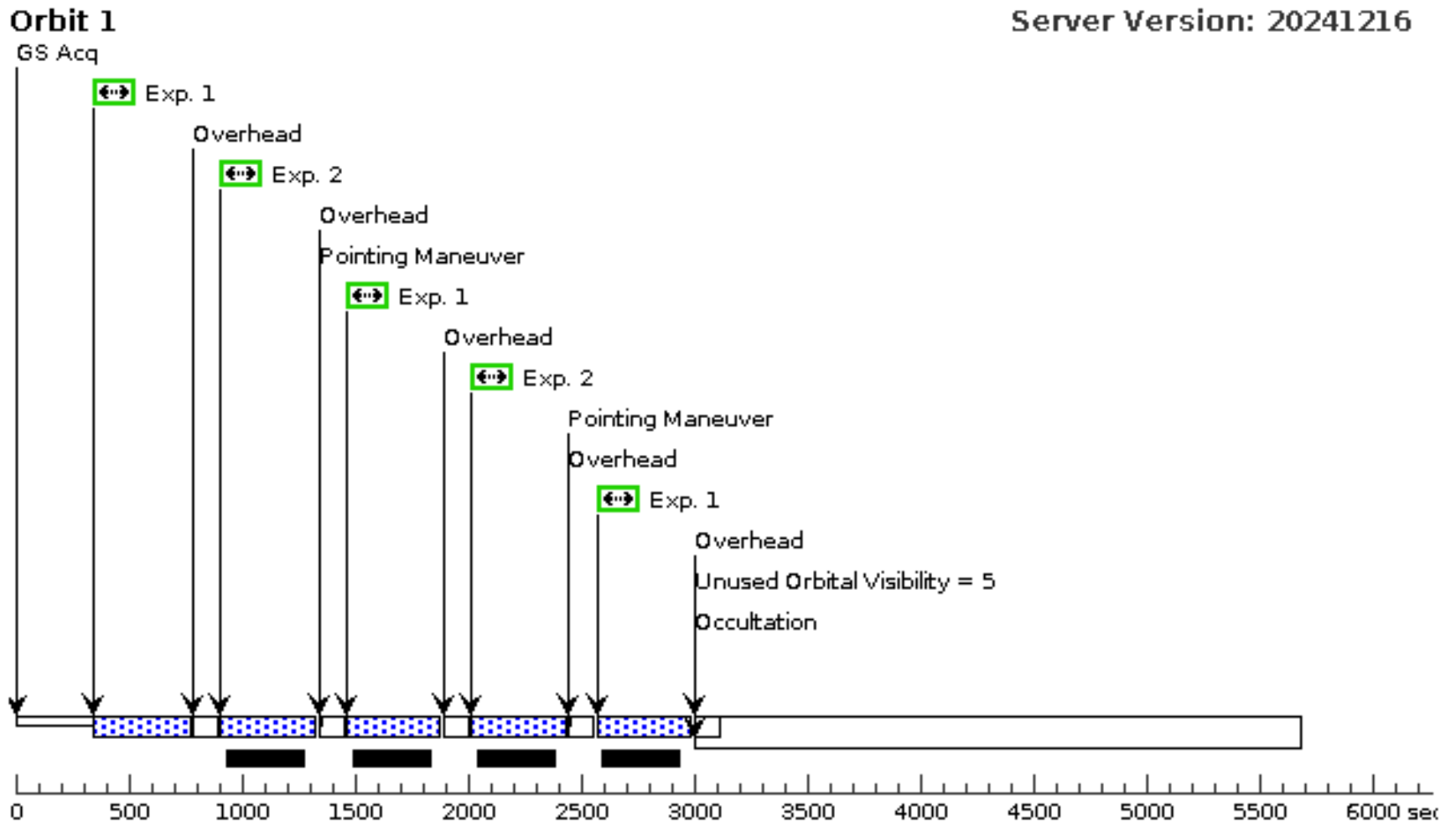


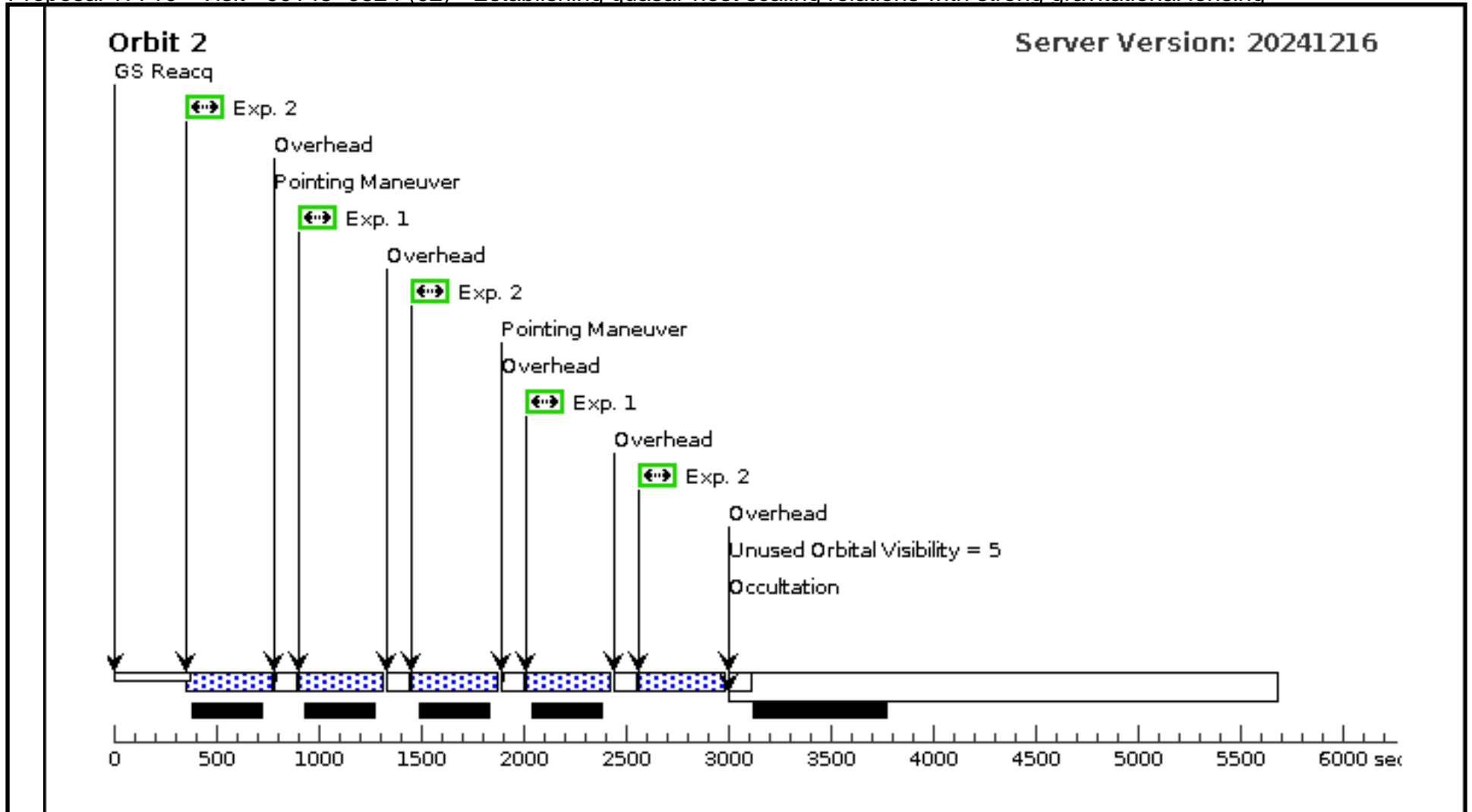
Proposal 17710 - Visit - J0148+0324 (02) - Establishing quasar-host scaling relations with strong gravitational lensing

Wed Jan 15 18:00:33 GMT 2025

Visit	<b>Proposal 17710, Visit - J0148+0324 (02), implementation</b> <b>Diagnostic Status: No Diagnostics</b> Scientific Instruments: WFC3/UVIS Special Requirements: (none)									
	Patterns	#	Primary Pattern	Secondary Pattern	Exposures					
	(2)	Pattern Type=WFC3-UVIS-DITHER- LINE Purpose=DITHER Number Of Points=5 Point Spacing=0.145 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=46.84 Angle Between Sides= Center Pattern=false		(1-2)					
Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous				
	(2)	SDSS- J014819.57+032424.9	RA: 01 48 19.5831 (27.0815963d) Dec: +03 24 24.93 (3.40692d) Equinox: J2000	Proper Motion RA: -2.2239304578364908E-5 sec of time/yr Proper Motion Dec: -8.519999937561806E-4 arcsec/yr Epoch of Position: 2015.5	V=20.17	Reference Frame: SIMBAD				
	<i>Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.</i> Category=GALAXY Description=[GRAVITATIONAL LENS, QSO, QUASAR]									
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1	F814W	(2) SDSS-J014819.57+032424.9	WFC3/UVIS, ACCUM, UVIS2	F814W	CR-SPLIT=NO; FLASH=10		Pattern 2, Exps 1-2 in Visit - J0148+0324 (02) (2)	396 Secs (1980 Secs) [=>(Pattern 1)] [=>(Pattern 2)] [=>(Pattern 3)]	[1]
								[=>(Pattern 4)] [=>(Pattern 5)]	[2]	
2	F475W	(2) SDSS-J014819.57+032424.9	WFC3/UVIS, ACCUM, UVIS2	F475W	CR-SPLIT=NO; FLASH=10		Pattern 2, Exps 1-2 in Visit - J0148+0324 (02) (2)	396 Secs (1980 Secs) [=>(Pattern 1)] [=>(Pattern 2)]	[1]	
								[=>(Pattern 3)] [=>(Pattern 4)] [=>(Pattern 5)]	[2]	

Orbit Structure



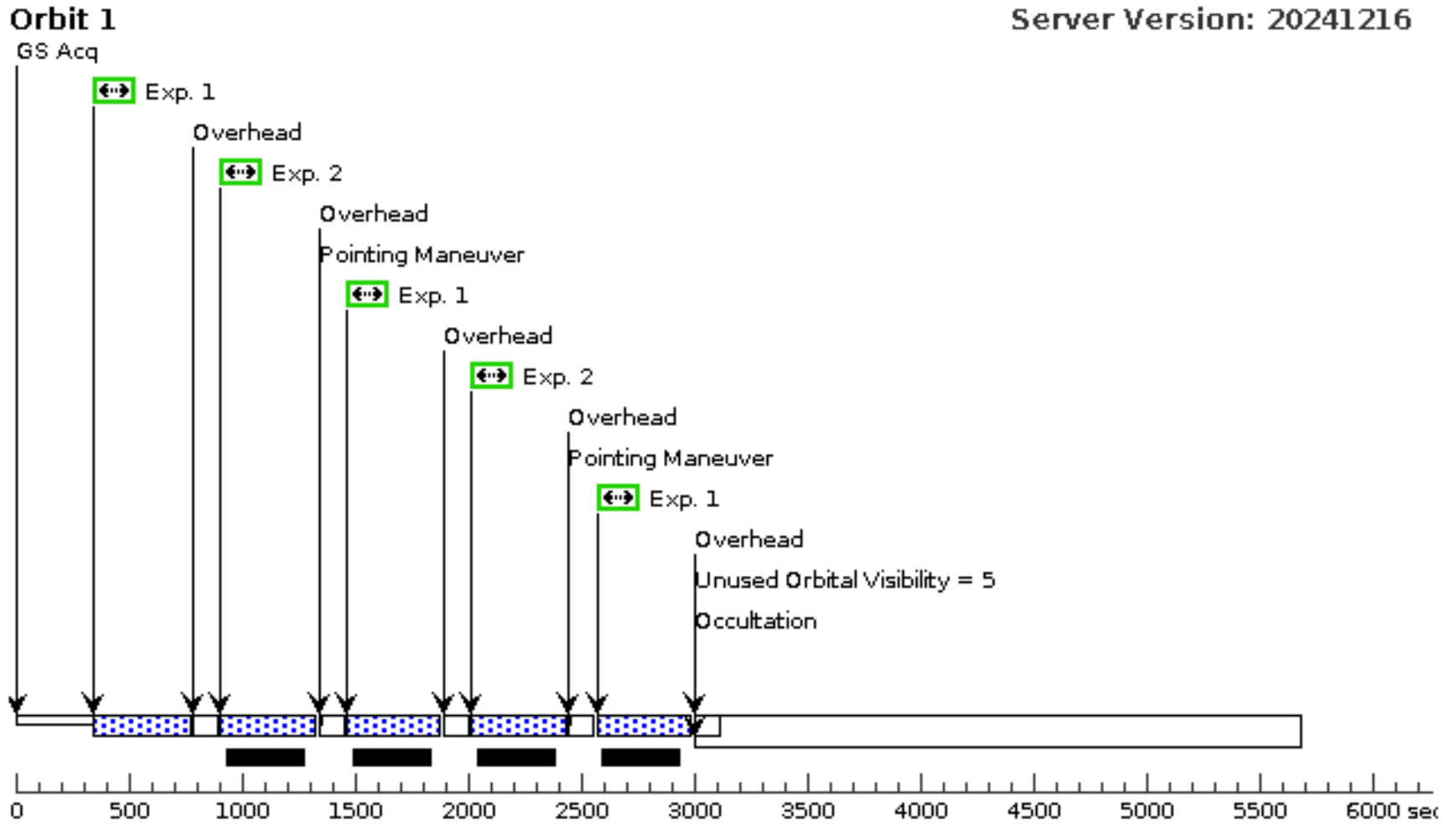


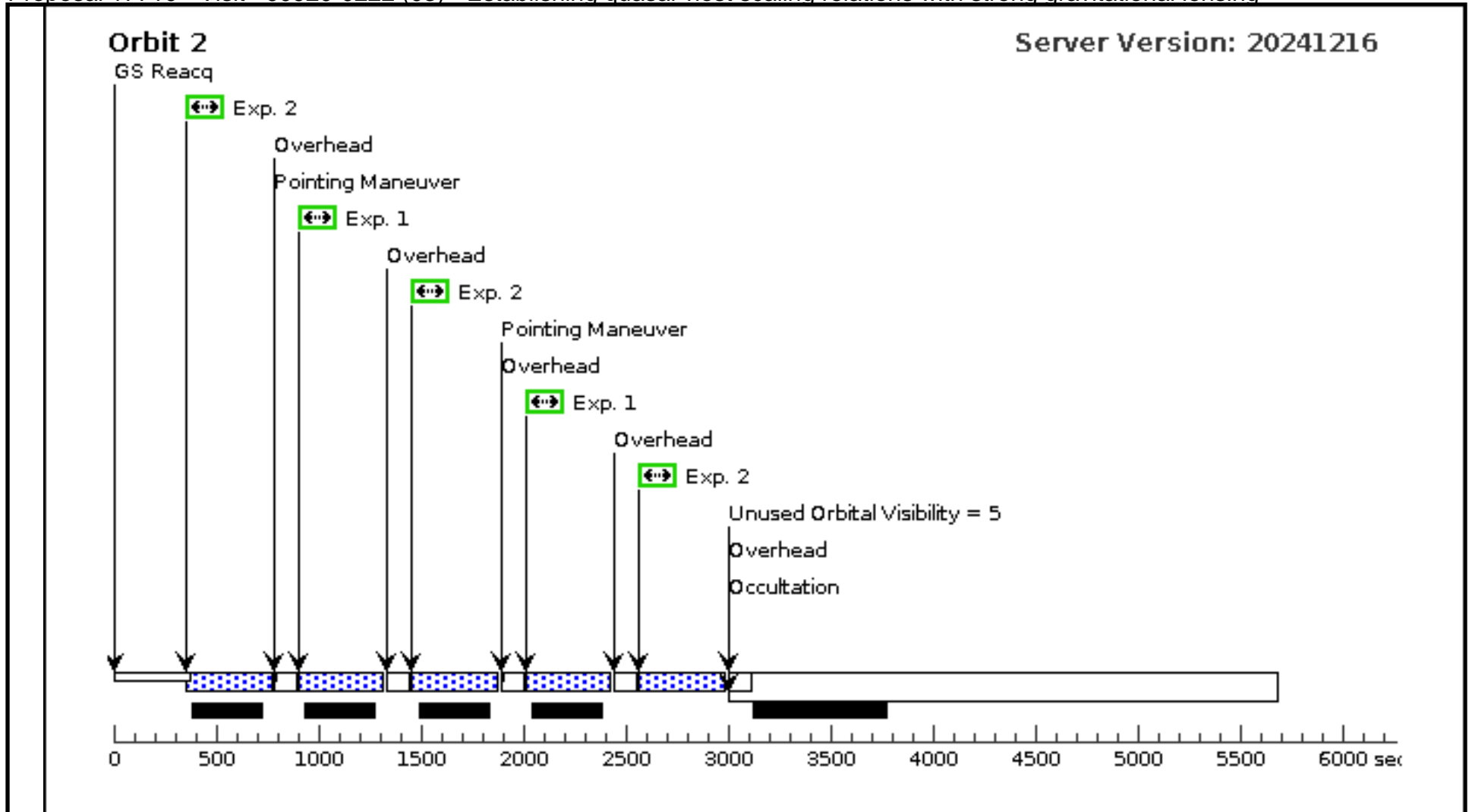
Proposal 17710 - Visit - J0920-0222 (03) - Establishing quasar-host scaling relations with strong gravitational lensing

Wed Jan 15 18:00:33 GMT 2025

Visit	<b>Proposal 17710, Visit - J0920-0222 (03), implementation</b> <b>Diagnostic Status: No Diagnostics</b> Scientific Instruments: WFC3/UVIS Special Requirements: (none)									
	Patterns	#	Primary Pattern			Secondary Pattern			Exposures	
		(2)	Pattern Type=WFC3-UVIS-DITHER-LINE Purpose=DITHER Number Of Points=5 Point Spacing=0.145 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=46.84 Angle Between Sides= Center Pattern=false					(1-2)	
Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous				
	(3)	SDSS-J092012.67-022230.4	RA: 09 20 12.6763 (140.0528179d) Dec: -02 22 30.41 (-2.37511d) Equinox: J2000	Epoch of Position: 2015.5	V=21.10	Reference Frame: SIMBAD				
	<i>Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.</i> Category=GALAXY Description=[GRAVITATIONAL LENS, OSO, QUASAR]									
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1	F814W	(3) SDSS-J092012.67-022230.4	WFC3/UVIS, ACCUM, UVIS2	F814W	CR-SPLIT=NO; FLASH=10		Pattern 2, Exps 1-2 in Visit - J0920-0222 (03) (2)	396 Secs (1980 Secs) [==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)] [==>(Pattern 4)] [==>(Pattern 5)]	[1] [2]
2	F475W	(3) SDSS-J092012.67-022230.4	WFC3/UVIS, ACCUM, UVIS2	F475W	CR-SPLIT=NO; FLASH=10		Pattern 2, Exps 1-2 in Visit - J0920-0222 (03) (2)	396 Secs (1980 Secs) [==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)] [==>(Pattern 4)] [==>(Pattern 5)]	[1] [2]	

Orbit Structure



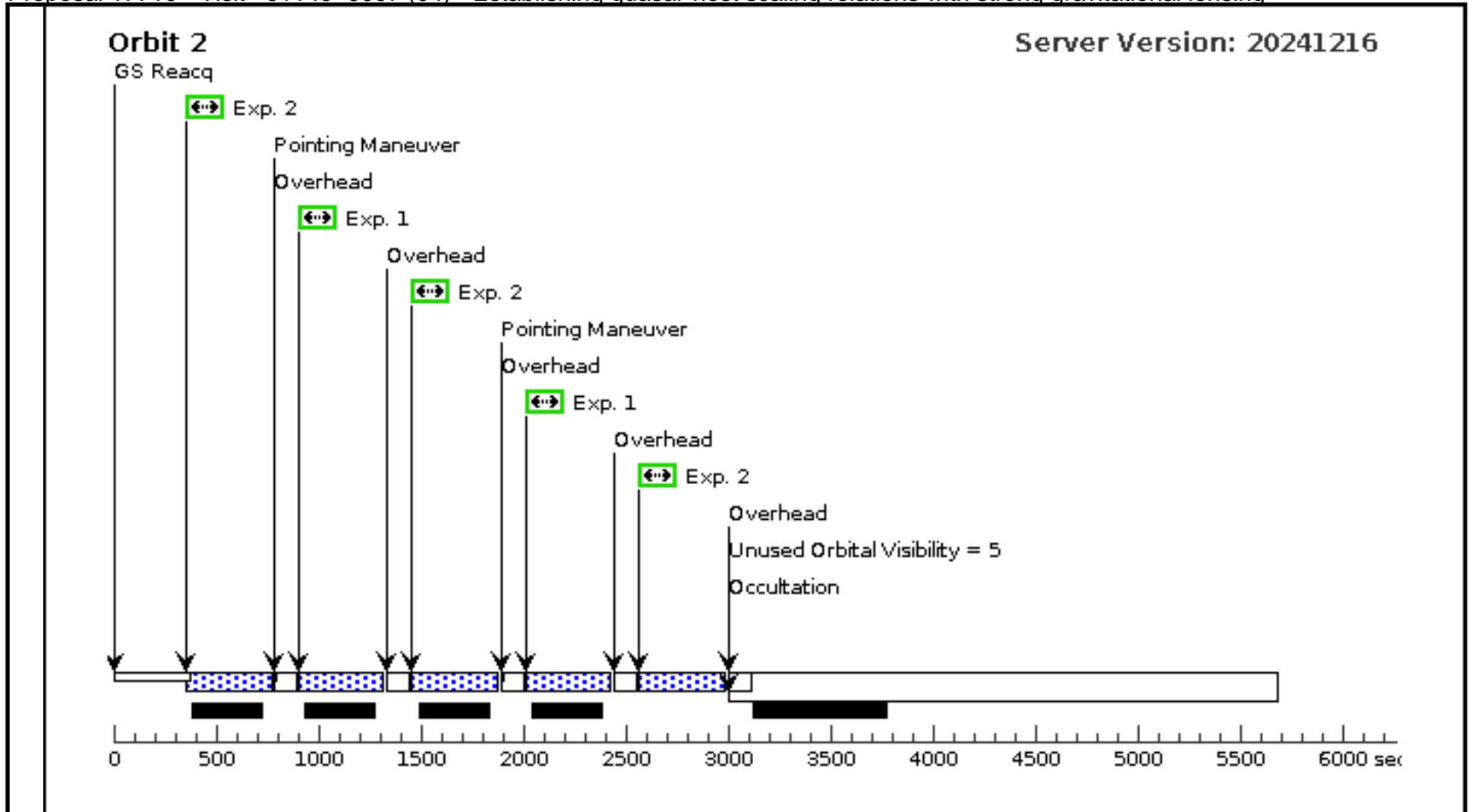


Proposal 17710 - Visit - J1140+0007 (04) - Establishing quasar-host scaling relations with strong gravitational lensing

Wed Jan 15 18:00:33 GMT 2025

Visit	<b>Proposal 17710, Visit - J1140+0007 (04), scheduling</b> <b>Diagnostic Status: No Diagnostics</b> Scientific Instruments: WFC3/UVIS Special Requirements: (none)									
	Patterns	#	Primary Pattern			Secondary Pattern			Exposures	
		(2)	Pattern Type=WFC3-UVIS-DITHER-LINE Purpose=DITHER Number Of Points=5 Point Spacing=0.145 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=46.84 Angle Between Sides= Center Pattern=false					(1-2)	
Fixed Targets	#	Name	Target Coordinates		Targ. Coord. Corrections		Fluxes	Miscellaneous		
	(4)	SDSS-J114059.35+000727.3	RA: 11 40 59.3569 (175.2473204d) Dec: +00 07 27.25 (.12424d) Equinox: J2000	Proper Motion RA: 7.386684031334961E-5 sec of time/yr Proper Motion Dec: 1.26E-4 arcsec/yr Epoch of Position: 2015.5	V=19.94	Reference Frame: SIMBAD				
	<i>Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.</i> Category=GALAXY Description=[GRAVITATIONAL LENS, QSO, QUASAR]									
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1	F814W	(4) SDSS-J114059.35+000727.3	WFC3/UVIS, ACCUM, UVIS2	F814W	CR-SPLIT=NO; FLASH=10		Pattern 2, Exps 1-2 in Visit - J1140+0007 (04) (2)	396 Secs (1980 Secs) [==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)] [==>(Pattern 4)] [==>(Pattern 5)]	[1] [2]
2	F475W	(4) SDSS-J114059.35+000727.3	WFC3/UVIS, ACCUM, UVIS2	F475W	CR-SPLIT=NO; FLASH=10		Pattern 2, Exps 1-2 in Visit - J1140+0007 (04) (2)	396 Secs (1980 Secs) [==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)] [==>(Pattern 4)] [==>(Pattern 5)]	[1] [2]	

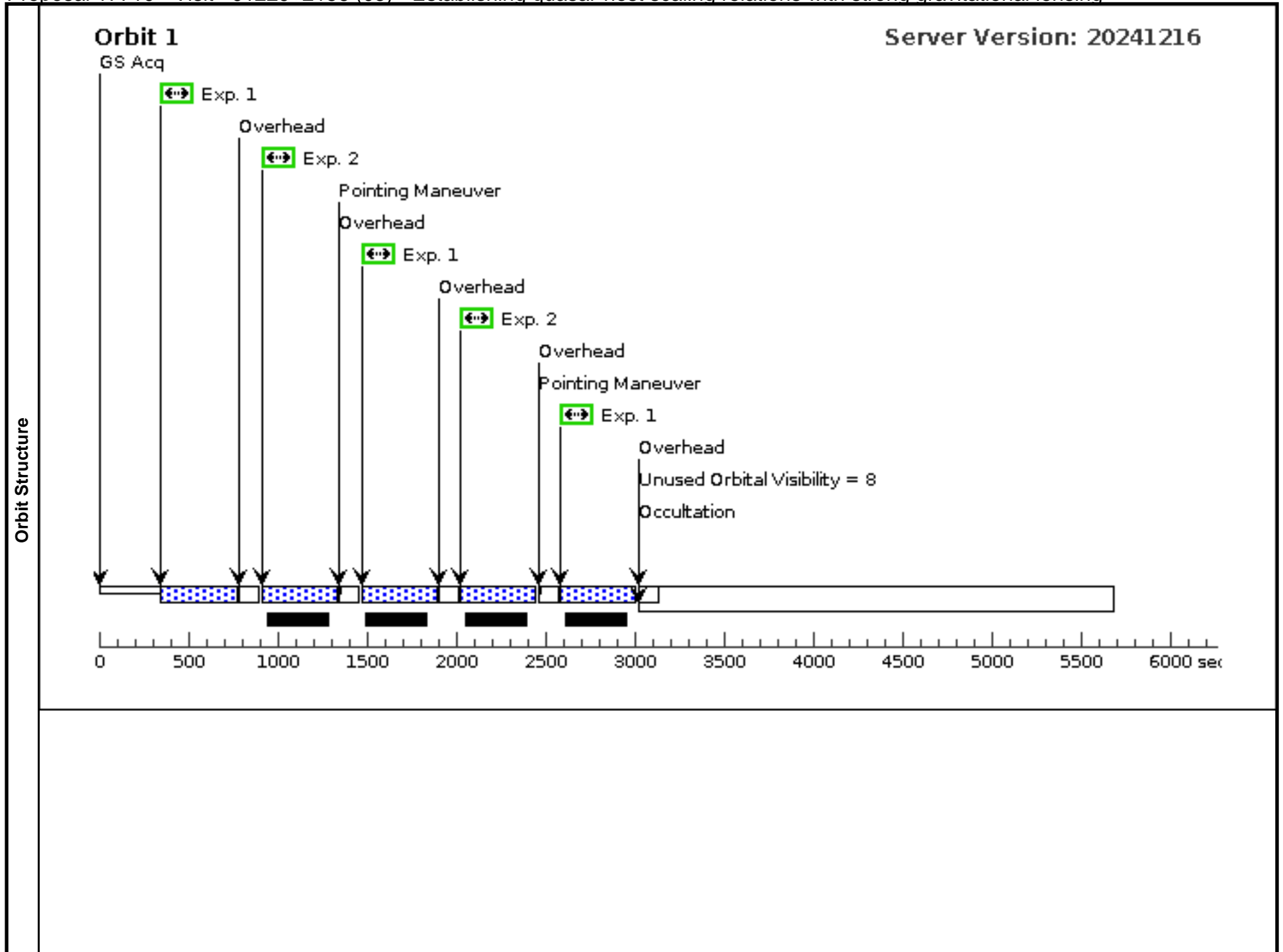


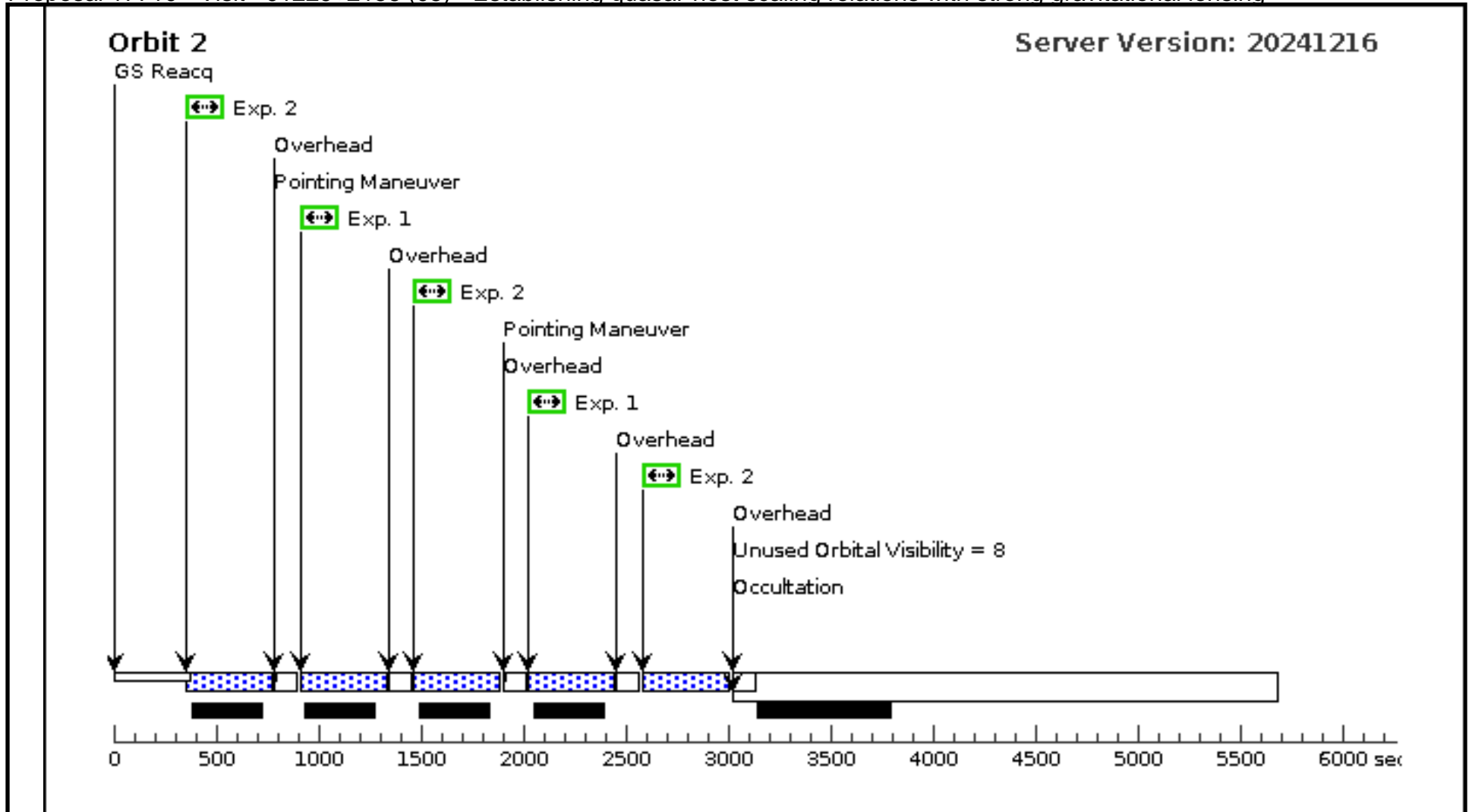


Proposal 17710 - Visit - J1229+2156 (05) - Establishing quasar-host scaling relations with strong gravitational lensing

Wed Jan 15 18:00:33 GMT 2025

Visit	<b>Proposal 17710, Visit - J1229+2156 (05), implementation</b> <b>Diagnostic Status: No Diagnostics</b> Scientific Instruments: WFC3/UVIS Special Requirements: (none)									
	Patterns	#	Primary Pattern			Secondary Pattern			Exposures	
		(2)	Pattern Type=WFC3-UVIS-DITHER-LINE Purpose=DITHER Number Of Points=5 Point Spacing=0.145 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=46.84 Angle Between Sides= Center Pattern=false					(1-2)	
Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections		Fluxes	Miscellaneous			
	(5)	SDSS-J122905.05+215659.8	RA: 12 29 5.0530 (187.2710542d) Dec: +21 56 59.83 (21.94995d) Equinox: J2000	Epoch of Position: 2015.5		V=21.75	Reference Frame: SIMBAD			
	<i>Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.</i> Category=GALAXY Description=[GRAVITATIONAL LENS, OSO, QUASAR]									
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1	F814W	(5) SDSS-J122905.05+215659.8	WFC3/UVIS, ACCUM, UVIS2	F814W	CR-SPLIT=NO; FLASH=10		Pattern 2, Exps 1-2 in Visit - J1229+2156 (05) (2)	400 Secs (2000 Secs) [==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)] [==>(Pattern 4)] [==>(Pattern 5)]	[1]    [2]
2	F475W	(5) SDSS-J122905.05+215659.8	WFC3/UVIS, ACCUM, UVIS2	F475W	CR-SPLIT=NO; FLASH=10		Pattern 2, Exps 1-2 in Visit - J1229+2156 (05) (2)	400 Secs (2000 Secs) [==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)] [==>(Pattern 4)] [==>(Pattern 5)]	[1]    [2]	



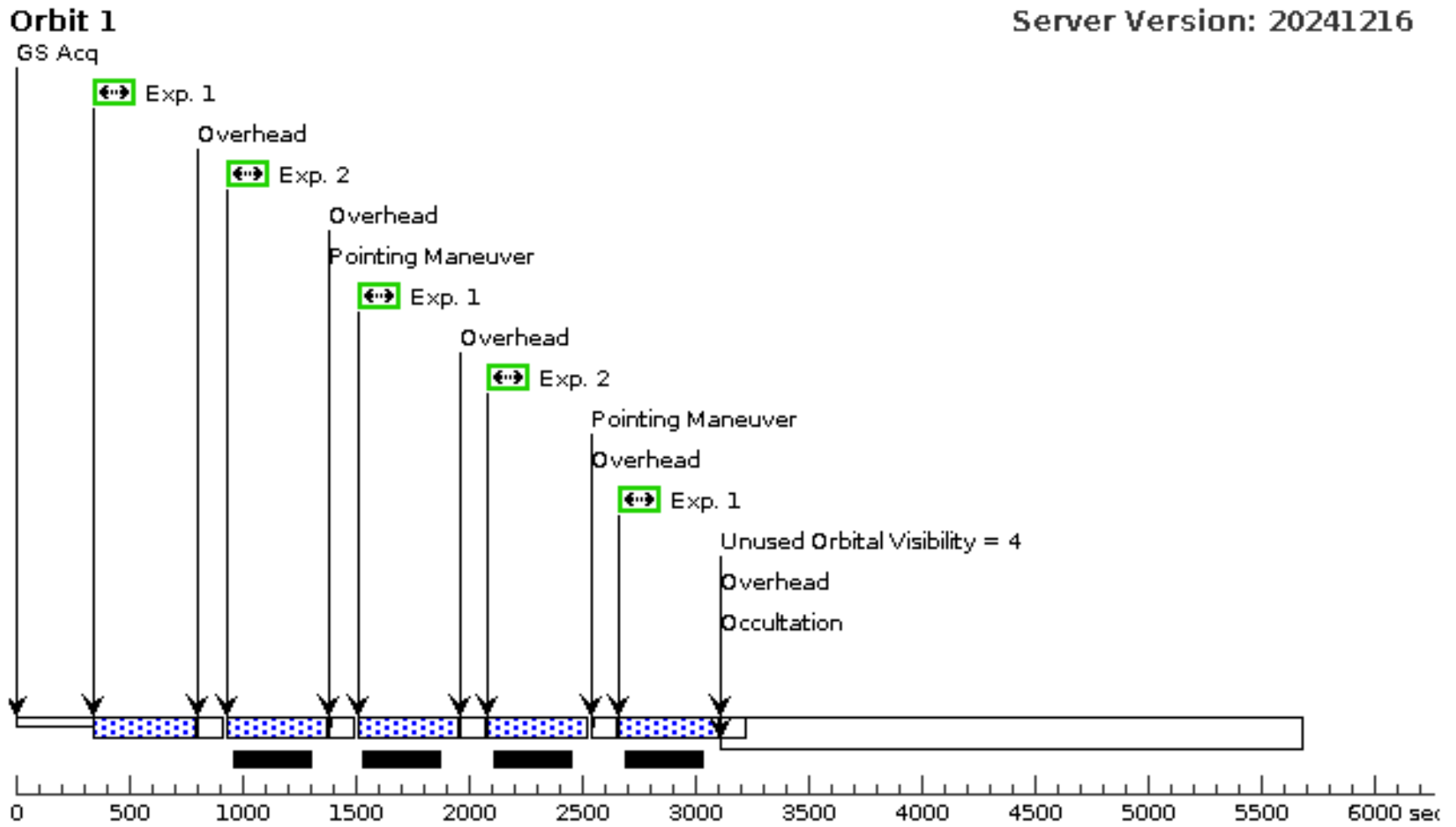


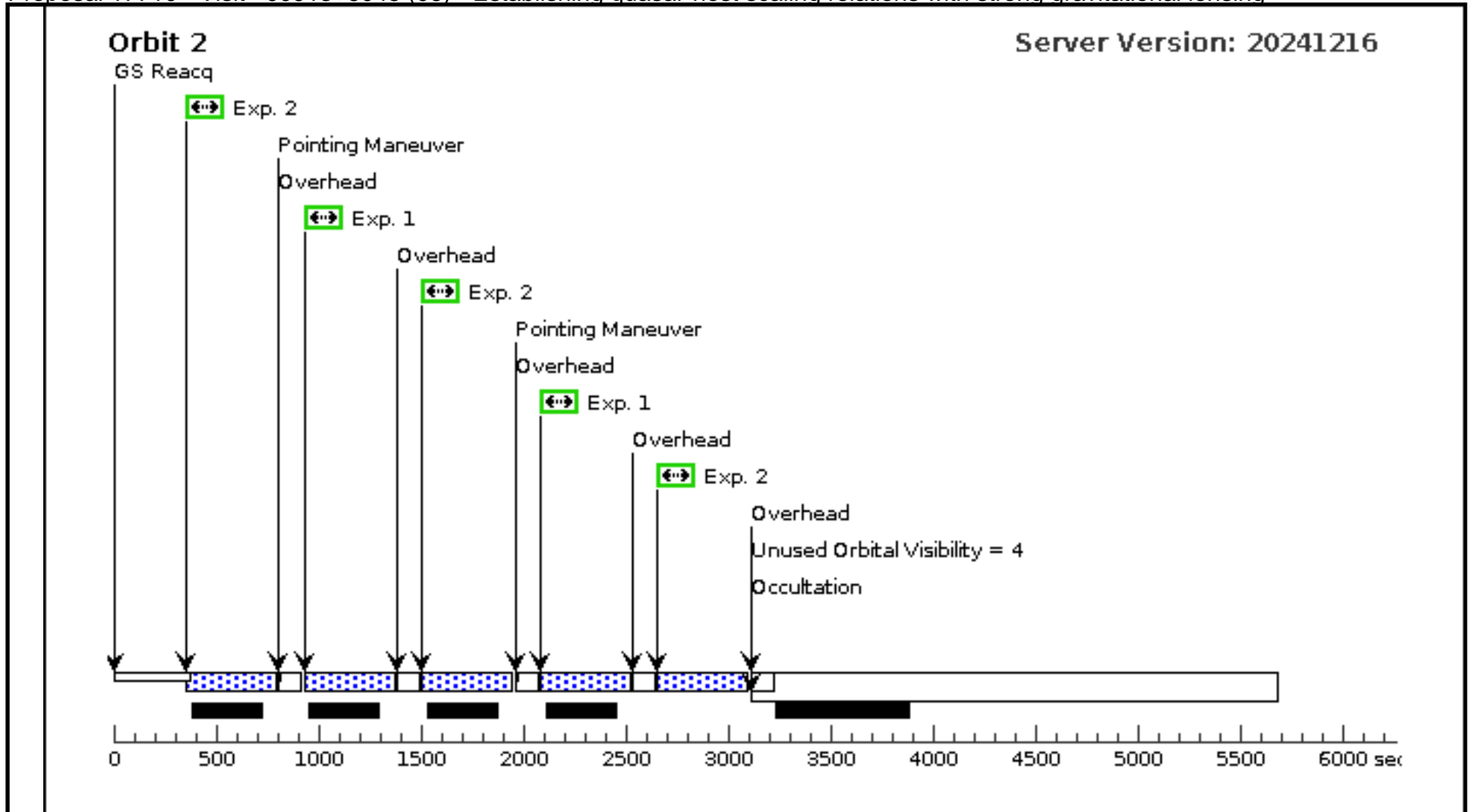
Proposal 17710 - Visit - J0913+6045 (06) - Establishing quasar-host scaling relations with strong gravitational lensing

Wed Jan 15 18:00:33 GMT 2025

Visit	<b>Proposal 17710, Visit - J0913+6045 (06), implementation</b> <b>Diagnostic Status: No Diagnostics</b> Scientific Instruments: WFC3/UVIS Special Requirements: (none)									
	Patterns	#	Primary Pattern			Secondary Pattern			Exposures	
		(2)	Pattern Type=WFC3-UVIS-DITHER-LINE Purpose=DITHER Number Of Points=5 Point Spacing=0.145 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=46.84 Angle Between Sides= Center Pattern=false					(1-2)	
Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections		Fluxes	Miscellaneous			
	(6)	SDSS-J091318.66+604529.8	RA: 09 13 18.6600 (138.3277500d) Dec: +60 45 29.80 (60.75828d) Equinox: J2000			V=21.20	Reference Frame: ICRS			
	<i>Comments:</i> Category=GALAXY Description=[GRAVITATIONAL LENS, OSO, QUASAR]									
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1	F814W	(6) SDSS-J091318.6+604529.8	WFC3/UVIS, ACCUM, UVIS2	F814W	CR-SPLIT=NO; FLASH=10		Pattern 2, Exps 1-2 in Visit - J0913+6045 (06) (2)	0419 Secs (2095 Secs) [==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)] [==>(Pattern 4)] [==>(Pattern 5)]	[1]    [2]
2	F475W	(6) SDSS-J091318.6+604529.8	WFC3/UVIS, ACCUM, UVIS2	F475W	CR-SPLIT=NO; FLASH=10		Pattern 2, Exps 1-2 in Visit - J0913+6045 (06) (2)	419 Secs (2095 Secs) [==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)] [==>(Pattern 4)] [==>(Pattern 5)]	[1]    [2]	

Orbit Structure

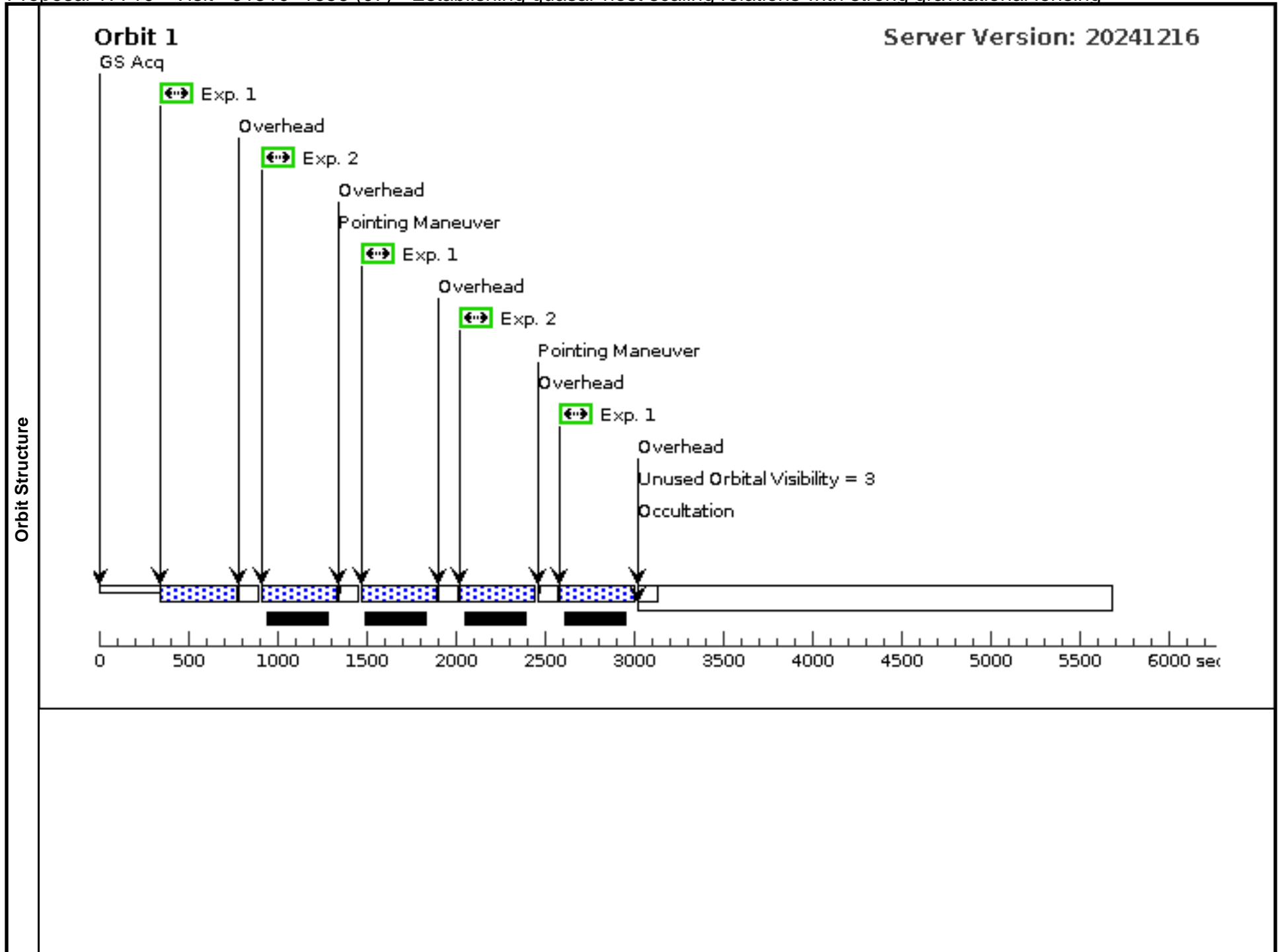


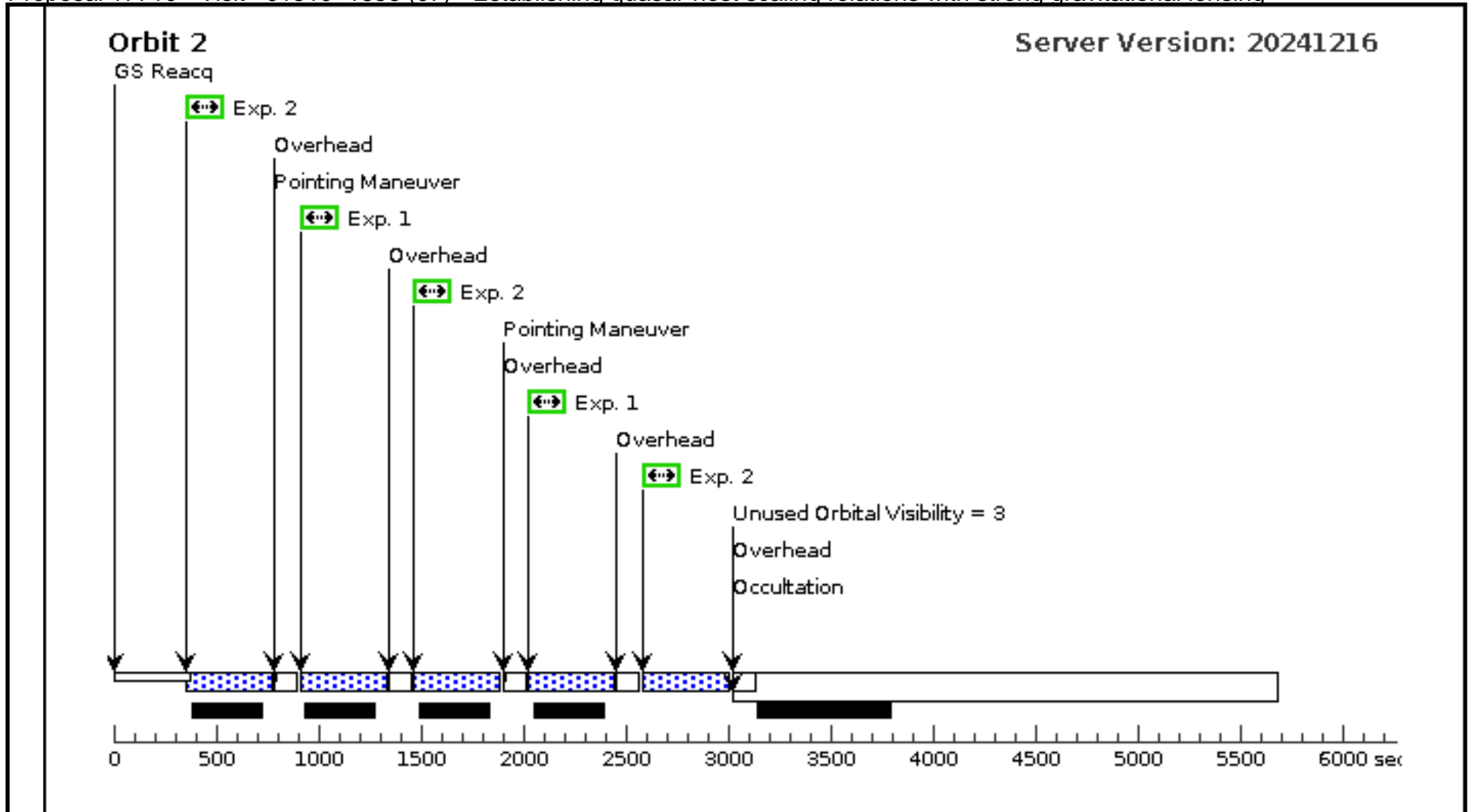


Proposal 17710 - Visit - J1510+1856 (07) - Establishing quasar-host scaling relations with strong gravitational lensing

Wed Jan 15 18:00:34 GMT 2025

Visit	<b>Proposal 17710, Visit - J1510+1856 (07), implementation</b> <b>Diagnostic Status: No Diagnostics</b> Scientific Instruments: WFC3/UVIS Special Requirements: (none)									
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		(2)	Pattern Type=WFC3-UVIS-DITHER-LINE Purpose=DITHER Number Of Points=5 Point Spacing=0.145 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=46.84 Angle Between Sides= Center Pattern=false					(1-2)	
Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous				
	(7)	SDSS-J151020.36+185632.2	RA: 15 10 20.3707 (227.5848779d) Dec: +18 56 32.20 (18.94228d) Equinox: J2000	Proper Motion RA: -6.752331849439583E-5 sec of time/yr Proper Motion Dec: 3.2E-4 arcsec/yr Epoch of Position: 2015.5	V=20.08	Reference Frame: SIMBAD				
	<i>Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.</i> Category=GALAXY Description=[GRAVITATIONAL LENS, QSO, QUASAR]									
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1	F814W	(7) SDSS-J151020.36+185632.2	WFC3/UVIS, ACCUM, UVIS2	F814W	CR-SPLIT=NO; FLASH=10		Pattern 2, Exps 1-2 in Visit - J1510+1856 (07) (2)	400 Secs (2000 Secs) [=>(Pattern 1)] [=>(Pattern 2)] [=>(Pattern 3)] [=>(Pattern 4)] [=>(Pattern 5)]	[1] [2]
2	F475W	(7) SDSS-J151020.36+185632.2	WFC3/UVIS, ACCUM, UVIS2	F475W	CR-SPLIT=NO; FLASH=10		Pattern 2, Exps 1-2 in Visit - J1510+1856 (07) (2)	400 Secs (2000 Secs) [=>(Pattern 1)] [=>(Pattern 2)] [=>(Pattern 3)] [=>(Pattern 4)] [=>(Pattern 5)]	[1] [2]	



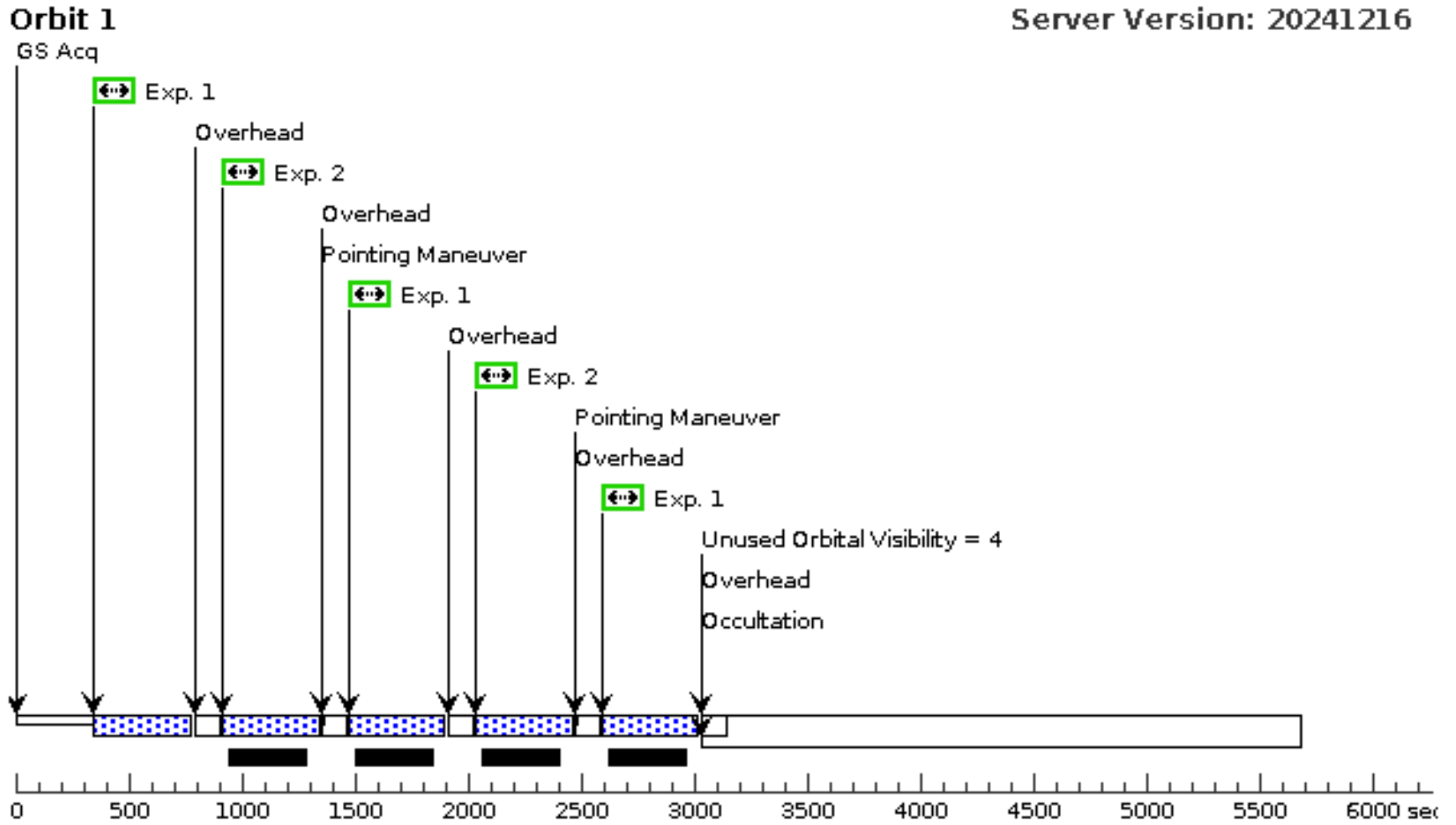


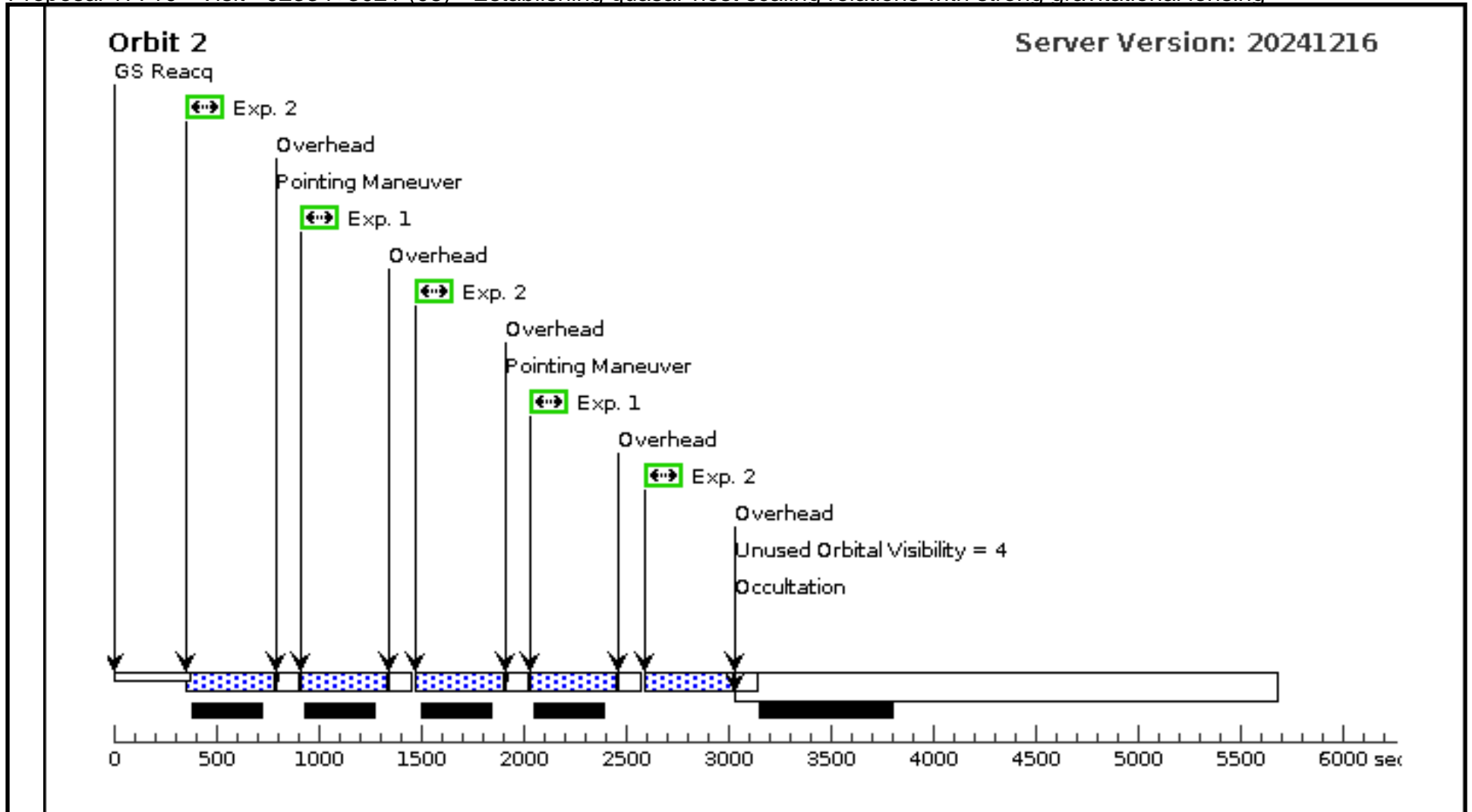
Proposal 17710 - Visit - J2334+3021 (08) - Establishing quasar-host scaling relations with strong gravitational lensing

Wed Jan 15 18:00:34 GMT 2025

<b>Visit</b>	<b>Proposal 17710, Visit - J2334+3021 (08), implementation</b> <b>Diagnostic Status: No Diagnostics</b> Scientific Instruments: WFC3/UVIS Special Requirements: (none)									
	<b>Patterns</b>	# (2)	<b>Primary Pattern</b> Pattern Type=WFC3-UVIS-DITHER-LINE Purpose=DITHER Number Of Points=5 Point Spacing=0.145 Line Spacing= Coordinate Frame=POS-TARG Pattern Orientation=46.84 Angle Between Sides= Center Pattern=false	<b>Secondary Pattern</b>	<b>Exposures</b> (1-2)					
<b>Fixed Targets</b>	# (8)	<b>Name</b> SDSS-J233443.68+302159.9	<b>Target Coordinates</b> RA: 23 34 43.6906 (353.6820442d) Dec: +30 22 0.03 (30.36668d) Equinox: J2000	<b>Targ. Coord. Corrections</b> Proper Motion RA: 6.204548694970539E-5 sec of time/yr Proper Motion Dec: -9.499999123363523E-4 arcsec/yr Epoch of Position: 2015.5	<b>Fluxes</b> V=19.89	<b>Miscellaneous</b> Reference Frame: SIMBAD  <i>Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.</i> Category=GALAXY Description=[GRAVITATIONAL LENS, QSO, QUASAR]				
<b>Exposures</b>	# 1	<b>Label</b> F814W	<b>Target</b> (8) SDSS-J233443.68+302159.9	<b>Config,Mode,Aperture</b> WFC3/UVIS, ACCUM, UVIS2	<b>Spectral Els.</b> F814W	<b>Opt. Params.</b> CR-SPLIT=NO; FLASH=10	<b>Special Reqs.</b>	<b>Groups</b> Pattern 2, Exps 1-2 in Visit - J2334+3021 (08) (2)	<b>Exp. Time (Total)/[Actual Dur.]</b> 402 Secs (2010 Secs) [==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)] [==>(Pattern 4)] [==>(Pattern 5)]	<b>Orbit</b> [1] [2]
	2	F475W	(8) SDSS-J233443.68+302159.9	WFC3/UVIS, ACCUM, UVIS2	F475W	CR-SPLIT=NO; FLASH=10		Pattern 2, Exps 1-2 in Visit - J2334+3021 (08) (2)	402 Secs (2010 Secs) [==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)] [==>(Pattern 4)] [==>(Pattern 5)]	[1] [2]

Orbit Structure



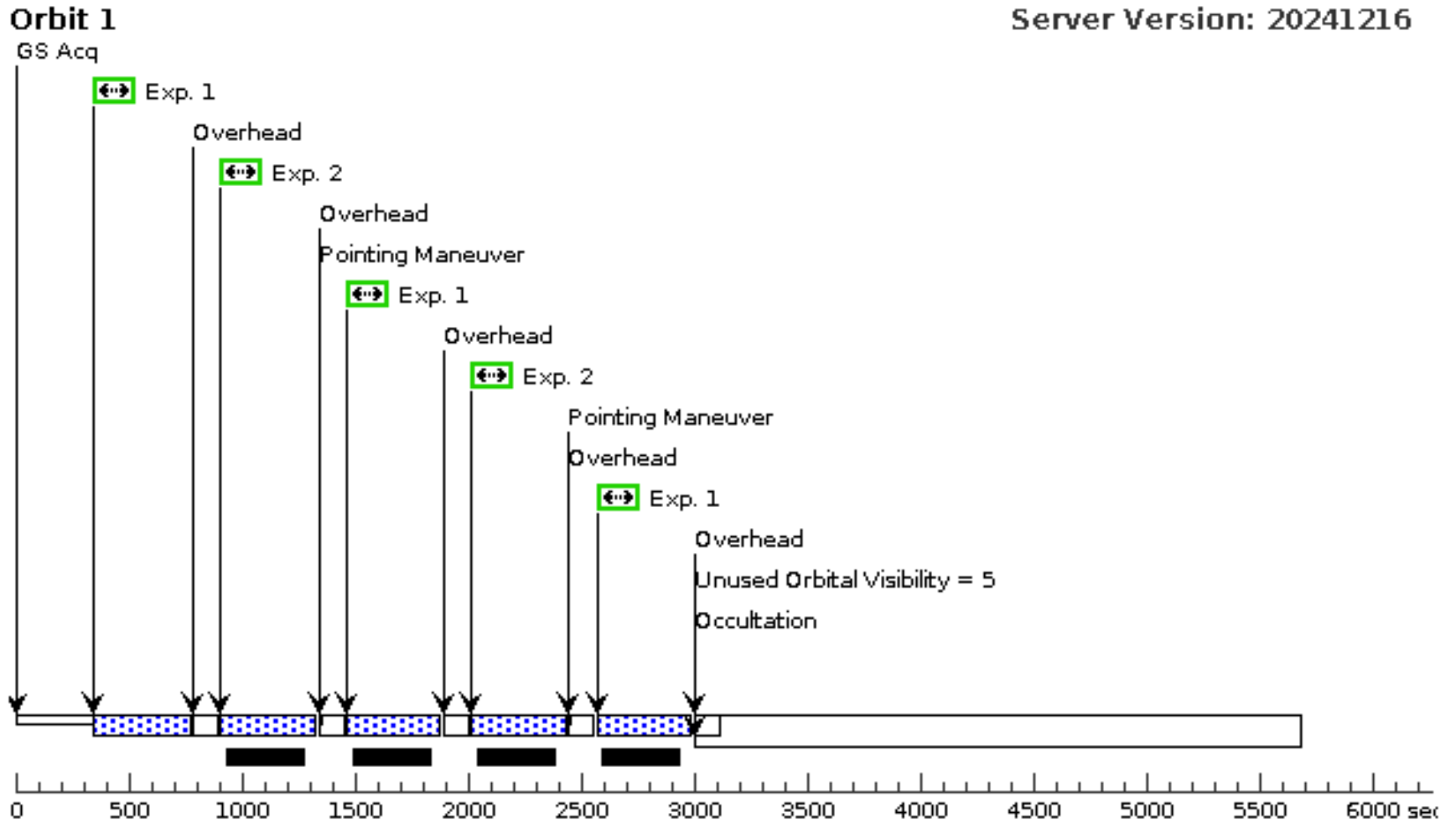


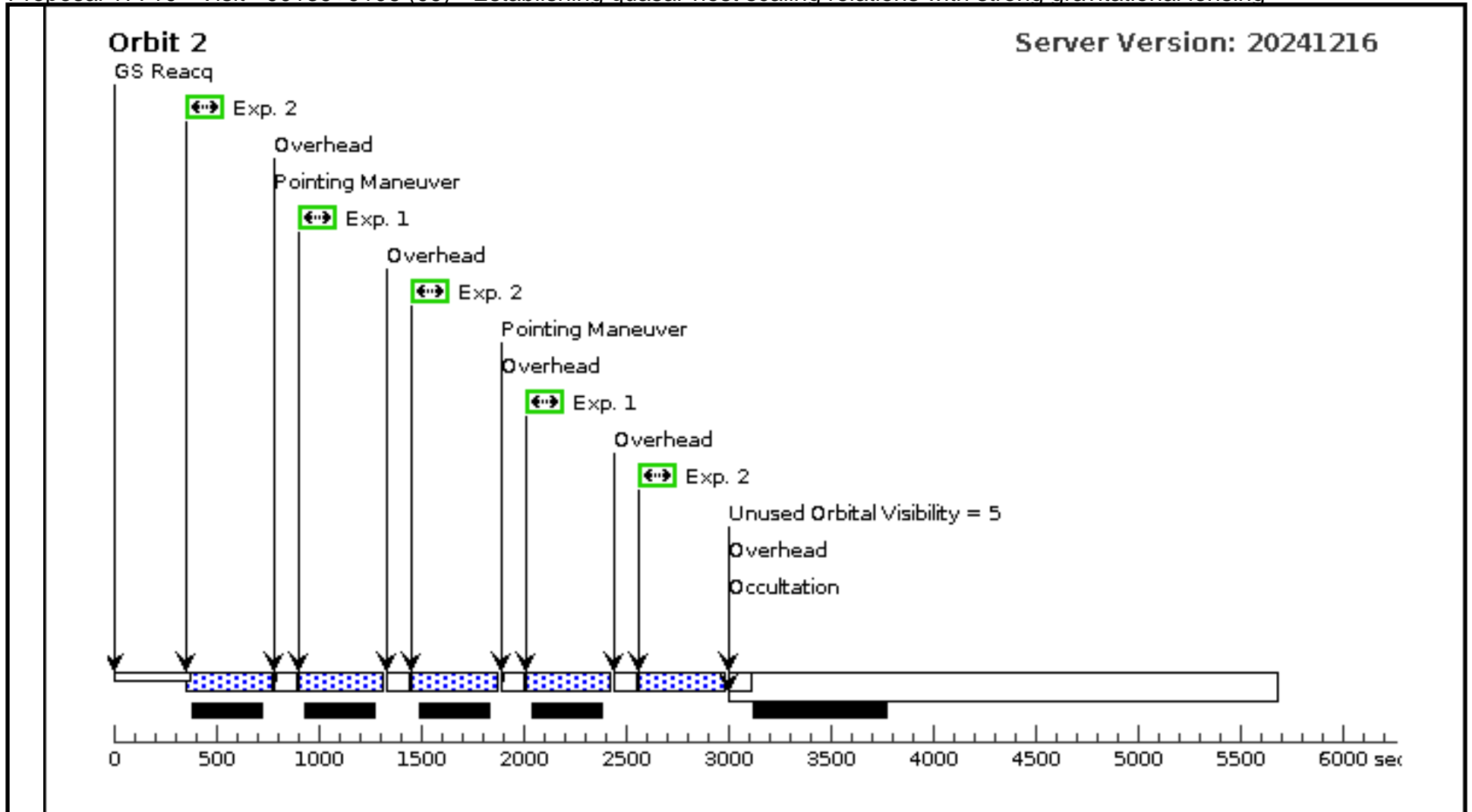
Proposal 17710 - Visit - J0139+0106 (09) - Establishing quasar-host scaling relations with strong gravitational lensing

Wed Jan 15 18:00:34 GMT 2025

Visit	<b>Proposal 17710, Visit - J0139+0106 (09), implementation</b> <b>Diagnostic Status: No Diagnostics</b> Scientific Instruments: WFC3/UVIS Special Requirements: (none)									
	Patterns	#	Primary Pattern			Secondary Pattern			Exposures	
		(2)	Pattern Type=WFC3-UVIS-DITHER-LINE Purpose=DITHER Number Of Points=5 Point Spacing=0.145 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=46.84 Angle Between Sides= Center Pattern=false					(1-2)	
Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous				
	(9)	SDSS-J013934.97+010629.8	RA: 01 39 34.9738 (24.8957242d) Dec: +01 06 29.88 (1.10830d) Equinox: J2000	Epoch of Position: 2015.5	V=21.98	Reference Frame: SIMBAD				
	<i>Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.</i> Category=GALAXY Description=[GRAVITATIONAL LENS, OSO, QUASAR]									
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1	F814W	(9) SDSS-J013934.97+010629.8	WFC3/UVIS, ACCUM, UVIS2	F814W	CR-SPLIT=NO; FLASH=10		Pattern 2, Exps 1-2 in Visit - J0139+0106 (09) (2)	396 Secs (1980 Secs) [==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)] [==>(Pattern 4)] [==>(Pattern 5)]	[1] [2]
2	F475W	(9) SDSS-J013934.97+010629.8	WFC3/UVIS, ACCUM, UVIS2	F475W	CR-SPLIT=NO; FLASH=10		Pattern 2, Exps 1-2 in Visit - J0139+0106 (09) (2)	396 Secs (1980 Secs) [==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)] [==>(Pattern 4)] [==>(Pattern 5)]	[1] [2]	

Orbit Structure

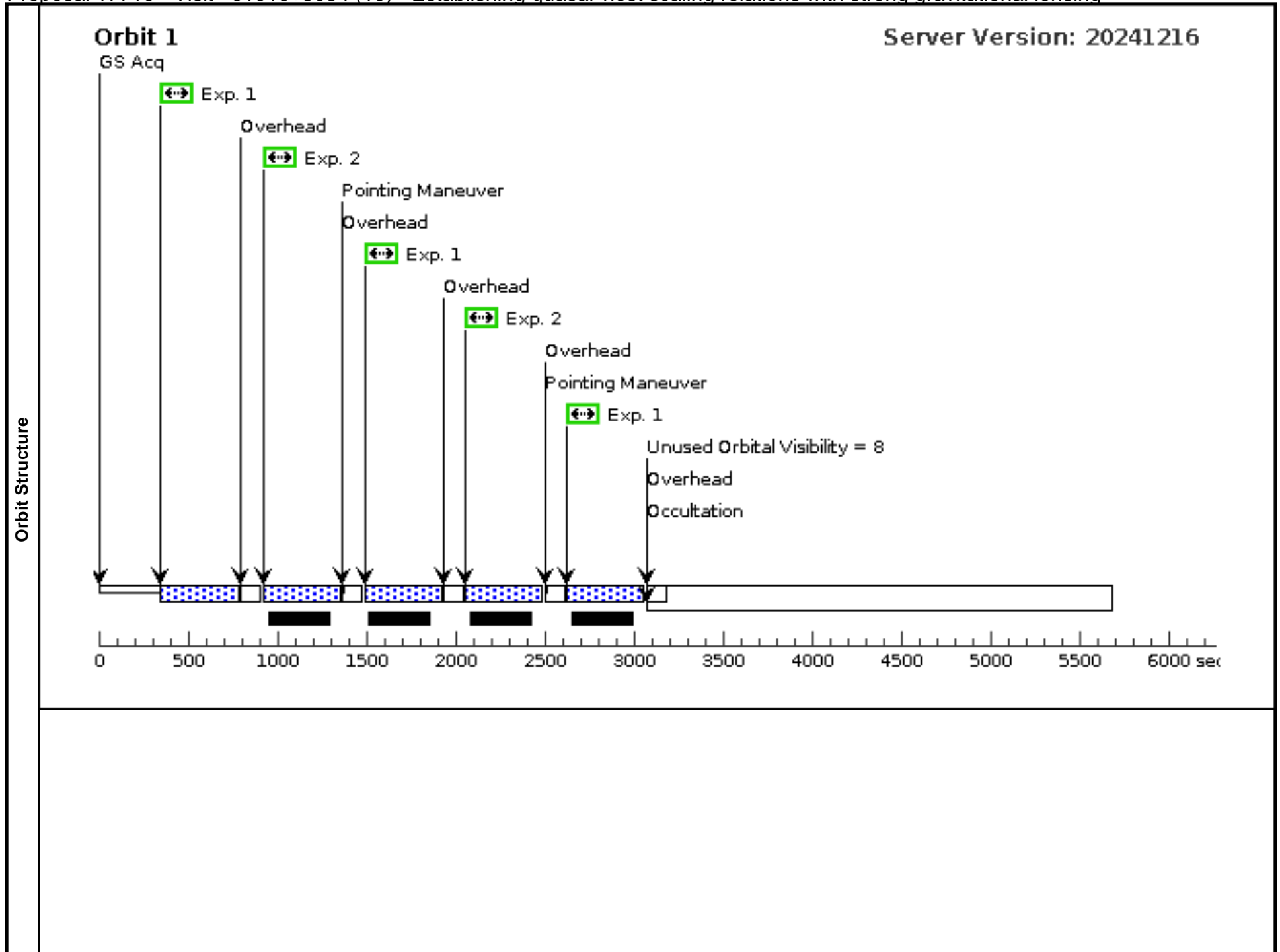


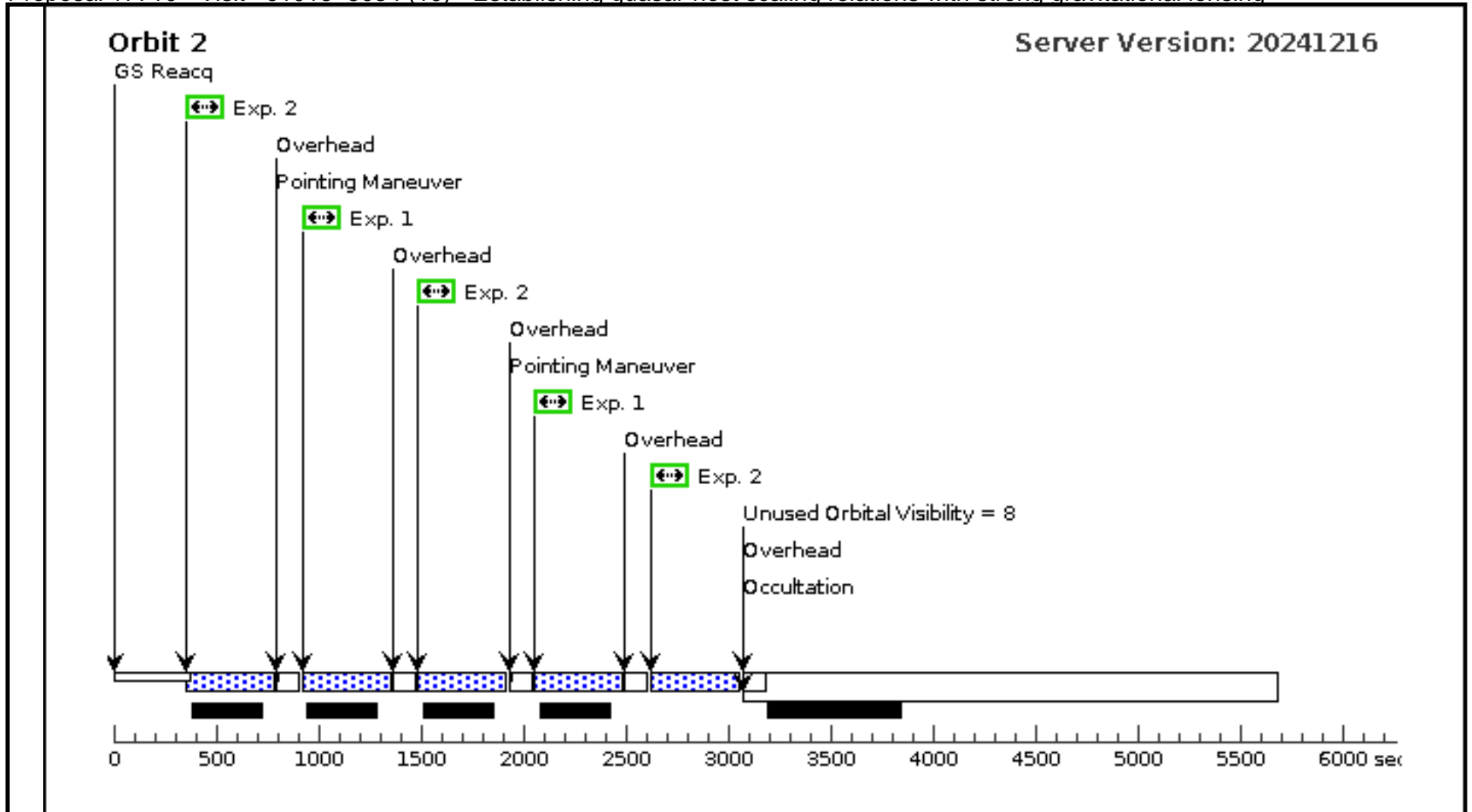


Proposal 17710 - Visit - J1016+5034 (10) - Establishing quasar-host scaling relations with strong gravitational lensing

Wed Jan 15 18:00:34 GMT 2025

Visit	<b>Proposal 17710, Visit - J1016+5034 (10), implementation</b> <b>Diagnostic Status: No Diagnostics</b> Scientific Instruments: WFC3/UVIS Special Requirements: (none)										
	Patterns	#	Primary Pattern			Secondary Pattern			Exposures		
		(2)	Pattern Type=WFC3-UVIS-DITHER-LINE Purpose=DITHER Number Of Points=5 Point Spacing=0.145 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=46.84 Angle Between Sides= Center Pattern=false					(1-2)		
Fixed Targets	#	Name	Target Coordinates		Targ. Coord. Corrections		Fluxes	Miscellaneous			
	(10)	SDSS-J101625.37+503426.5	RA: 10 16 25.3727 (154.1057196d) Dec: +50 34 26.64 (50.57407d) Equinox: J2000	Proper Motion RA: -3.5166162783743104E-5 sec of time/yr Proper Motion Dec: 1.04E-4 arcsec/yr Epoch of Position: 2015.5	V=19.83	Reference Frame: SIMBAD					
	<i>Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.</i> Category=GALAXY Description=[GRAVITATIONAL LENS, OSO, QUASAR]										
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]		Orbit
	1	F814W	(10) SDSS-J101625.37+503426.5	WFC3/UVIS, ACCUM, UVIS2	F814W	CR-SPLIT=NO; FLASH=10	POS TARG 30,10	Pattern 2, Exps 1-2 in Visit - J1016+5034 (10) (2)	410 Secs (2050 Secs)		
								[==>(Pattern 1)]		[1]	
								[==>(Pattern 2)]			
								[==>(Pattern 3)]			
								[==>(Pattern 4)]		[2]	
								[==>(Pattern 5)]			
	2	F475W	(10) SDSS-J101625.37+503426.5	WFC3/UVIS, ACCUM, UVIS2	F475W	CR-SPLIT=NO; FLASH=10	POS TARG 30,10	Pattern 2, Exps 1-2 in Visit - J1016+5034 (10) (2)	410 Secs (2050 Secs)		
								[==>(Pattern 1)]		[1]	
								[==>(Pattern 2)]			
								[==>(Pattern 3)]			
								[==>(Pattern 4)]		[2]	
								[==>(Pattern 5)]			





Proposal 17710 - Visit - NGC136 (11) - Establishing quasar-host scaling relations with strong gravitational lensing

Wed Jan 15 18:00:34 GMT 2025

Visit	<b>Proposal 17710, Visit - NGC136 (11), implementation</b> <b>Diagnostic Status: No Diagnostics</b> Scientific Instruments: WFC3/UVIS Special Requirements: (none)									
	Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous			
		(11)	NGC-136	RA: 00 31 23.0000 (7.8458333d) Dec: +61 29 47.00 (61.49639d) Equinox: J2000	Proper Motion RA: -2.3029704796957142E-4 sec of time/yr Proper Motion Dec: -5.220000048211659E-4 arcsec/yr Epoch of Position: 2015.5	V=15	Reference Frame: SIMBAD			
	<i>Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.</i> Category=STELLAR CLUSTER Description=[OPEN CLUSTER]									
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1		(11) NGC-136	WFC3/UVIS, ACCUM, UVIS2	F814W	FLASH=15; CR-SPLIT=NO	POS TARG 0.,0.0		60 Secs (60 Secs) [==>]	[1]
	2		(11) NGC-136	WFC3/UVIS, ACCUM, UVIS2	F814W	FLASH=7; CR-SPLIT=NO	POS TARG 0.092,0.098		475 Secs (475 Secs) [==>]	[1]
	3		(11) NGC-136	WFC3/UVIS, ACCUM, UVIS2	F814W	FLASH=7; CR-SPLIT=NO	POS TARG 0.185,0.197		475 Secs (475 Secs) [==>]	[1]
	4		(11) NGC-136	WFC3/UVIS, ACCUM, UVIS2	F475W	FLASH=10; CR-SPLIT=NO	SAME POS AS 2		475 Secs (475 Secs) [==>]	[1]
	5		(11) NGC-136	WFC3/UVIS, ACCUM, UVIS2	F475W	FLASH=10; CR-SPLIT=NO	SAME POS AS 3		475 Secs (475 Secs) [==>]	[1]
	6		(11) NGC-136	WFC3/UVIS, ACCUM, UVIS2	F475W	FLASH=15; CR-SPLIT=NO	SAME POS AS 1		60 Secs (60 Secs) [==>]	[1]

