17774 - Multiphase gas in eROSITA-detected galaxy groups and clusters

Cycle: 32, Proposal Category: GO

(UV Initiative)

(Availability Mode: SUPPORTED)

INVESTIGATORS

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Mr. Timothy McQuaid (CoI)	New Mexico State University

VISITS

Visit	*Targets used in Visit*	*Configurations used in Visit*	*Orbits Used*	*Last Orbit Planner Run*	*OP Current with Visit?*
01	(1) 2MASSJ10443748-0705162	COS/FUV COS/NUV	3	11-Feb-2026 13:00:26.0	yes
02	(2) 2MASXJ08370334+2508153	COS/FUV COS/NUV	3	11-Feb-2026 13:00:27.0	yes
03	(3) B21229+29	COS/FUV COS/NUV	3	11-Feb-2026 13:00:28.0	yes
04	(4) EQSB1255-0143	COS/FUV COS/NUV	2	11-Feb-2026 13:00:28.0	yes
05	(5) LEONX-1	COS/FUV COS/NUV	2	11-Feb-2026 13:00:29.0	yes
25	(5) LEONX-1	COS/FUV COS/NUV	1	11-Feb-2026 13:00:29.0	yes
06	(6) MS10302-2757	COS/FUV COS/NUV	1	11-Feb-2026 13:00:30.0	yes
07	(7) PGC3095905	COS/FUV COS/NUV	2	11-Feb-2026 13:00:30.0	yes
08	(8) PGC955931	COS/FUV COS/NUV	3	11-Feb-2026 13:00:31.0	yes
09	(9) SDSSJ101314.86-005233.6	COS/FUV COS/NUV	3	11-Feb-2026 13:00:32.0	yes
10	(10) SDSSJ125849.84-014303.3	COS/FUV COS/NUV	3	11-Feb-2026 13:00:32.0	yes
11	(11) SDSSJ142500.00+024039.2	COS/FUV COS/NUV	2	11-Feb-2026 13:00:33.0	yes
12	(11) SDSSJ142500.00+024039.2	COS/FUV COS/NUV	2	11-Feb-2026 13:00:33.0	yes

Visit	*Targets used in Visit*	*Configurations used in Visit*	*Orbits Used*	*Last Orbit Planner Run*	*OP Current with Visit?*
13	(12) TGS467Z204	COS/FUV COS/NUV	1	11-Feb-2026 13:00:34.0	yes
14	(13) UM472	COS/FUV COS/NUV	2	11-Feb-2026 13:00:34.0	yes
15	(14) UVQSJ054917.24-254809.7	COS/FUV COS/NUV	2	11-Feb-2026 13:00:35.0	yes
16	(15) UVQSJ133435.46-313556.7	COS/FUV COS/NUV	2	11-Feb-2026 13:00:35.0	yes

37 Total Orbits Used

ABSTRACT

Galaxy groups and clusters can be brutal environments for galaxies' star formation, as the hot (>10^6 K) gas permeating these massive halos can readily remove galaxies' cool (<10^4 K) gas reservoirs and prevent fresh cool gas from fueling. However, studying these inherently multiphase environments from a multiphase perspective, i.e., systematically characterizing the diffuse cool and hot gas in groups and clusters, has remained elusive due to the relatively small numbers of X-ray detected halos to target in UV absorption line experiments. The eROSITA All Sky Survey (eRASS) is dramatically changing the landscape with an order-of-magnitude increase in the number of X-ray detected groups and clusters after only the first year of observations. We propose to obtain HST/COS spectra of quasars probing a sample of eRASS-detected galaxy groups and clusters spanning two orders of magnitude in X-ray luminosity, representing the first study of its kind and tripling the previously existing samples. First, we will track the cool gas, traced by H I Ly-alpha and Si III, contents in and around these halos as a function of the X-ray derived properties. Using ongoing follow-up spectroscopic surveys for these groups/clusters, we will characterize the CGM contents of galaxies near the sightlines to investigate the impact of increasing hot gas density and temperature (via the X-ray measurements) on these galaxies. Hydrodynamical simulations have been highly inconsistent in reproducing the few existing observations, and the dataset from our program will stand as a critical benchmark for state-of-the-art models that attempt to capture the salient multiphase gas physics in massive halos.

OBSERVING DESCRIPTION

To achieve our science goals, we will employ the G130M grating providing ~20 km s^-1 spectral resolution. We will primarily target H I Lya at the cluster's redshifts. The G130M central wavelength configurations chosen for each target ensures coverage of not only Lya, but also some transitions of silicon. Mission critical for our science is coverage of Lya with sufficient S/N; we have chosen grating configurations to maximize throughput at

the H I Lya line. We will also cover Si III 1206 Ang, and additional metal lines (Si II 1190, 1193 Ang, and Si II 1260 Ang for a majority of our targets) will supplement our key scientific objectives but are not the focus of this proposal. Our orbit requests are derived from an S/N = 10 requirement at Lya, which corresponds to a limiting equivalent width ~40 mAng assuming a line width of 6 pixels, with exposure time estimates determined by the COS ETC. We do not require coverage of Lyb because we expect most of the H I Lya absorption to be optically thin. Even in the conditions where this is not the case, we can place reliable lower limits on N (H I). We will employ a routine observing sequence for COS. We will acquire the targets in the near-UV with an ACQ/IMAGE exposure then switch to TIME-TAG for our science exposures. To comply with guidelines as outlined in the COS Handbook and minimize flat-field artifacts, we will use multiple FP-POS settings during each visit.

Visit

Proposal 17774, Visit 01, completed Wed Feb 11 18:00:36 GMT 2026

Diagnostic Status: Warning

Scientific Instruments: COS/FUV, COS/NUV

Special Requirements: (none)

Diagnostics

(Visit 01) Warning (Orbit Planner): COS EXPOSURE TIME ROUNDED DOWN TO NEAREST 0.1 SECONDS

(Visit 01) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN

(Visit 01) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN

(Visit 01) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN

Fixed Targets

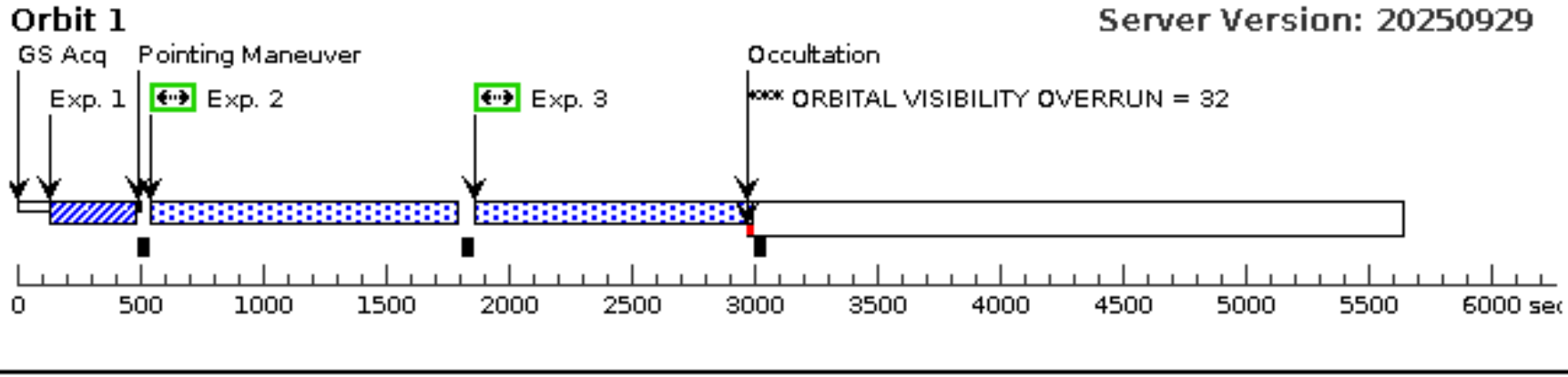
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	2MASSJ10443748-0705162	RA: 10 44 37.4735 (161.1561396d) Dec: -07 05 16.19 (-7.08783d) Equinox: J2000		V=17.428 FUV=17.90416145	Reference Frame: ICRS

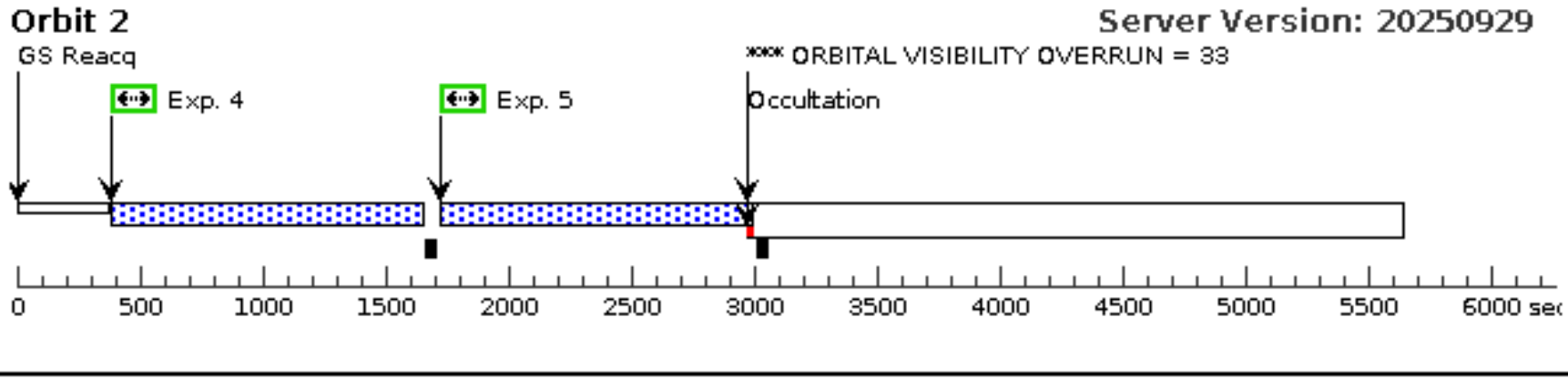
Comments:
Category=GALAXY
Description=[QSO]
Extended=NO

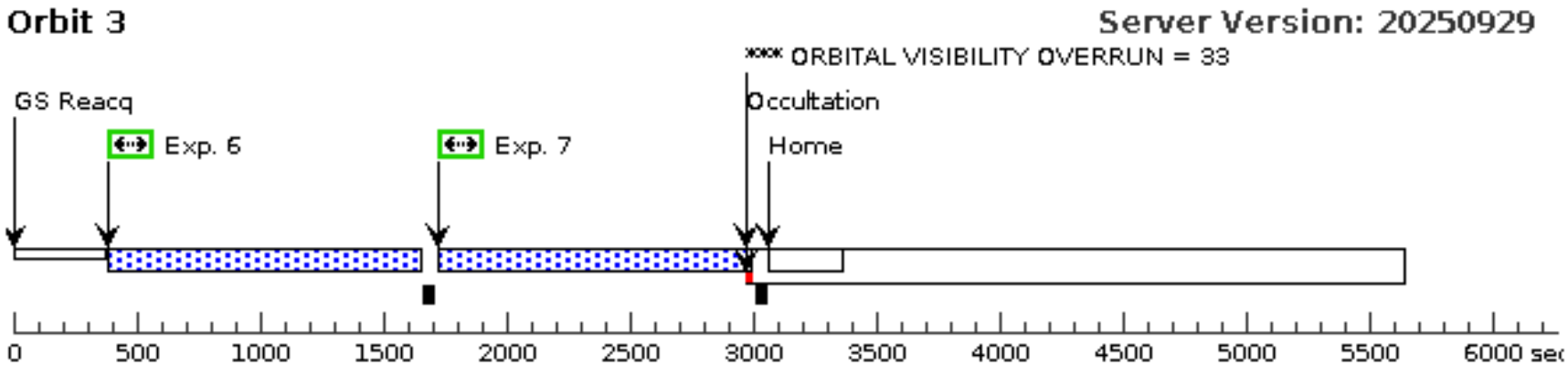
Exposures

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	(COS.ta.1934301)	(1) 2MASSJ10443748-0705162	COS/NUV, ACQ/IMAGE, PSA	MIRRORB				19.2 Secs (19.2 Secs) *[==>]*	***[1]***
2	(COS.sp.1931424)	(1) 2MASSJ10443748-0705162	COS/FUV, TIME-TAG, PSA	G130M 1291 A	FP-POS=3; SEGMENT=BOTH; BUFFER-TIME=4087			1078 Secs (1078 Secs) *[==>]*	***[1]***
3	(COS.sp.1931424)	(1) 2MASSJ10443748-0705162	COS/FUV, TIME-TAG, PSA	G130M 1291 A	FP-POS=3; SEGMENT=BOTH; BUFFER-TIME=4087			1078 Secs (1078 Secs) *[==>]*	***[1]***
4	(COS.sp.1931424)	(1) 2MASSJ10443748-0705162	COS/FUV, TIME-TAG, PSA	G130M 1291 A	FP-POS=3; SEGMENT=BOTH; BUFFER-TIME=4087			1222 Secs (1222 Secs) *[==>]*	***[2]***
5	(COS.sp.1931424)	(1) 2MASSJ10443748-0705162	COS/FUV, TIME-TAG, PSA	G130M 1291 A	FP-POS=4; SEGMENT=BOTH; BUFFER-TIME=4087			1220 Secs (1220 Secs) *[==>]*	***[2]***
6	(COS.sp.1931424)	(1) 2MASSJ10443748-0705162	COS/FUV, TIME-TAG, PSA	G130M 1291 A	FP-POS=4; SEGMENT=BOTH; BUFFER-TIME=4087			1223 Secs (1223 Secs) *[==>]*	***[3]***
7	(COS.sp.1931424)	(1) 2MASSJ10443748-0705162	COS/FUV, TIME-TAG, PSA	G130M 1291 A	FP-POS=4; SEGMENT=BOTH; BUFFER-TIME=4087			1222 Secs (1222 Secs) *[==>]*	***[3]***

Orbit Structure







Visit

Proposal 17774, Visit 02, completed Wed Feb 11 18:00:36 GMT 2026

Diagnostic Status: Warning

Scientific Instruments: COS/FUV, COS/NUV

Special Requirements: (none)

Diagnostics

(Visit 02) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN

(Visit 02) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN

(Visit 02) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN

Fixed Targets

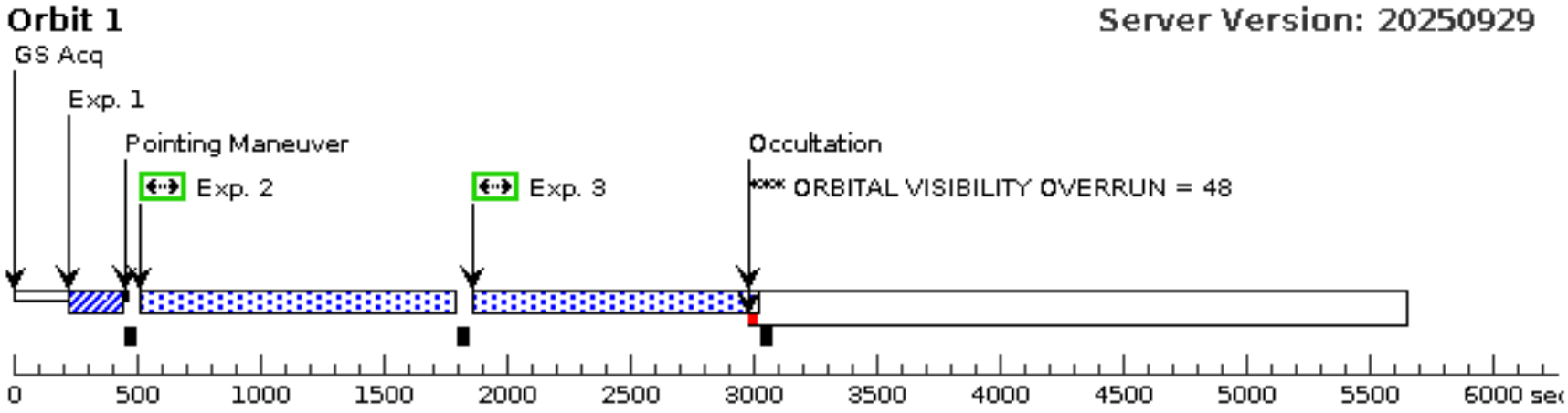
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(2)	2MASXJ08370334+2508153	RA: 08 37 3.2990 (129.2637458d) Dec: +25 08 15.23 (25.13756d) Equinox: J2000		V=18.353 FUV=18.27466202	Reference Frame: ICRS

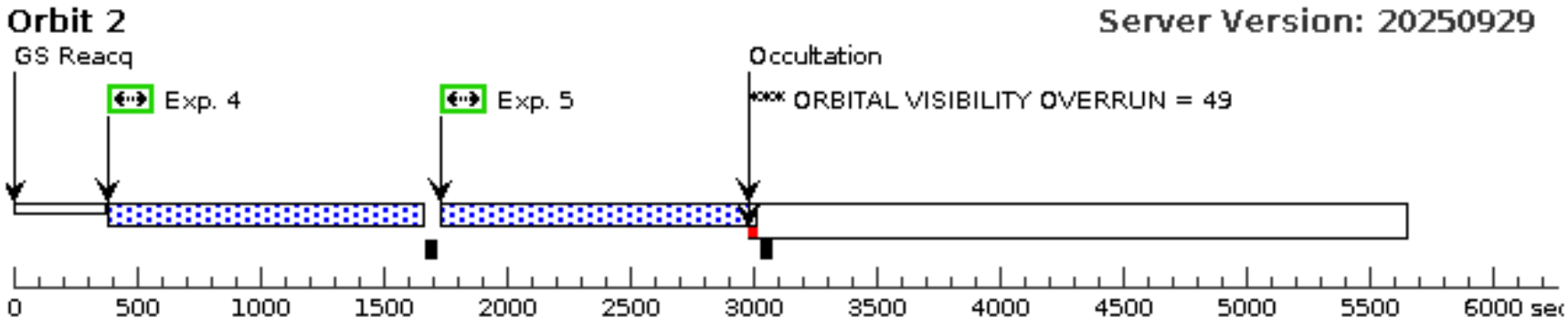
Comments:
Category=GALAXY
Description=[QSO, QUASAR]
Extended=NO

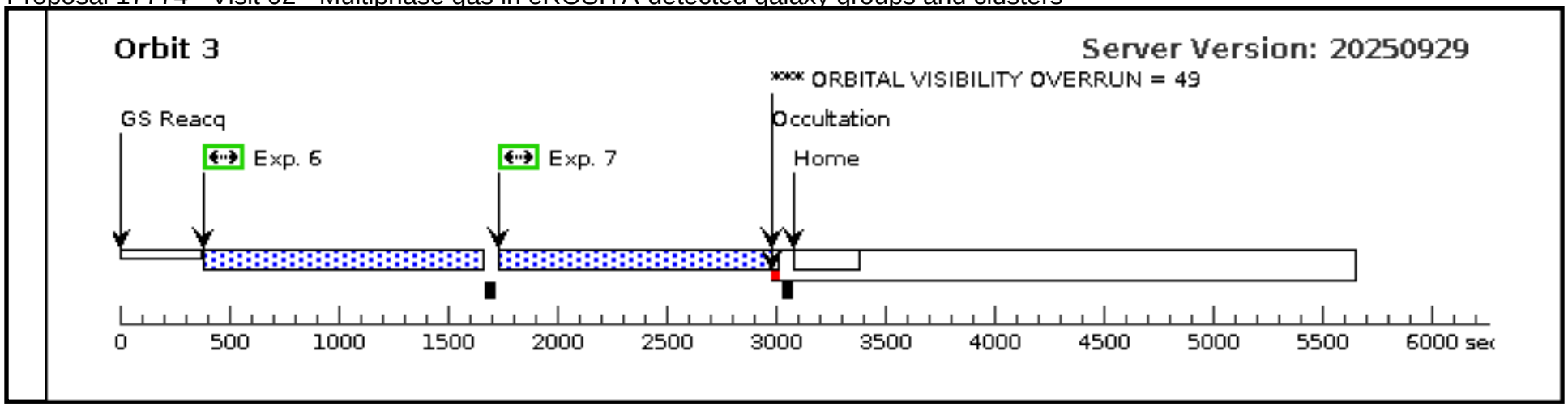
Exposures

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	(COS.ta.1934302)	(2) 2MASXJ08370334+2508153	COS/NUV, ACQ/IMAGE, PSA	MIRRORA				1.6 Secs (1.6 Secs) *[==>]*	***[1]***
2	(COS.sp.1931434)	(2) 2MASXJ08370334+2508153	COS/FUV, TIME-TAG, PSA	G130M 1291 A	FP-POS=3; SEGMENT=BOTH; BUFFER-TIME=4343			1107 Secs (1107 Secs) *[==>]*	***[1]***
3	(COS.sp.1931434)	(2) 2MASXJ08370334+2508153	COS/FUV, TIME-TAG, PSA	G130M 1291 A	FP-POS=3; SEGMENT=BOTH; BUFFER-TIME=4343			1107 Secs (1107 Secs) *[==>]*	***[1]***
4	(COS.sp.1931434)	(2) 2MASXJ08370334+2508153	COS/FUV, TIME-TAG, PSA	G130M 1291 A	FP-POS=3; SEGMENT=BOTH; BUFFER-TIME=4343			1232 Secs (1232 Secs) *[==>]*	***[2]***
5	(COS.sp.1931434)	(2) 2MASXJ08370334+2508153	COS/FUV, TIME-TAG, PSA	G130M 1291 A	FP-POS=4; SEGMENT=BOTH; BUFFER-TIME=4343			1232 Secs (1232 Secs) *[==>]*	***[2]***
6	(COS.sp.1931434)	(2) 2MASXJ08370334+2508153	COS/FUV, TIME-TAG, PSA	G130M 1291 A	FP-POS=4; SEGMENT=BOTH; BUFFER-TIME=4343			1234 Secs (1234 Secs) *[==>]*	***[3]***
7	(COS.sp.1931434)	(2) 2MASXJ08370334+2508153	COS/FUV, TIME-TAG, PSA	G130M 1291 A	FP-POS=4; SEGMENT=BOTH; BUFFER-TIME=4343			1233 Secs (1233 Secs) *[==>]*	***[3]***

Orbit Structure



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Exp. 6
Exp. 7
Occultation
Home
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1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
6000 sec

Visit

Proposal 17774, Visit 03, scheduled Wed Feb 11 18:00:36 GMT 2026

Diagnostic Status: Warning

Scientific Instruments: COS/FUV, COS/NUV

Special Requirements: (none)

Diagnostics

(Visit 03) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN

(Visit 03) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN

(Visit 03) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN

Fixed Targets

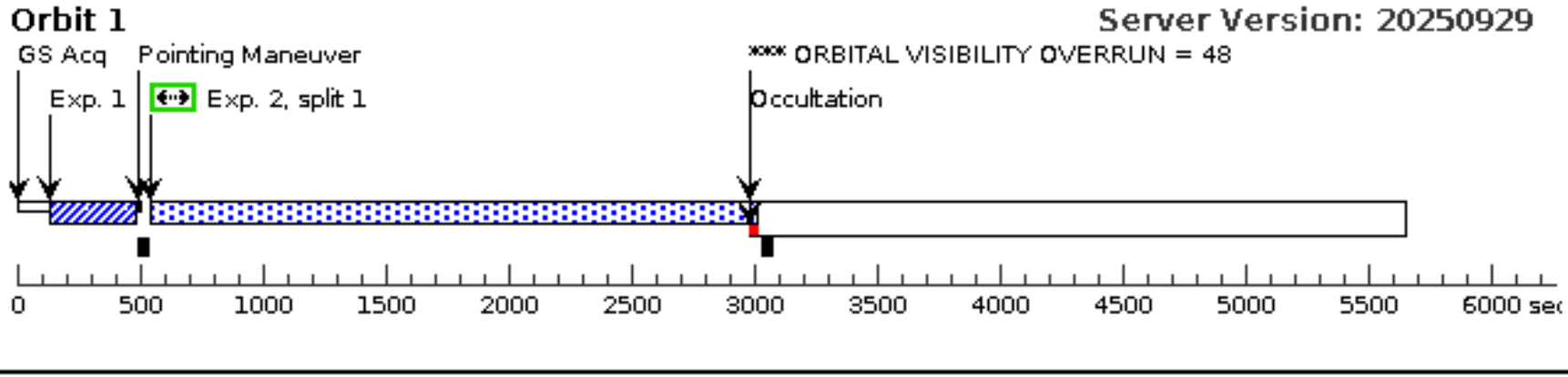
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(3)	B21229+29	RA: 12 31 43.5685 (187.9315354d) Dec: +28 47 49.70 (28.79714d) Equinox: J2000		V=17.415 FUV=18.17481613	Reference Frame: ICRS

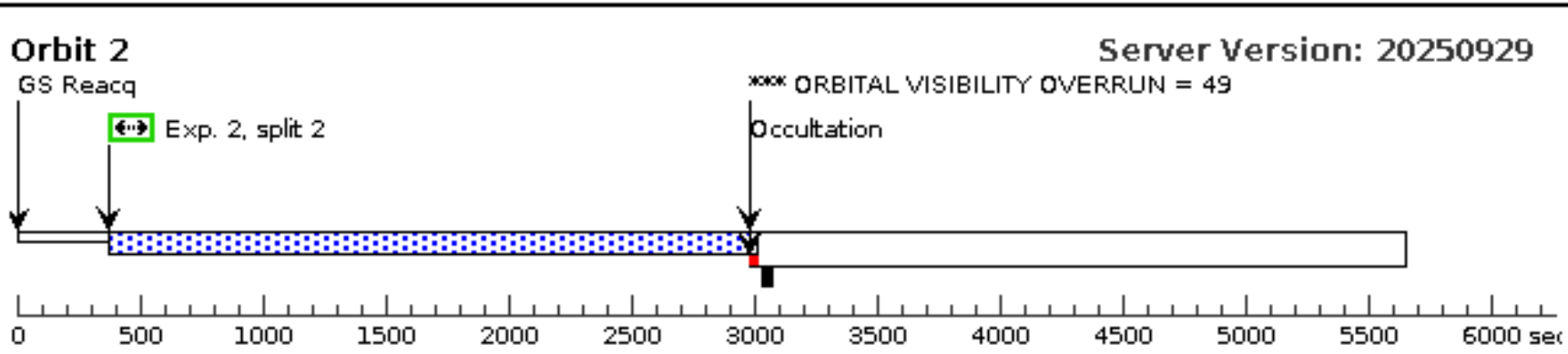
Comments:
Category=GALAXY
Description=[QSO, QUASAR]
Extended=NO

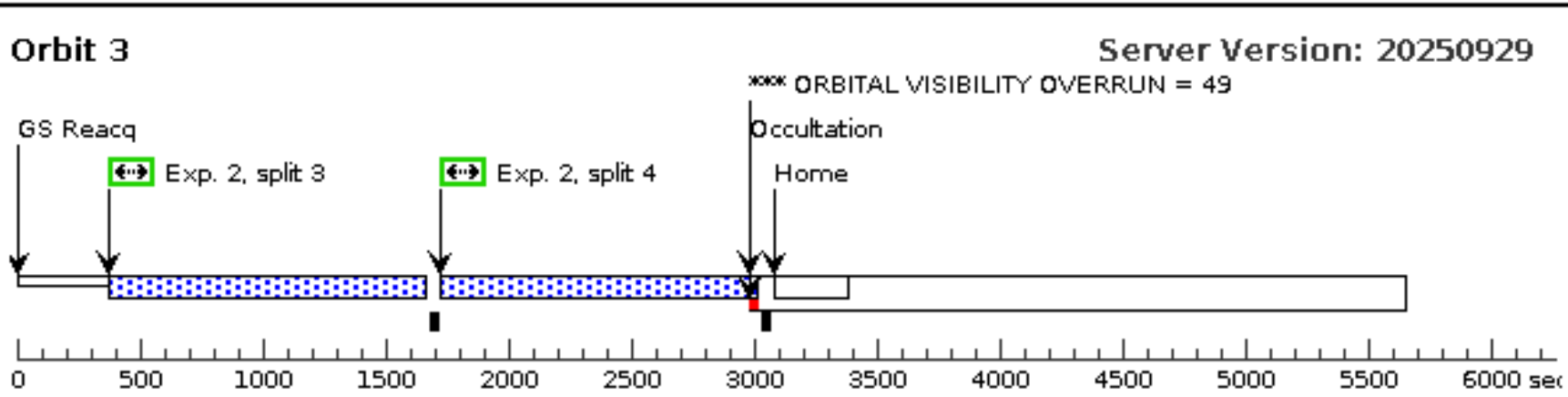
Exposures

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	(COS.ta.1934305)	(3) B21229+29	COS/NUV, ACQ/IMAGE, PSA	MIRRORB				18.7 Secs (18.7 Secs)	
								[==>]	***[1]***
2	(COS.sp.1931438)	(3) B21229+29	COS/FUV, TIME-TAG, PSA	G130M 1222 A	SEGMENT=BOTH; FP-POS=ALL; BUFFER-TIME=8191			1088 Secs (7348 Secs)	
								[==>2287.0 Secs (Split 1)]	***[1]***
								[==>2588.0 Secs (Split 2)]	***[2]***
								[==>1236.0 Secs (Split 3)] *[==>1237.0 Secs (Split 4)]*	***[3]***

Orbit Structure







Visit

Proposal 17774, Visit 04, scheduled Wed Feb 11 18:00:36 GMT 2026

Diagnostic Status: Warning

Scientific Instruments: COS/FUV, COS/NUV

Special Requirements: (none)

Diagnostics

(Visit 04) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN

(Visit 04) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN

Fixed Targets

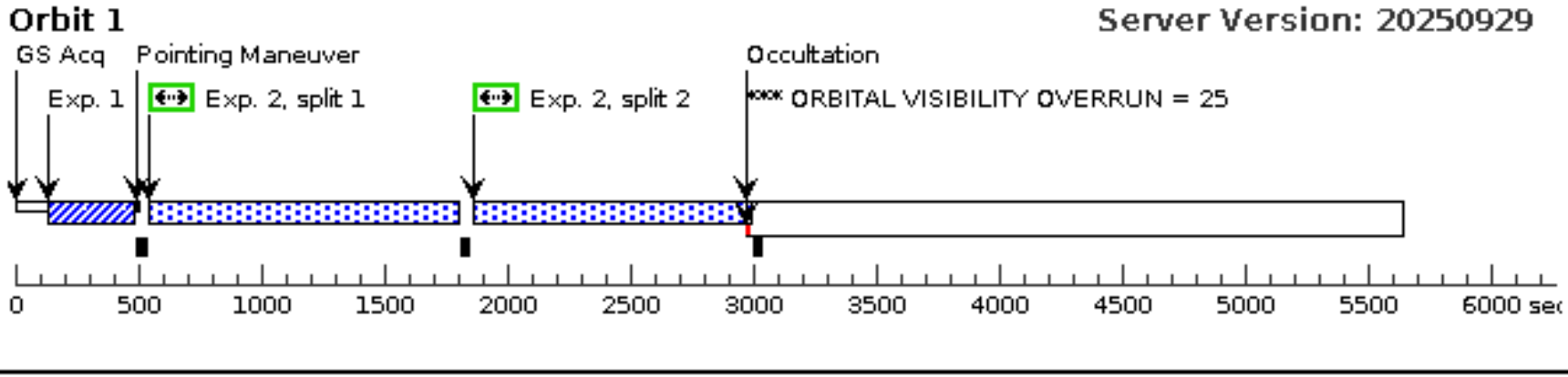
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(4)	EQSB1255-0143	RA: 12 58 15.2192 (194.5634133d) Dec: -01 59 18.69 (-1.98852d) Equinox: J2000		V=17.561 FUV=17.83533859	Reference Frame: ICRS

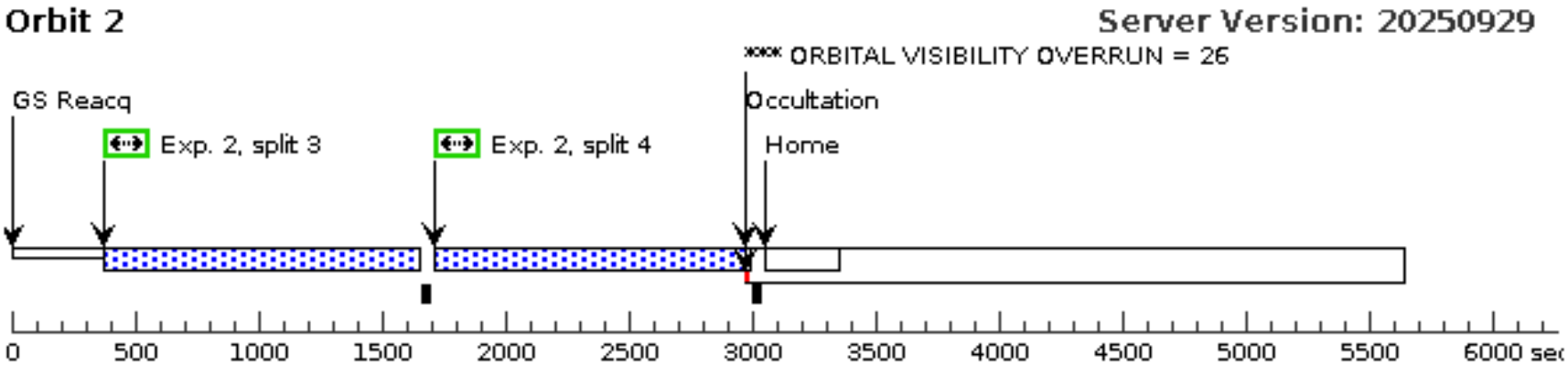
Comments:
Category=GALAXY
Description=[QSO, QUASAR]
Extended=NO

Exposures

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	(COS.ta.1934307)	(4) EQSB1255-0143	COS/NUV, ACQ/IMAGE, PSA	MIRRORB				18.1 Secs (18.1 Secs)	
								[==>]	***[1]***
2	(COS.sp.1931443)	(4) EQSB1255-0143	COS/FUV, TIME-TAG, PSA	G130M 1222 A	SEGMENT=BOTH; FP-POS=ALL; BUFFER-TIME=7444			1470 Secs (4591 Secs)	
								[==>1072.0 Secs (Split 1)] *[==>1073.0 Secs (Split 2)]*	***[1]***
								[==>1223.0 Secs (Split 3)] *[==>1223.0 Secs (Split 4)]*	***[2]***

Orbit Structure





Visit

Proposal 17774, Visit 05, failed Wed Feb 11 18:00:36 GMT 2026

Diagnostic Status: Warning

Scientific Instruments: COS/FUV, COS/NUV

Special Requirements: (none)

Diagnostics

(Visit 05) Warning (Orbit Planner): COS EXPOSURE TIME ROUNDED DOWN TO NEAREST 0.1 SECONDS

(Visit 05) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN

(Visit 05) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN

Fixed Targets

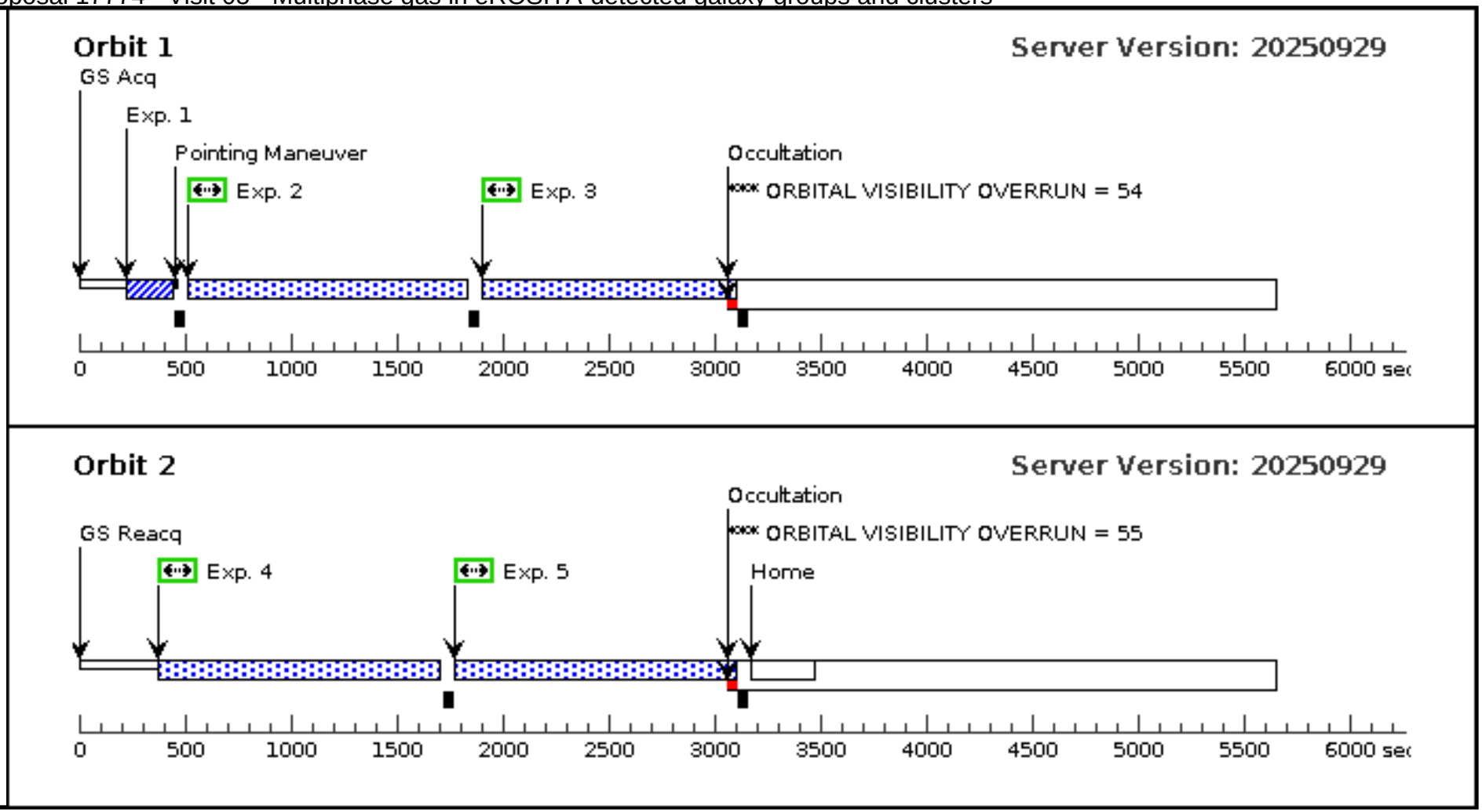
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(5)	LEONX-1	RA: 05 19 36.3293 (79.9013721d) Dec: -60 48 3.96 (-60.80110d) Equinox: J2000		V=17.45 FUV=18.03486061	Reference Frame: ICRS

Comments:
Category=GALAXY
Description=[QSO, QUASAR]
Extended=NO

Exposures

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	(COS.ta.1934310)	(5) LEONX-1	COS/NUV, ACQ/IMAGE, PSA	MIRRORA				1.4 Secs (1.4 Secs) *[==>]*	***[1]***
2	(COS.sp.1931447)	(5) LEONX-1	COS/FUV, TIME-TAG, PSA	G130M 1291 A	FP-POS=3; SEGMENT=BOTH; BUFFER-TIME=4184			1150 Secs (1150 Secs) *[==>]*	***[1]***
3	(COS.sp.1931447)	(5) LEONX-1	COS/FUV, TIME-TAG, PSA	G130M 1291 A	FP-POS=3; SEGMENT=BOTH; BUFFER-TIME=4184			1151 Secs (1151 Secs) *[==>]*	***[1]***
4	(COS.sp.1931447)	(5) LEONX-1	COS/FUV, TIME-TAG, PSA	G130M 1291 A	FP-POS=4; SEGMENT=BOTH; BUFFER-TIME=4184			1277 Secs (1277 Secs) *[==>]*	***[2]***
5	(COS.sp.1931447)	(5) LEONX-1	COS/FUV, TIME-TAG, PSA	G130M 1291 A	FP-POS=4; SEGMENT=BOTH; BUFFER-TIME=4184			1277 Secs (1277 Secs) *[==>]*	***[2]***

Orbit Structure



Visit

Proposal 17774, Visit 25 Wed Feb 11 18:00:36 GMT 2026

Diagnostic Status: Warning

Scientific Instruments: COS/FUV, COS/NUV

Special Requirements: (none)

Diagnostics

(Visit 25) Warning (Form): For the best data quality, it is generally required to use all four FP-POS positions at a given COS cenwave (or 2 positions for certain exception cases). See extended explanation in the diagnostic browser.

(Visit 25) Warning (Orbit Planner): COS EXPOSURE TIME ROUNDED DOWN TO NEAREST 0.1 SECONDS

(Visit 25) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN

Fixed Targets

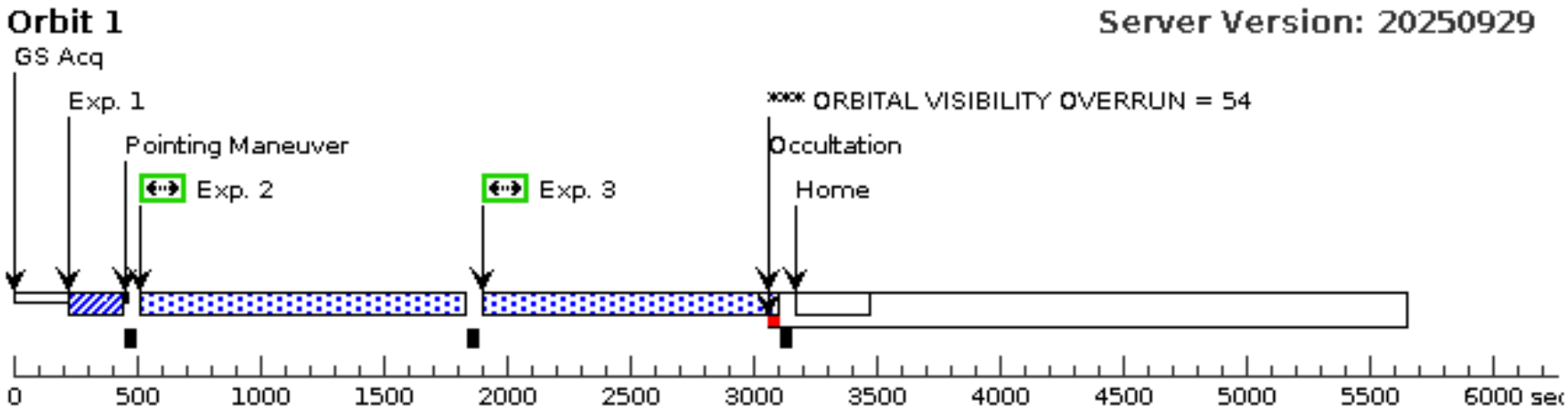
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(5)	LEONX-1	RA: 05 19 36.3293 (79.9013721d) Dec: -60 48 3.96 (-60.80110d) Equinox: J2000		V=17.45 FUV=18.03486061	Reference Frame: ICRS

Comments:
Category=GALAXY
Description=[QSO, QUASAR]
Extended=NO

Exposures

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	(COS.ta.1934310)	(5) LEONX-1	COS/NUV, ACQ/IMAGE, PSA	MIRRORA				1.4 Secs (1.4 Secs) *[==>]*	*[1]*
2	(COS.sp.1931447)	(5) LEONX-1	COS/FUV, TIME-TAG, PSA	G130M 1291 A	FP-POS=3; SEGMENT=BOTH; BUFFER-TIME=4184			1150 Secs (1150 Secs) *[==>]*	*[1]*
3	(COS.sp.1931447)	(5) LEONX-1	COS/FUV, TIME-TAG, PSA	G130M 1291 A	FP-POS=3; SEGMENT=BOTH; BUFFER-TIME=4184			1151 Secs (1151 Secs) *[==>]*	*[1]*

Orbit Structure



Visit

Proposal 17774, Visit 06, completed Wed Feb 11 18:00:36 GMT 2026

Diagnostic Status: Warning

Scientific Instruments: COS/FUV, COS/NUV

Special Requirements: (none)

Diagnostics

(Visit 06) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN

Fixed Targets

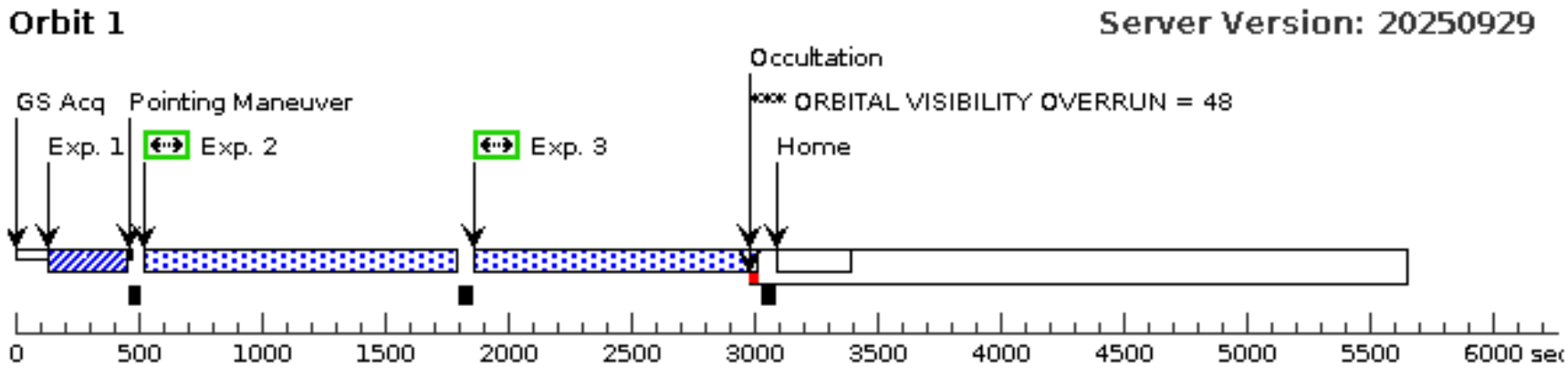
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(6)	MS10302-2757	RA: 10 32 36.0689 (158.1502871d) Dec: -28 13 26.90 (-28.22414d) Equinox: J2000		V=16.414 FUV=16.50211716	Reference Frame: ICRS

Comments:
Category=GALAXY
Description=[QSO, QUASAR]
Extended=NO

Exposures

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	(COS.ta.1934315)	(6) MS10302-2757	COS/NUV, ACQ/IMAGE, PSA	MIRRORB				6.0 Secs (6 Secs) *[==>]*	***[1]***
2	(COS.sp.1932108)	(6) MS10302-2757	COS/FUV, TIME-TAG, PSA	G130M 1291 A	SEGMENT=BOTH; BUFFER-TIME=2663; FP-POS=3			1097 Secs (1097 Secs) *[==>]*	***[1]***
3	(COS.sp.1932108)	(6) MS10302-2757	COS/FUV, TIME-TAG, PSA	G130M 1291 A	SEGMENT=BOTH; BUFFER-TIME=2663; FP-POS=4			1096 Secs (1096 Secs) *[==>]*	***[1]***

Orbit Structure



Visit

Proposal 17774, Visit 07, completed Wed Feb 11 18:00:36 GMT 2026

Diagnostic Status: Warning

Scientific Instruments: COS/FUV, COS/NUV

Special Requirements: (none)

Diagnostics

(Visit 07) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN

(Visit 07) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN

Fixed Targets

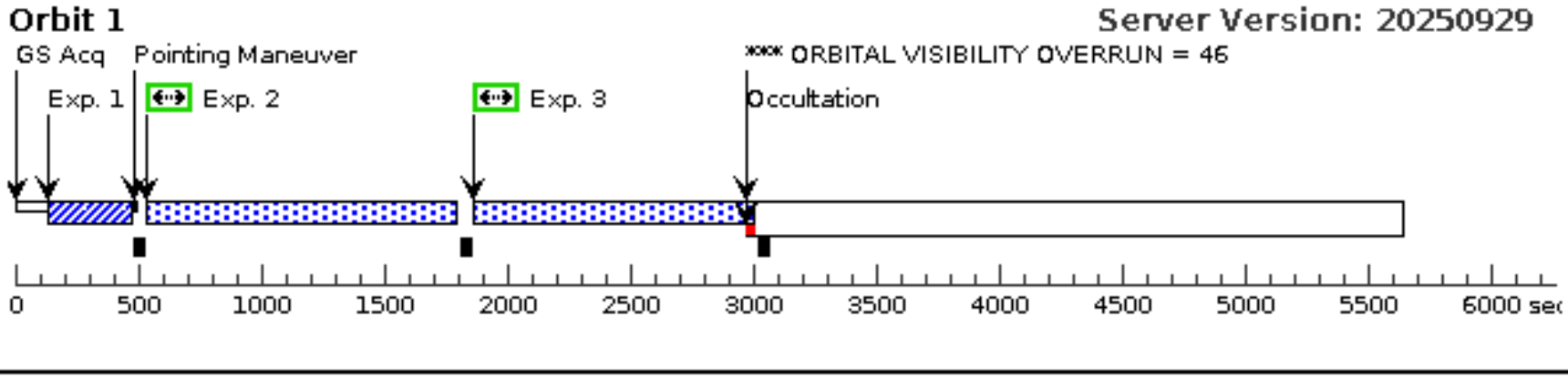
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(7)	PGC3095905	RA: 09 54 29.5818 (148.6232575d) Dec: -16 06 51.21 (-16.11422d) Equinox: J2000		V=15.436 FUV=17.85335732	Reference Frame: ICRS

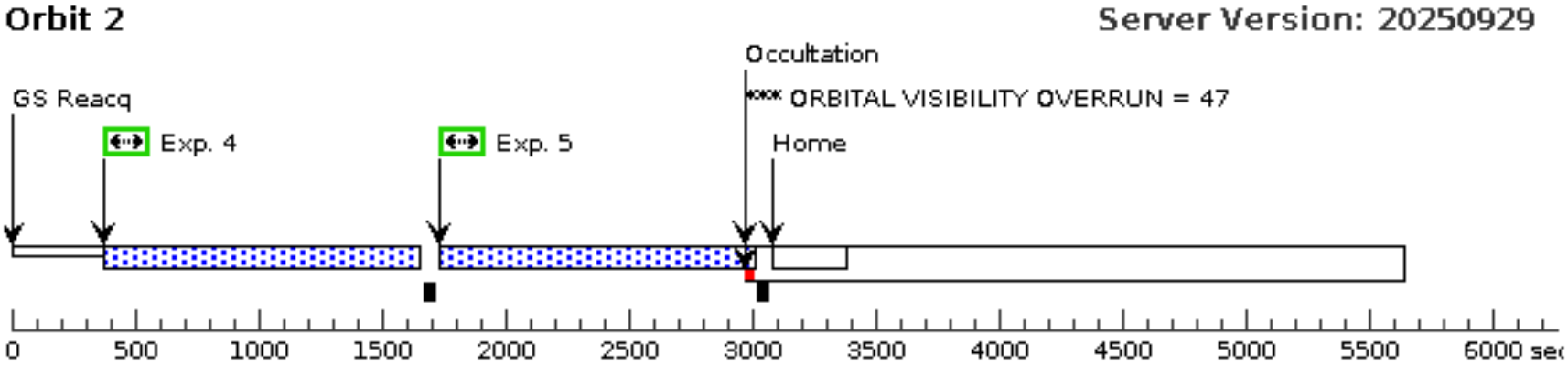
Comments:
Category=GALAXY
Description=[QSO, QUASAR]
Extended=NO

Exposures

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	(COS.ta.1934318)	(7) PGC3095905	COS/NUV, ACQ/IMAGE, PSA	MIRRORB				13.8 Secs (13.8 Secs) *[==>]*	***[1]***
2	(COS.sp.1932111)	(7) PGC3095905	COS/FUV, TIME-TAG, PSA	G130M 1291 A	BUFFER-TIME=4051; SEGMENT=BOTH; FP-POS=3			1091 Secs (1091 Secs) *[==>]*	***[1]***
3	(COS.sp.1932111)	(7) PGC3095905	COS/FUV, TIME-TAG, PSA	G130M 1291 A	BUFFER-TIME=4051; SEGMENT=BOTH; FP-POS=3			1090 Secs (1090 Secs) *[==>]*	***[1]***
4	(COS.sp.1932111)	(7) PGC3095905	COS/FUV, TIME-TAG, PSA	G130M 1291 A	BUFFER-TIME=4051; SEGMENT=BOTH; FP-POS=4			1228 Secs (1229 Secs) *[==>1229.0 Secs]*	***[2]***
5	(COS.sp.1932111)	(7) PGC3095905	COS/FUV, TIME-TAG, PSA	G130M 1291 A	BUFFER-TIME=4051; SEGMENT=BOTH; FP-POS=4			1227 Secs (1229 Secs) *[==>1229.0 Secs]*	***[2]***

Orbit Structure





Visit

Proposal 17774, Visit 08, completed Wed Feb 11 18:00:36 GMT 2026

Diagnostic Status: Warning

Scientific Instruments: COS/FUV, COS/NUV

Special Requirements: (none)

Diagnostics

(Visit 08) Warning (Orbit Planner): COS EXPOSURE TIME ROUNDED DOWN TO NEAREST 0.1 SECONDS

(Visit 08) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN

(Visit 08) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN

(Visit 08) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN

Fixed Targets

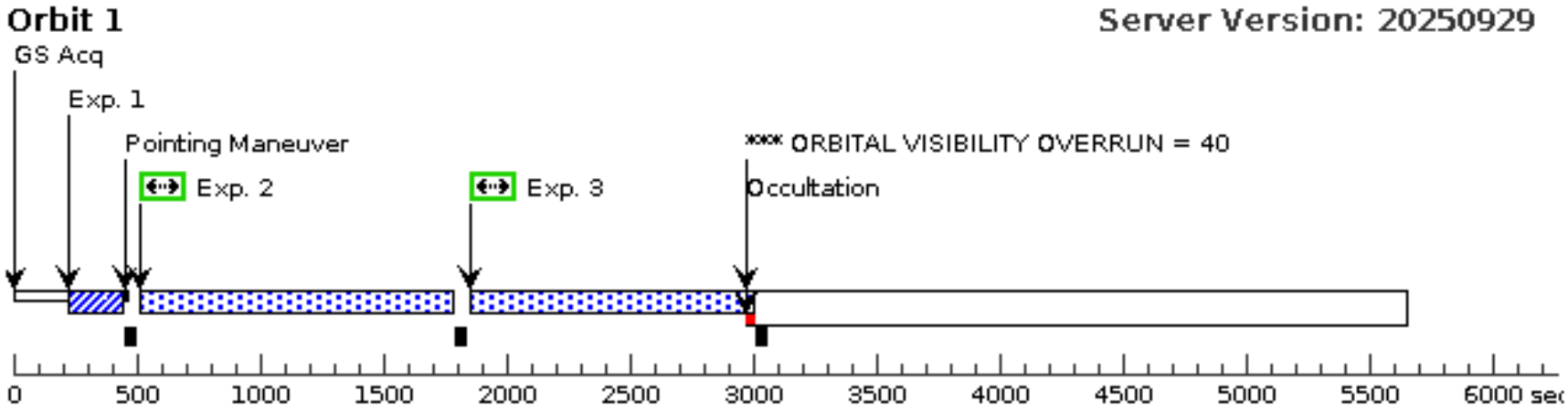
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(8)	PGC955931	RA: 03 03 15.5743 (45.8148929d) Dec: -12 13 29.84 (-12.22496d) Equinox: J2000		V=16.695 FUV=18.46393776	Reference Frame: ICRS

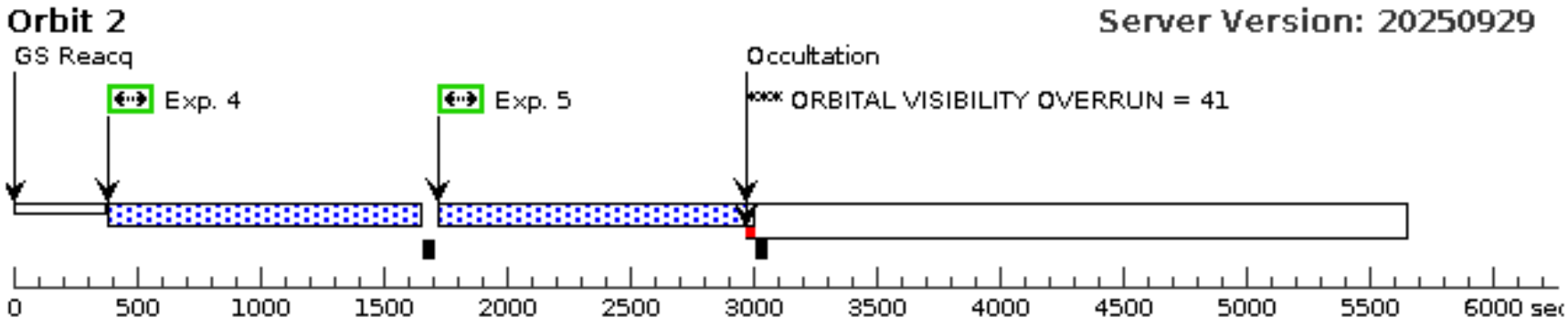
Comments:
Category=GALAXY
Description=[QSO, QUASAR]
Extended=NO

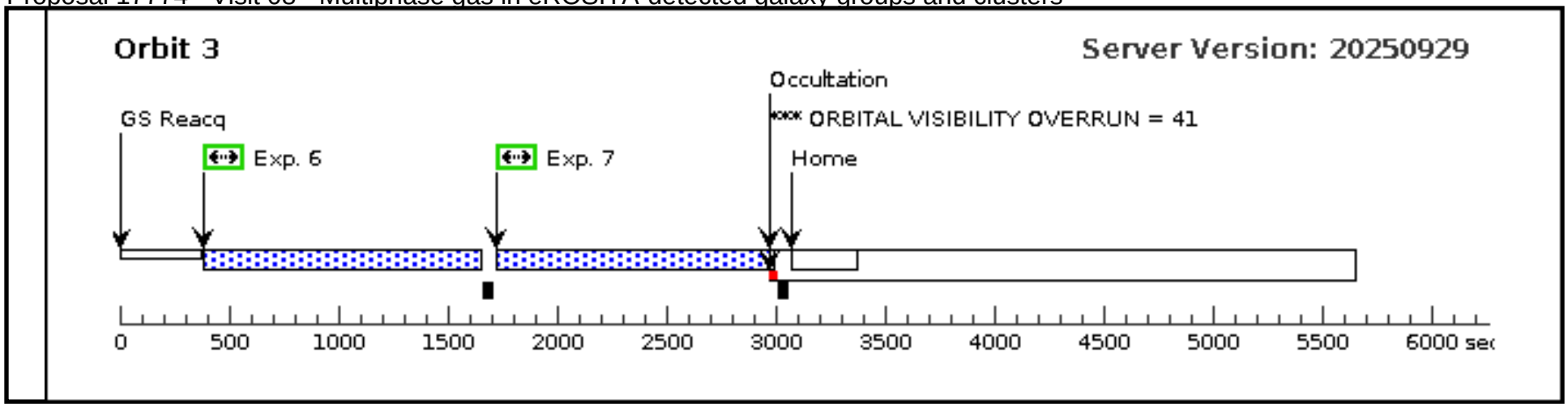
Exposures

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	(COS.ta.1934321)	(8) PGC955931	COS/NUV, ACQ/IMAGE, PSA	MIRRORA				1.8594 Secs (1.859 Secs) *[==>]*	***[1]***
2	(COS.sp.1932112)	(8) PGC955931	COS/FUV, TIME-TAG, PSA	G130M 1291 A	BUFFER-TIME=4455; SEGMENT=BOTH; FP-POS=3			1099 Secs (1099 Secs) *[==>]*	***[1]***
3	(COS.sp.1932112)	(8) PGC955931	COS/FUV, TIME-TAG, PSA	G130M 1291 A	BUFFER-TIME=4455; SEGMENT=BOTH; FP-POS=3			1098 Secs (1098 Secs) *[==>]*	***[1]***
4	(COS.sp.1932112)	(8) PGC955931	COS/FUV, TIME-TAG, PSA	G130M 1291 A	BUFFER-TIME=4455; SEGMENT=BOTH; FP-POS=3			1225 Secs (1223 Secs) *[==>1223.0 Secs]*	***[2]***
5	(COS.sp.1932112)	(8) PGC955931	COS/FUV, TIME-TAG, PSA	G130M 1291 A	BUFFER-TIME=4455; SEGMENT=BOTH; FP-POS=4			1225 Secs (1224 Secs) *[==>1224.0 Secs]*	***[2]***
6	(COS.sp.1932112)	(8) PGC955931	COS/FUV, TIME-TAG, PSA	G130M 1291 A	BUFFER-TIME=4455; SEGMENT=BOTH; FP-POS=4			1224 Secs (1225 Secs) *[==>1225.0 Secs]*	***[3]***
7	(COS.sp.1932112)	(8) PGC955931	COS/FUV, TIME-TAG, PSA	G130M 1291 A	BUFFER-TIME=4455; SEGMENT=BOTH; FP-POS=4			1223 Secs (1225 Secs) *[==>1225.0 Secs]*	***[3]***

Orbit Structure



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Server Version: 20250929
Occultation
GS Reacq
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Exp. 6
Exp. 7
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500
1000
1500
2000
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3000
3500
4000
4500
5000
5500
6000 sec

Visit

Proposal 17774, Visit 09, completed Wed Feb 11 18:00:36 GMT 2026

Diagnostic Status: Warning

Scientific Instruments: COS/FUV, COS/NUV

Special Requirements: (none)

Diagnostics

(Visit 09) Warning (Orbit Planner): COS EXPOSURE TIME ROUNDED DOWN TO NEAREST 0.1 SECONDS

(Visit 09) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN

(Visit 09) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN

(Visit 09) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN

Fixed Targets

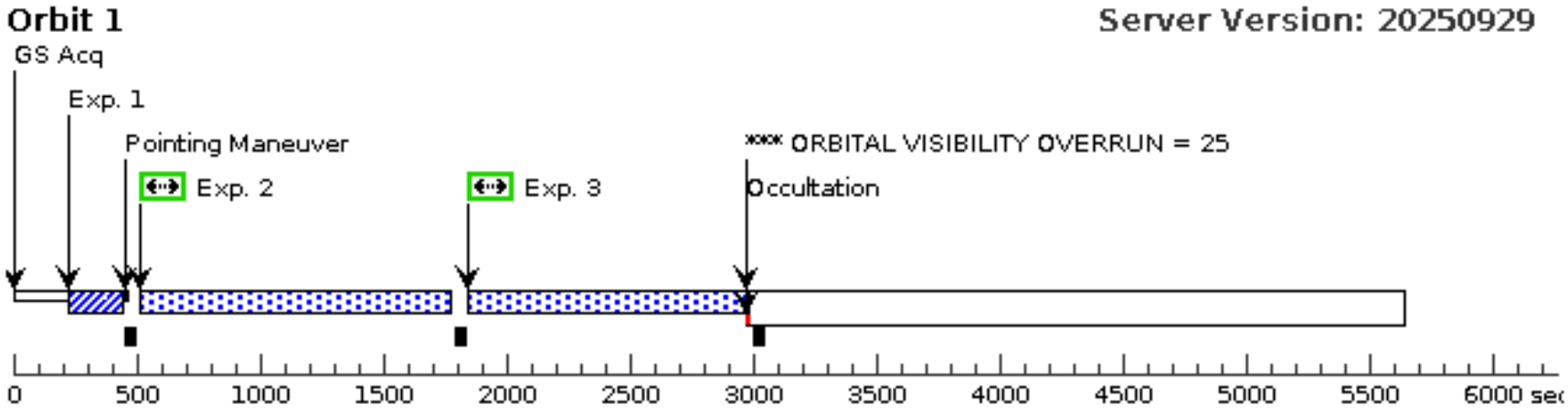
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(9)	SDSSJ101314.86-005233.6	RA: 10 13 14.8580 (153.3119083d) Dec: -00 52 33.63 (-.87601d) Equinox: J2000		V=17.825 FUV=18.49046516	Reference Frame: ICRS

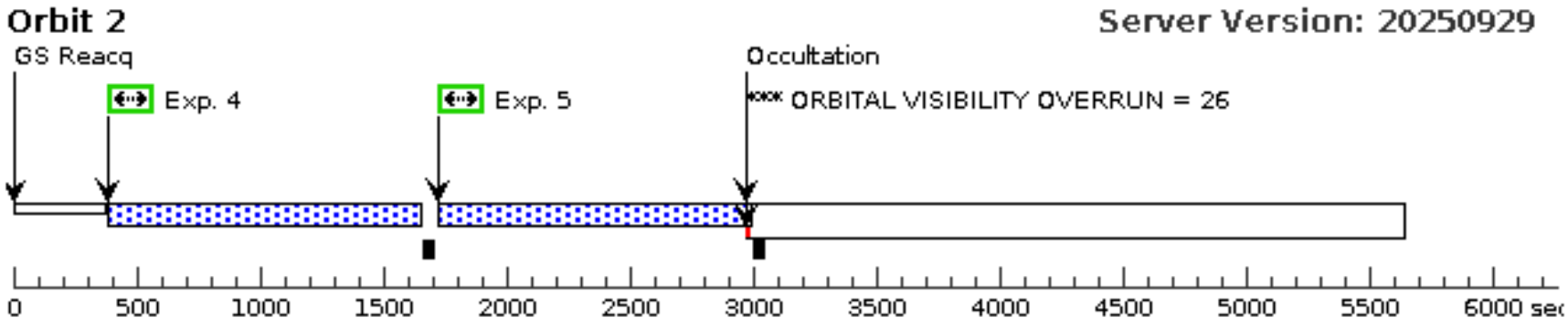
Comments:
Category=GALAXY
Description=[QSO, QUASAR]
Extended=NO

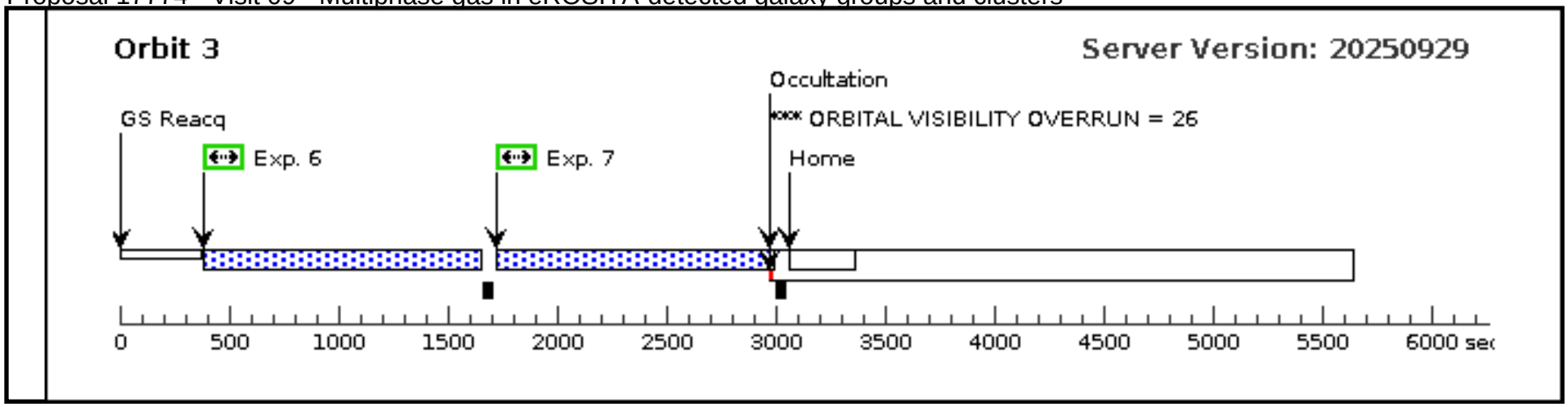
Exposures

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	(COS.ta.1934322)	(9) SDSSJ101314.86-005233.6	COS/NUV, ACQ/IMAGE, PSA	MIRRORA				2.4 Secs (2.4 Secs) *[==>]*	***[1]***
2	(COS.sp.1932114)	(9) SDSSJ101314.86-005233.6	COS/FUV, TIME-TAG, PSA	G130M 1291 A	BUFFER-TIME=4470; SEGMENT=BOTH; FP-POS=3			1093.0 Secs (1093 Secs) *[==>]*	***[1]***
3	(COS.sp.1932114)	(9) SDSSJ101314.86-005233.6	COS/FUV, TIME-TAG, PSA	G130M 1291 A	BUFFER-TIME=4470; SEGMENT=BOTH; FP-POS=3			1092.0 Secs (1092 Secs) *[==>]*	***[1]***
4	(COS.sp.1932114)	(9) SDSSJ101314.86-005233.6	COS/FUV, TIME-TAG, PSA	G130M 1291 A	BUFFER-TIME=4470; SEGMENT=BOTH; FP-POS=3			1219.0 Secs (1219 Secs) *[==>]*	***[2]***
5	(COS.sp.1932114)	(9) SDSSJ101314.86-005233.6	COS/FUV, TIME-TAG, PSA	G130M 1291 A	BUFFER-TIME=4470; SEGMENT=BOTH; FP-POS=4			1218.0 Secs (1218 Secs) *[==>]*	***[2]***
6	(COS.sp.1932114)	(9) SDSSJ101314.86-005233.6	COS/FUV, TIME-TAG, PSA	G130M 1291 A	BUFFER-TIME=4470; SEGMENT=BOTH; FP-POS=4			1221.0 Secs (1221 Secs) *[==>]*	***[3]***
7	(COS.sp.1932114)	(9) SDSSJ101314.86-005233.6	COS/FUV, TIME-TAG, PSA	G130M 1291 A	BUFFER-TIME=4470; SEGMENT=BOTH; FP-POS=4			1219.0 Secs (1219 Secs) *[==>]*	***[3]***

Orbit Structure



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Occultation
GS Reacq
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Exp. 7
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3000
3500
4000
4500
5000
5500
6000 sec

Visit

Proposal 17774, Visit 10, scheduling Wed Feb 11 18:00:36 GMT 2026

Diagnostic Status: Warning

Scientific Instruments: COS/FUV, COS/NUV

Special Requirements: (none)

Diagnostics

(Visit 10) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN

(Visit 10) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN

(Visit 10) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN

Fixed Targets

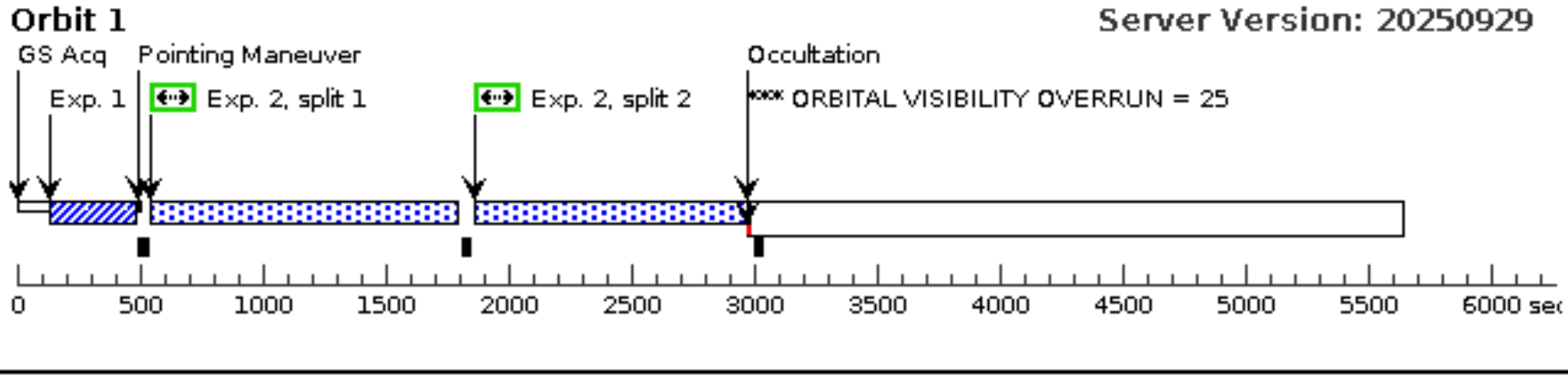
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(10)	SDSSJ125849.84-014303.3	RA: 12 58 49.8351 (194.7076462d) Dec: -01 43 3.23 (-1.71756d) Equinox: J2000		V=17.116 FUV=18.16498375	Reference Frame: ICRS

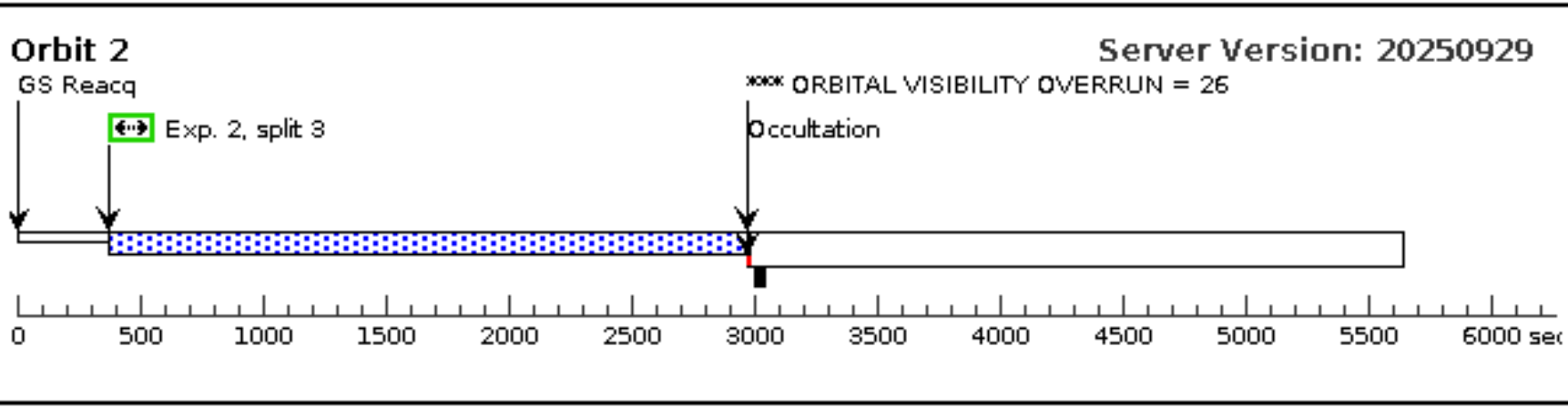
Comments:
Category=GALAXY
Description=[QSO, QUASAR]
Extended=NO

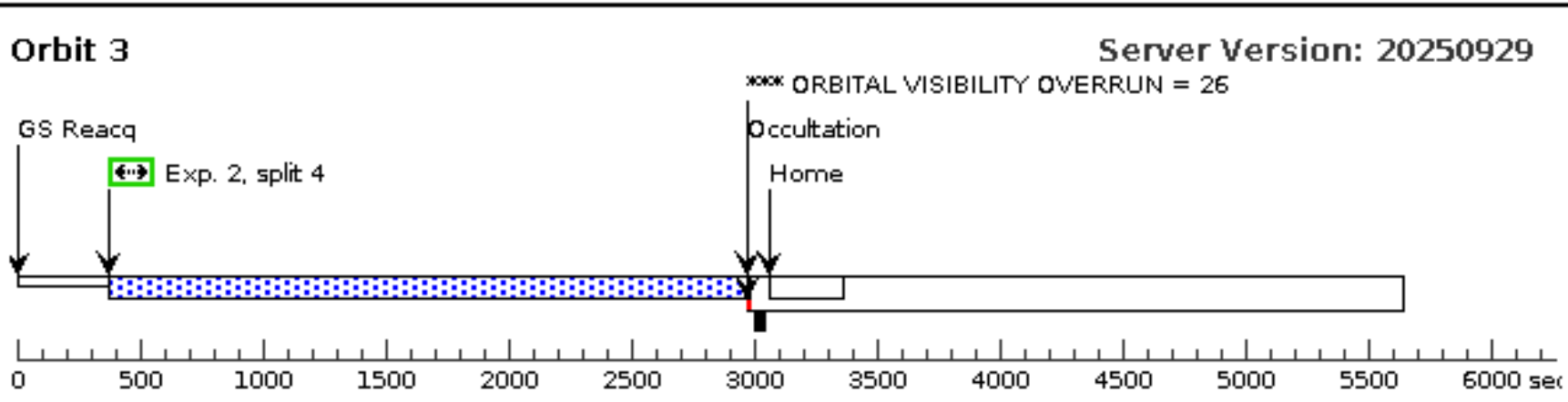
Exposures

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	(COS.ta.1934325)	(10) SDSSJ125849.84-014303.3	COS/NUV, ACQ/IMAGE, PSA	MIRRORB				19.3 Secs (19.3 Secs)	
								[==>]	***[1]***
2	(COS.sp.1932116)	(10) SDSSJ125849.84-014303.3	COS/FUV, TIME-TAG, PSA	G130M 1222 A	BUFFER-TIME=8170; FP-POS=ALL; SEGMENT=BOTH			1073 Secs (7265 Secs)	
								[==>1071.0 Secs (Split 1)] *[==>1072.0 Secs (Split 2)]*	***[1]***
								[==>2561.0 Secs (Split 3)]	***[2]***
								[==>2561.0 Secs (Split 4)]	***[3]***

Orbit Structure







Visit

Proposal 17774, Visit 11, completed Wed Feb 11 18:00:36 GMT 2026

Diagnostic Status: Warning

Scientific Instruments: COS/FUV, COS/NUV

Special Requirements: (none)

Diagnostics

(Visit 11) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN

(Visit 11) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN

Fixed Targets

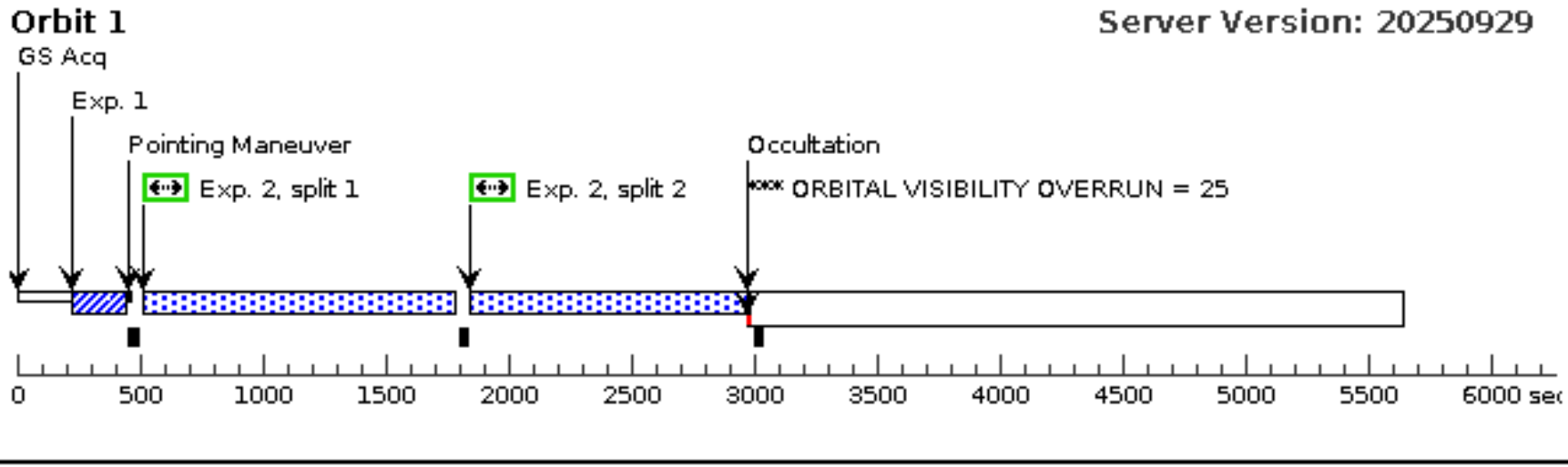
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(11)	SDSSJ142500.00+024039.2	RA: 14 25 0.0121 (216.2500504d) Dec: +02 40 39.25 (2.67757d) Equinox: J2000		V=18.103 FUV=18.41496849	Reference Frame: ICRS

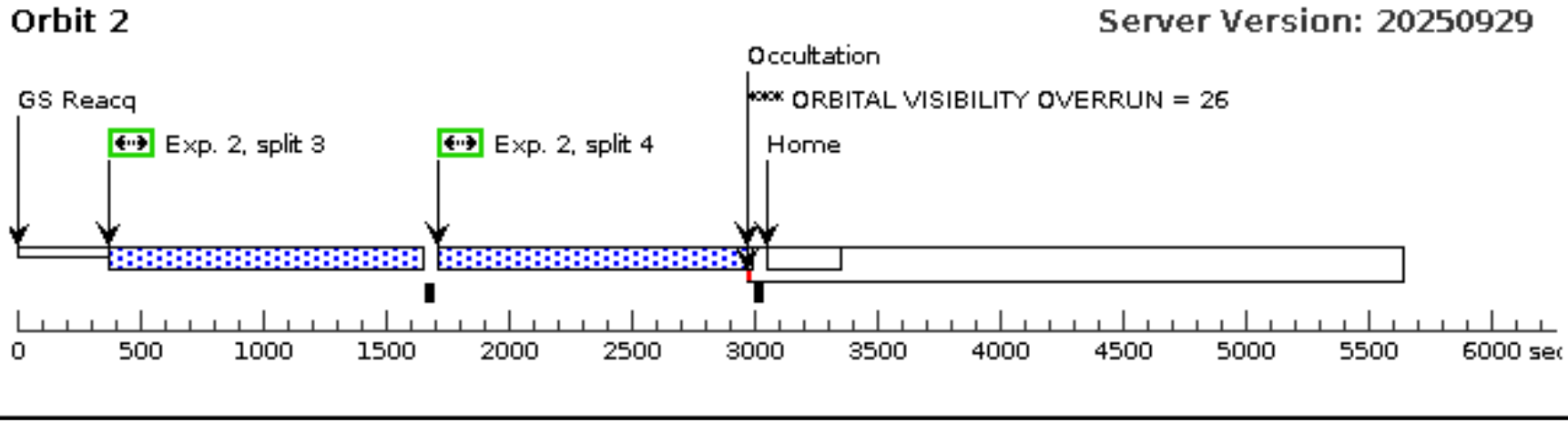
Comments:
Category=GALAXY
Description=[QSO, QUASAR]
Extended=NO

Exposures

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	(COS.ta.1934326)	(11) SDSSJ142500.00+024039.2	COS/NUV, ACQ/IMAGE, PSA	MIRRORA				2.1 Secs (2.1 Secs)	
								[==>]	***[1]***
2	(COS.sp.1932117)	(11) SDSSJ142500.00+024039.2	COS/FUV, TIME-TAG, PSA	G130M 1222 A	BUFFER-TIME=8660; SEGMENT=BOTH; FP-POS=ALL			1089 Secs (4623 Secs)	
								[==>1088.0 Secs (Split 1)] *[==>1089.0 Secs (Split 2)]*	***[1]***
								[==>1223.0 Secs (Split 3)] *[==>1223.0 Secs (Split 4)]*	***[2]***

Orbit Structure





Visit

Proposal 17774, Visit 12, scheduling Wed Feb 11 18:00:36 GMT 2026

Diagnostic Status: Warning

Scientific Instruments: COS/FUV, COS/NUV

Special Requirements: (none)

Diagnostics

(Visit 12) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN

(Visit 12) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN

Fixed Targets

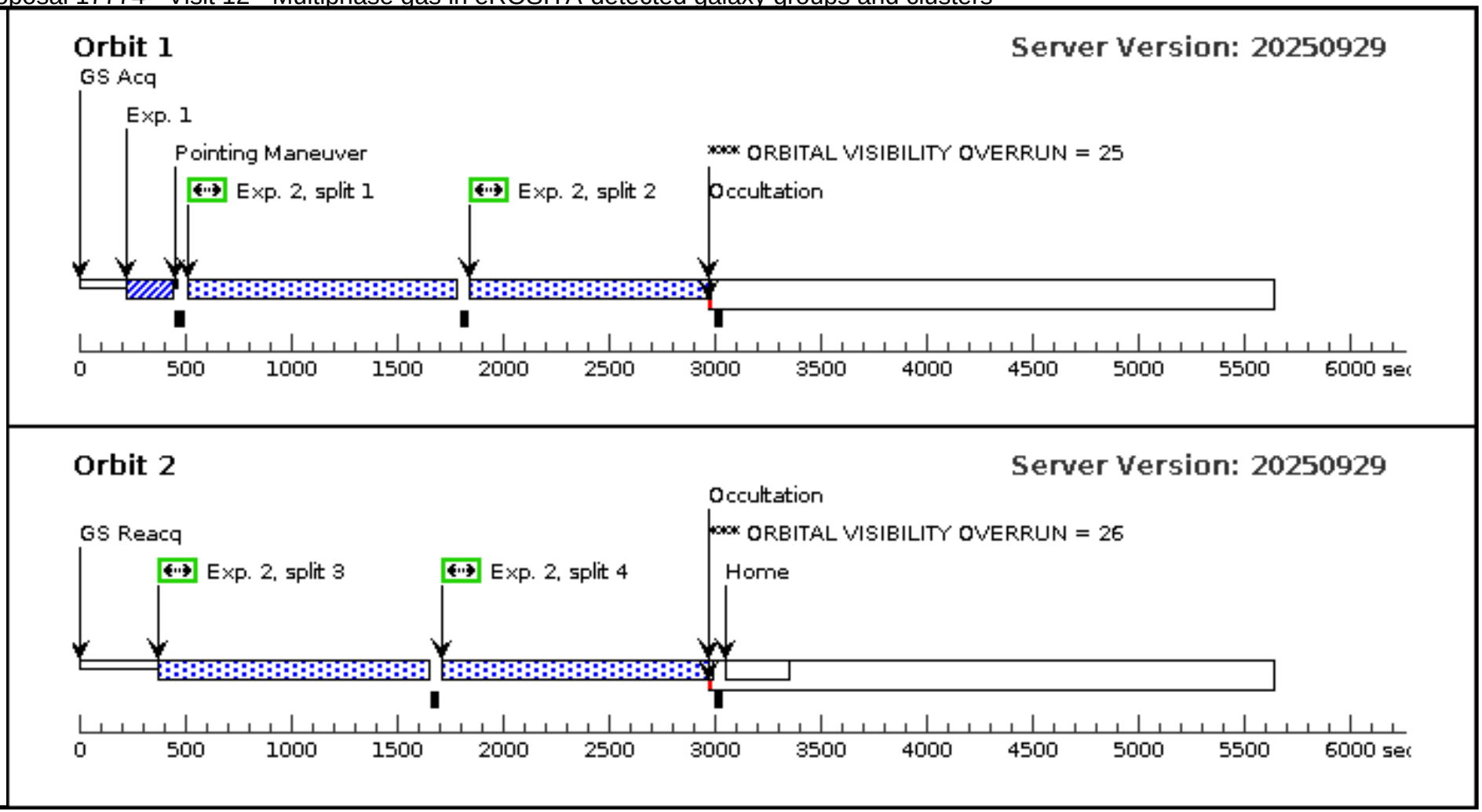
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(11)	SDSSJ142500.00+024039.2	RA: 14 25 0.0121 (216.2500504d) Dec: +02 40 39.25 (2.67757d) Equinox: J2000		V=18.103 FUV=18.41496849	Reference Frame: ICRS

Comments:
Category=GALAXY
Description=[QSO, QUASAR]
Extended=NO

Exposures

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	(COS.ta.1934326)	(11) SDSSJ142500.00+024039.2	COS/NUV, ACQ/IMAGE, PSA	MIRRORA				2.1 Secs (2.1 Secs)	
								[==>]	***[1]***
2	(COS.sp.1932117)	(11) SDSSJ142500.00+024039.2	COS/FUV, TIME-TAG, PSA	G130M 1222 A	BUFFER-TIME=8660; SEGMENT=BOTH; FP-POS=ALL			1089 Secs (4623 Secs)	
								[==>1088.0 Secs (Split 1)] *[==>1089.0 Secs (Split 2)]*	***[1]***
								[==>1223.0 Secs (Split 3)] *[==>1223.0 Secs (Split 4)]*	***[2]***

Orbit Structure



Visit

Proposal 17774, Visit 13, completed Wed Feb 11 18:00:36 GMT 2026

Diagnostic Status: Warning

Scientific Instruments: COS/FUV, COS/NUV

Special Requirements: (none)

Diagnostics

(Visit 13) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN

Fixed Targets

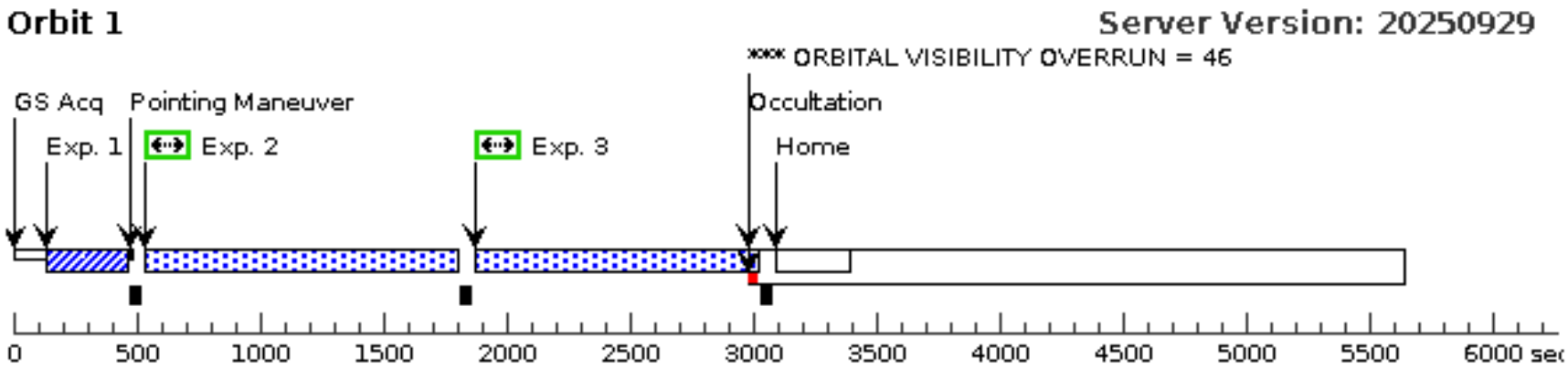
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(12)	TGS467Z204	RA: 02 48 24.6509 (42.1027121d) Dec: -31 33 48.13 (-31.56337d) Equinox: J2000		V=16.44 FUV=17.34727478	Reference Frame: ICRS

Comments:
Category=GALAXY
Description=[QSO, QUASAR]
Extended=NO

Exposures

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	(COS.ta.1934328)	(12) TGS467Z204	COS/NUV, ACQ/IMAGE, PSA	MIRRORB				12.4 Secs (12.4 Secs) *[==>]*	*[1]*
2	(COS.sp.1932118)	(12) TGS467Z204	COS/FUV, TIME-TAG, PSA	G130M 1291 A	BUFFER-TIME=3600; SEGMENT=BOTH; FP-POS=3			1096 Secs (1096 Secs) *[==>]*	*[1]*
3	(COS.sp.1932118)	(12) TGS467Z204	COS/FUV, TIME-TAG, PSA	G130M 1291 A	BUFFER-TIME=3600; SEGMENT=BOTH; FP-POS=4			1095 Secs (1095 Secs) *[==>]*	*[1]*

Orbit Structure



Visit

Proposal 17774, Visit 14, scheduling Wed Feb 11 18:00:36 GMT 2026

Diagnostic Status: Warning

Scientific Instruments: COS/FUV, COS/NUV

Special Requirements: SCHED 100%

Diagnostics

(Visit 14) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN

(Visit 14) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN

Fixed Targets

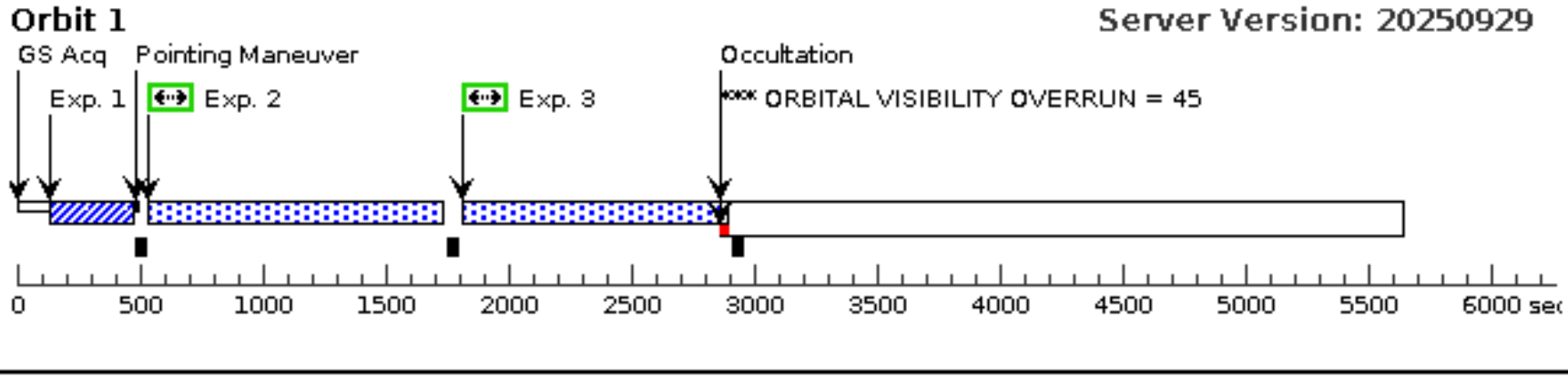
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(13)	UM472	RA: 12 03 32.9390 (180.8872458d) Dec: +02 29 34.61 (2.49295d) Equinox: J2000		V=16.562 FUV=17.66121674	Reference Frame: ICRS

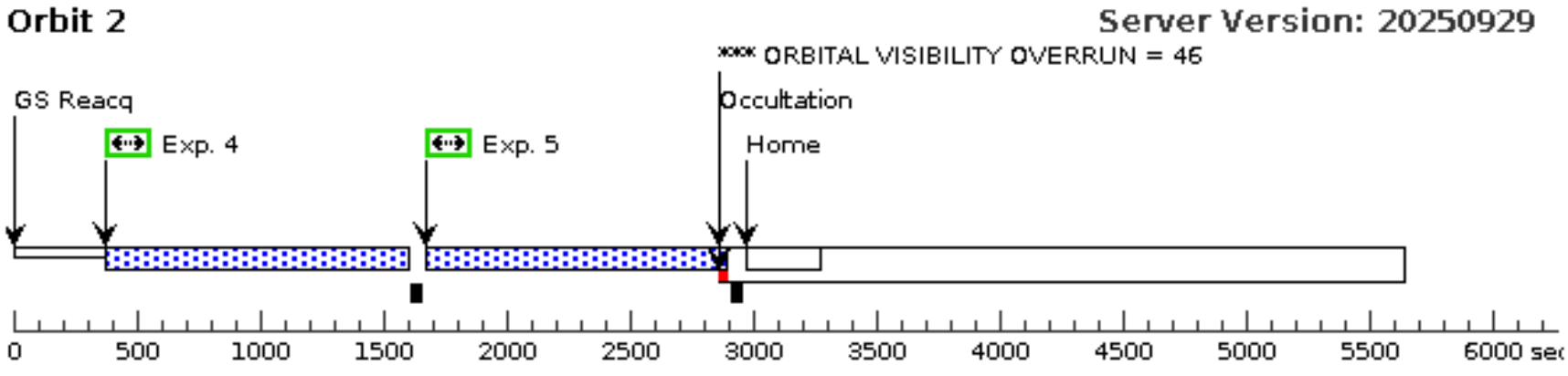
Comments:
Category=GALAXY
Description=[QSO, QUASAR]
Extended=NO

Exposures

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	(COS.ta.1934330)	(13) UM472	COS/NUV, ACQ/IMAGE, PSA	MIRRORB		GS ACQ SCENARIO BASE1O3		14.4 Secs (14.4 Secs) *[==>]*	***[1]***
2	(COS.sp.1932121)	(13) UM472	COS/FUV, TIME-TAG, PSA	G130M 1291 A	BUFFER-TIME=3892; SEGMENT=BOTH; FP-POS=3			1035 Secs (1035 Secs) *[==>]*	***[1]***
3	(COS.sp.1932121)	(13) UM472	COS/FUV, TIME-TAG, PSA	G130M 1291 A	BUFFER-TIME=3892; SEGMENT=BOTH; FP-POS=3			1034 Secs (1034 Secs) *[==>]*	***[1]***
4	(COS.sp.1932121)	(13) UM472	COS/FUV, TIME-TAG, PSA	G130M 1291 A	BUFFER-TIME=3892; SEGMENT=BOTH; FP-POS=4			1174 Secs (1174 Secs) *[==>]*	***[2]***
5	(COS.sp.1932121)	(13) UM472	COS/FUV, TIME-TAG, PSA	G130M 1291 A	BUFFER-TIME=3892; SEGMENT=BOTH; FP-POS=4			1174 Secs (1174 Secs) *[==>]*	***[2]***

Orbit Structure





Visit

Proposal 17774, Visit 15, completed Wed Feb 11 18:00:36 GMT 2026

Diagnostic Status: Warning

Scientific Instruments: COS/FUV, COS/NUV

Special Requirements: (none)

Diagnostics

(Visit 15) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN

(Visit 15) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN

Fixed Targets

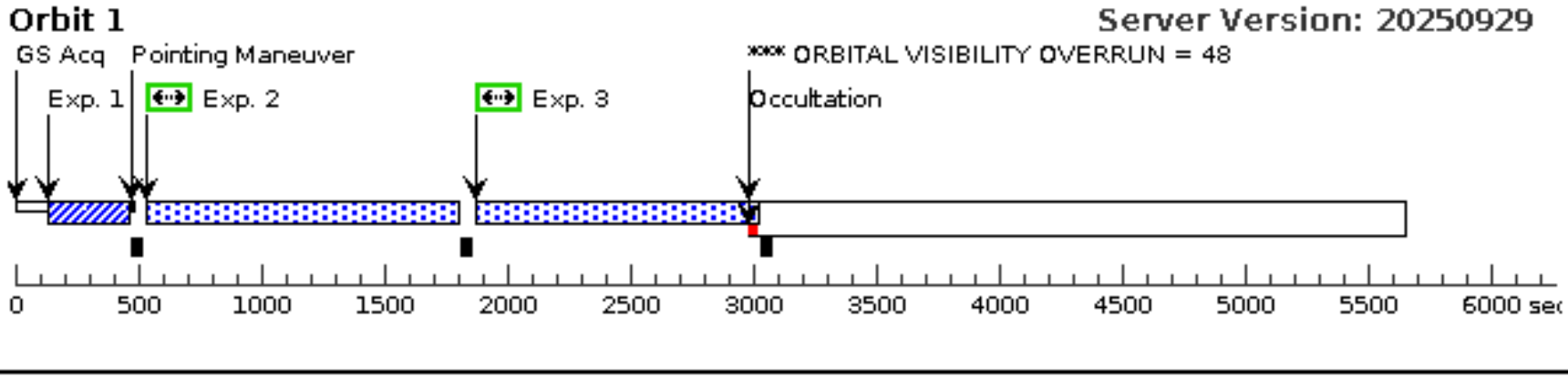
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(14)	UVQSJ054917.24-254809.7	RA: 05 49 17.2435 (87.3218479d) Dec: -25 48 9.77 (-25.80271d) Equinox: J2000		V=16.792 FUV=17.59754944	Reference Frame: ICRS

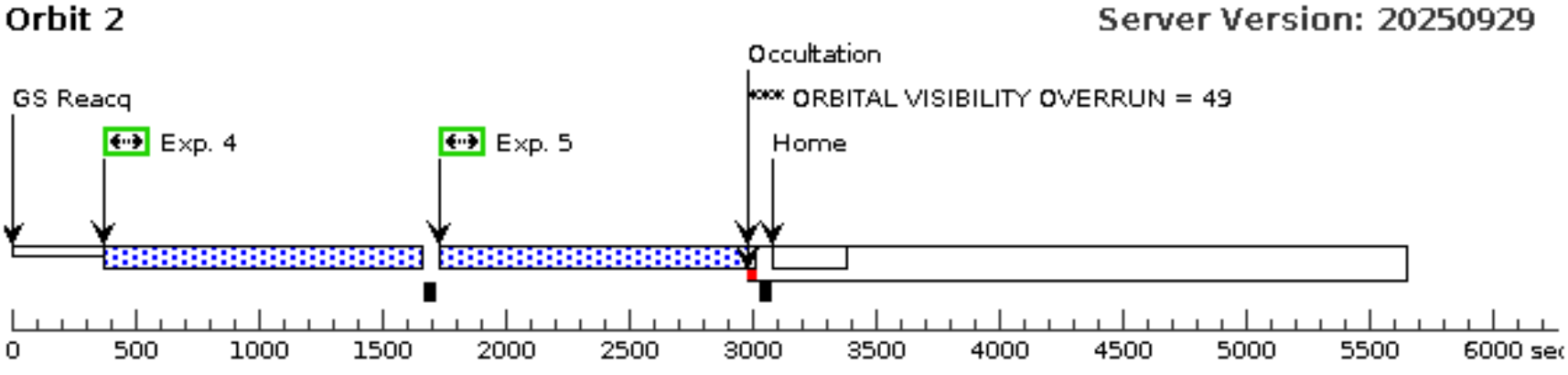
Comments:
Category=GALAXY
Description=[QSO, QUASAR]
Extended=NO

Exposures

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	(COS.ta.1931459)	(14) UVQSJ054917.24-254809.7	COS/NUV, ACQ/IMAGE, PSA	MIRRORB				12.5 Secs (12.5 Secs) *[==>]*	***[1]***
2	(COS.sp.1932123)	(14) UVQSJ054917.24-254809.7	COS/FUV, TIME-TAG, PSA	G130M 1291 A	BUFFER-TIME=3836; SEGMENT=BOTH; FP-POS=3			1096 Secs (1096 Secs) *[==>]*	***[1]***
3	(COS.sp.1932123)	(14) UVQSJ054917.24-254809.7	COS/FUV, TIME-TAG, PSA	G130M 1291 A	BUFFER-TIME=3836; SEGMENT=BOTH; FP-POS=3			1096 Secs (1096 Secs) *[==>]*	***[1]***
4	(COS.sp.1932123)	(14) UVQSJ054917.24-254809.7	COS/FUV, TIME-TAG, PSA	G130M 1291 A	BUFFER-TIME=3836; SEGMENT=BOTH; FP-POS=4			1234 Secs (1234 Secs) *[==>]*	***[2]***
5	(COS.sp.1932123)	(14) UVQSJ054917.24-254809.7	COS/FUV, TIME-TAG, PSA	G130M 1291 A	BUFFER-TIME=3836; SEGMENT=BOTH; FP-POS=4			1233 Secs (1233 Secs) *[==>]*	***[2]***

Orbit Structure





Visit

Proposal 17774, Visit 16, scheduling Wed Feb 11 18:00:36 GMT 2026

Diagnostic Status: Warning

Scientific Instruments: COS/FUV, COS/NUV

Special Requirements: (none)

Diagnostics

(Visit 16) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN

(Visit 16) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(15)	UVQSJ133435.46-313556.7	RA: 13 34 35.4601 (203.6477504d) Dec: -31 35 56.78 (-31.59911d) Equinox: J2000		V=14.5 FUV=17.77166748	Reference Frame: ICRS

Comments:
Category=GALAXY
Description=[QSO, QUASAR]
Extended=NO

Exposures

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	(COS.ta.1931458)	(15) UVQSJ133435.46-313556.7	COS/NUV, ACQ/IMAGE, PSA	MIRRORB				18.8 Secs (18.8 Secs)	
								[==>]	***[1]***
2	(COS.sp.1932125)	(15) UVQSJ133435.46-313556.7	COS/FUV, TIME-TAG, PSA	G130M 1222 A	FP-POS=ALL; SEGMENT=BOTH; BUFFER-TIME=3590			1080 Secs (4621 Secs)	
								[==>1082.0 Secs (Split 1)] *[==>1083.0 Secs (Split 2)]*	***[1]***
								[==>1228.0 Secs (Split 3)] *[==>1228.0 Secs (Split 4)]*	***[2]***

Orbit Structure