13302 - COS Spectra of High-Redshift AGN: Probing Deep into the Rest-Frame Ionizing Continuum and Broad Emission Lines

Cycle: 21, Proposal Category: GO

(UV Initiative)

(Availability Mode: SUPPORTED)

INVESTIGATORS

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VISITS

Visit	*Targets used in Visit*	*Configurations used in Visit*	*Orbits Used*	*Last Orbit Planner Run*	*OP Current with Visit?*
01	(1) HE0248-3628	COS/FUV COS/NUV	2	06-Aug-2014 21:01:40.0	yes
51	(1) HE0248-3628	COS/FUV COS/NUV	2	06-Aug-2014 21:01:41.0	yes
02	(2) PG1115+080A1	COS/FUV COS/NUV	2	06-Aug-2014 21:01:43.0	yes
03	(3) HS1803+5425	COS/FUV COS/NUV	2	06-Aug-2014 21:01:44.0	yes
04	(4) HE1120+0154	COS/FUV COS/NUV	2	06-Aug-2014 21:01:45.0	yes

Visit	*Targets used in Visit*	*Configurations used in Visit*	*Orbits Used*	*Last Orbit Planner Run*	*OP Current with Visit?*
05	(5) SDSSJ125140.83+080718.4	COS/FUV COS/NUV	2	06-Aug-2014 21:01:47.0	yes
06	(6) SDSSJ094209.14+520714.5	COS/FUV COS/NUV	2	06-Aug-2014 21:01:48.0	yes
07	(7) SBS1307+462	COS/FUV COS/NUV	2	06-Aug-2014 21:01:49.0	yes
08	(8) SBS1010+535	COS/FUV COS/NUV	2	06-Aug-2014 21:01:50.0	yes
58	(8) SBS1010+535	COS/FUV COS/NUV	2	06-Aug-2014 21:01:52.0	yes
09	(9) SDSSJ083850.15+261105.4	COS/FUV COS/NUV	2	06-Aug-2014 21:01:53.0	yes
10	(10) US2504	COS/FUV COS/NUV	2	06-Aug-2014 21:01:54.0	yes
11	(11) HB89-1621+392	COS/FUV COS/NUV	2	06-Aug-2014 21:01:57.0	yes

26 Total Orbits Used

ABSTRACT

The order-of-magnitude improvement in sensitivity of COS over previous spectrographs has increased the number of AGN available for far-UV spectroscopy covering the rest-frame EUV. In archival work, we have enlarged our composite spectrum from 22 to 150 AGN, but the maximum redshift is z_max = 1.47. We request COS/G140L observations of 11 bright AGN (z = 1.45 to 2.13) to extend the composite below 400 A and greatly improve the statistics. At these redshifts, the G140L (1105 A setting) covers 1120-2000 A, probing the rest-frame continuum and emission lines down to 360-450 A. We will observe the Lyman continuum (LyC) below the He I edge (504 A) as it approaches the He II Lya break (304 A). Obtaining 11 well-exposed QSO spectra will greatly increase our knowledge in the EUV beyond the few AGN currently observed in this band. These LyC photons are responsible for ionizing hydrogen, helium, and many metal ions, for ionizing QSO broad emission-line regions (BELR), and for heating the IGM. Characterizing the AGN spectrum in the far-UV and ionizing EUV is also a crucial ingredient for studies of accretion disk structure and QSO outflows. We will also measure (or limit) the He I continuum edge (504 A) expected in some models of accretion disks, and will

identify and characterize the key QSO broad emission lines in the FUV and EUV (Ne II, Ne III, Ne V, Ne VI, Ne VIII, O II, O III, O IV, O V, O VI). Detecting multiple ions from the same element (Ne and O) will yield more accurate diagnostics of BELR temperatures and metallicities.

OBSERVING DESCRIPTION

Our targets were chosen by searching numerous AGN catalogs (Sloan-DR9, Veron) and cross- correlating them with GALEX fluxes. We found over 2000 AGN with redshifts 1.3<z<2.2, from which we drew a short list of 15 bright targets with GALEX-calibrated far-UV fluxes between (1.7-4.2)x10-15 erg cm-2 s-1 A-1. Our final list chose the 11 brightest targets with redshifts z=1.45 to z=2.13 that provide EUV wavelength coverage illustrated in Figure 4. We selected the G140L grating, which provides good sensitivity in 2 orbits (5 ksec per target) sufficient to measure the QSO continuum with S/N=10-30 and identify the expected EUV emission lines. We used the HST exposure time calculator to show that these 2-orbit exposure times yield S/N=10-20 over most of the G140L range (1120-2000A). Dropping the two brightest targets to just one orbit reduced the S/N at several important wavelengths needed to fix the continuum (line-free bands) and probe the EUV at lambda<600A .

The main advantage of G140L is its broad continuum coverage from 1120-2000A, rather than making two exposures with G130M (1133-1468A) and G160M (1383-1796A) and matching fluxes. In the 1105 setting, G140L gives broader continuous coverage and high sensitivity from 1120-2000A, with no detector gap in side-A. This broad range allows us to fit the underlying continuum through the key line-free wavelength bands. The G130M and G160M spectra do not cover those wavelengths for many of our high-z AGN. We chose a single exposure with G140L rather than two much longer exposures with the native resolution of medium-resolution (G130M+G160M) gratings.

Although we could bin up the M-grating spectra to achieve S/N comparable to G140L, we found that this would require 50% extra observing time (3 orbits per target). Our preparatory studies of G140L archival data show that we can characterize the QSO continuum and broad emission lines with high-S/N, but lower spectral resolution, of G140L. We are also able to correct for Lyman-limit systems (LLS) and Lyalpha forest line-blanketing.

Visit

Proposal 13302, Visit 01, failed Thu Aug 07 01:01:59 GMT 2014

Diagnostic Status: Warning

Scientific Instruments: COS/NUV, COS/FUV

Special Requirements: (none)

Diagnostics

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

(Visit 01) Warning (Form): If the target coordinates are not known to 0.4" (or better), an ACQ/SEARCH should precede the ACQ/IMAGE.

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

Fixed Targets

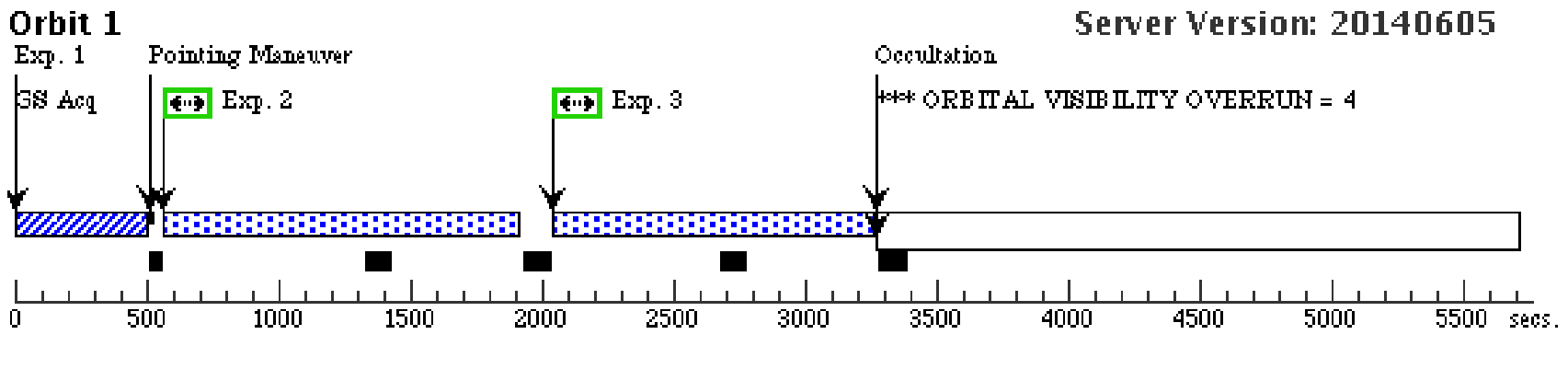
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	HE0248-3628 Alt Name1: 6DFJ0250552-361636 Alt Name2: 1RXSJ025055.4-361640	RA: 02 50 55.3262 (42.7305258d) Dec: -36 16 35.76 (-36.27660d) Equinox: J2000	Redshift: 1.536	V=16.20 F(1530) = 4.2e-15 ergs/s/cm^2/ Ang	Reference Frame: ICRS

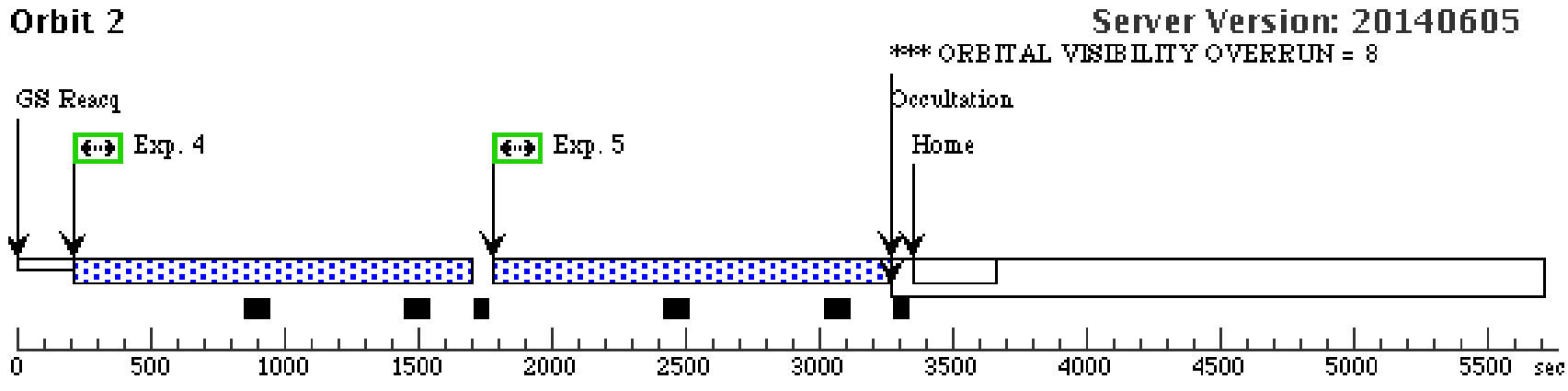
Comments: This object was generated by the targetselector and retrieved from the NED database. Coordinates refined with GSC2 search (match to object S35Q003409).

Exposures

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	(COS.ta.510164)	(1) HE0248-3628	COS/NUV, ACQ/IMAGE, PSA	MIRRORB				37 Secs (37 Secs) *[==>]*	*[1]*
2	(COS.sp.510169)	(1) HE0248-3628	COS/FUV, TIME-TAG, PSA	G140L 1105 A	FP-POS=1; BUFFER-TIME=600			1000 Secs (1168 Secs) *[==>1168.0 Secs]*	*[1]*
3	(COS.sp.510169)	(1) HE0248-3628	COS/FUV, TIME-TAG, PSA	G140L 1105 A	FP-POS=2; BUFFER-TIME=600			1000 Secs (1168 Secs) *[==>1168.0 Secs]*	*[1]*
4	(COS.sp.510169)	(1) HE0248-3628	COS/FUV, TIME-TAG, PSA	G140L 1105 A	FP-POS=3; BUFFER-TIME=600			1000 Secs (1433 Secs) *[==>1433.0 Secs]*	*[2]*
5	(COS.sp.510169)	(1) HE0248-3628	COS/FUV, TIME-TAG, PSA	G140L 1105 A	FP-POS=4; BUFFER-TIME=600			1000 Secs (1433 Secs) *[==>1433.0 Secs]*	*[2]*

Orbit Structure





Visit

Proposal 13302, Visit 51 Thu Aug 07 01:02:00 GMT 2014

Diagnostic Status: Warning

Scientific Instruments: COS/NUV, COS/FUV

Special Requirements: (none)

Comments: This is a HOPR repeat of failed visit 01

Diagnostics

(Visit 51) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN

(Visit 51) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN

(Visit 51) Warning (Form): If the target coordinates are not known to 0.4" (or better), an ACQ/SEARCH should precede the ACQ/IMAGE.

Fixed Targets

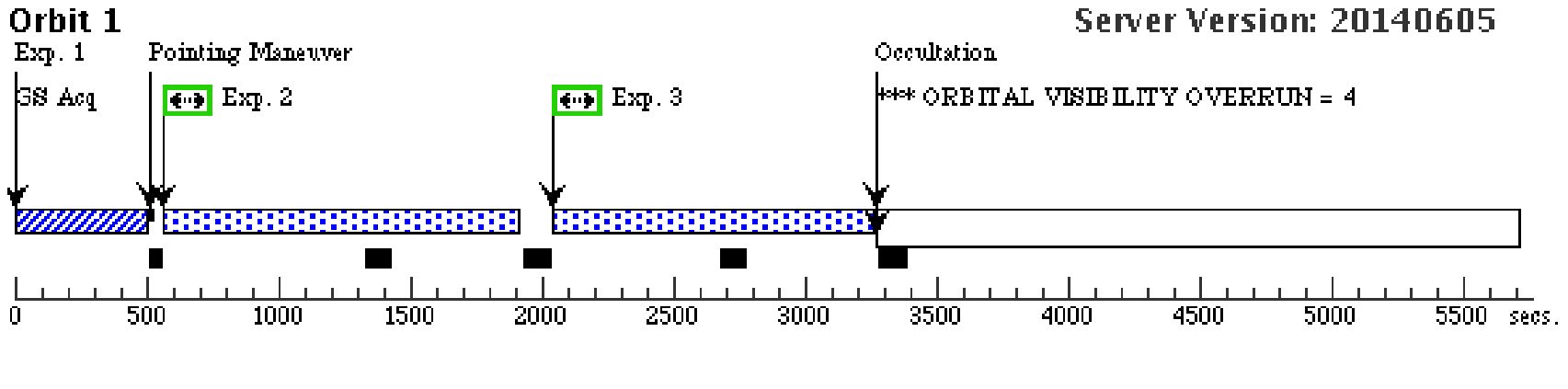
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	HE0248-3628 Alt Name1: 6DFJ0250552-361636 Alt Name2: 1RXSJ025055.4-361640	RA: 02 50 55.3262 (42.7305258d) Dec: -36 16 35.76 (-36.27660d) Equinox: J2000	Redshift: 1.536	V=16.20 F(1530) = 4.2e-15 ergs/s/cm^2/ Ang	Reference Frame: ICRS

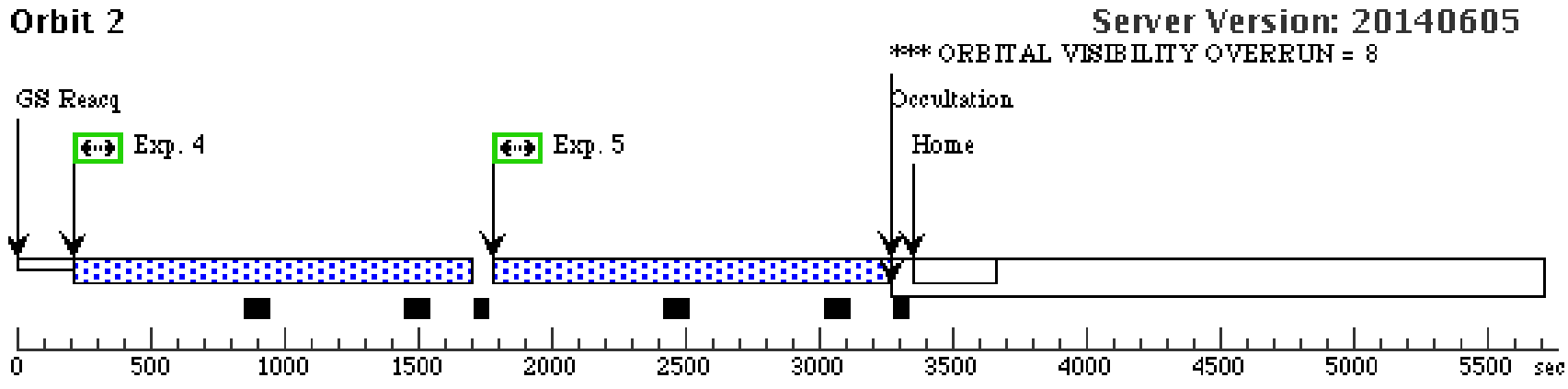
Comments: This object was generated by the targetselector and retrieved from the NED database. Coordinates refined with GSC2 search (match to object S35Q003409).

Exposures

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	(COS.ta.510 164)	(1) HE0248-3628	COS/NUV, ACQ/IMAGE, PSA	MIRRORB				37 Secs (37 Secs) *[==>]*	*[1]*
2	(COS.sp.510 169)	(1) HE0248-3628	COS/FUV, TIME-TAG, PSA	G140L 1105 A	FP-POS=1; BUFFER-TIME=600			1000 Secs (1168 Secs) *[==>1168.0 Secs]*	*[1]*
3	(COS.sp.510 169)	(1) HE0248-3628	COS/FUV, TIME-TAG, PSA	G140L 1105 A	FP-POS=2; BUFFER-TIME=600			1000 Secs (1168 Secs) *[==>1168.0 Secs]*	*[1]*
4	(COS.sp.510 169)	(1) HE0248-3628	COS/FUV, TIME-TAG, PSA	G140L 1105 A	FP-POS=3; BUFFER-TIME=600			1000 Secs (1433 Secs) *[==>1433.0 Secs]*	*[2]*
5	(COS.sp.510 169)	(1) HE0248-3628	COS/FUV, TIME-TAG, PSA	G140L 1105 A	FP-POS=4; BUFFER-TIME=600			1000 Secs (1433 Secs) *[==>1433.0 Secs]*	*[2]*

Orbit Structure





Visit

Proposal 13302, Visit 02, completed Thu Aug 07 01:02:00 GMT 2014

Diagnostic Status: Warning

Scientific Instruments: COS/NUV, COS/FUV

Special Requirements: (none)

Diagnostics

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

(Visit 02) Warning (Form): If the target coordinates are not known to 0.4" (or better), an ACQ/SEARCH should precede the ACQ/IMAGE.

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

Fixed Targets

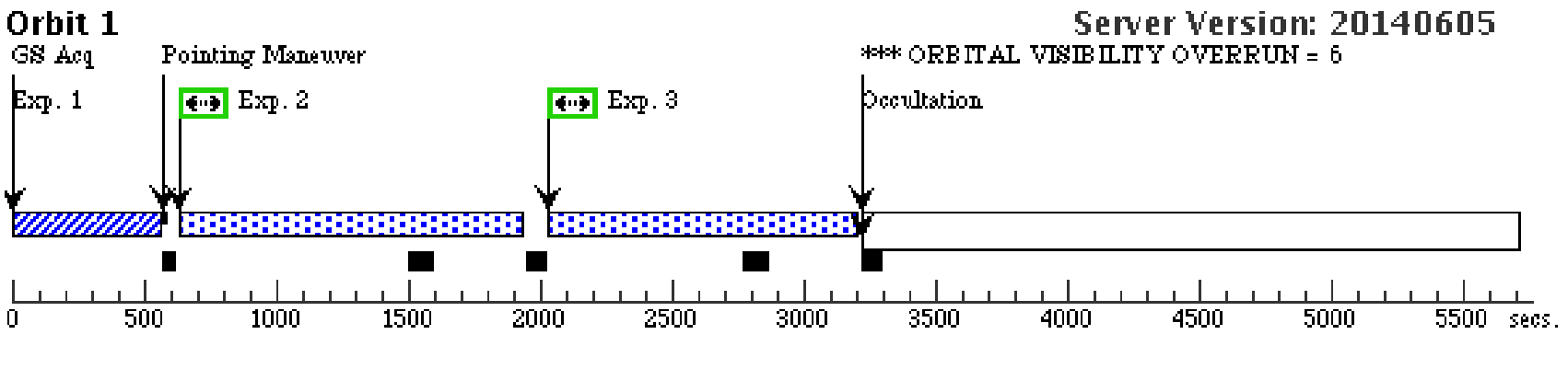
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(2)	PG1115+080A1 Alt Name1: HB89-1115+080A1	RA: 11 18 16.9299 (169.5705413d) Dec: +07 45 58.52 (7.76626d) Equinox: J2000	Redshift: 1.718	V=16.44 F(1530) = 2.9e-15 ergs/s/cm^2/Ang	Reference Frame: ICRS

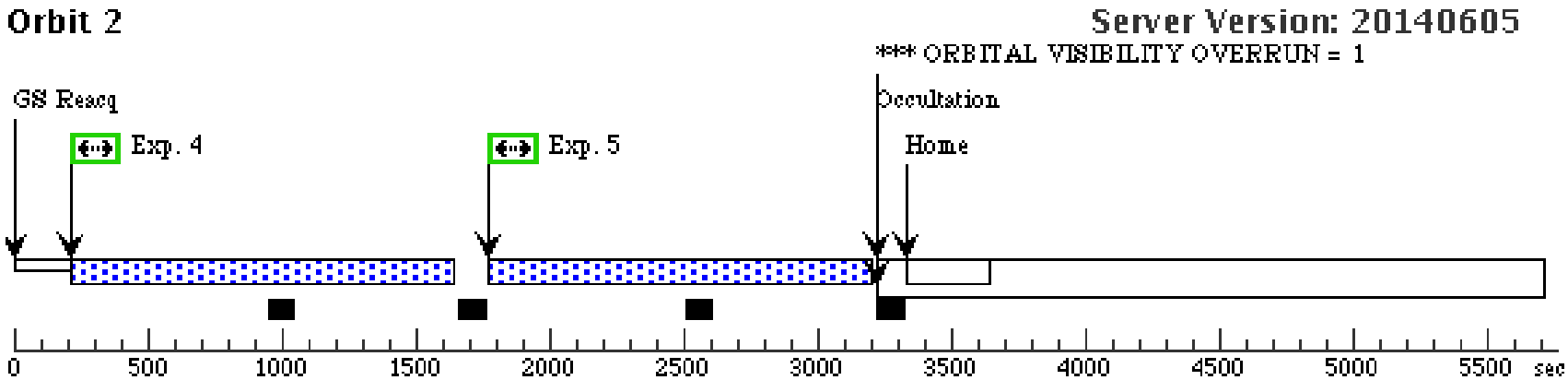
Comments: This object was generated by the targetselector and retrieved from the SIMBAD database. One of four images of lensed quasar. Coordinates checked in GSC23. GSC2 HSTID=N6H3003164

Exposures

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	(COS.ta.510174)	(2) PG1115+080A1	COS/NUV, ACQ/IMAGE, PSA	MIRRORB		GS ACQ SCENARIO BASE1B3		70 Secs (70 Secs) *[==>]*	 ***[1]***
2	(COS.sp.510177)	(2) PG1115+080A1	COS/FUV, TIME-TAG, PSA	G140L 1105 A	FP-POS=1; BUFFER-TIME=700			1000 Secs (1122 Secs) *[==>1122.0 Secs]*	 ***[1]***
3	(COS.sp.510177)	(2) PG1115+080A1	COS/FUV, TIME-TAG, PSA	G140L 1105 A	FP-POS=2; BUFFER-TIME=700			1000 Secs (1122 Secs) *[==>1122.0 Secs]*	 ***[1]***
4	(COS.sp.510177)	(2) PG1115+080A1	COS/FUV, TIME-TAG, PSA	G140L 1105 A	FP-POS=3; BUFFER-TIME=700			1000 Secs (1378 Secs) *[==>1378.0 Secs]*	 ***[2]***
5	(COS.sp.510177)	(2) PG1115+080A1	COS/FUV, TIME-TAG, PSA	G140L 1105 A	FP-POS=4; BUFFER-TIME=700			1000 Secs (1378 Secs) *[==>1378.0 Secs]*	 ***[2]***

Orbit Structure





Visit

Proposal 13302, Visit 03, completed Thu Aug 07 01:02:00 GMT 2014

Diagnostic Status: Warning

Scientific Instruments: COS/NUV, COS/FUV

Special Requirements: (none)

Diagnostics

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

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

(Visit 03) Warning (Form): If the target coordinates are not known to 0.4" (or better), an ACQ/SEARCH should precede the ACQ/IMAGE.

Fixed Targets

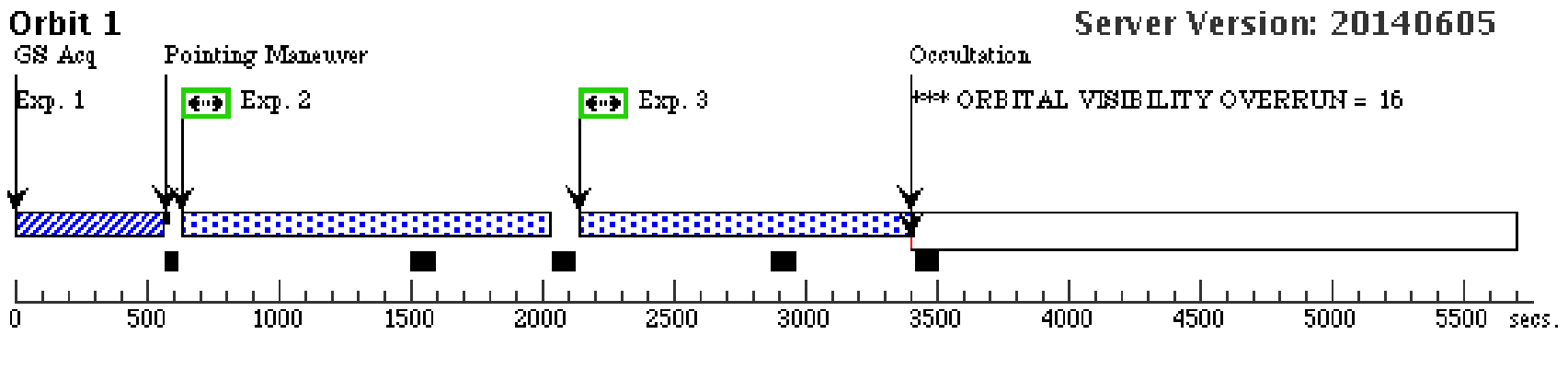
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(3)	HS1803+5425 Alt Name1: 1RXSJ180437.4+542524	RA: 18 04 37.4780 (271.1561583d) Dec: +54 25 40.65 (54.42796d) Equinox: J2000	Redshift: 1.448	V=16.7 F(1530) = 2.8e-15 ergs/s/cm^2/ Ang	Reference Frame: ICRS

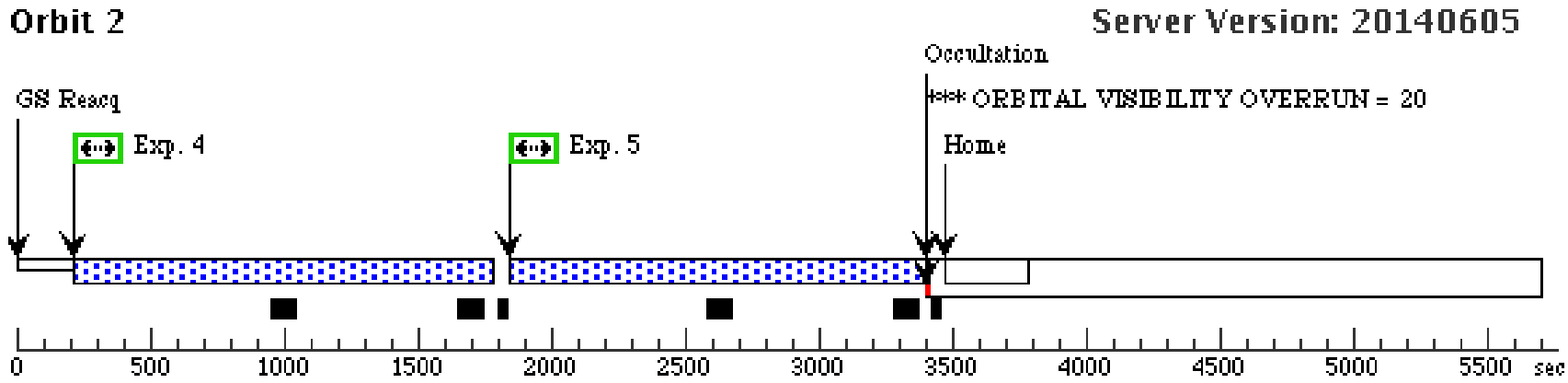
Comments: This object was generated by the targetselector and retrieved from the SIMBAD database. Coords checked in GSC2; hstID=N10H009447

Exposures

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	(COS.ta.510 174)	(3) HS1803+5425	COS/NUV, ACQ/IMAGE, PSA	MIRRORB				70 Secs (70 Secs) *[==>]*	***[1]***
2	(COS.sp.510 177)	(3) HS1803+5425	COS/FUV, TIME-TAG, PSA	G140L 1105 A	FP-POS=1; BUFFER-TIME=700			1000 Secs (1216 Secs) *[==>1216.0 Secs]*	***[1]***
3	(COS.sp.510 177)	(3) HS1803+5425	COS/FUV, TIME-TAG, PSA	G140L 1105 A	FP-POS=2; BUFFER-TIME=700			1000 Secs (1216 Secs) *[==>1216.0 Secs]*	***[1]***
4	(COS.sp.510 177)	(3) HS1803+5425	COS/FUV, TIME-TAG, PSA	G140L 1105 A	FP-POS=3; BUFFER-TIME=700			1000 Secs (1514 Secs) *[==>1514.0 Secs]*	***[2]***
5	(COS.sp.510 177)	(3) HS1803+5425	COS/FUV, TIME-TAG, PSA	G140L 1105 A	FP-POS=4; BUFFER-TIME=700			1000 Secs (1514 Secs) *[==>1514.0 Secs]*	***[2]***

Orbit Structure





Visit

Proposal 13302, Visit 04, completed Thu Aug 07 01:02:00 GMT 2014

Diagnostic Status: Warning

Scientific Instruments: COS/NUV, COS/FUV

Special Requirements: (none)

Diagnostics

(Visit 04) Warning (Form): If the target coordinates are not known to 0.4" (or better), an ACQ/SEARCH should precede the ACQ/IMAGE.

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

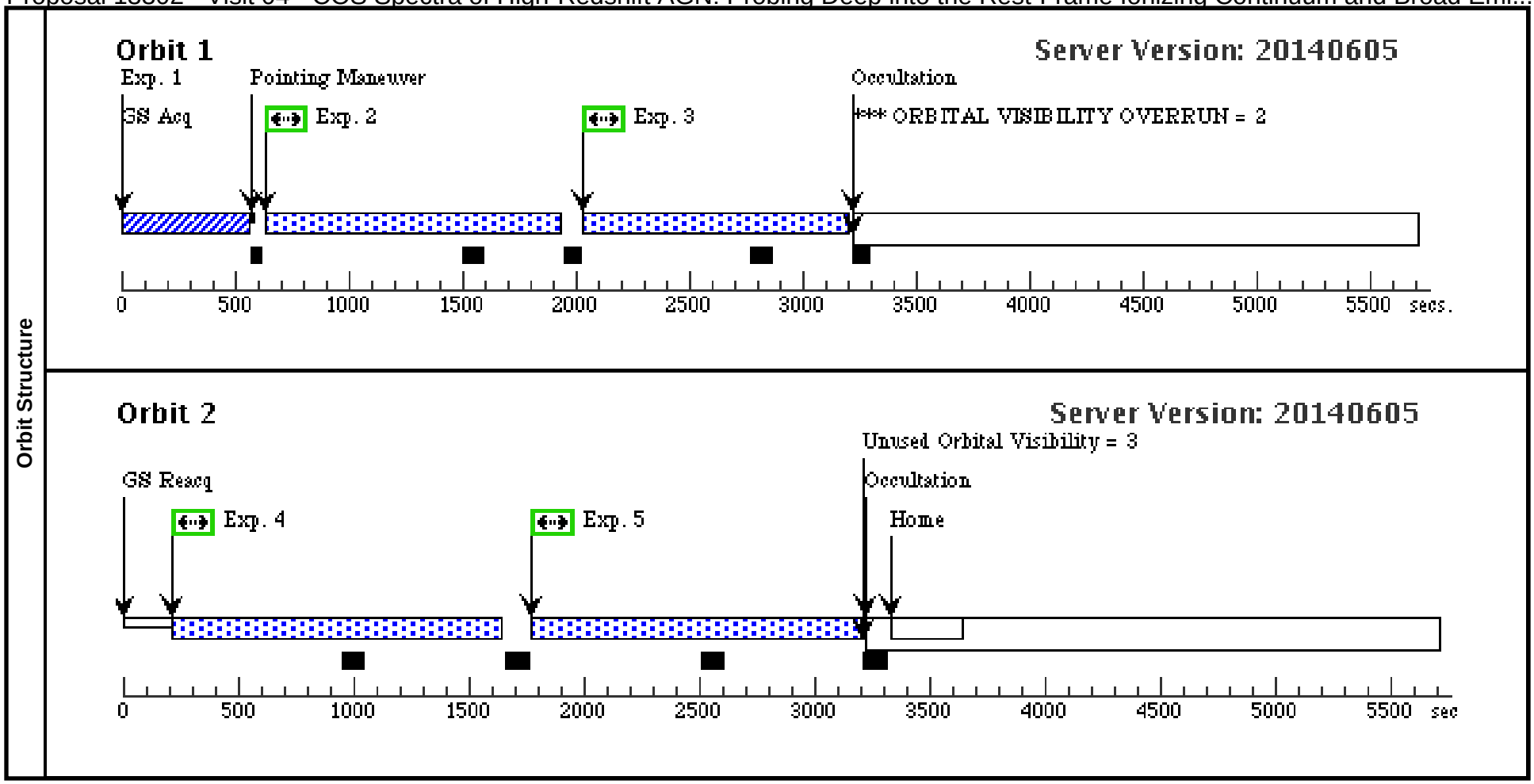
Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(4)	HE1120+0154 Alt Name1: UM425 Alt Name2: HB89-1120+019	RA: 11 23 20.7202 (170.8363342d) Dec: +01 37 47.56 (1.62988d) Equinox: J2000	Redshift: 1.472	V=16.12 F(1530) = 2.7e-15 ergs/s/cm^2/Ang	Reference Frame: ICRS

Comments: This object was generated by the targetselector and retrieved from the SIMBAD database. Checked in GSC2; hstID=N6CI002224

Exposures

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	(COS.ta.510174)	(4) HE1120+0154	COS/NUV, ACQ/IMAGE, PSA	MIRRORB		GS ACQ SCENARIO BASE1B3		70 Secs (70 Secs) *[==>]*	 ***[1]***
2	(COS.sp.510177)	(4) HE1120+0154	COS/FUV, TIME-TAG, PSA	G140L 1105 A	FP-POS=1; BUFFER-TIME=700			1000 Secs (1120 Secs) *[==>1120.0 Secs]*	 ***[1]***
3	(COS.sp.510177)	(4) HE1120+0154	COS/FUV, TIME-TAG, PSA	G140L 1105 A	FP-POS=2; BUFFER-TIME=700			1000 Secs (1120 Secs) *[==>1120.0 Secs]*	 ***[1]***
4	(COS.sp.510177)	(4) HE1120+0154	COS/FUV, TIME-TAG, PSA	G140L 1105 A	FP-POS=3; BUFFER-TIME=700			1000 Secs (1376 Secs) *[==>1376.0 Secs]*	 ***[2]***
5	(COS.sp.510177)	(4) HE1120+0154	COS/FUV, TIME-TAG, PSA	G140L 1105 A	FP-POS=4; BUFFER-TIME=700			1000 Secs (1376 Secs) *[==>1376.0 Secs]*	 ***[2]***


Orbit Structure
Orbit 1
Server Version: 20140605
Exp. 1
GS Acq
Pointing Maneuver
Exp. 2
Exp. 3
Occultation
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500
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secs.
Orbit 2
Server Version: 20140605
Unused Orbital Visibility = 3
GS Reacq
Exp. 4
Exp. 5
Occultation
Home
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4000
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5000
5500
sec

Visit

Proposal 13302, Visit 05, completed Thu Aug 07 01:02:00 GMT 2014

Diagnostic Status: Warning

Scientific Instruments: COS/NUV, COS/FUV

Special Requirements: (none)

Diagnostics

(Visit 05) Warning (Form): If the target coordinates are not known to 0.4" (or better), an ACQ/SEARCH should precede the ACQ/IMAGE.

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

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

Fixed Targets

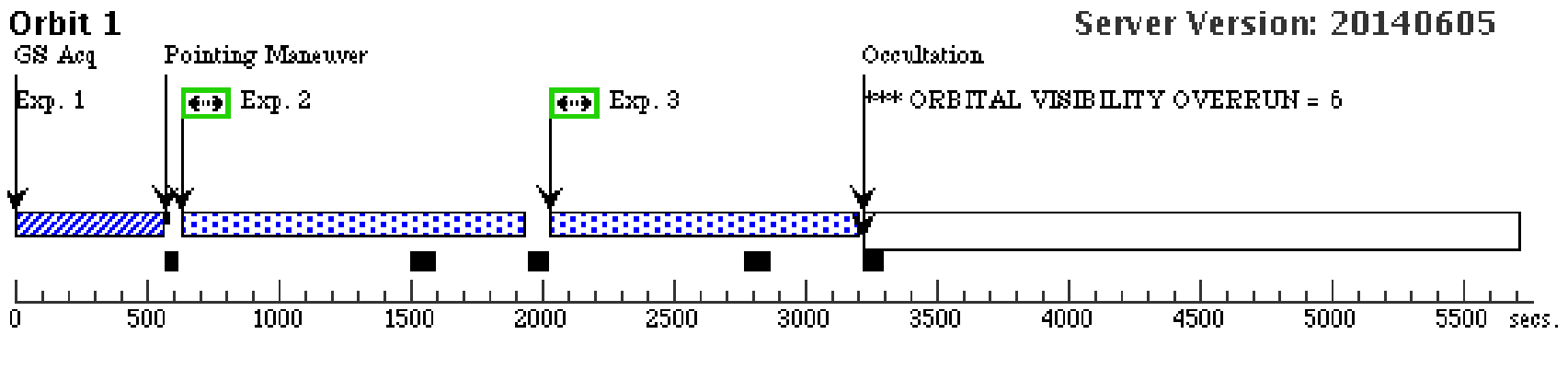
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(5)	SDSSJ125140.83+080718.4 Alt Name1: GALEX26968579442957 39378	RA: 12 51 40.8105 (192.9200438d) Dec: +08 07 18.19 (8.12172d) Equinox: J2000	Redshift: 1.596	V=17.39 F(1530) = 2.2e-15 ergs/s/cm^2/ Ang	Reference Frame: ICRS

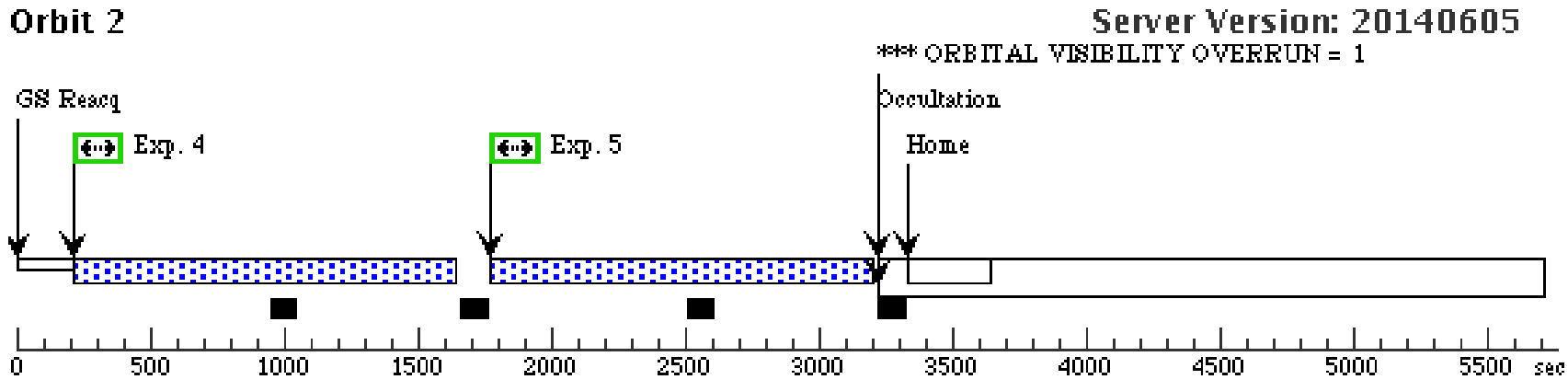
Comments: This object was generated by the targetselector and retrieved from the NED database. Checked in NED. N4TA002824

Exposures

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	(COS.ta.510174)	(5) SDSSJ125140.83+080718.4	COS/NUV, ACQ/IMAGE, PSA	MIRRORB				70 Secs (70 Secs) *[==>]*	*[1]*
2	(COS.sp.510177)	(5) SDSSJ125140.83+080718.4	COS/FUV, TIME-TAG, PSA	G140L 1105 A	FP-POS=1; BUFFER-TIME=700			1000 Secs (1122 Secs) *[==>1122.0 Secs]*	*[1]*
3	(COS.sp.510177)	(5) SDSSJ125140.83+080718.4	COS/FUV, TIME-TAG, PSA	G140L 1105 A	FP-POS=2; BUFFER-TIME=700			1000 Secs (1122 Secs) *[==>1122.0 Secs]*	*[1]*
4	(COS.sp.510177)	(5) SDSSJ125140.83+080718.4	COS/FUV, TIME-TAG, PSA	G140L 1105 A	FP-POS=3; BUFFER-TIME=700			1000 Secs (1378 Secs) *[==>1378.0 Secs]*	*[2]*
5	(COS.sp.510177)	(5) SDSSJ125140.83+080718.4	COS/FUV, TIME-TAG, PSA	G140L 1105 A	FP-POS=4; BUFFER-TIME=700			1000 Secs (1378 Secs) *[==>1378.0 Secs]*	*[2]*

Orbit Structure





Visit

Proposal 13302, Visit 06, completed Thu Aug 07 01:02:00 GMT 2014

Diagnostic Status: Warning

Scientific Instruments: COS/NUV, COS/FUV

Special Requirements: (none)

Diagnostics

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

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

Fixed Targets

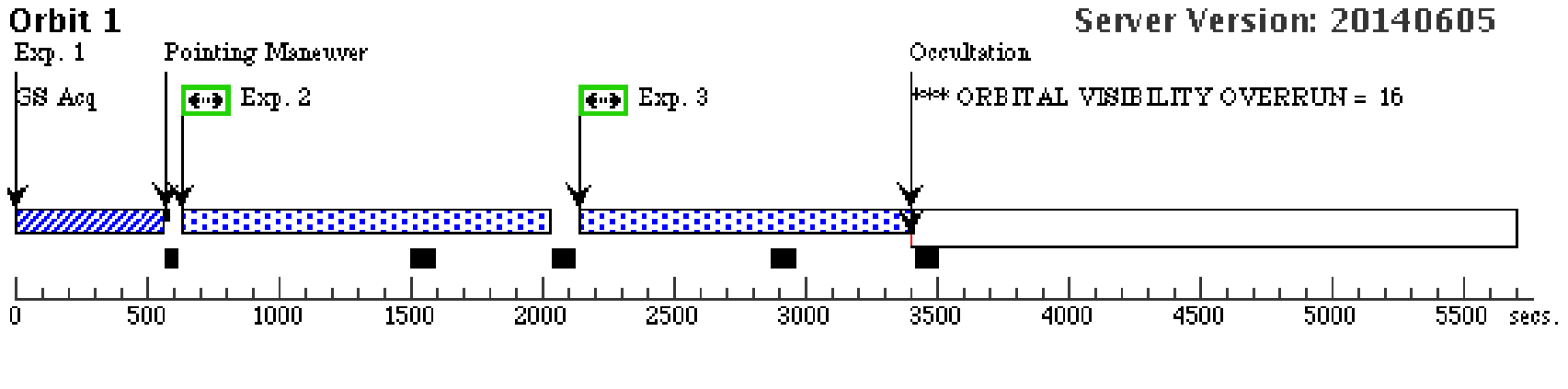
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(6)	SDSSJ094209.14+520714.5 Alt Name1: 1RXSJ094210.0+520739	RA: 09 42 9.1626 (145.5381775d) Dec: +52 07 14.54 (52.12071d) Equinox: J2000	Redshift: 1.65297	V=16.68 F(1530) = 2e-15 ergs/s/cm^2/Ang	Reference Frame: ICRS

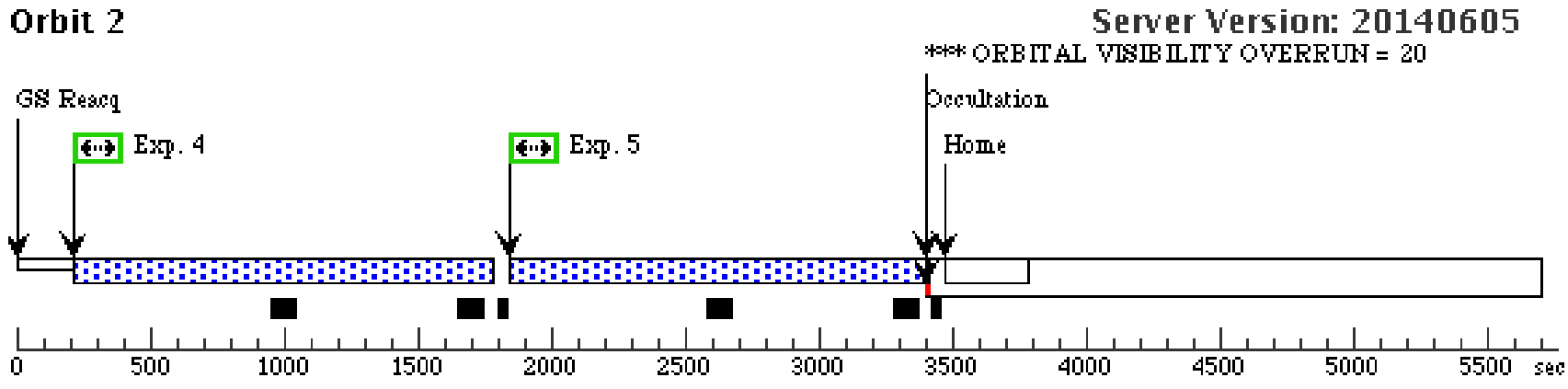
Comments: This object was generated by the targetselector and retrieved from the SIMBAD database. Coordinates checked in GSC2 (hstID=N956002270)

Exposures

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	(COS.ta.510174)	(6) SDSSJ094209.14+520714.5	COS/NUV, ACQ/IMAGE, PSA	MIRRORB				70 Secs (70 Secs) *[==>]*	*[1]*
2	(COS.sp.510177)	(6) SDSSJ094209.14+520714.5	COS/FUV, TIME-TAG, PSA	G140L 1105 A	FP-POS=1; BUFFER-TIME=700			1000 Secs (1216 Secs) *[==>1216.0 Secs]*	*[1]*
3	(COS.sp.510177)	(6) SDSSJ094209.14+520714.5	COS/FUV, TIME-TAG, PSA	G140L 1105 A	FP-POS=2; BUFFER-TIME=700			1000 Secs (1216 Secs) *[==>1216.0 Secs]*	*[1]*
4	(COS.sp.510177)	(6) SDSSJ094209.14+520714.5	COS/FUV, TIME-TAG, PSA	G140L 1105 A	FP-POS=3; BUFFER-TIME=700			1000 Secs (1514 Secs) *[==>1514.0 Secs]*	*[2]*
5	(COS.sp.510177)	(6) SDSSJ094209.14+520714.5	COS/FUV, TIME-TAG, PSA	G140L 1105 A	FP-POS=4; BUFFER-TIME=700			1000 Secs (1514 Secs) *[==>1514.0 Secs]*	*[2]*

Orbit Structure





Visit

Proposal 13302, Visit 07, completed Thu Aug 07 01:02:01 GMT 2014

Diagnostic Status: Warning

Scientific Instruments: COS/NUV, COS/FUV

Special Requirements: (none)

Diagnostics

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

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

Fixed Targets

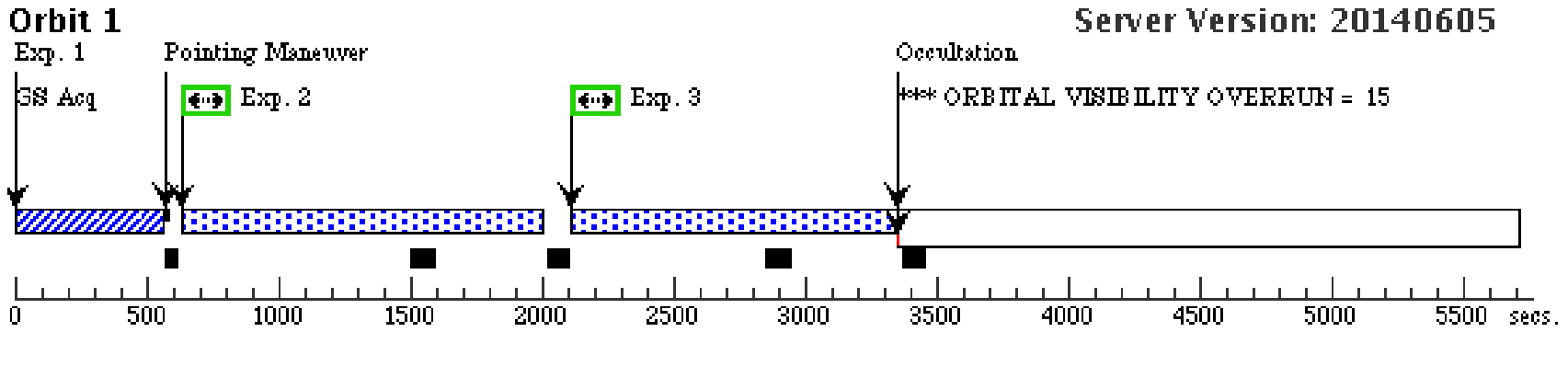
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(7)	SBS1307+462 Alt Name1: HS1307+4617 Alt Name2: H1307+462	RA: 13 10 11.6199 (197.5484162d) Dec: +46 01 24.50 (46.02347d) Equinox: J2000	Redshift: 2.142306	V=16.91 F(1530) = 2e-15 ergs/s/cm^2/Ang	Reference Frame: ICRS

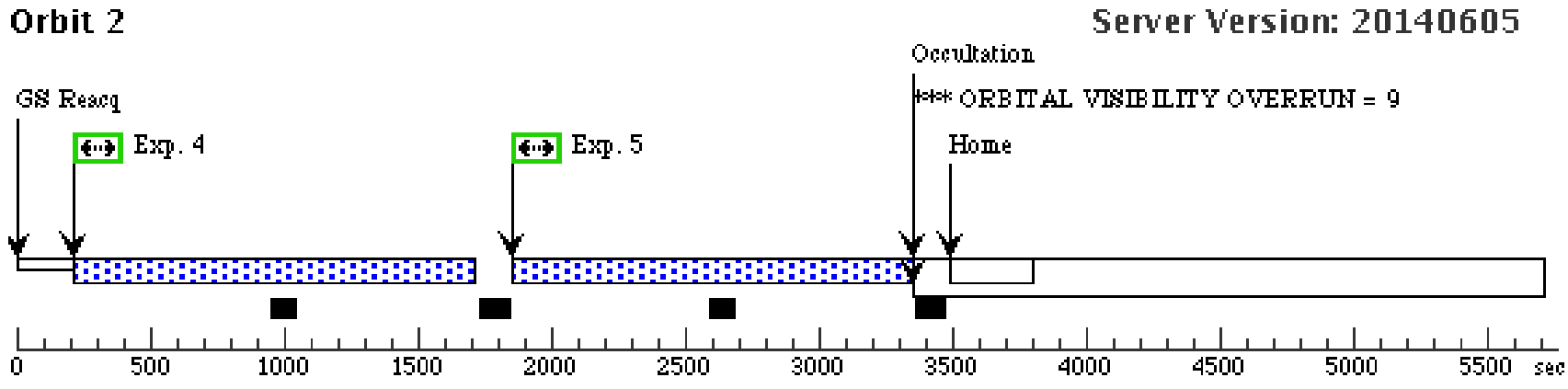
Comments: Checked in GSC2, hstID=N5K9000415

Exposures

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	(COS.ta.510174)	(7) SBS1307+462	COS/NUV, ACQ/IMAGE, PSA	MIRRORB				70 Secs (70 Secs) *[==>]*	*[1]*
2	(COS.sp.510177)	(7) SBS1307+462	COS/FUV, TIME-TAG, PSA	G140L 1105 A	FP-POS=1; BUFFER-TIME=700			1000 Secs (1190 Secs) *[==>1190.0 Secs]*	*[1]*
3	(COS.sp.510177)	(7) SBS1307+462	COS/FUV, TIME-TAG, PSA	G140L 1105 A	FP-POS=2; BUFFER-TIME=700			1000 Secs (1190 Secs) *[==>1190.0 Secs]*	*[1]*
4	(COS.sp.510177)	(7) SBS1307+462	COS/FUV, TIME-TAG, PSA	G140L 1105 A	FP-POS=3; BUFFER-TIME=700			1000 Secs (1445 Secs) *[==>1445.0 Secs]*	*[2]*
5	(COS.sp.510177)	(7) SBS1307+462	COS/FUV, TIME-TAG, PSA	G140L 1105 A	FP-POS=4; BUFFER-TIME=700			1000 Secs (1445 Secs) *[==>1445.0 Secs]*	*[2]*

Orbit Structure





Visit

Proposal 13302, Visit 08, failed Thu Aug 07 01:02:01 GMT 2014

Diagnostic Status: Warning

Scientific Instruments: COS/NUV, COS/FUV

Special Requirements: (none)

Diagnostics

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

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

Fixed Targets

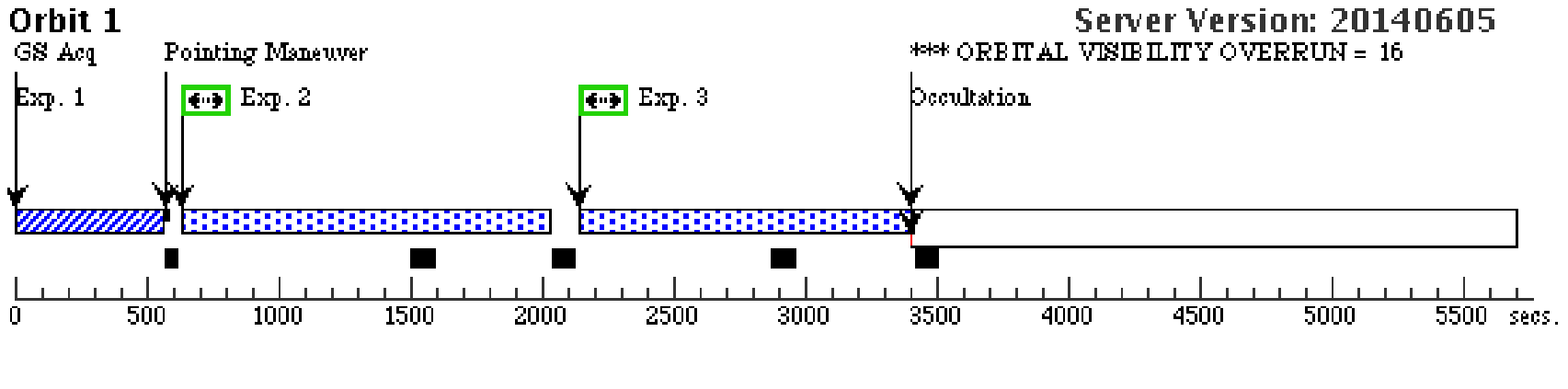
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(8)	SBS1010+535	RA: 10 13 30.1648 (153.3756867d) Dec: +53 15 59.71 (53.26659d) Equinox: J2000	Redshift: 1.515848	V=16.41 F(1530) = 2e-15 ergs/s/cm^2/Ang	Reference Frame: ICRS

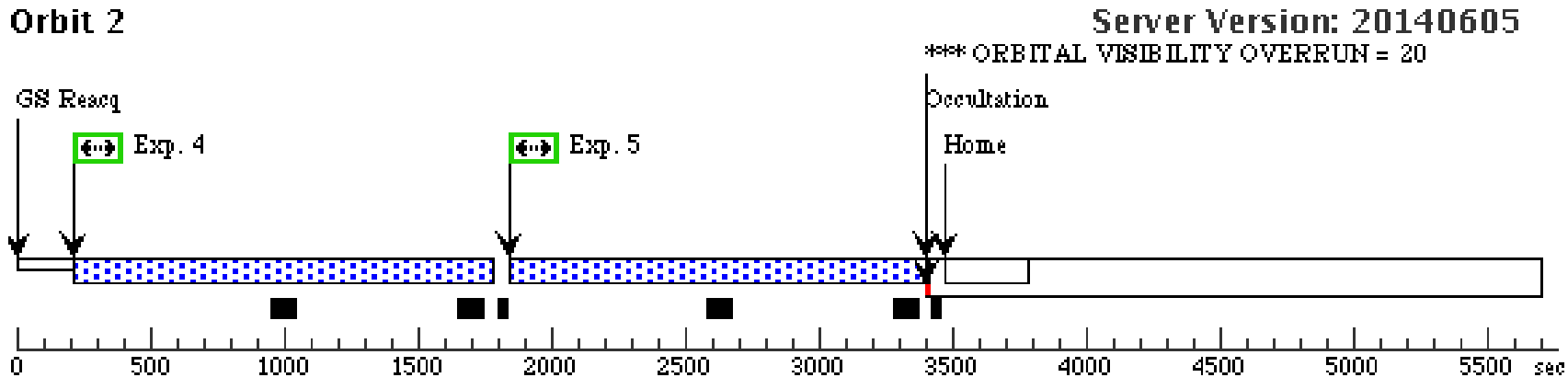
Comments: Checked in GSC2: hstID=N95Y004607

Exposures

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	(COS.ta.510174)	(8) SBS1010+535	COS/NUV, ACQ/IMAGE, PSA	MIRRORB				70 Secs (70 Secs) *[==>]*	*[1]*
2	(COS.sp.510177)	(8) SBS1010+535	COS/FUV, TIME-TAG, PSA	G140L 1105 A	FP-POS=1; BUFFER-TIME=700			1000 Secs (1216 Secs) *[==>1216.0 Secs]*	*[1]*
3	(COS.sp.510177)	(8) SBS1010+535	COS/FUV, TIME-TAG, PSA	G140L 1105 A	FP-POS=2; BUFFER-TIME=700			1000 Secs (1216 Secs) *[==>1216.0 Secs]*	*[1]*
4	(COS.sp.510177)	(8) SBS1010+535	COS/FUV, TIME-TAG, PSA	G140L 1105 A	FP-POS=3; BUFFER-TIME=700			1000 Secs (1514 Secs) *[==>1514.0 Secs]*	*[2]*
5	(COS.sp.510177)	(8) SBS1010+535	COS/FUV, TIME-TAG, PSA	G140L 1105 A	FP-POS=4; BUFFER-TIME=700			1000 Secs (1514 Secs) *[==>1514.0 Secs]*	*[2]*

Orbit Structure





Visit

Proposal 13302, Visit 58, completed Thu Aug 07 01:02:01 GMT 2014

Diagnostic Status: Warning

Scientific Instruments: COS/NUV, COS/FUV

Special Requirements: (none)

Comments: This is a HOPR repeat of visit 08.

Diagnostics

(Visit 58) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN

(Visit 58) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN

Fixed Targets

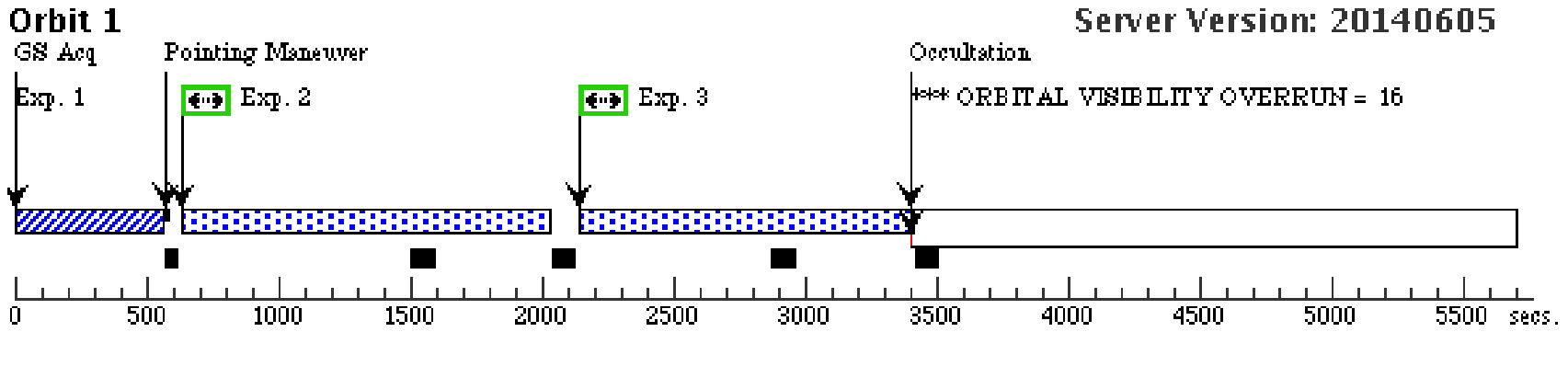
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(8)	SBS1010+535	RA: 10 13 30.1648 (153.3756867d) Dec: +53 15 59.71 (53.26659d) Equinox: J2000	Redshift: 1.515848	V=16.41 F(1530) = 2e-15 ergs/s/cm^2/Ang	Reference Frame: ICRS

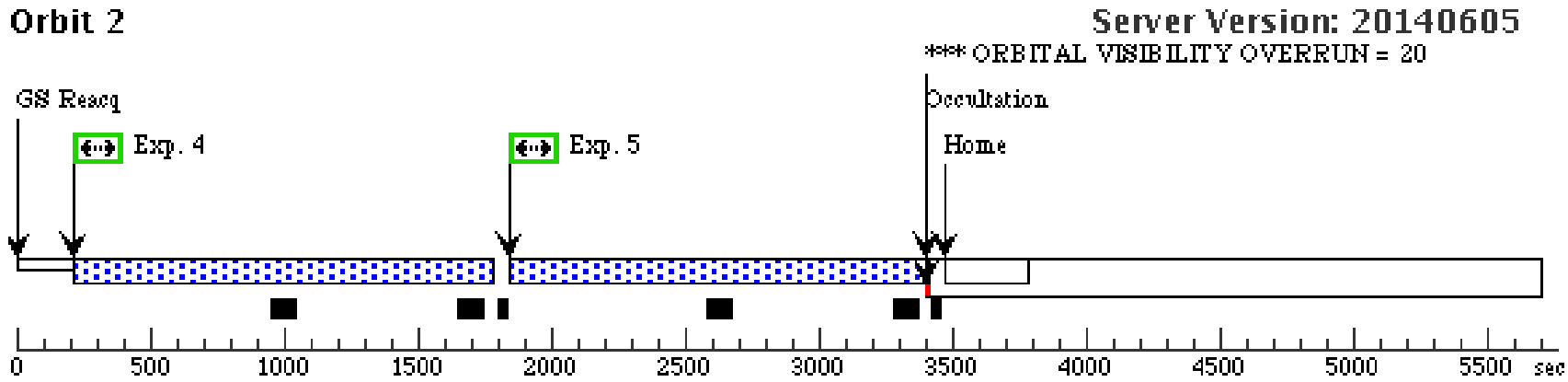
Comments: Checked in GSC2: hstID=N95Y004607

Exposures

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	(COS.ta.510174)	(8) SBS1010+535	COS/NUV, ACQ/IMAGE, PSA	MIRRORB				70 Secs (70 Secs) *[==>]*	***[1]***
2	(COS.sp.510177)	(8) SBS1010+535	COS/FUV, TIME-TAG, PSA	G140L 1105 A	FP-POS=1; BUFFER-TIME=700			1000 Secs (1216 Secs) *[==>1216.0 Secs]*	***[1]***
3	(COS.sp.510177)	(8) SBS1010+535	COS/FUV, TIME-TAG, PSA	G140L 1105 A	FP-POS=2; BUFFER-TIME=700			1000 Secs (1216 Secs) *[==>1216.0 Secs]*	***[1]***
4	(COS.sp.510177)	(8) SBS1010+535	COS/FUV, TIME-TAG, PSA	G140L 1105 A	FP-POS=3; BUFFER-TIME=700			1000 Secs (1514 Secs) *[==>1514.0 Secs]*	***[2]***
5	(COS.sp.510177)	(8) SBS1010+535	COS/FUV, TIME-TAG, PSA	G140L 1105 A	FP-POS=4; BUFFER-TIME=700			1000 Secs (1514 Secs) *[==>1514.0 Secs]*	***[2]***

Orbit Structure





Visit

Proposal 13302, Visit 09, completed Thu Aug 07 01:02:01 GMT 2014

Diagnostic Status: Warning

Scientific Instruments: COS/NUV, COS/FUV

Special Requirements: (none)

Diagnostics

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

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

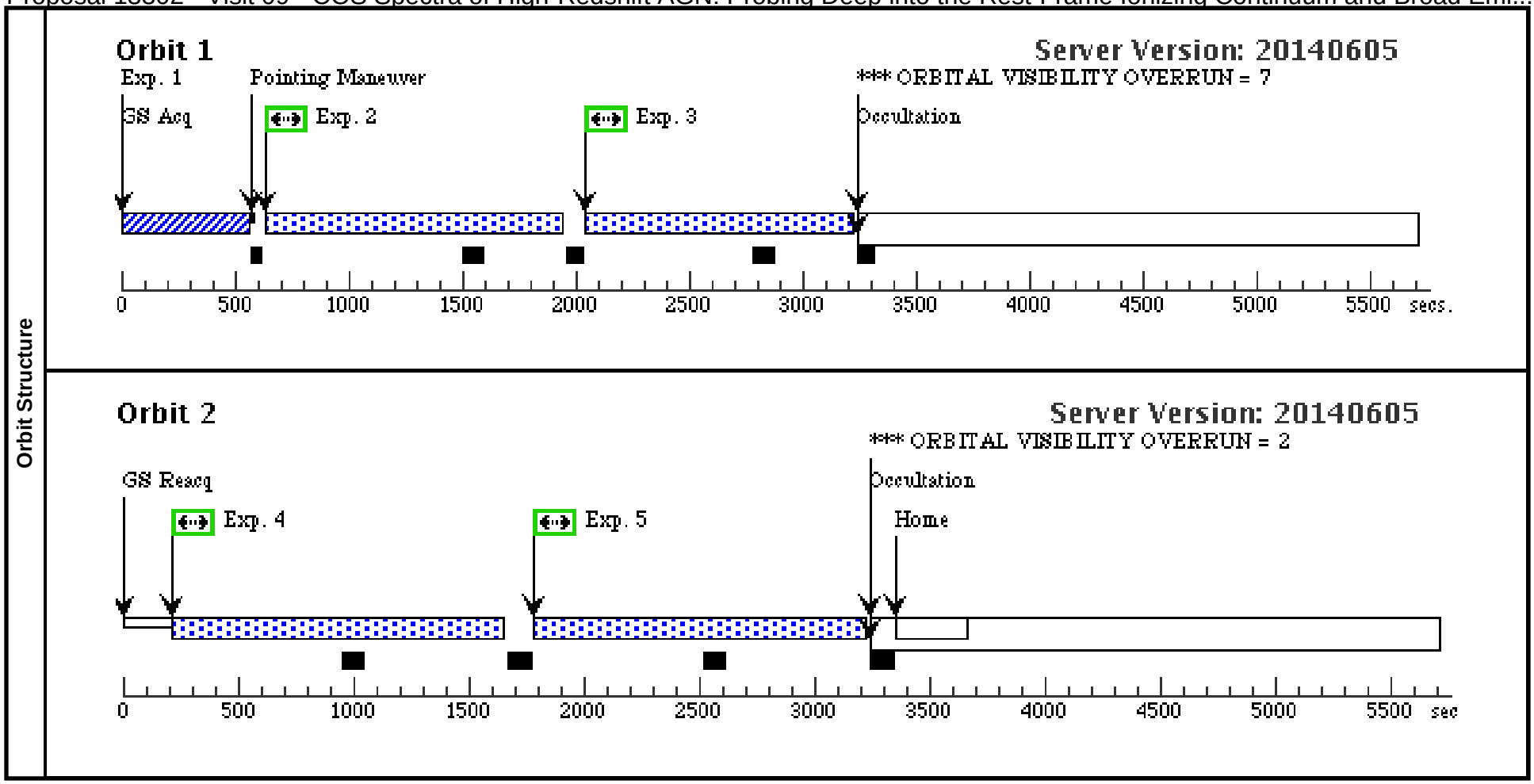
Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(9)	SDSSJ083850.15+261105.4	RA: 08 38 50.1526 (129.7089692d) Dec: +26 11 5.26 (26.18479d) Equinox: J2000	Redshift: 1.618279	V=16.7 F(1530) = 2e-15 ergs/s/cm^2/Ang	Reference Frame: ICRS

Comments: GSC2 hstID=N9EL004710

Exposures

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	(COS.ta.510174)	(9) SDSSJ083850.15+261105.4	COS/NUV, ACQ/IMAGE, PSA	MIRRORB				70 Secs (70 Secs) *[==>]*	*[1]*
2	(COS.sp.510177)	(9) SDSSJ083850.15+261105.4	COS/FUV, TIME-TAG, PSA	G140L 1105 A	FP-POS=1; BUFFER-TIME=700			1000 Secs (1132 Secs) *[==>1132.0 Secs]*	*[1]*
3	(COS.sp.510177)	(9) SDSSJ083850.15+261105.4	COS/FUV, TIME-TAG, PSA	G140L 1105 A	FP-POS=2; BUFFER-TIME=700			1000 Secs (1132 Secs) *[==>1132.0 Secs]*	*[1]*
4	(COS.sp.510177)	(9) SDSSJ083850.15+261105.4	COS/FUV, TIME-TAG, PSA	G140L 1105 A	FP-POS=3; BUFFER-TIME=700			1000 Secs (1388 Secs) *[==>1388.0 Secs]*	*[2]*
5	(COS.sp.510177)	(9) SDSSJ083850.15+261105.4	COS/FUV, TIME-TAG, PSA	G140L 1105 A	FP-POS=4; BUFFER-TIME=700			1000 Secs (1388 Secs) *[==>1388.0 Secs]*	*[2]*


Orbit Structure
Orbit 1
Server Version: 20140605
Exp. 1
Pointing Maneuver
*** ORBITAL VISIBILITY OVERRUN = 7
GS Acq
Exp. 2
Exp. 3
Occultation
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
secs.
Orbit 2
Server Version: 20140605
*** ORBITAL VISIBILITY OVERRUN = 2
GS Reacq
Occultation
Exp. 4
Exp. 5
Home
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
sec

Visit

Proposal 13302, Visit 10, scheduling Thu Aug 07 01:02:01 GMT 2014

Diagnostic Status: Warning

Scientific Instruments: COS/NUV, COS/FUV

Special Requirements: (none)

Diagnostics

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

(Visit 10) Warning (Form): If the target coordinates are not known to 0.4" (or better), an ACQ/SEARCH should precede the ACQ/IMAGE.

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

Fixed Targets

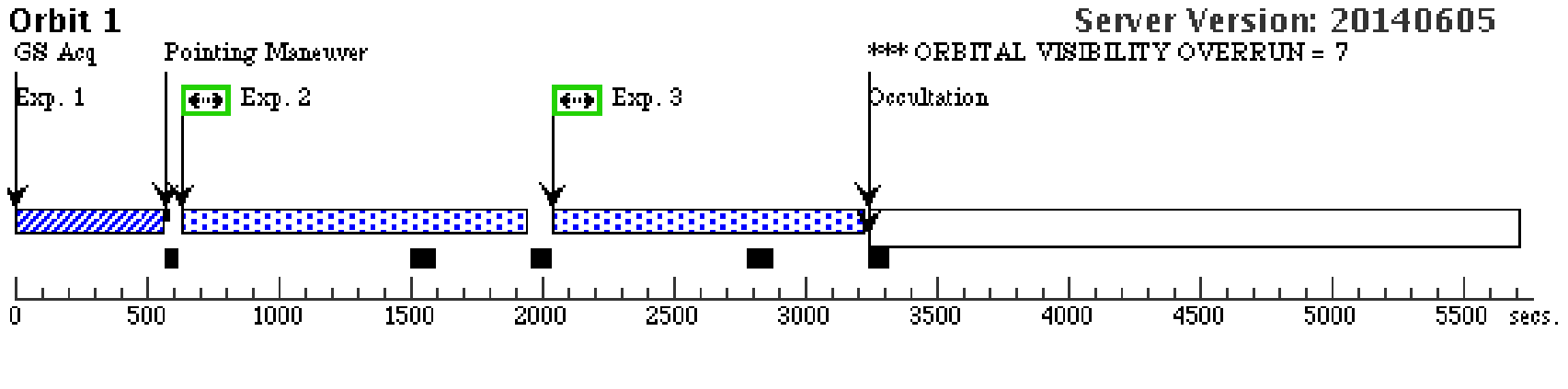
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(10)	US2504 Alt Name1: FBQSJ112950.1+265253 Alt Name2: SDSSJ112950.17+265254.0	RA: 11 29 50.1782 (172.4590758d) Dec: +26 52 53.97 (26.88166d) Equinox: J2000	Redshift: 1.5426	V=17.16 F(1530) = 1.8e-15 ergs/s/cm^2/Ang	Reference Frame: ICRS

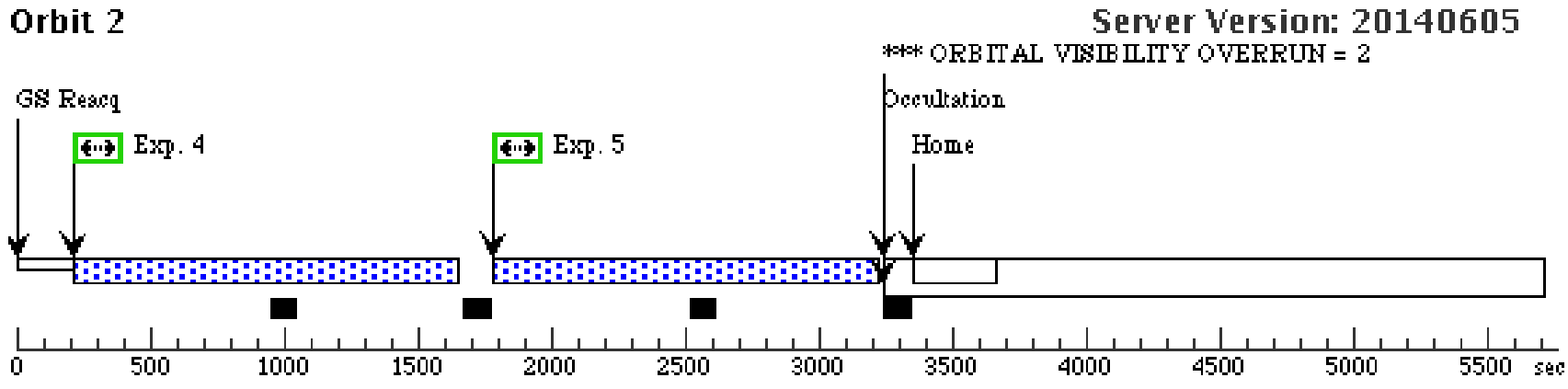
Comments: Coordinates checked in GSC2, hstID=N6NE005334

Exposures

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	(COS.ta.510174)	(10) US2504	COS/NUV, ACQ/IMAGE, PSA	MIRRORB				70 Secs (70 Secs) *[==>]*	***[1]***
2	(COS.sp.510177)	(10) US2504	COS/FUV, TIME-TAG, PSA	G140L 1105 A	FP-POS=1; BUFFER-TIME=700			1000 Secs (1132 Secs) *[==>1132.0 Secs]*	***[1]***
3	(COS.sp.510177)	(10) US2504	COS/FUV, TIME-TAG, PSA	G140L 1105 A	FP-POS=2; BUFFER-TIME=700			1000 Secs (1132 Secs) *[==>1132.0 Secs]*	***[1]***
4	(COS.sp.510177)	(10) US2504	COS/FUV, TIME-TAG, PSA	G140L 1105 A	FP-POS=3; BUFFER-TIME=700			1000 Secs (1388 Secs) *[==>1388.0 Secs]*	***[2]***
5	(COS.sp.510177)	(10) US2504	COS/FUV, TIME-TAG, PSA	G140L 1105 A	FP-POS=4; BUFFER-TIME=700			1000 Secs (1388 Secs) *[==>1388.0 Secs]*	***[2]***

Orbit Structure





Visit

Proposal 13302, Visit 11, completed Thu Aug 07 01:02:01 GMT 2014

Diagnostic Status: Warning

Scientific Instruments: COS/NUV, COS/FUV

Special Requirements: (none)

Diagnostics

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

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

(Visit 11) Warning (Form): If the target coordinates are not known to 0.4" (or better), an ACQ/SEARCH should precede the ACQ/IMAGE.

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(11)	HB89-1621+392 Alt Name1: BZQJ1623+3909 Alt Name2: RXJ1623.1+3909	RA: 16 23 7.6648 (245.7819367d) Dec: +39 09 32.18 (39.15894d) Equinox: J2000	Redshift: 1.981361	V=17.21 F(1530) = 1.8e-15 ergs/s/cm^2/ Ang	Reference Frame: ICRS

Comments: Coordinates checked in GSC2. hstID=N648010106

Exposures

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	(COS.ta.510174)	(11) HB89-1621+392	COS/NUV, ACQ/IMAGE, PSA	MIRRORB				70 Secs (70 Secs) *[==>]*	***[1]***
2	(COS.sp.510177)	(11) HB89-1621+392	COS/FUV, TIME-TAG, PSA	G140L 1105 A	FP-POS=1; BUFFER-TIME=700			1000 Secs (1149 Secs) *[==>1149.0 Secs]*	***[1]***
3	(COS.sp.510177)	(11) HB89-1621+392	COS/FUV, TIME-TAG, PSA	G140L 1105 A	FP-POS=2; BUFFER-TIME=700			1000 Secs (1149 Secs) *[==>1149.0 Secs]*	***[1]***
4	(COS.sp.510177)	(11) HB89-1621+392	COS/FUV, TIME-TAG, PSA	G140L 1105 A	FP-POS=3; BUFFER-TIME=700			1000 Secs (1405 Secs) *[==>1405.0 Secs]*	***[2]***
5	(COS.sp.510177)	(11) HB89-1621+392	COS/FUV, TIME-TAG, PSA	G140L 1105 A	FP-POS=4; BUFFER-TIME=700			1000 Secs (1405 Secs) *[==>1405.0 Secs]*	***[2]***

Orbit Structure