



13846 - The COS Absorption Survey of Baryon Harbors (CASBaH): Probing the Circumgalactic Media of Galaxies from $z = 0$ to $z = 1.5$

Cycle: 22, Proposal Category: GO

(UV Initiative)

(Availability Mode: SUPPORTED)

INVESTIGATORS

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VISITS

Proposal 13846 (STScI Edit Number: 0, Created: Thursday, July 24, 2014 9:01:41 PM EST) - Overview

<i>Visit</i>	<i>Targets used in Visit</i>	<i>Configurations used in Visit</i>	<i>Orbits Used</i>	<i>Last Orbit Planner Run</i>	<i>OP Current with Visit?</i>
01	(2) PG1522+101	STIS/CCD STIS/NUV-MAMA	5	24-Jul-2014 22:00:58.0	yes
02	(2) PG1522+101	STIS/CCD STIS/NUV-MAMA	3	24-Jul-2014 22:01:00.0	yes
03	(7) LBQS1435-0134	STIS/CCD STIS/NUV-MAMA	5	24-Jul-2014 22:01:01.0	yes
05	(7) LBQS1435-0134	STIS/CCD STIS/NUV-MAMA	3	24-Jul-2014 22:01:03.0	yes
04	(1) PHL1377	COS/NUV	5	24-Jul-2014 22:01:04.0	yes
06	(1) PHL1377	COS/NUV	5	24-Jul-2014 22:01:06.0	yes
07	(1) PHL1377	COS/NUV	5	24-Jul-2014 22:01:07.0	yes
08	(1) PHL1377	COS/NUV	5	24-Jul-2014 22:01:09.0	yes
09	(2) PG1522+101	COS/NUV	6	24-Jul-2014 22:01:12.0	yes
10	(4) PG1206+459	COS/NUV	5	24-Jul-2014 22:01:15.0	yes
11	(4) PG1206+459	COS/NUV	3	24-Jul-2014 22:01:17.0	yes
12	(6) PG1630+377	COS/NUV	5	24-Jul-2014 22:01:20.0	yes
13	(6) PG1630+377	COS/NUV	5	24-Jul-2014 22:01:21.0	yes
14	(6) PG1630+377	COS/NUV	5	24-Jul-2014 22:01:23.0	yes
15	(3) PG1148+549	COS/NUV	5	24-Jul-2014 22:01:25.0	yes
16	(3) PG1148+549	COS/NUV	5	24-Jul-2014 22:01:26.0	yes
17	(3) PG1148+549	COS/NUV	4	24-Jul-2014 22:01:28.0	yes
18	(5) PG1407+265	COS/NUV	5	24-Jul-2014 22:01:31.0	yes
19	(5) PG1407+265	COS/NUV	2	24-Jul-2014 22:01:33.0	yes
20	(8) FBQS0751+2919	COS/NUV	5	24-Jul-2014 22:01:35.0	yes
21	(8) FBQS0751+2919	COS/NUV	2	24-Jul-2014 22:01:37.0	yes
22	(7) LBQS1435-0134	COS/NUV	6	24-Jul-2014 22:01:39.0	yes

99 Total Orbits Used

ABSTRACT

In Cycle 17, we obtained high S/N, far-ultraviolet COS spectra of nine QSOs at $0.92 < z(\text{QSO}) < 1.47$ to study the elusive warm-hot gas ($\log T = 5 - 6$) and multiphase gaseous halos. Program highlights include (a) evidence of massive, multiphase galactic outflows with large spatial extent, (b) detection of pristine and cold gas, possibly in cold-accretion flows, and (c) discovery of a bimodal metallicity distribution in Lyman-limit absorbers. These rich data will be mined for some time, but ultimately the usefulness of the database is limited by the FUV wavelength range of the original observations. To fully exploit these unique HST observations to study the circumgalactic medium during the golden age of star formation ($0.5 < z < 1.5$), we propose high-resolution near-UV ($>1800 \text{ \AA}$) spectroscopy of the same QSOs with STIS and COS to fully cover the H I Ly α and Lyman series from $z = 0$ out to $z = z(\text{QSO})$ and significantly improve the statistics of far-UV lines and diagnostics. With these data we will (1) obtain precise metallicities of the cool CGM with added coverage of H I Ly α and Lyman series lines (often not covered in current data at $z > 0.5$), (2) constrain the metallicity and mass of the warm-hot gas from, e.g. OVI/NeVIII + broad Ly α constraints, (3) measure relative abundances (instead of assuming them) using banks of ions accessible only in the far-UV, (4) study absorber redshift evolution with the expanded samples at $0.5 < z < 1.5$, (5) obtain more complete and accurate identification of weak lines, which is difficult without constraints on Ly α at $0.5 < z < z(\text{QSO})$, and (6) investigate statistical absorber-galaxy relationships in the epoch of peak star formation.

OBSERVING DESCRIPTION

Feasibility and safety. Our proposal requires straightforward observations of a set of point sources. Moreover, we have observed all the targets with COS previously without any problems, and many of the targets have been observed with other HST instruments. The targets present no safety issues for STIS or COS. Standard procedures (e.g., for target acquisition) will work well.

We note that the bright-object tool flags two of the targets (PG1148+549 and PG1407+265) as safety concerns. However, the ultraviolet of both of these targets are well measured, and they do not present any safety risks to the COS detectors according to the COS ETC. Moreover, both of these QSOs have been observed with the COS NUV mode in program 11741 without any problems.

Instrument selection/configuration and exposure times. We can choose either COS or STIS for this program. In general, we would prefer the STIS E230M mode for these observations because it has significantly better spectral resolution and a cleaner line-spread function than COS. However, the sensitivity of STIS is very low at wavelengths $< 2000 \text{ \AA}$, and in that wavelength range, and STIS observations are prohibitively expensive. At longer

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wavelengths, the integration times required for by COS and STIS are comparable because COS must use many different central wavelength settings to cover the required wavelength range. Therefore we request observations of PG1522+101 and LBQS1435-0134 with the STIS E230M echelle mode at central wavelength = 2415 Å and the 0.2x0.2 slit; these observations will cover observed wavelengths from 2011 to 2819 Å. To fill in the rest of the spectrum of these QSOs, and likewise to obtain the desired near-UV data on the other sightlines, we will use the COS NUV mode with central wavelengths = 1921, 1953, 1986, 2217, 2250, and 2283 Å. These central wavelengths will effectively scan the COS NUV mode across the necessary wavelength range.

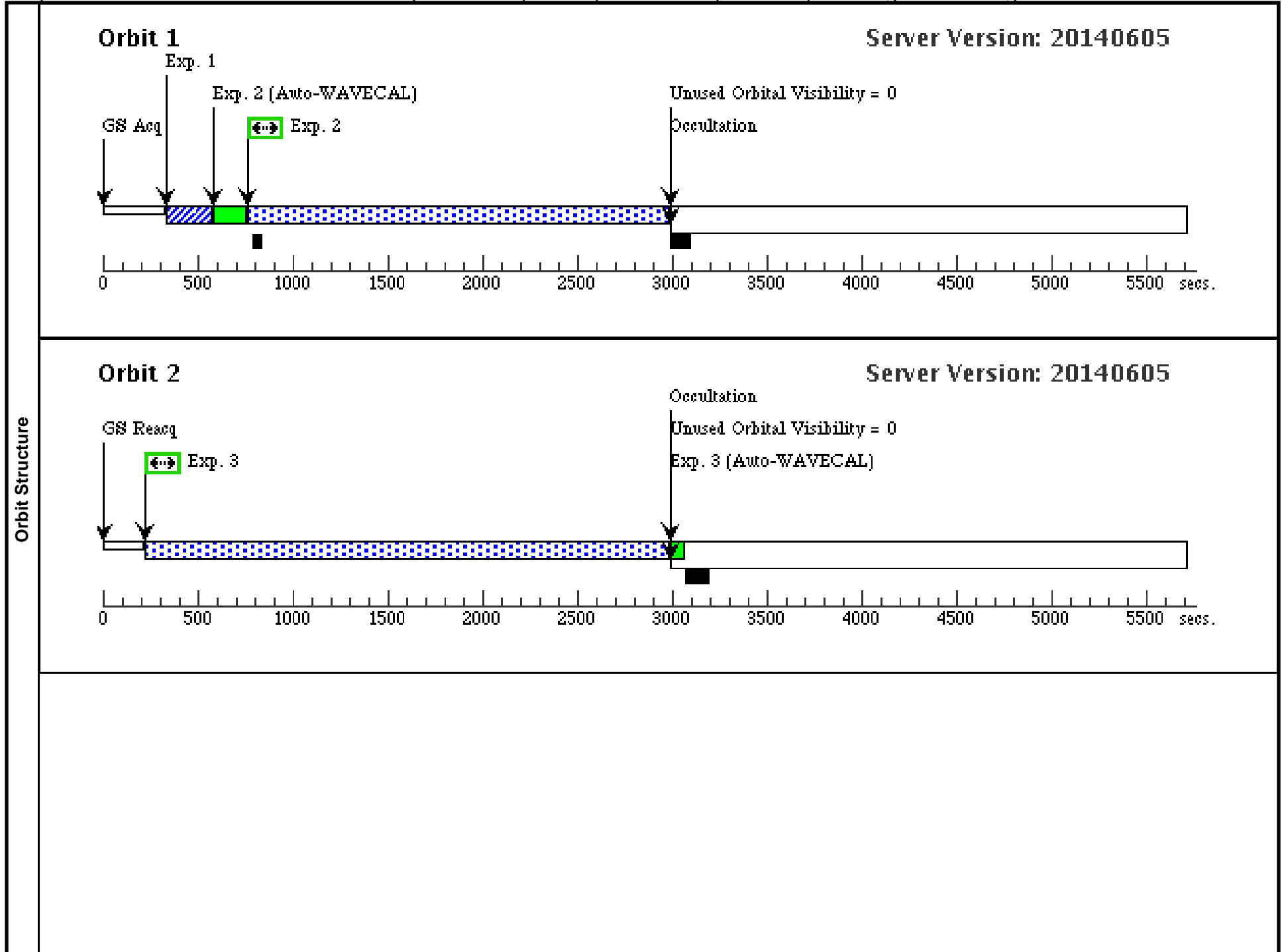
Three of the QSOs in our program (PG1206+459, PG1630+377, and PHL1377) have already been observed with the STIS E230M echelle mode, and we will use those archival observations for our program. The archival STIS observations have S/N ratios = 8 to 10 per resel, and from inspection of these archival spectra we conclude that these archival data provide adequate sensitivity for our science goals. Therefore we have elected to set up the rest of the observations to obtain the same S/N as the existing archival data and thereby provide a uniform NUV dataset for the CASBaH sightlines, and we have determined our exposure times on this basis. To estimate the orbits required for these exposure times, we have assumed standard overheads and the orbit visibilities from Table 6.1 in the HST Primer for Cycle 22, but we have used the shorter visibilities as required by HST policy for large programs.

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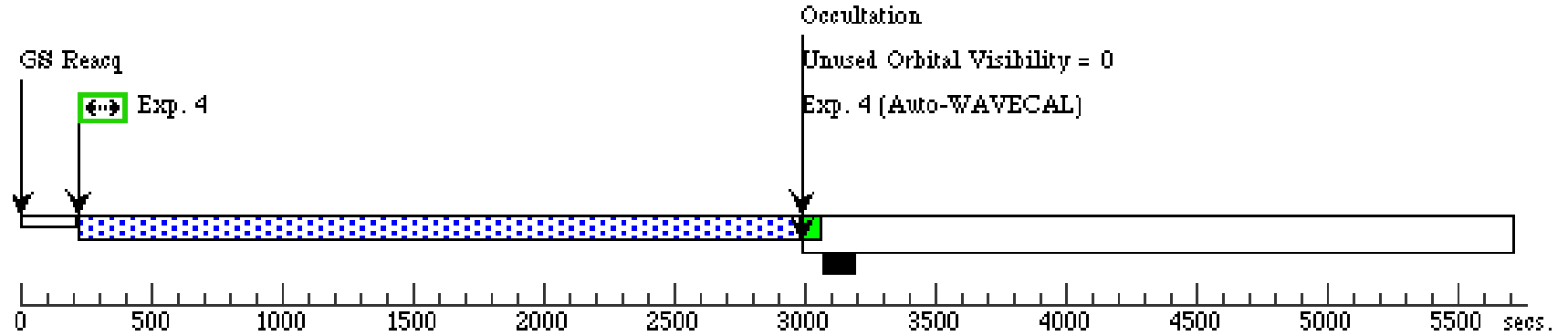
Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
	(2)	PG1522+101	RA: 15 24 24.5800 (231.1024167d) Dec: +09 58 29.70 (9.97492d) Equinox: J2000		V=16.2+/-0.1 Flambda(1350) = 3.0e-15	Reference Frame: ICRS
<i>Comments: This object has been successfully observed with HST spectrographs in past cycles. Coordinates are the same as those used in Program 11741.</i>						

Exposures	#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit	
	1	(STIS.ta.624 465)	(2) PG1522+101	STIS/CCD, ACQ, F28X50LP	MIRROR					2.9 Secs (2.9 Secs) [==>]	[1]
	<i>Comments: To allow for QSO variability, requested exposure time expected to provide S/N greater than the required minimum of 40.</i>										
	2	(STIS.sp.62 4474)	(2) PG1522+101	STIS/NUV-MAMA, ACCUM, 0.2X0.2	E230M 2415 A					2202 Secs (2202 Secs) [==>]	[1]
	3	(STIS.sp.62 4474)	(2) PG1522+101	STIS/NUV-MAMA, ACCUM, 0.2X0.2	E230M 2415 A					2746 Secs (2746 Secs) [==>]	[2]
	4	(STIS.sp.62 4474)	(2) PG1522+101	STIS/NUV-MAMA, ACCUM, 0.2X0.2	E230M 2415 A					2746 Secs (2746 Secs) [==>]	[3]
	5	(STIS.sp.62 4474)	(2) PG1522+101	STIS/NUV-MAMA, ACCUM, 0.2X0.2	E230M 2415 A					2746 Secs (2746 Secs) [==>]	[4]
6	(STIS.sp.62 4474)	(2) PG1522+101	STIS/NUV-MAMA, ACCUM, 0.2X0.2	E230M 2415 A					2746 Secs (2746 Secs) [==>]	[5]	



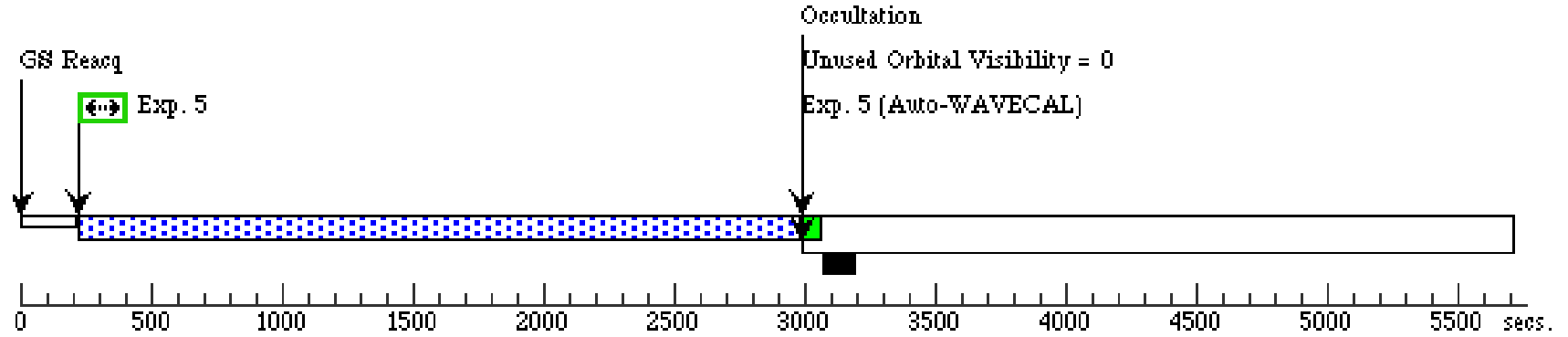
Orbit 3

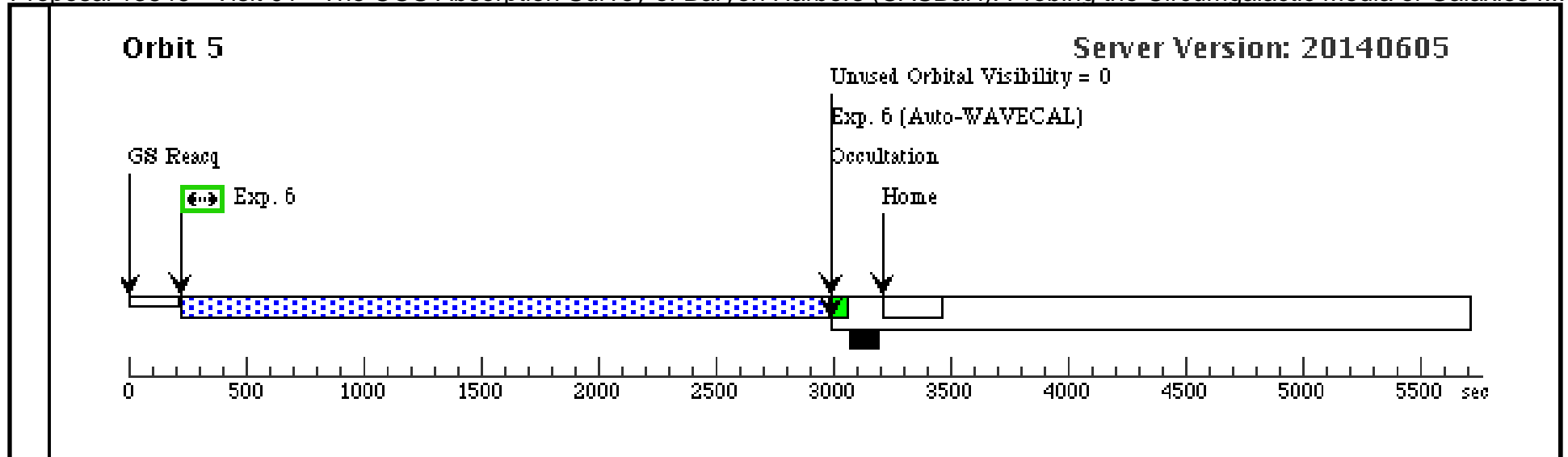
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Orbit 4

Server Version: 20140605

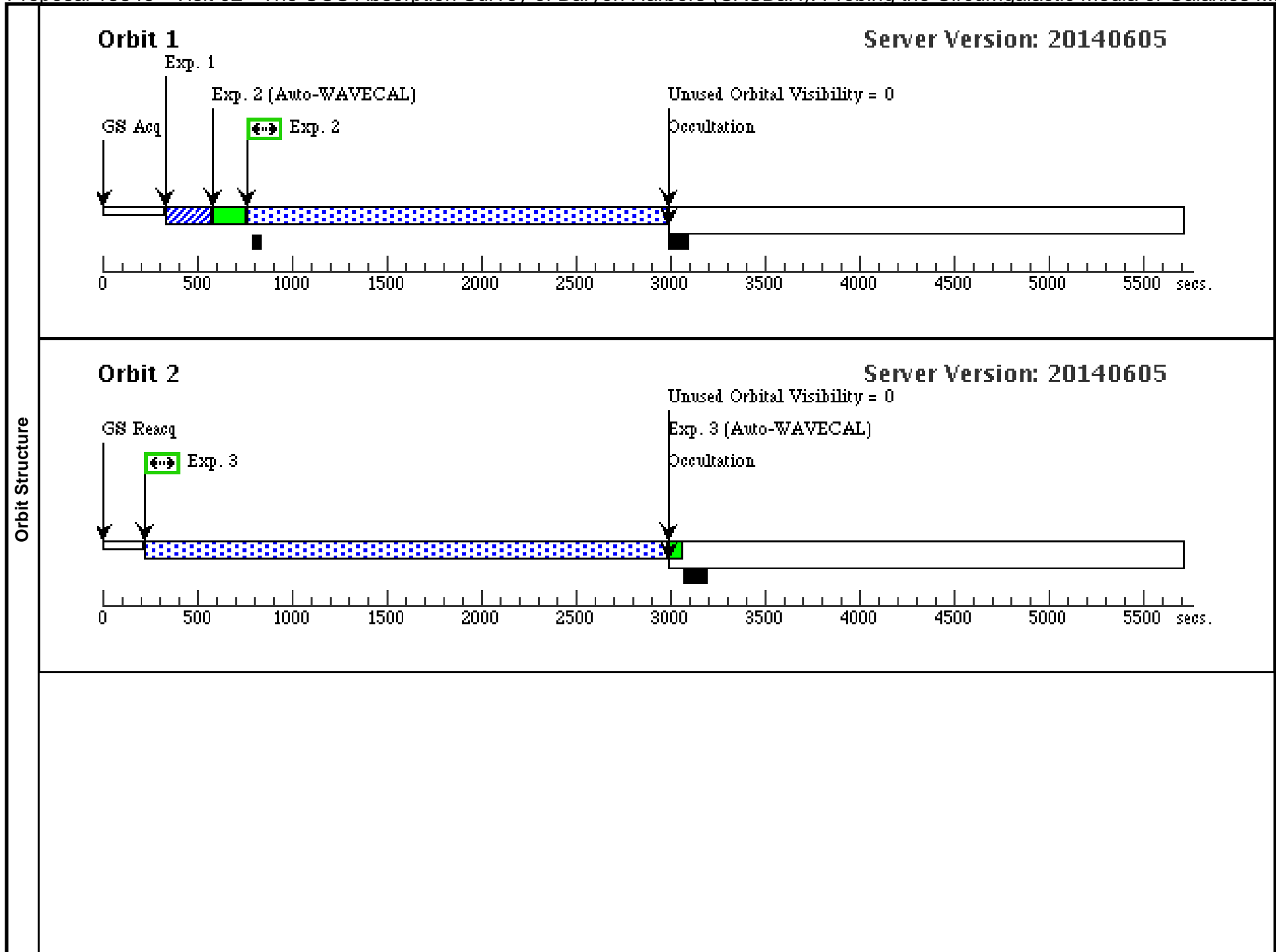


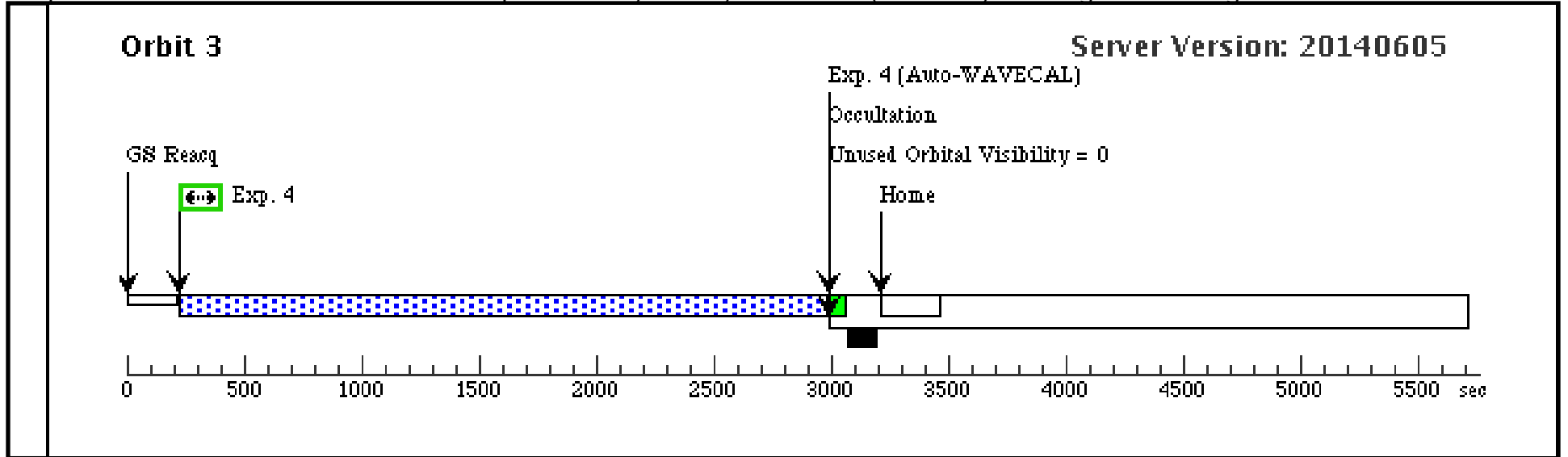


Proposal 13846 - Visit 02 - The COS Absorption Survey of Baryon Harbors (CASBaH): Probing the Circumgalactic Media of Galaxies f...

Fri Jul 25 02:01:41 GMT 2014

Visit	Proposal 13846, Visit 02 Diagnostic Status: No Diagnostics Scientific Instruments: STIS/CCD, STIS/NUV-MAMA Special Requirements: SCHED 100%									
	Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous			
	(2)	PG1522+101	RA: 15 24 24.5800 (231.1024167d) Dec: +09 58 29.70 (9.97492d) Equinox: J2000		V=16.2+/-0.1 Flambda(1350) = 3.0e-15	Reference Frame: ICRS				
	<i>Comments: This object has been successfully observed with HST spectrographs in past cycles. Coordinates are the same as those used in Program 11741.</i>									
Exposures	#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1	(STIS.ta.624 465)	(2) PG1522+101	STIS/CCD, ACQ, F28X50LP	MIRROR				2.9 Secs (2.9 Secs) [==>]	[1]
	<i>Comments: To allow for QSO variability, requested exposure time expected to provide S/N greater than the required minimum of 40.</i>									
	2	(STIS.sp.62 4474)	(2) PG1522+101	STIS/NUV-MAMA, ACCUM, 0.2X0.2	E230M 2415 A				2202 Secs (2202 Secs) [==>]	[1]
	3	(STIS.sp.62 4474)	(2) PG1522+101	STIS/NUV-MAMA, ACCUM, 0.2X0.2	E230M 2415 A				2746 Secs (2746 Secs) [==>]	[2]
4	(STIS.sp.62 4474)	(2) PG1522+101	STIS/NUV-MAMA, ACCUM, 0.2X0.2	E230M 2415 A				2746 Secs (2746 Secs) [==>]	[3]	



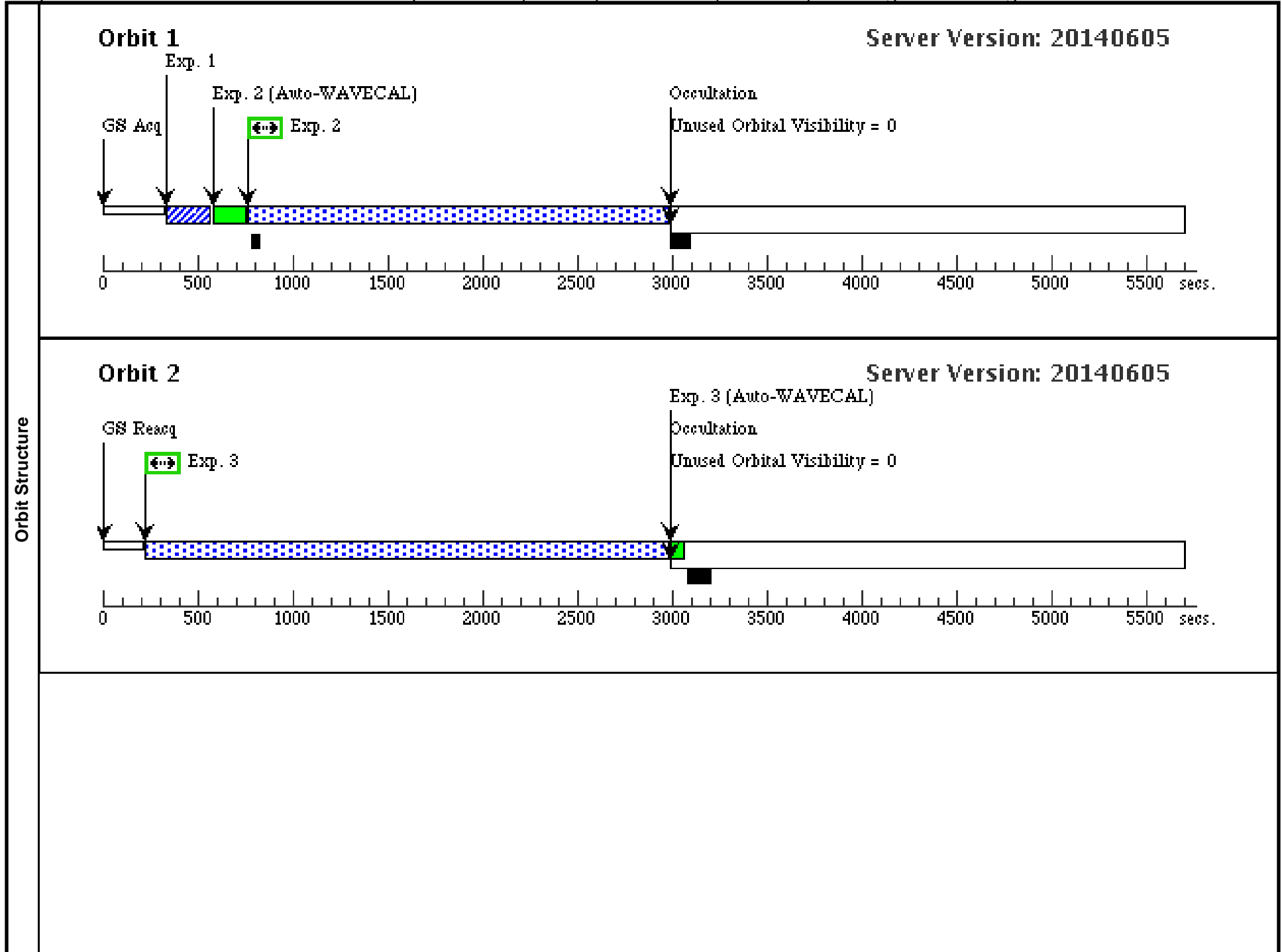


Proposal 13846 - Visit 03 - The COS Absorption Survey of Baryon Harbors (CASBaH): Probing the Circumgalactic Media of Galaxies f...

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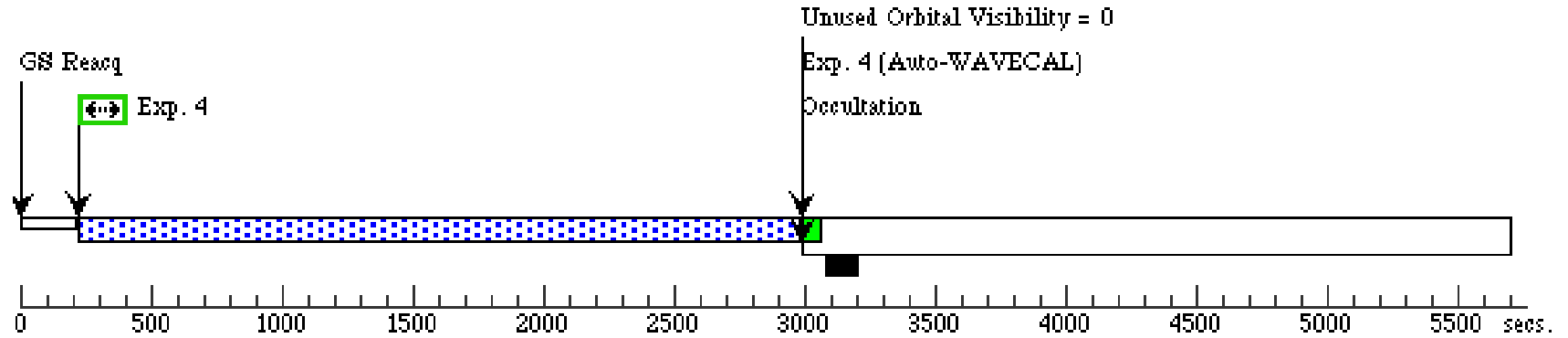
Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
	(7)	LBQS1435-0134	RA: 14 37 48.2840 (219.4511833d) Dec: -01 47 10.78 (-1.78633d) Equinox: J2000		V=15.78+/-0.1 Flambda(1350) = 8e-15	Reference Frame: ICRS
<i>Comments: This object has been successfully observed with HST spectrographs in past cycles. Coordinates are the same as those used in Program 11741.</i>						

Exposures	#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1	(STIS.ta.624 464)	(7) LBQS1435-0134	STIS/CCD, ACQ, F28X50LP	MIRROR					1.9 Secs (1.9 Secs)
									[==>]	[1]
2	(STIS.sp.62 5267)	(7) LBQS1435-0134	STIS/NUV-MAMA, ACCUM, 0.2X0.2	E230M 2415 A					2207 Secs (2207 Secs)	
									[==>]	[1]
3	(STIS.sp.62 5267)	(7) LBQS1435-0134	STIS/NUV-MAMA, ACCUM, 0.2X0.2	E230M 2415 A					2747 Secs (2747 Secs)	
									[==>]	[2]
4	(STIS.sp.62 5267)	(7) LBQS1435-0134	STIS/NUV-MAMA, ACCUM, 0.2X0.2	E230M 2415 A					2747 Secs (2747 Secs)	
									[==>]	[3]
5	(STIS.sp.62 5267)	(7) LBQS1435-0134	STIS/NUV-MAMA, ACCUM, 0.2X0.2	E230M 2415 A					2747 Secs (2747 Secs)	
									[==>]	[4]
6	(STIS.sp.62 5267)	(7) LBQS1435-0134	STIS/NUV-MAMA, ACCUM, 0.2X0.2	E230M 2415 A					2747 Secs (2747 Secs)	
									[==>]	[5]



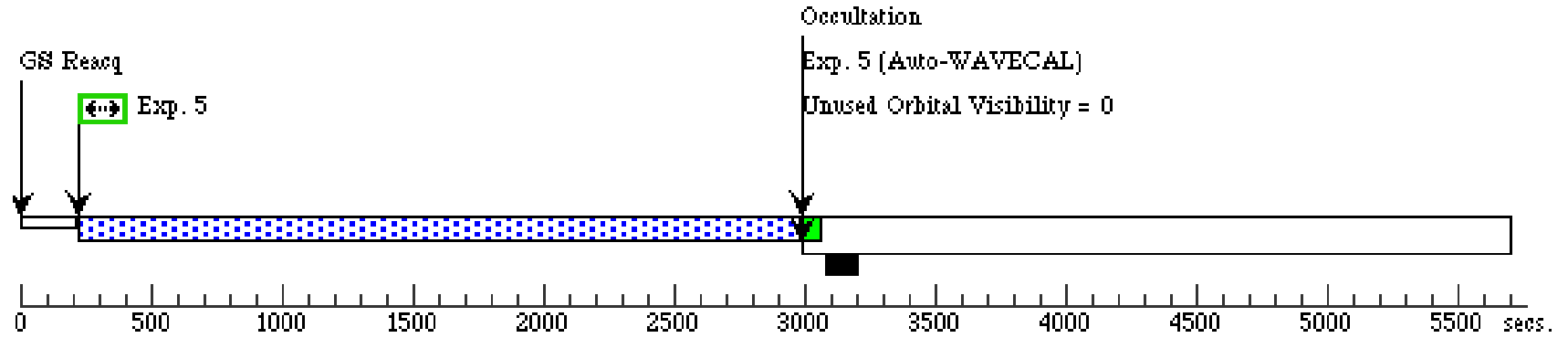
Orbit 3

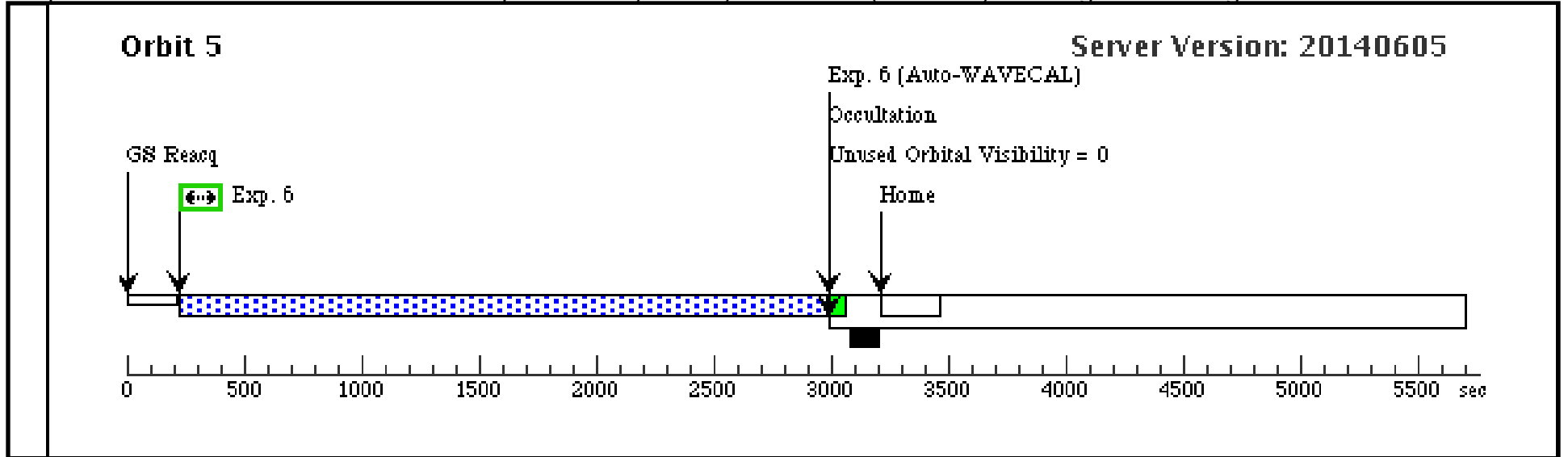
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Orbit 4

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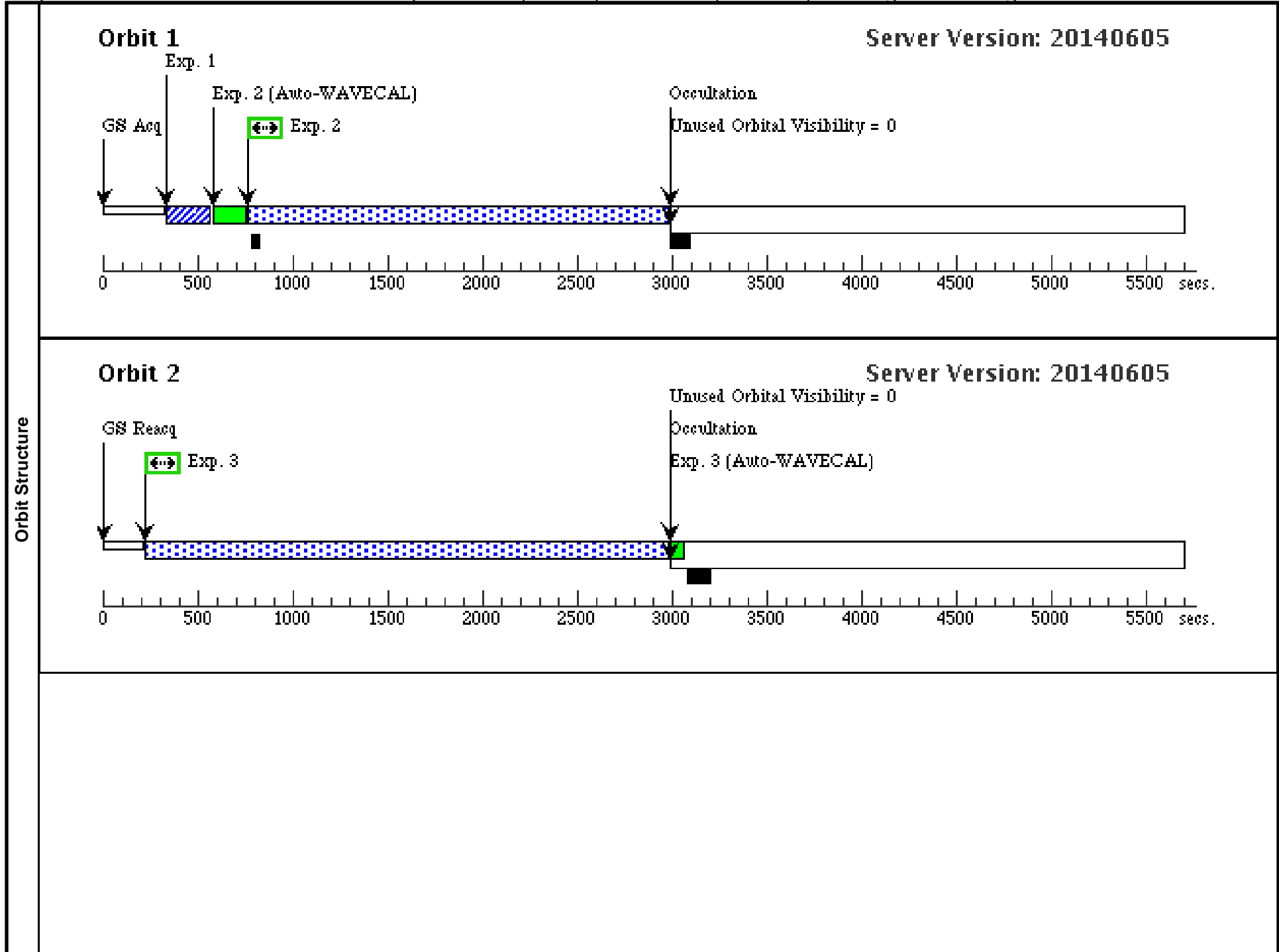


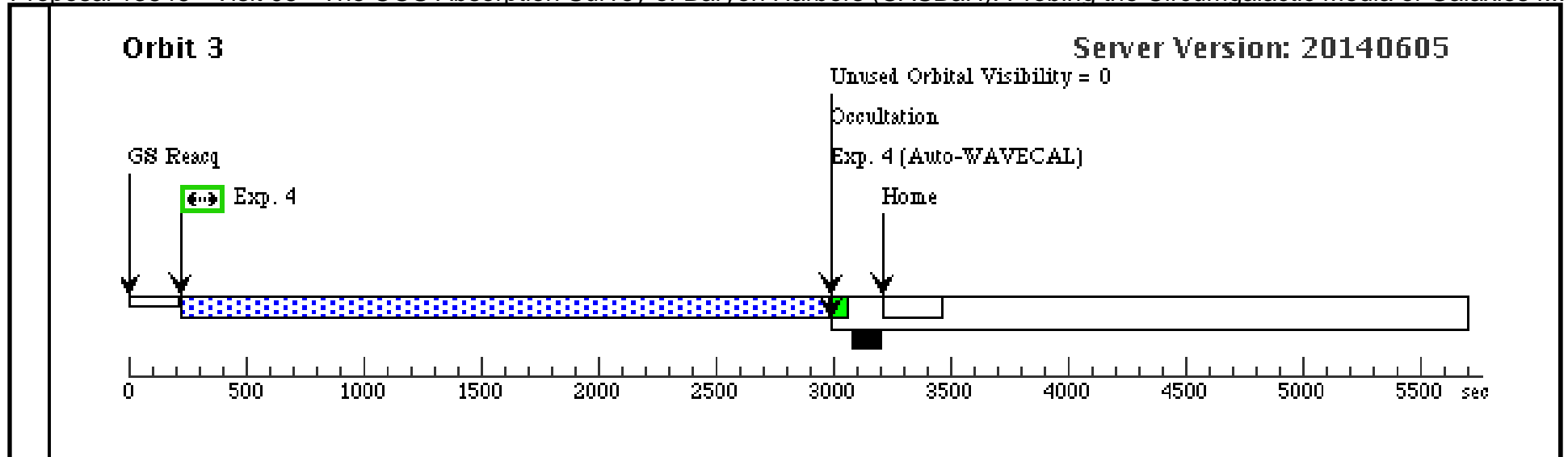
Proposal 13846 - Visit 05 - The COS Absorption Survey of Baryon Harbors (CASBaH): Probing the Circumgalactic Media of Galaxies f...

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Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
	(7)	LBQS1435-0134	RA: 14 37 48.2840 (219.4511833d) Dec: -01 47 10.78 (-1.78633d) Equinox: J2000		V=15.78+/-0.1 Flambda(1350) = 8e-15	Reference Frame: ICRS
<i>Comments: This object has been successfully observed with HST spectrographs in past cycles. Coordinates are the same as those used in Program 11741.</i>						

Exposures	#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1	(STIS.ta.624 464)	(7) LBQS1435-0134	STIS/CCD, ACQ, F28X50LP	MIRROR					1.9 Secs (1.9 Secs)
									[==>]	[1]
2	(STIS.sp.62 5267)	(7) LBQS1435-0134	STIS/NUV-MAMA, ACCUM, 0.2X0.2	E230M 2415 A					2207 Secs (2207 Secs)	
									[==>]	[1]
3	(STIS.sp.62 5267)	(7) LBQS1435-0134	STIS/NUV-MAMA, ACCUM, 0.2X0.2	E230M 2415 A					2747 Secs (2747 Secs)	
									[==>]	[2]
4	(STIS.sp.62 5267)	(7) LBQS1435-0134	STIS/NUV-MAMA, ACCUM, 0.2X0.2	E230M 2415 A					2747 Secs (2747 Secs)	
									[==>]	[3]

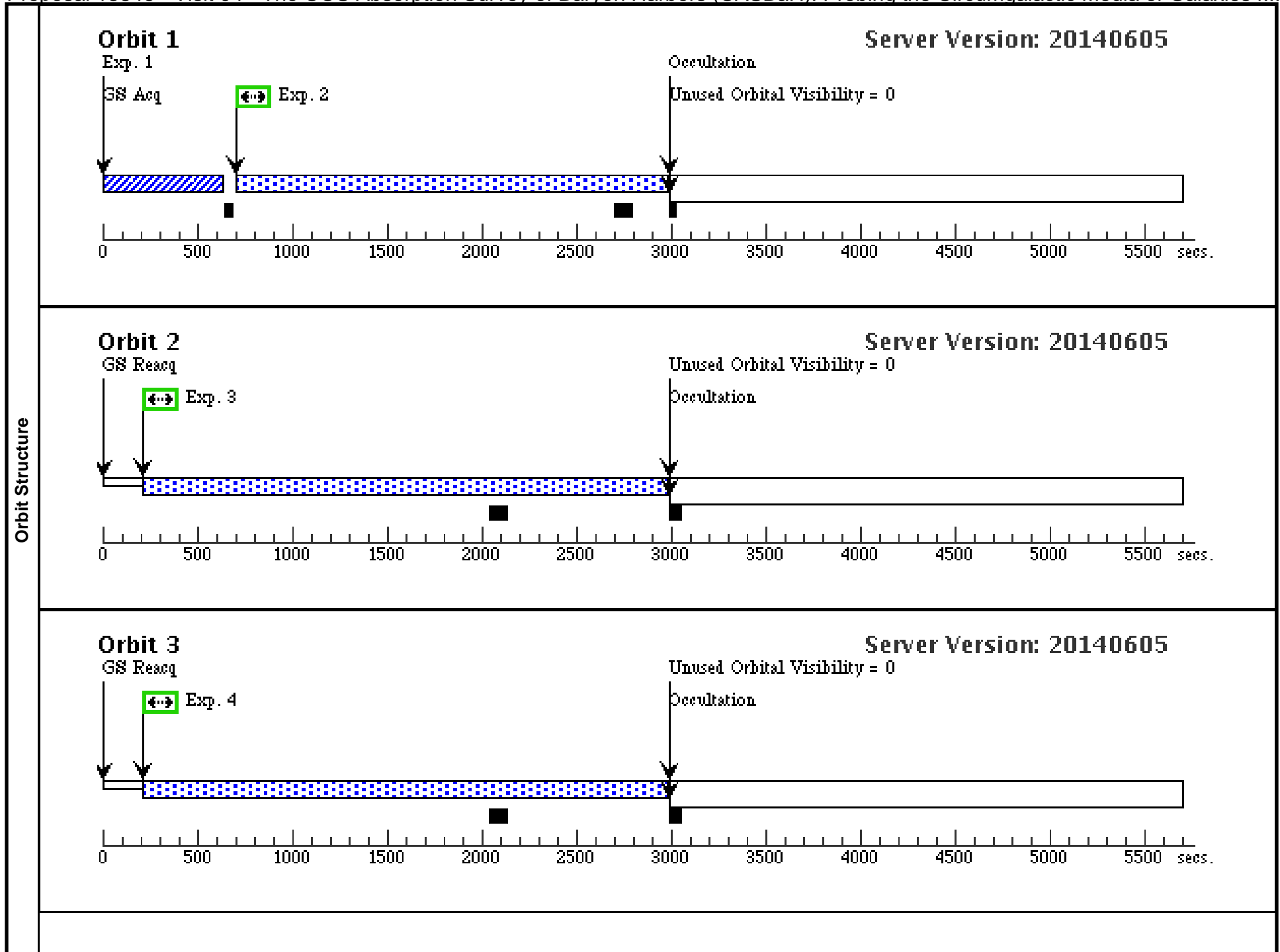




Proposal 13846 - Visit 04 - The COS Absorption Survey of Baryon Harbors (CASBaH): Probing the Circumgalactic Media of Galaxies f...

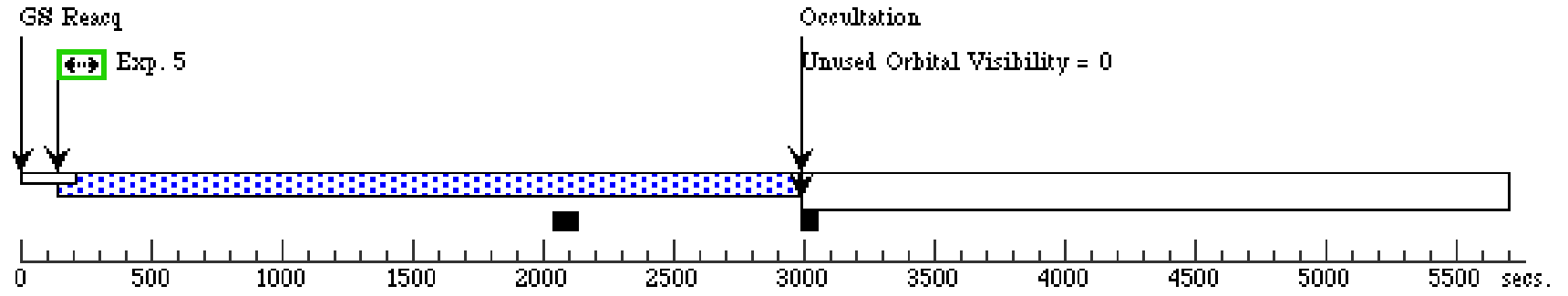
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Visit	Proposal 13846, Visit 04 Diagnostic Status: Warning Scientific Instruments: COS/NUV Special Requirements: SCHED 100%									
	(Visit 04) Warning (Form): For the best data quality, it is strongly recommended that all four FP-POS positions be used when observing at a given COS CENWAVE setting.									
Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous				
	(1)	PHL1377	RA: 02 35 7.3850 (38.7807708d) Dec: -04 02 5.67 (-4.03491d) Equinox: J2000		V=16.5+/-0.1 Flambda(1350 A) = 3.0e-15	Reference Frame: ICRS				
<i>Comments: This object has been successfully observed with HST spectrographs in past cycles. Coordinates are the same as those used in Program 11741.</i>										
Exposures	#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1	(COS.ta.624 617)	(1) PHL1377	COS/NUV, ACQ/IMAGE, PSA	MIRRORB				104 Secs (104 Secs) [==>]	[1]
	<i>Comments: Target observed with in NUV IUE (1981 and 1989) and FOS (1993). Flux for exposure time based on faintest flux (at 2000 A) from these observations.</i>									
	2	(COS.sp.624 964)	(1) PHL1377	COS/NUV, TIME-TAG, PSA	G185M 1921 A	BUFFER-TIME=18 21; FP-POS=1			2086 Secs (2086 Secs) [==>]	[1]
	3	(COS.sp.624 964)	(1) PHL1377	COS/NUV, TIME-TAG, PSA	G185M 1921 A	BUFFER-TIME=18 21; FP-POS=2			2750 Secs (2750 Secs) [==>]	[2]
	4	(COS.sp.624 964)	(1) PHL1377	COS/NUV, TIME-TAG, PSA	G185M 1921 A	BUFFER-TIME=18 21; FP-POS=4			2750 Secs (2750 Secs) [==>]	[3]
	5	(COS.sp.624 964)	(1) PHL1377	COS/NUV, TIME-TAG, PSA	G185M 1953 A	BUFFER-TIME=18 21; FP-POS=1			2750 Secs (2750 Secs) [==>]	[4]
6	(COS.sp.624 964)	(1) PHL1377	COS/NUV, TIME-TAG, PSA	G185M 1953 A	BUFFER-TIME=18 21; FP-POS=3			2750 Secs (2750 Secs) [==>]	[5]	



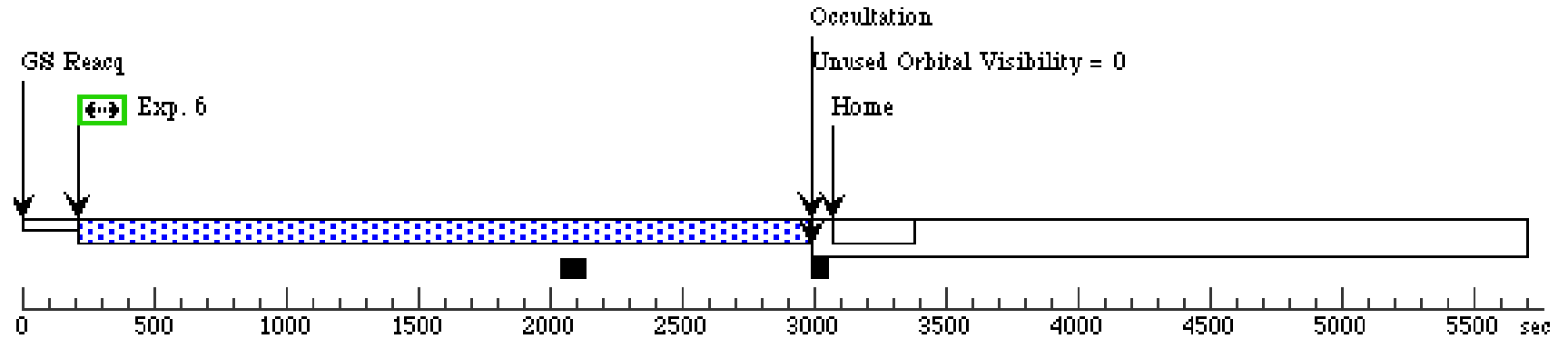
Orbit 4

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Orbit 5

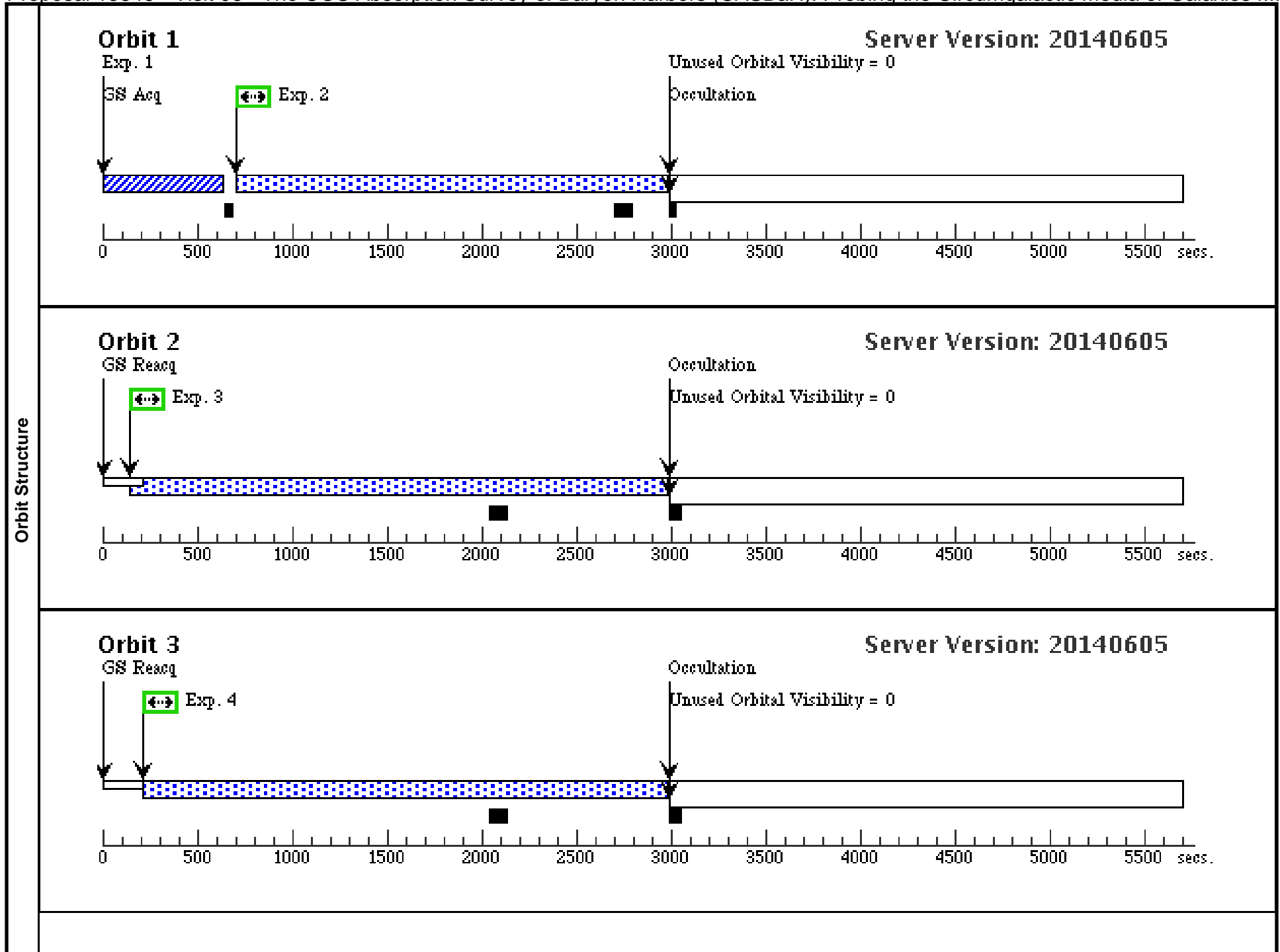
Server Version: 20140605



Proposal 13846 - Visit 06 - The COS Absorption Survey of Baryon Harbors (CASBaH): Probing the Circumgalactic Media of Galaxies f...

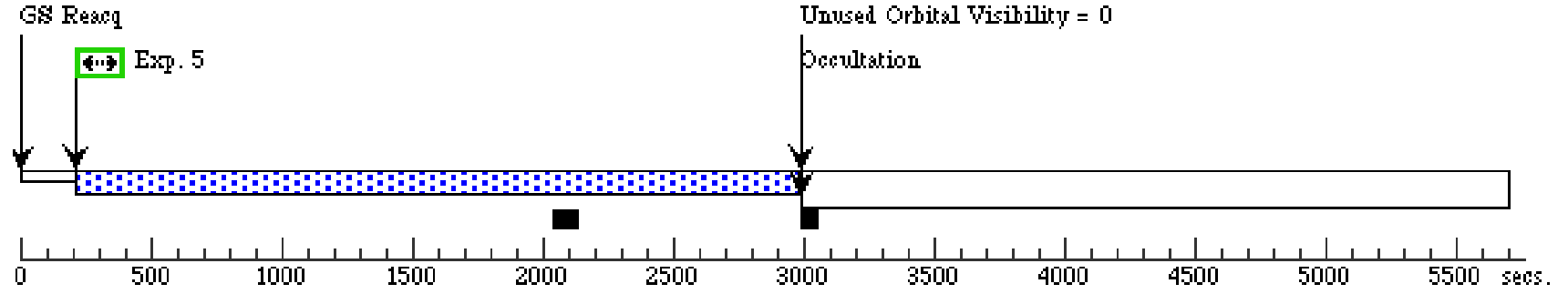
Fri Jul 25 02:01:42 GMT 2014

Visit	Proposal 13846, Visit 06 Diagnostic Status: Warning Scientific Instruments: COS/NUV Special Requirements: SCHED 100%									
	(Visit 06) Warning (Form): For the best data quality, it is strongly recommended that all four FP-POS positions be used when observing at a given COS CENWAVE setting.									
Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous				
	(1)	PHL1377	RA: 02 35 7.3850 (38.7807708d) Dec: -04 02 5.67 (-4.03491d) Equinox: J2000		V=16.5+/-0.1 Flambda(1350 A) = 3.0e-15	Reference Frame: ICRS				
<i>Comments: This object has been successfully observed with HST spectrographs in past cycles. Coordinates are the same as those used in Program 11741.</i>										
Exposures	#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1	(COS.ta.624 617)	(1) PHL1377	COS/NUV, ACQ/IMAGE, PSA	MIRRORB				104 Secs (104 Secs) [==>]	[1]
	<i>Comments: Target observed with in NUV IUE (1981 and 1989) and FOS (1993). Flux for exposure time based on faintest flux (at 2000 A) from these observations.</i>									
	2	(COS.sp.624 964)	(1) PHL1377	COS/NUV, TIME-TAG, PSA	G185M 1953 A	BUFFER-TIME=18 21; FP-POS=4			2086 Secs (2086 Secs) [==>]	[1]
	3	(COS.sp.624 964)	(1) PHL1377	COS/NUV, TIME-TAG, PSA	G185M 1986 A	BUFFER-TIME=18 21; FP-POS=1			2750 Secs (2750 Secs) [==>]	[2]
	4	(COS.sp.624 964)	(1) PHL1377	COS/NUV, TIME-TAG, PSA	G185M 1986 A	BUFFER-TIME=18 21; FP-POS=2			2750 Secs (2750 Secs) [==>]	[3]
	5	(COS.sp.624 964)	(1) PHL1377	COS/NUV, TIME-TAG, PSA	G185M 1986 A	BUFFER-TIME=18 21; FP-POS=4			2750 Secs (2750 Secs) [==>]	[4]
6	(COS.sp.624 969)	(1) PHL1377	COS/NUV, TIME-TAG, PSA	G225M 2217 A	BUFFER-TIME=18 32; FP-POS=1			2748 Secs (2748 Secs) [==>]	[5]	



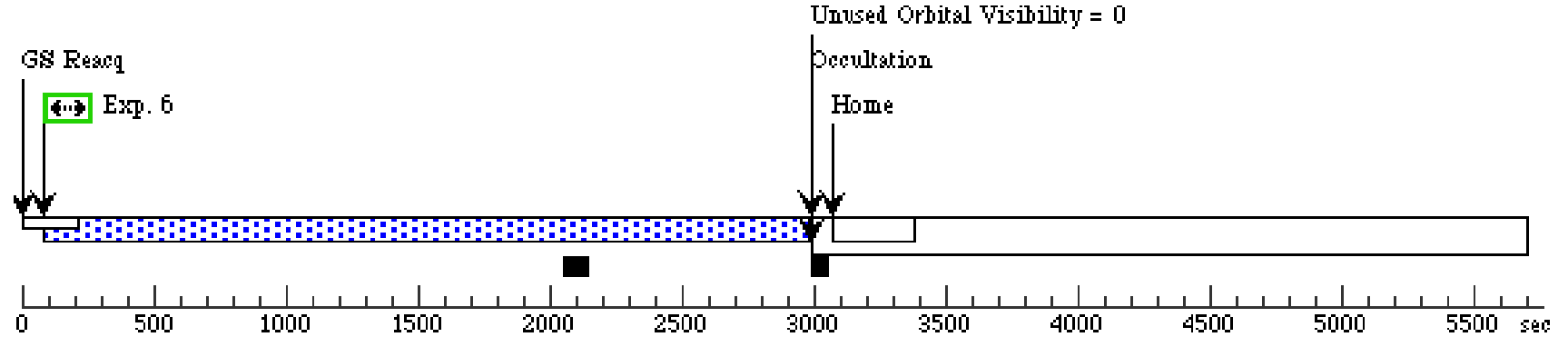
Orbit 4

Server Version: 20140605



Orbit 5

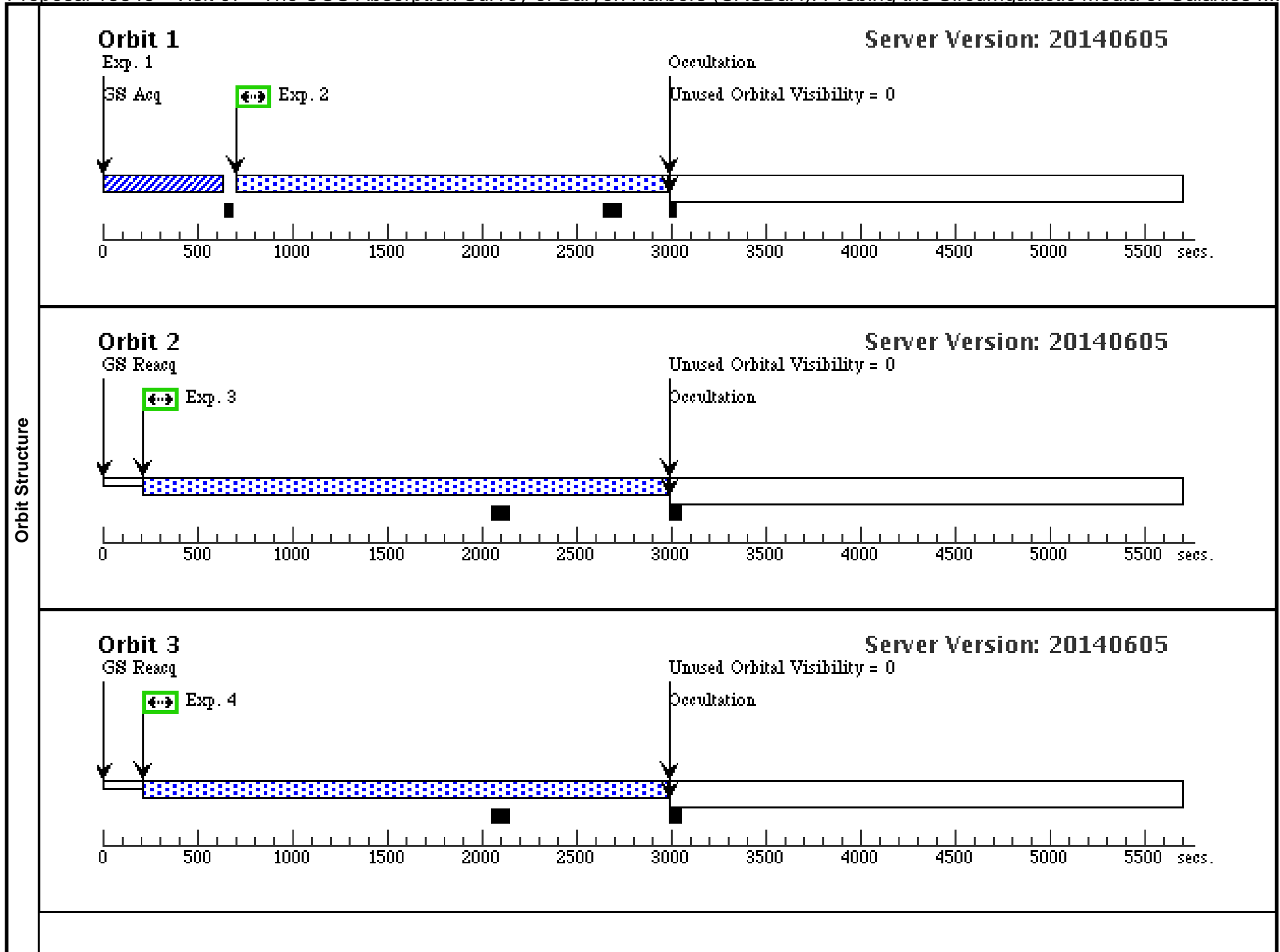
Server Version: 20140605



Proposal 13846 - Visit 07 - The COS Absorption Survey of Baryon Harbors (CASBaH): Probing the Circumgalactic Media of Galaxies f...

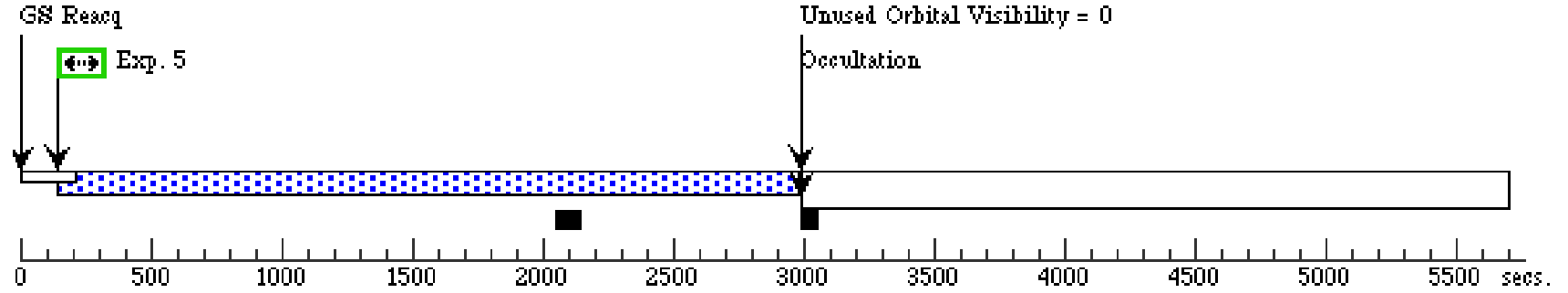
Fri Jul 25 02:01:42 GMT 2014

Visit	Proposal 13846, Visit 07 Diagnostic Status: Warning Scientific Instruments: COS/NUV Special Requirements: SCHED 100%									
	(Visit 07) Warning (Form): For the best data quality, it is strongly recommended that all four FP-POS positions be used when observing at a given COS CENWAVE setting.									
Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous				
	(1)	PHL1377	RA: 02 35 7.3850 (38.7807708d) Dec: -04 02 5.67 (-4.03491d) Equinox: J2000		V=16.5+/-0.1 Flambda(1350 A) = 3.0e-15	Reference Frame: ICRS				
<i>Comments: This object has been successfully observed with HST spectrographs in past cycles. Coordinates are the same as those used in Program 11741.</i>										
Exposures	#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1	(COS.ta.624 617)	(1) PHL1377	COS/NUV, ACQ/IMAGE, PSA	MIRRORB				104 Secs (104 Secs) [==>]	[1]
	<i>Comments: Target observed with in NUV IUE (1981 and 1989) and FOS (1993). Flux for exposure time based on faintest flux (at 2000 A) from these observations.</i>									
	2	(COS.sp.624 969)	(1) PHL1377	COS/NUV, TIME-TAG, PSA	G225M 2217 A	BUFFER-TIME=18 32; FP-POS=2			2155 Secs (2155 Secs) [==>]	[1]
	3	(COS.sp.624 969)	(1) PHL1377	COS/NUV, TIME-TAG, PSA	G225M 2217 A	BUFFER-TIME=18 32; FP-POS=3			2750 Secs (2750 Secs) [==>]	[2]
	4	(COS.sp.624 969)	(1) PHL1377	COS/NUV, TIME-TAG, PSA	G225M 2217 A	BUFFER-TIME=18 32; FP-POS=4			2750 Secs (2750 Secs) [==>]	[3]
	5	(COS.sp.624 969)	(1) PHL1377	COS/NUV, TIME-TAG, PSA	G225M 2250 A	BUFFER-TIME=18 32; FP-POS=1			2750 Secs (2750 Secs) [==>]	[4]
6	(COS.sp.624 969)	(1) PHL1377	COS/NUV, TIME-TAG, PSA	G225M 2250 A	BUFFER-TIME=18 32; FP-POS=2			2750 Secs (2750 Secs) [==>]	[5]	



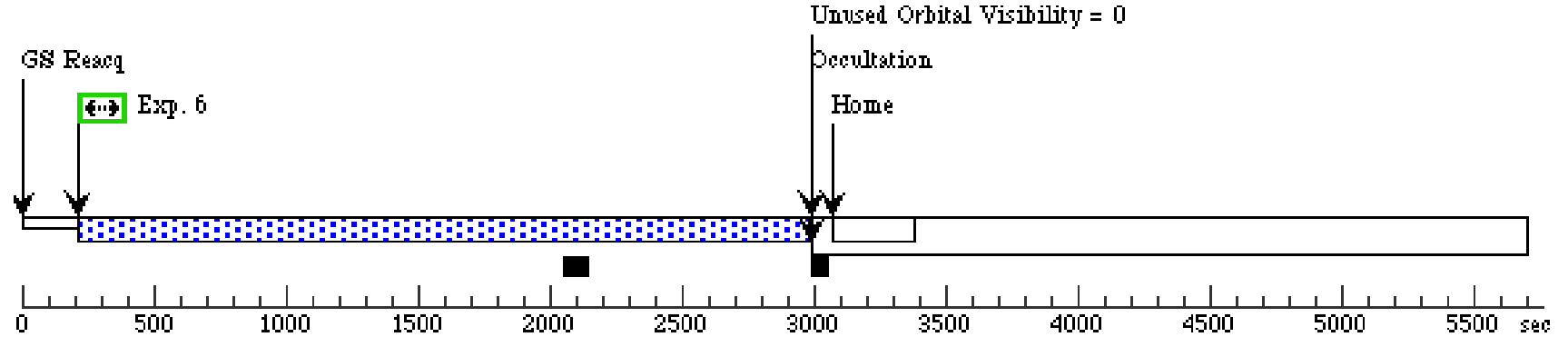
Orbit 4

Server Version: 20140605



Orbit 5

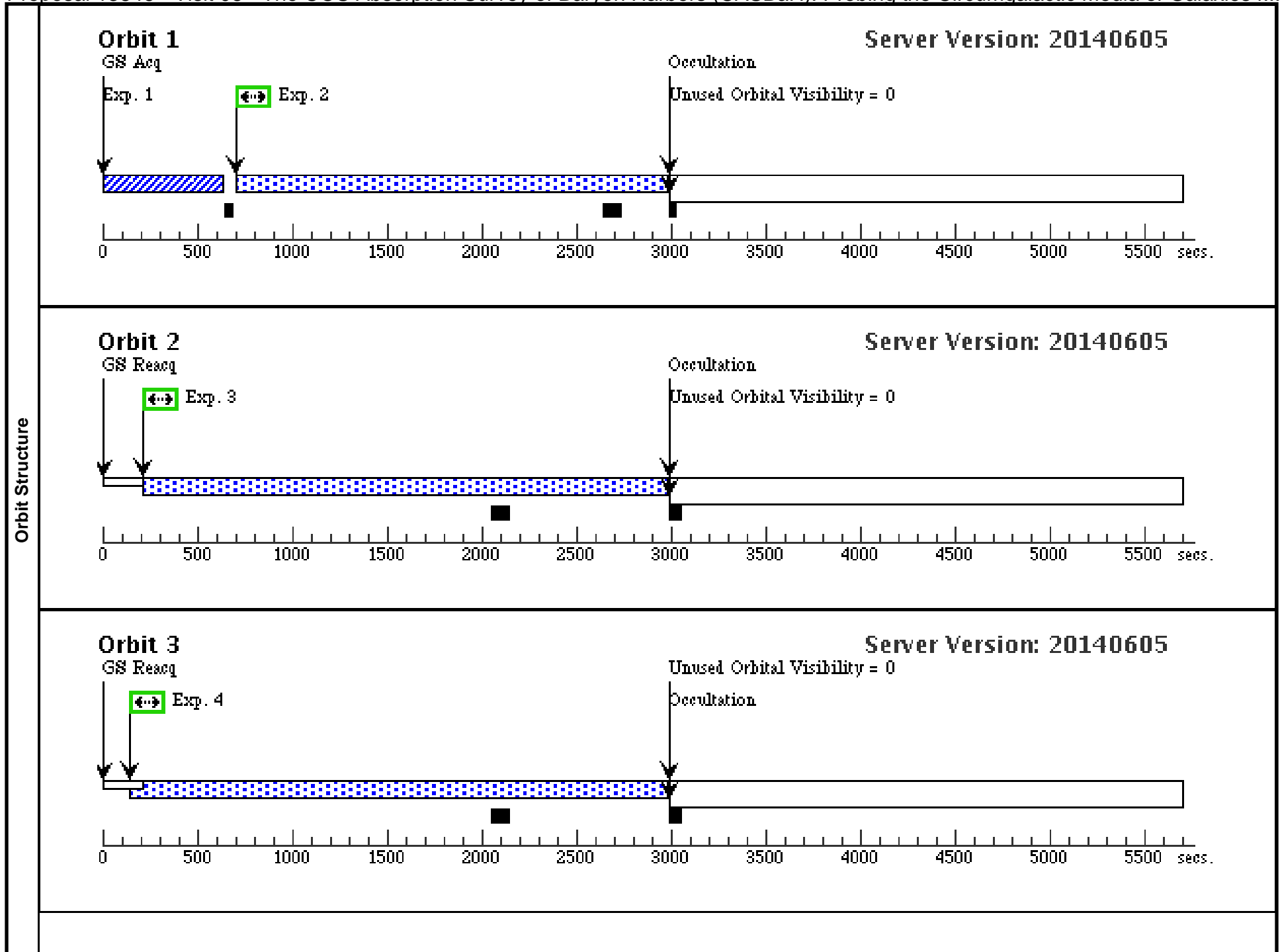
Server Version: 20140605



Proposal 13846 - Visit 08 - The COS Absorption Survey of Baryon Harbors (CASBaH): Probing the Circumgalactic Media of Galaxies f...

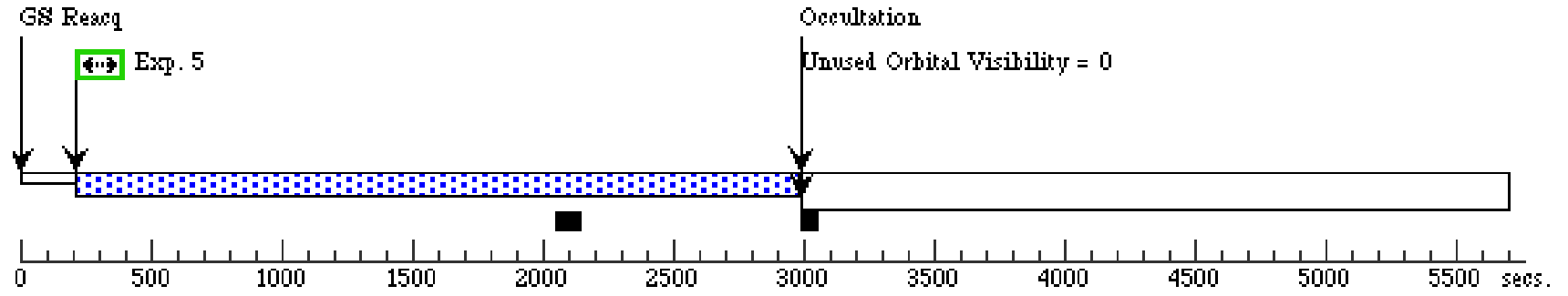
Fri Jul 25 02:01:42 GMT 2014

Visit	Proposal 13846, Visit 08 Diagnostic Status: Warning Scientific Instruments: COS/NUV Special Requirements: SCHED 100%									
	(Visit 08) Warning (Form): For the best data quality, it is strongly recommended that all four FP-POS positions be used when observing at a given COS CENWAVE setting.									
Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous				
	(1)	PHL1377	RA: 02 35 7.3850 (38.7807708d) Dec: -04 02 5.67 (-4.03491d) Equinox: J2000		V=16.5+/-0.1 Flambda(1350 A) = 3.0e-15	Reference Frame: ICRS				
<i>Comments: This object has been successfully observed with HST spectrographs in past cycles. Coordinates are the same as those used in Program 11741.</i>										
Exposures	#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1	(COS.ta.624 617)	(1) PHL1377	COS/NUV, ACQ/IMAGE, PSA	MIRRORB				104 Secs (104 Secs) [==>]	[1]
	<i>Comments: Target observed with in NUV IUE (1981 and 1989) and FOS (1993). Flux for exposure time based on faintest flux (at 2000 A) from these observations.</i>									
	2	(COS.sp.624 969)	(1) PHL1377	COS/NUV, TIME-TAG, PSA	G225M 2250 A	BUFFER-TIME=18 32; FP-POS=3			2155 Secs (2155 Secs) [==>]	[1]
	3	(COS.sp.624 969)	(1) PHL1377	COS/NUV, TIME-TAG, PSA	G225M 2250 A	BUFFER-TIME=18 32; FP-POS=4			2750 Secs (2750 Secs) [==>]	[2]
	4	(COS.sp.624 969)	(1) PHL1377	COS/NUV, TIME-TAG, PSA	G225M 2283 A	BUFFER-TIME=18 32; FP-POS=1			2750 Secs (2750 Secs) [==>]	[3]
	5	(COS.sp.624 969)	(1) PHL1377	COS/NUV, TIME-TAG, PSA	G225M 2283 A	BUFFER-TIME=18 32; FP-POS=3			2750 Secs (2750 Secs) [==>]	[4]
6	(COS.sp.624 969)	(1) PHL1377	COS/NUV, TIME-TAG, PSA	G225M 2283 A	BUFFER-TIME=18 32; FP-POS=4			2750 Secs (2750 Secs) [==>]	[5]	



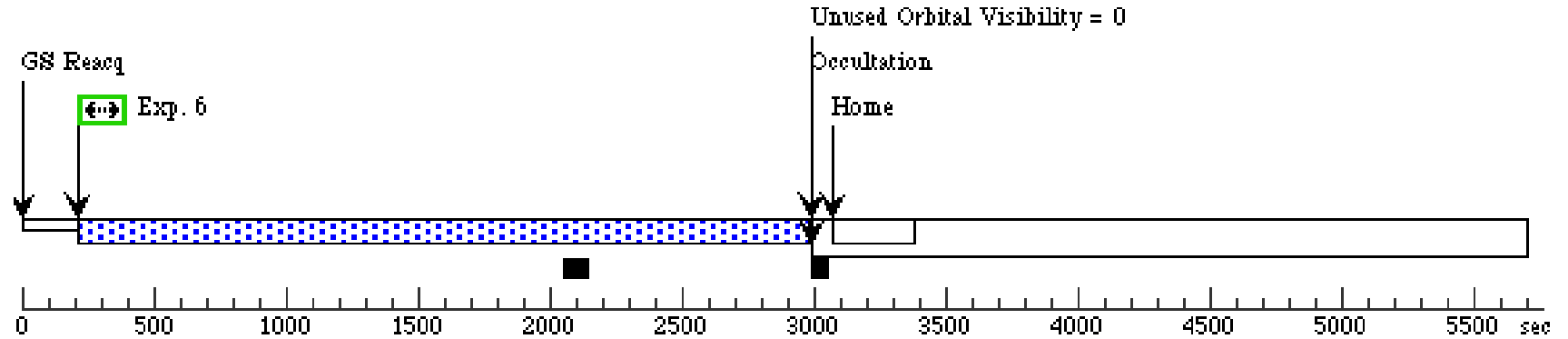
Orbit 4

Server Version: 20140605



Orbit 5

Server Version: 20140605

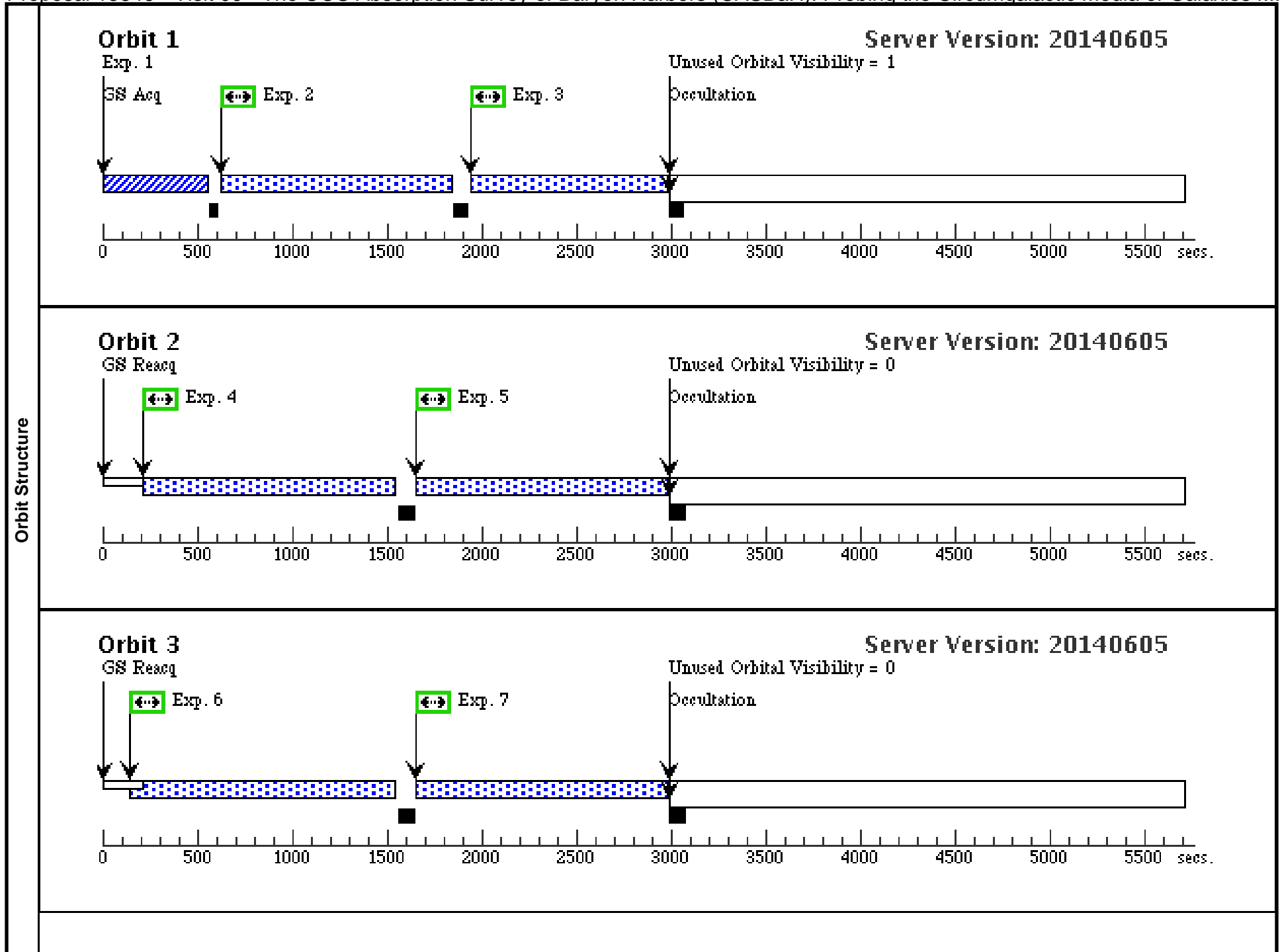


Proposal 13846 - Visit 09 - The COS Absorption Survey of Baryon Harbors (CASBaH): Probing the Circumgalactic Media of Galaxies f...

Visit	Proposal 13846, Visit 09 Fri Jul 25 02:01:42 GMT 2014 Diagnostic Status: No Diagnostics Scientific Instruments: COS/NUV Special Requirements: SCHED 100%					
	Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes
(2)		PG1522+101	RA: 15 24 24.5800 (231.1024167d) Dec: +09 58 29.70 (9.97492d) Equinox: J2000		V=16.2+/-0.1 Flambda(1350) = 3.0e-15	Reference Frame: ICRS
<i>Comments: This object has been successfully observed with HST spectrographs in past cycles. Coordinates are the same as those used in Program 11741.</i>						

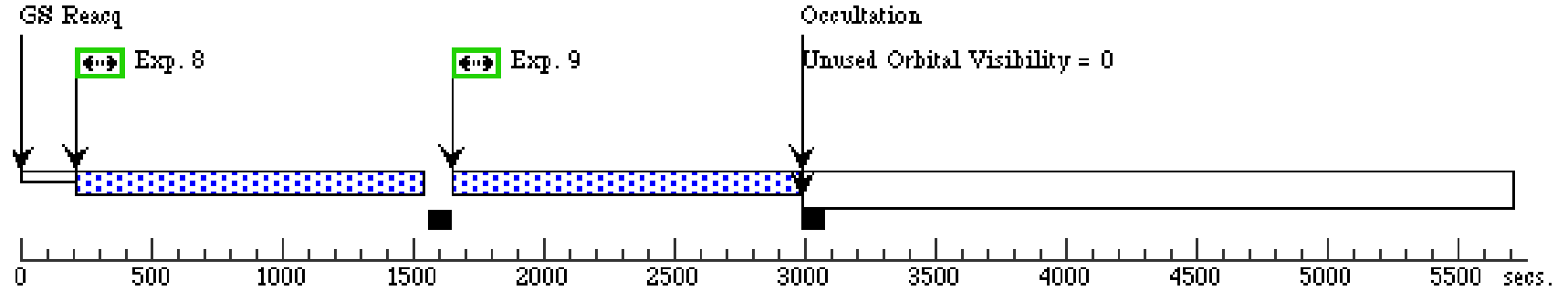
Proposal 13846 - Visit 09 - The COS Absorption Survey of Baryon Harbors (CASBaH): Probing the Circumgalactic Media of Galaxies f...

Exposures	#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit	
	1	(COS.ta.624 612)	(2) PG1522+101	COS/NUV, ACQ/IMAGE, PSA	MIRRORB					62.4 Secs (62.4 Secs)	
									[==>]	[1]	
	2	(COS.sp.624 953)	(2) PG1522+101	COS/NUV, TIME-TAG, PSA	G185M 1921 A	BUFFER-TIME=18 02; FP-POS=1				1025.0 Secs (1025 Secs)	
									[==>]	[1]	
	3	(COS.sp.624 953)	(2) PG1522+101	COS/NUV, TIME-TAG, PSA	G185M 1921 A	BUFFER-TIME=18 02; FP-POS=2				1025.0 Secs (1025 Secs)	
									[==>]	[1]	
	4	(COS.sp.624 953)	(2) PG1522+101	COS/NUV, TIME-TAG, PSA	G185M 1921 A	BUFFER-TIME=18 02; FP-POS=3				1312 Secs (1312 Secs)	
									[==>]	[2]	
	5	(COS.sp.624 953)	(2) PG1522+101	COS/NUV, TIME-TAG, PSA	G185M 1921 A	BUFFER-TIME=18 02; FP-POS=4				1312 Secs (1312 Secs)	
									[==>]	[2]	
	6	(COS.sp.624 953)	(2) PG1522+101	COS/NUV, TIME-TAG, PSA	G185M 1953 A	BUFFER-TIME=18 02; FP-POS=1				1312 Secs (1312 Secs)	
									[==>]	[3]	
7	(COS.sp.624 953)	(2) PG1522+101	COS/NUV, TIME-TAG, PSA	G185M 1953 A	BUFFER-TIME=18 02; FP-POS=2				1312 Secs (1312 Secs)		
								[==>]	[3]		
8	(COS.sp.624 953)	(2) PG1522+101	COS/NUV, TIME-TAG, PSA	G185M 1953 A	BUFFER-TIME=18 02; FP-POS=3				1312 Secs (1312 Secs)		
								[==>]	[4]		
9	(COS.sp.624 953)	(2) PG1522+101	COS/NUV, TIME-TAG, PSA	G185M 1953 A	BUFFER-TIME=18 02; FP-POS=4				1312 Secs (1312 Secs)		
								[==>]	[4]		
10	(COS.sp.624 953)	(2) PG1522+101	COS/NUV, TIME-TAG, PSA	G185M 1986 A	BUFFER-TIME=18 02; FP-POS=1				1312 Secs (1312 Secs)		
								[==>]	[5]		
11	(COS.sp.624 953)	(2) PG1522+101	COS/NUV, TIME-TAG, PSA	G185M 1986 A	BUFFER-TIME=18 02; FP-POS=2				1312 Secs (1312 Secs)		
								[==>]	[5]		
12	(COS.sp.624 953)	(2) PG1522+101	COS/NUV, TIME-TAG, PSA	G185M 1986 A	BUFFER-TIME=18 02; FP-POS=3				1312 Secs (1312 Secs)		
								[==>]	[6]		
13	(COS.sp.624 953)	(2) PG1522+101	COS/NUV, TIME-TAG, PSA	G185M 1986 A	BUFFER-TIME=18 02; FP-POS=4				1312 Secs (1312 Secs)		
								[==>]	[6]		



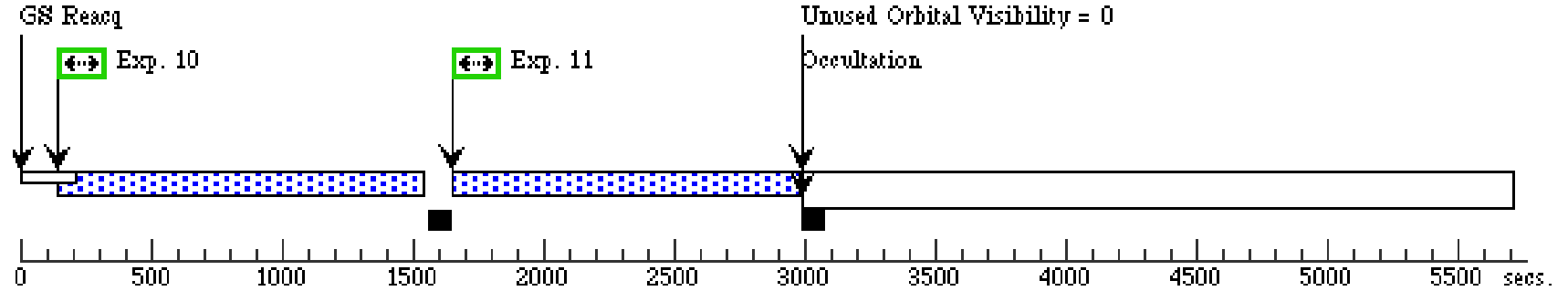
Orbit 4

Server Version: 20140605



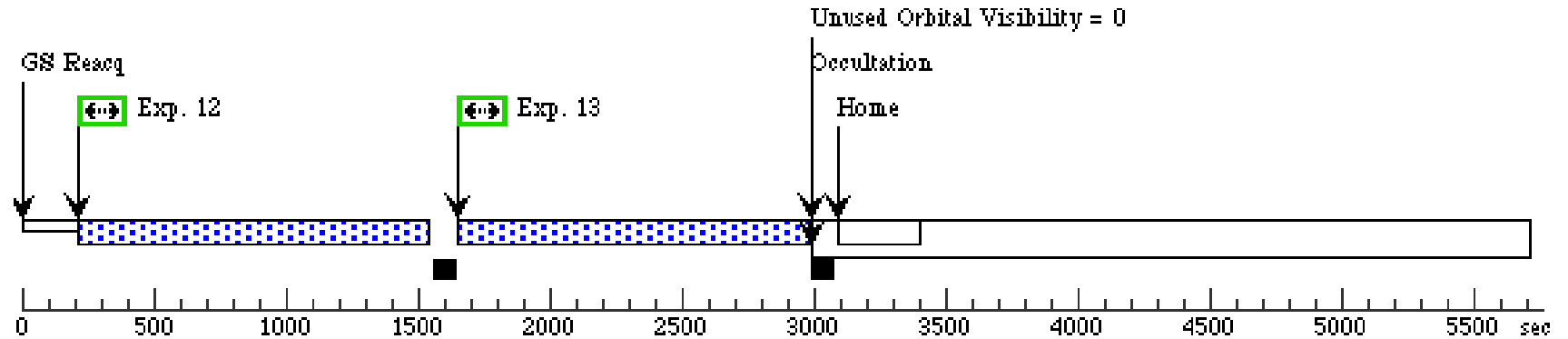
Orbit 5

Server Version: 20140605



Orbit 6

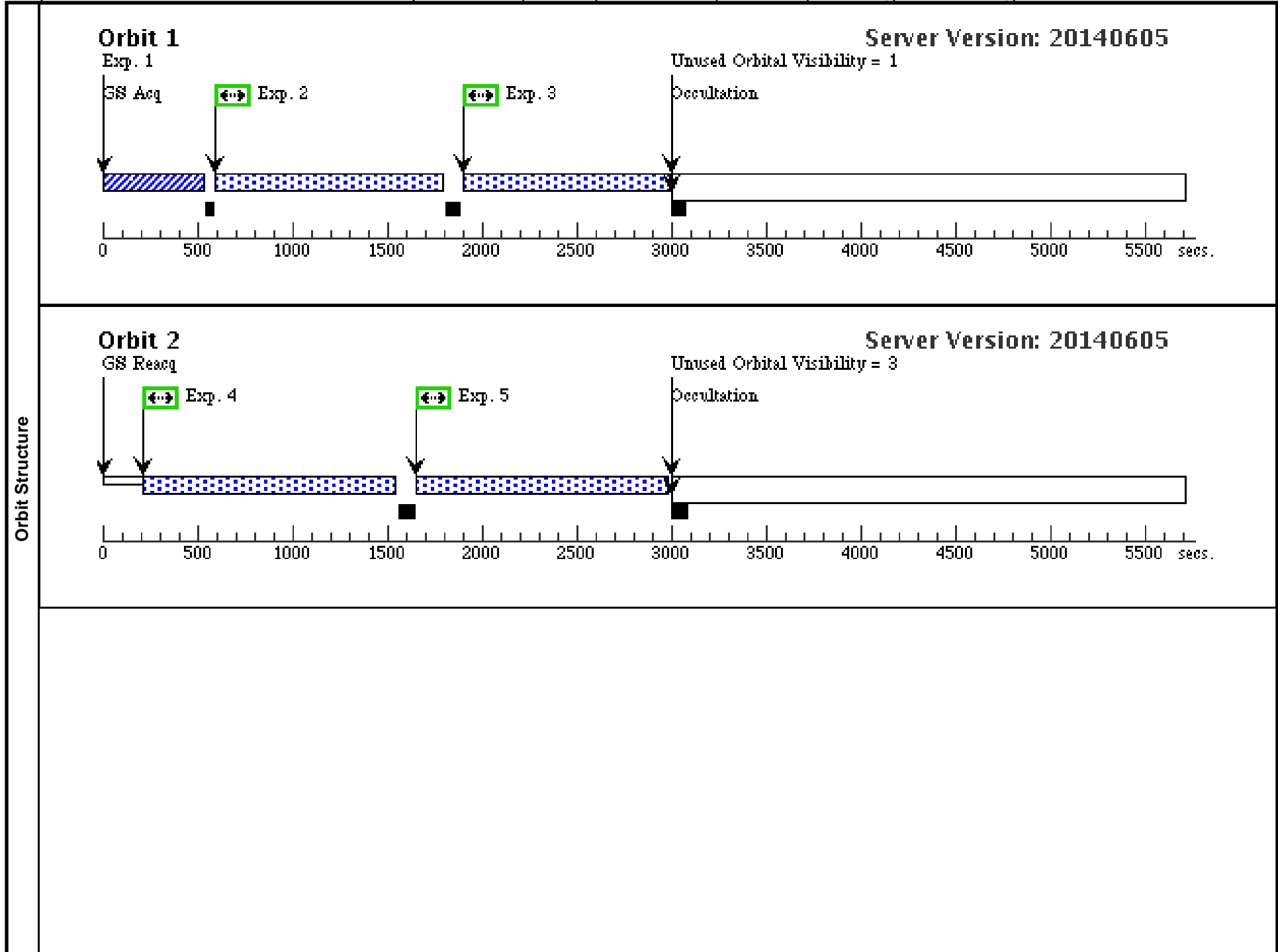
Server Version: 20140605



Proposal 13846 - Visit 10 - The COS Absorption Survey of Baryon Harbors (CASBaH): Probing the Circumgalactic Media of Galaxies f...

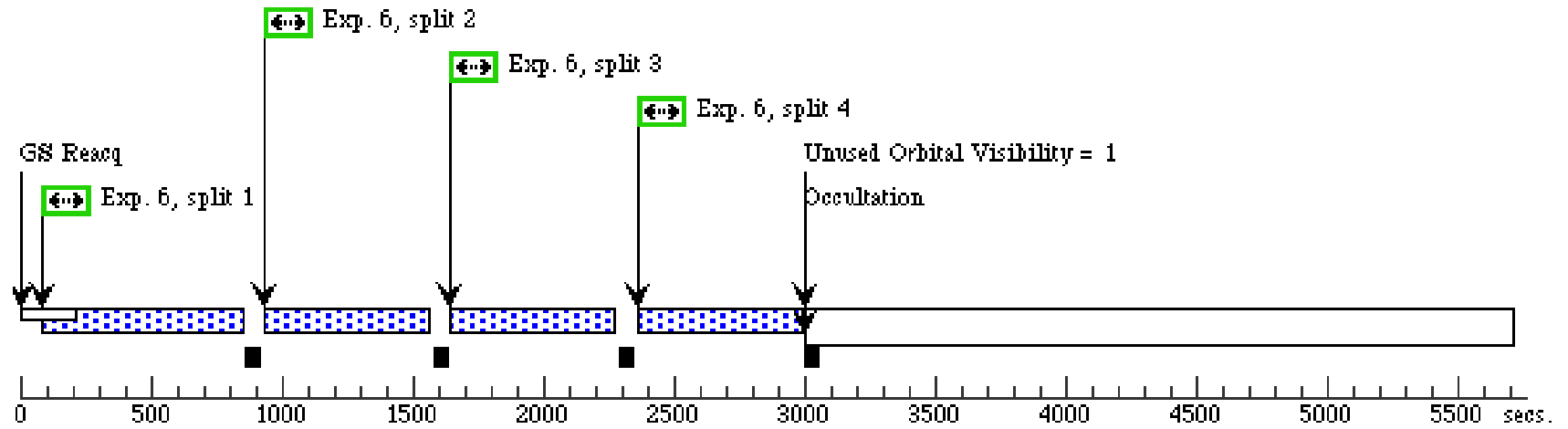
Fri Jul 25 02:01:43 GMT 2014

Visit	Proposal 13846, Visit 10 Diagnostic Status: No Diagnostics Scientific Instruments: COS/NUV Special Requirements: SCHED 100%									
	Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous			
	(4)	PG1206+459	RA: 12 08 58.0110 (182.2417125d) Dec: +45 40 35.48 (45.67652d) Equinox: J2000		V=15.7+/-0.1 Flambda(1350) = 3.0e-15	Reference Frame: ICRS				
	<i>Comments: This object has been successfully observed with HST spectrographs in past cycles. Coordinates are the same as those used in Program 11741.</i>									
Exposures	#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1	(COS.ta.624 615)	(4) PG1206+459	COS/NUV, ACQ/IMAGE, PSA	MIRRORB				51.9 Secs (51.9 Secs)	
									[==>]	[1]
	2	(COS.sp.624 978)	(4) PG1206+459	COS/NUV, TIME-TAG, PSA	G225M 2217 A	BUFFER-TIME=18 01; FP-POS=1			1075.0 Secs (1075 Secs)	
									[==>]	[1]
	3	(COS.sp.624 978)	(4) PG1206+459	COS/NUV, TIME-TAG, PSA	G225M 2217 A	BUFFER-TIME=18 01; FP-POS=2			1075.0 Secs (1075 Secs)	
									[==>]	[1]
	4	(COS.sp.624 978)	(4) PG1206+459	COS/NUV, TIME-TAG, PSA	G225M 2217 A	BUFFER-TIME=18 01; FP-POS=3			1315.0 Secs (1315 Secs)	
									[==>]	[2]
5	(COS.sp.624 978)	(4) PG1206+459	COS/NUV, TIME-TAG, PSA	G225M 2217 A	BUFFER-TIME=18 01; FP-POS=4			1315.0 Secs (1315 Secs)		
								[==>]	[2]	
6	(COS.sp.624 975)	(4) PG1206+459	COS/NUV, TIME-TAG, PSA	G185M 1921 A	BUFFER-TIME=17 84; FP-POS=ALL			616.0 Secs (2464 Secs)		
								[==>(Split 1)]		
								[==>(Split 2)]		
								[==>(Split 3)]	[3]	
								[==>(Split 4)]		
7	(COS.sp.624 975)	(4) PG1206+459	COS/NUV, TIME-TAG, PSA	G185M 1953 A	BUFFER-TIME=17 84; FP-POS=ALL			616.0 Secs (2464 Secs)		
								[==>(Split 1)]		
								[==>(Split 2)]		
								[==>(Split 3)]	[4]	
								[==>(Split 4)]		
8	(COS.sp.624 975)	(4) PG1206+459	COS/NUV, TIME-TAG, PSA	G185M 1986 A	BUFFER-TIME=17 84; FP-POS=ALL			616.0 Secs (2464 Secs)		
								[==>(Split 1)]		
								[==>(Split 2)]		
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								[==>(Split 4)]		



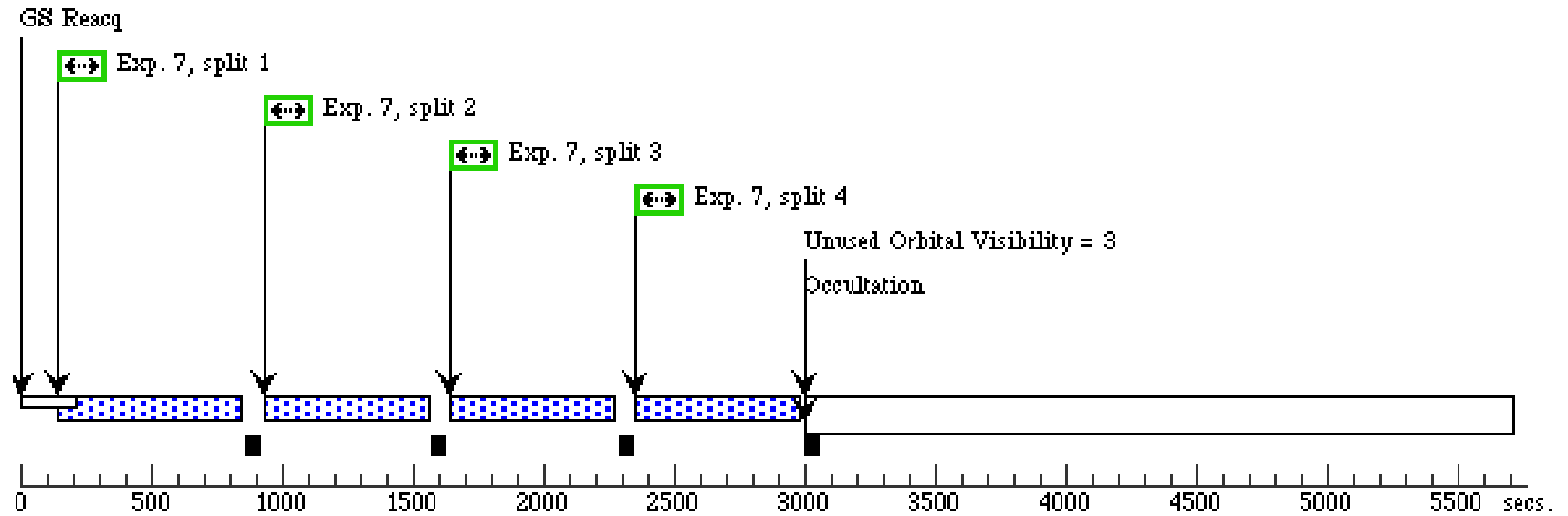
Orbit 3

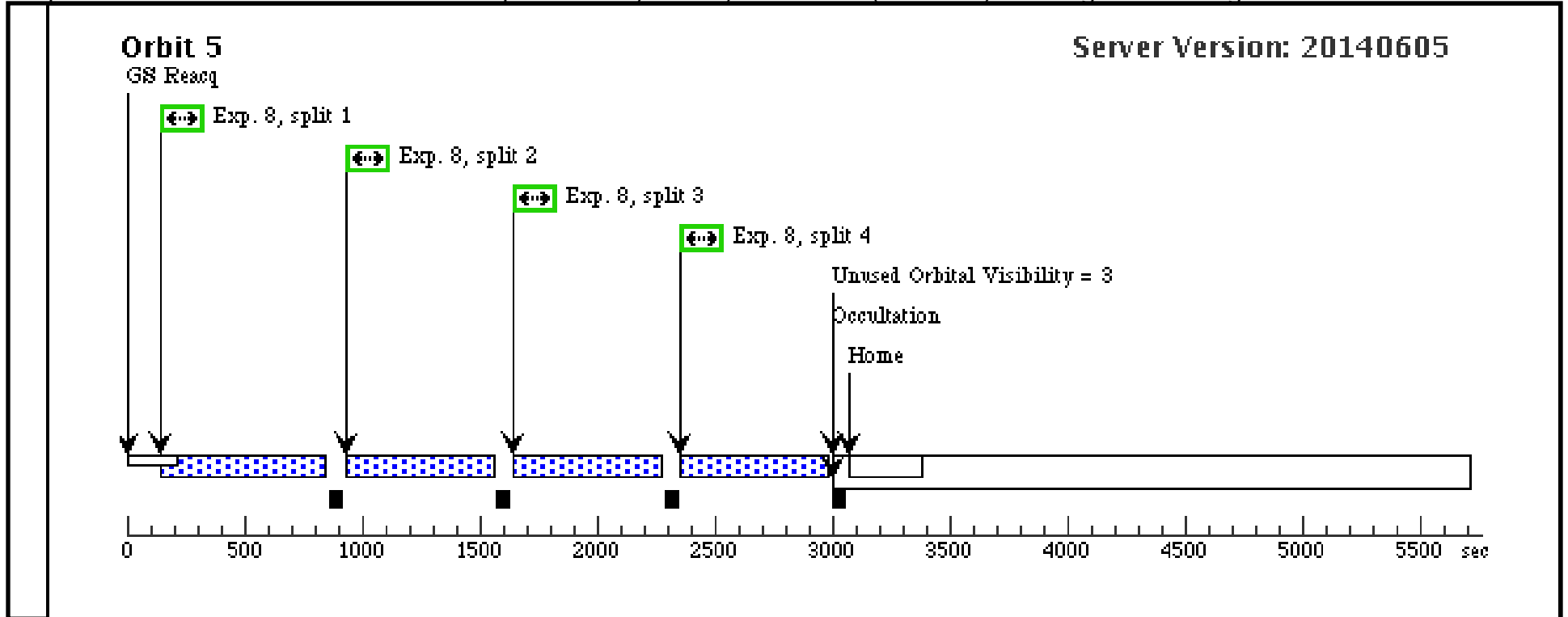
Server Version: 20140605



Orbit 4

Server Version: 20140605

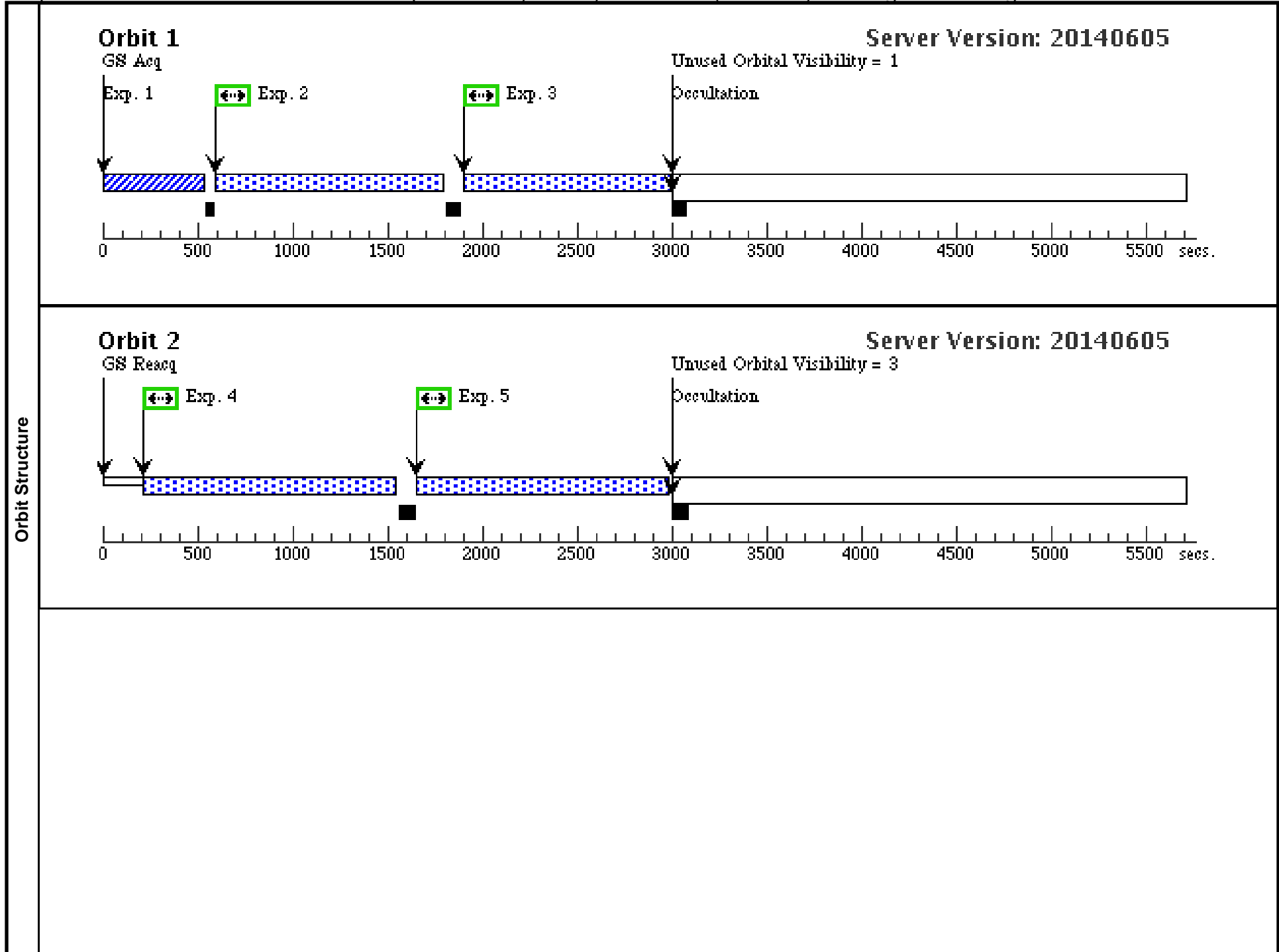


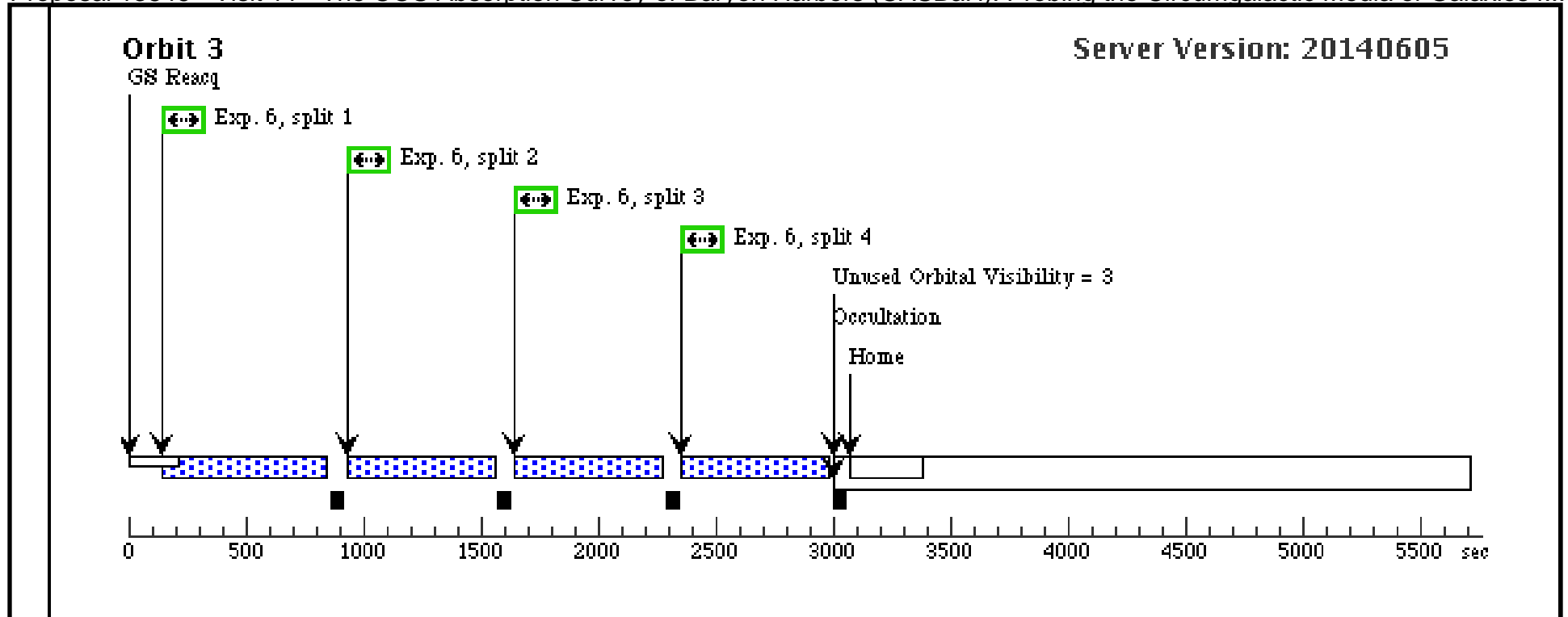


Proposal 13846 - Visit 11 - The COS Absorption Survey of Baryon Harbors (CASBaH): Probing the Circumgalactic Media of Galaxies f...

Fri Jul 25 02:01:43 GMT 2014

Visit	Proposal 13846, Visit 11 Diagnostic Status: No Diagnostics Scientific Instruments: COS/NUV Special Requirements: SCHED 100%									
	Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous			
	(4)	PG1206+459	RA: 12 08 58.0110 (182.2417125d) Dec: +45 40 35.48 (45.67652d) Equinox: J2000		V=15.7+/-0.1 Flambda(1350) = 3.0e-15	Reference Frame: ICRS				
	<i>Comments: This object has been successfully observed with HST spectrographs in past cycles. Coordinates are the same as those used in Program 11741.</i>									
Exposures	#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1	(COS.ta.624 615)	(4) PG1206+459	COS/NUV, ACQ/IMAGE, PSA	MIRRORB				51.9 Secs (51.9 Secs)	
									[==>]	[1]
	2	(COS.sp.624 978)	(4) PG1206+459	COS/NUV, TIME-TAG, PSA	G225M 2250 A	BUFFER-TIME=18 01; FP-POS=1			1075.0 Secs (1075 Secs)	
									[==>]	[1]
	3	(COS.sp.624 978)	(4) PG1206+459	COS/NUV, TIME-TAG, PSA	G225M 2250 A	BUFFER-TIME=18 01; FP-POS=2			1075.0 Secs (1075 Secs)	
									[==>]	[1]
4	(COS.sp.624 978)	(4) PG1206+459	COS/NUV, TIME-TAG, PSA	G225M 2250 A	BUFFER-TIME=18 01; FP-POS=3			1315.0 Secs (1315 Secs)		
								[==>]	[2]	
5	(COS.sp.624 978)	(4) PG1206+459	COS/NUV, TIME-TAG, PSA	G225M 2250 A	BUFFER-TIME=18 01; FP-POS=4			1315.0 Secs (1315 Secs)		
								[==>]	[2]	
6	(COS.sp.624 975)	(4) PG1206+459	COS/NUV, TIME-TAG, PSA	G225M 2283 A	BUFFER-TIME=17 84; FP-POS=ALL			616.0 Secs (2464 Secs)		
								[==>(Split 1)] [==>(Split 2)] [==>(Split 3)] [==>(Split 4)]	[3]	

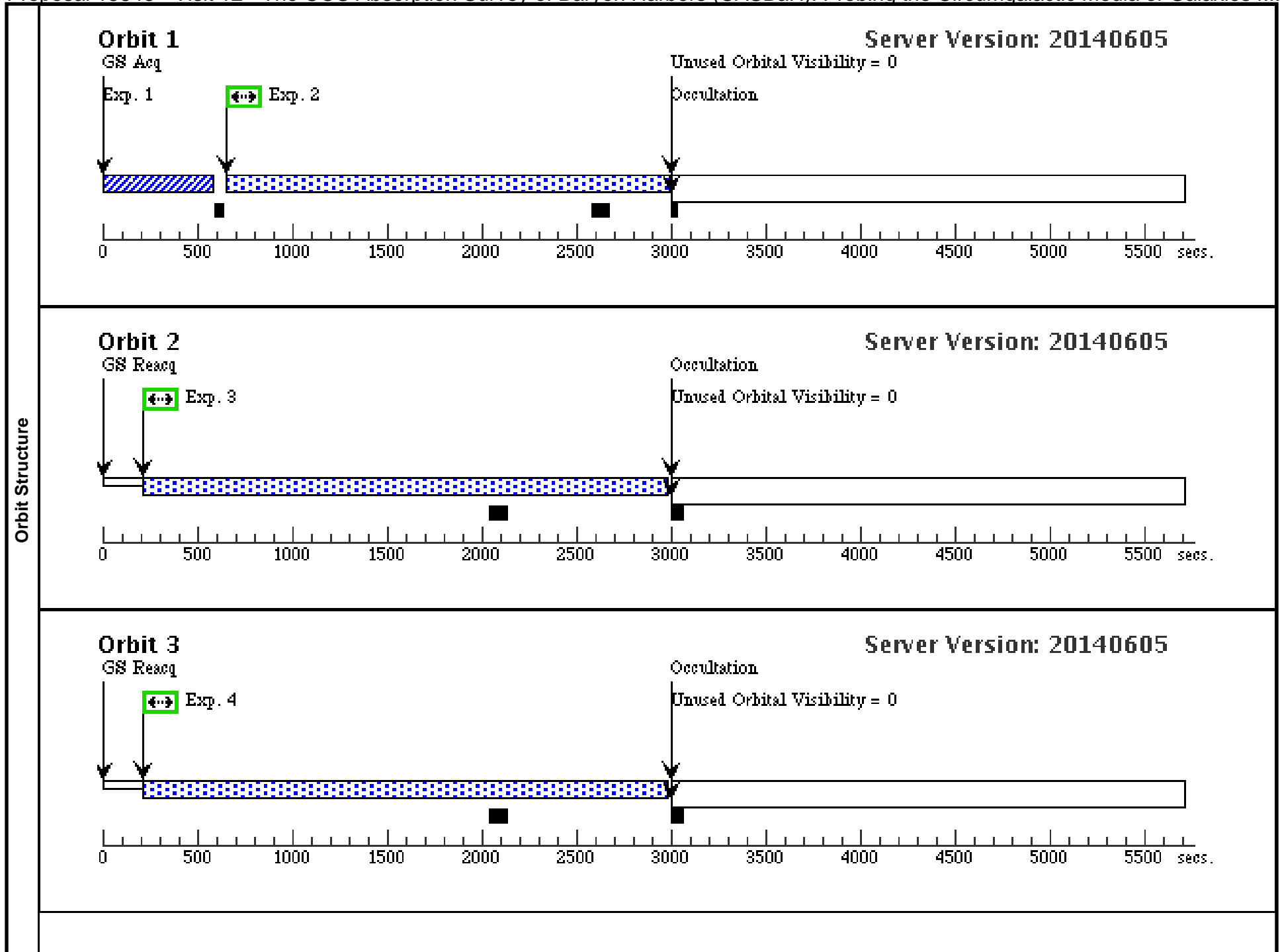




Proposal 13846 - Visit 12 - The COS Absorption Survey of Baryon Harbors (CASBaH): Probing the Circumgalactic Media of Galaxies f...

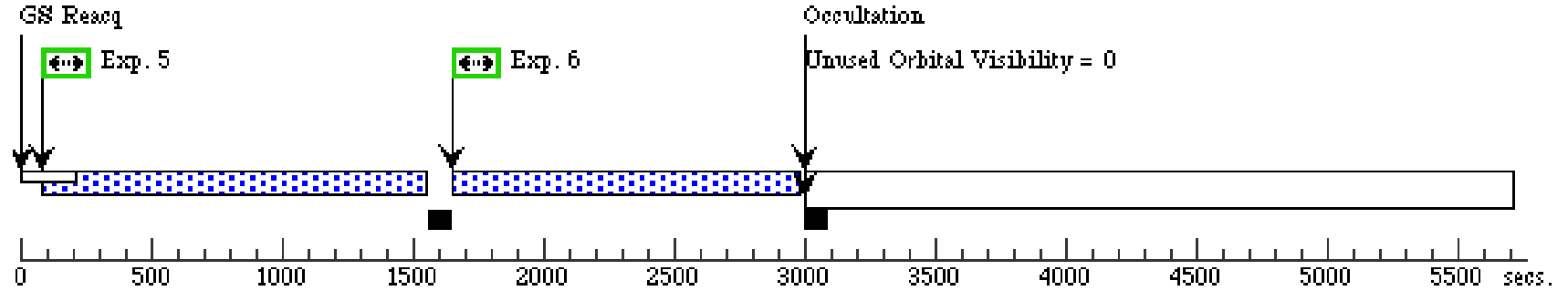
Fri Jul 25 02:01:43 GMT 2014

Visit	Proposal 13846, Visit 12 Diagnostic Status: Warning Scientific Instruments: COS/NUV Special Requirements: SCHED 100%									
	(Visit 12) Warning (Form): For the best data quality, it is strongly recommended that all four FP-POS positions be used when observing at a given COS CENWAVE setting.									
Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous				
	(6)	PG1630+377	RA: 16 32 1.1200 (248.0046667d) Dec: +37 37 50.00 (37.63056d) Equinox: J2000		V=16.3+/-0.1 Flambda(1350) = 5.5e-15	Reference Frame: ICRS				
<i>Comments: This object has been successfully observed with HST spectrographs in past cycles. Coordinates are the same as those used in Program 11741.</i>										
Exposures	#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1	(COS.ta.624 625)	(6) PG1630+377	COS/NUV, ACQ/IMAGE, PSA	MIRRORB				78 Secs (78 Secs) [==>]	[1]
	2	(COS.sp.624 983)	(6) PG1630+377	COS/NUV, TIME-TAG, PSA	G225M 2283 A	BUFFER-TIME=18 21.0; FP-POS=1			2210 Secs (2210 Secs) [==>]	[1]
	3	(COS.sp.624 983)	(6) PG1630+377	COS/NUV, TIME-TAG, PSA	G225M 2283 A	BUFFER-TIME=18 21.0; FP-POS=2			2753 Secs (2753 Secs) [==>]	[2]
	4	(COS.sp.624 983)	(6) PG1630+377	COS/NUV, TIME-TAG, PSA	G225M 2283 A	BUFFER-TIME=18 21.0; FP-POS=4			2753 Secs (2753 Secs) [==>]	[3]
	5	(COS.sp.624 982)	(6) PG1630+377	COS/NUV, TIME-TAG, PSA	G185M 1921 A	BUFFER-TIME=18 09; FP-POS=1			1313 Secs (1313 Secs) [==>]	[4]
	6	(COS.sp.624 982)	(6) PG1630+377	COS/NUV, TIME-TAG, PSA	G185M 1921 A	BUFFER-TIME=18 09; FP-POS=2			1313 Secs (1313 Secs) [==>]	[4]
	7	(COS.sp.624 982)	(6) PG1630+377	COS/NUV, TIME-TAG, PSA	G185M 1921 A	BUFFER-TIME=18 09; FP-POS=3			1313 Secs (1313 Secs) [==>]	[5]
	8	(COS.sp.624 982)	(6) PG1630+377	COS/NUV, TIME-TAG, PSA	G185M 1921 A	BUFFER-TIME=18 09; FP-POS=4			1313 Secs (1313 Secs) [==>]	[5]



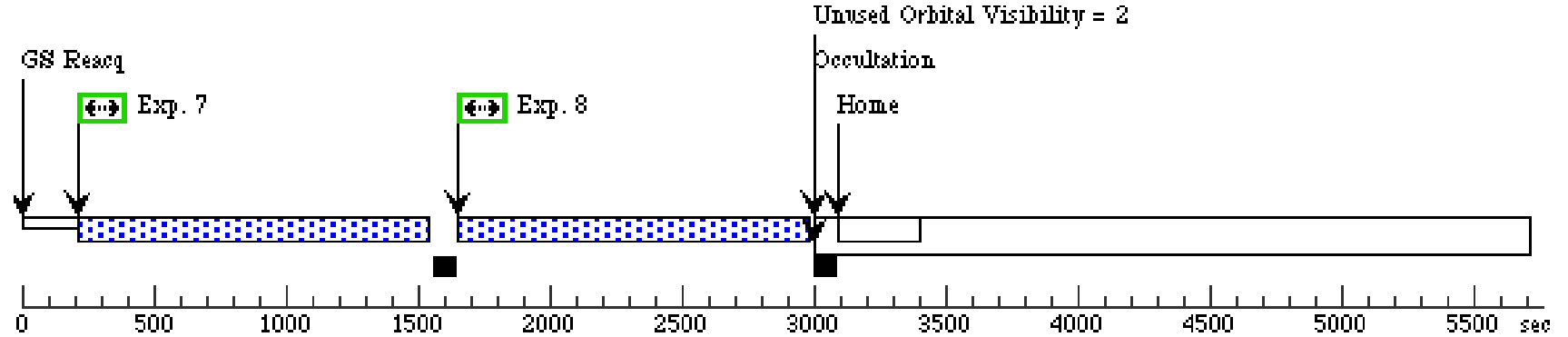
Orbit 4

Server Version: 20140605



Orbit 5

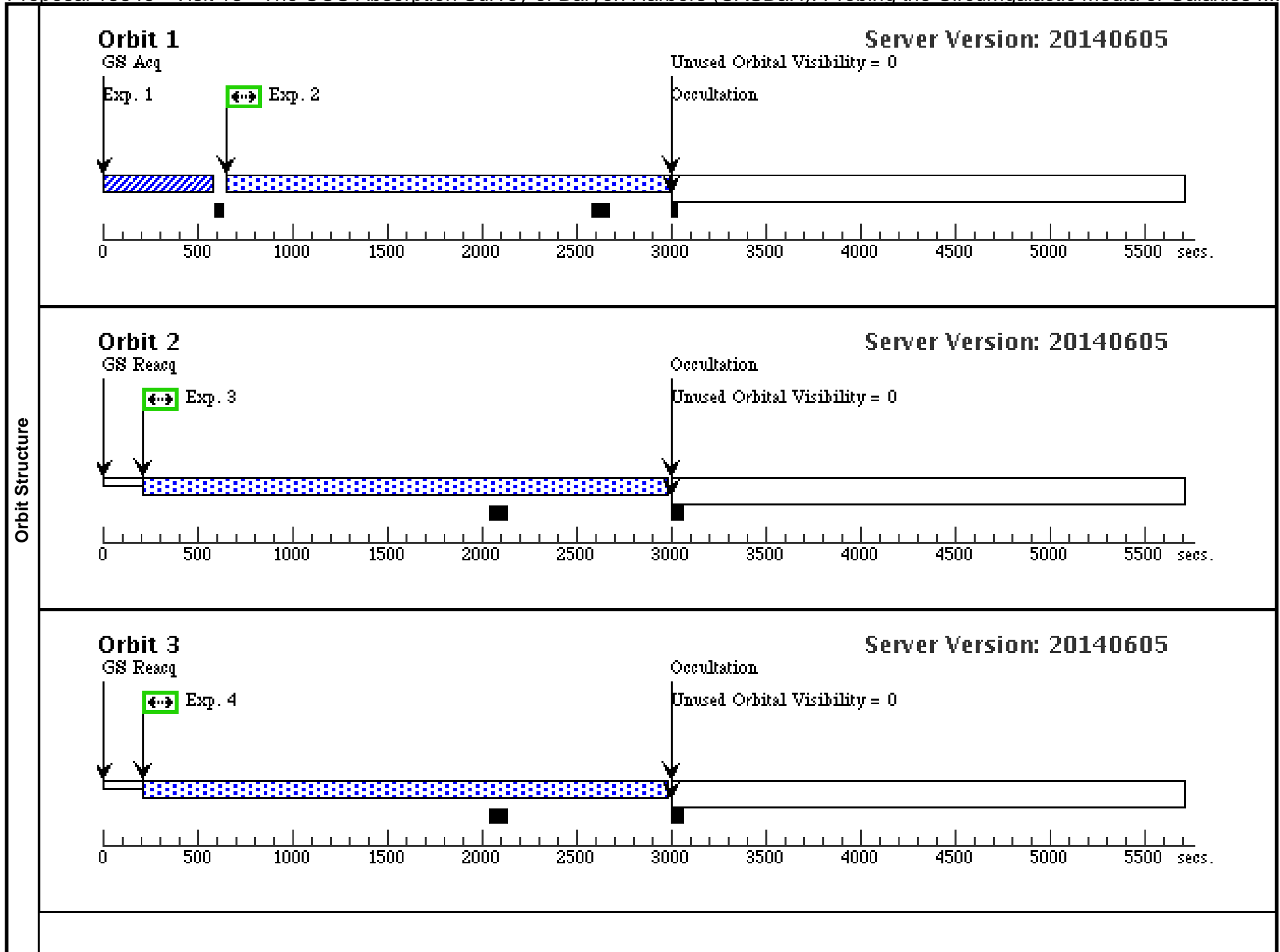
Server Version: 20140605



Proposal 13846 - Visit 13 - The COS Absorption Survey of Baryon Harbors (CASBaH): Probing the Circumgalactic Media of Galaxies f...

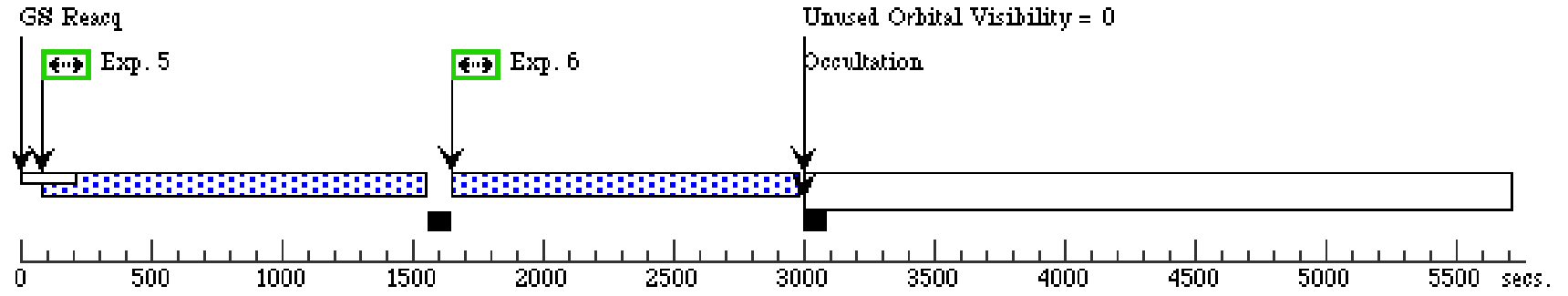
Fri Jul 25 02:01:43 GMT 2014

Visit	Proposal 13846, Visit 13 Diagnostic Status: Warning Scientific Instruments: COS/NUV Special Requirements: SCHED 100%									
	(Visit 13) Warning (Form): For the best data quality, it is strongly recommended that all four FP-POS positions be used when observing at a given COS CENWAVE setting.									
Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous				
	(6)	PG1630+377	RA: 16 32 1.1200 (248.0046667d) Dec: +37 37 50.00 (37.63056d) Equinox: J2000		V=16.3+/-0.1 Flambda(1350) = 5.5e-15	Reference Frame: ICRS				
<i>Comments: This object has been successfully observed with HST spectrographs in past cycles. Coordinates are the same as those used in Program 11741.</i>										
Exposures	#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1	(COS.ta.624 625)	(6) PG1630+377	COS/NUV, ACQ/IMAGE, PSA	MIRRORB				78 Secs (78 Secs) [==>]	[1]
	2	(COS.sp.624 983)	(6) PG1630+377	COS/NUV, TIME-TAG, PSA	G225M 2217 A	BUFFER-TIME=18 21.0; FP-POS=1			2210 Secs (2210 Secs) [==>]	[1]
	3	(COS.sp.624 983)	(6) PG1630+377	COS/NUV, TIME-TAG, PSA	G225M 2217 A	BUFFER-TIME=18 21.0; FP-POS=3			2753 Secs (2753 Secs) [==>]	[2]
	4	(COS.sp.624 983)	(6) PG1630+377	COS/NUV, TIME-TAG, PSA	G225M 2217 A	BUFFER-TIME=18 21.0; FP-POS=4			2753 Secs (2753 Secs) [==>]	[3]
	5	(COS.sp.624 982)	(6) PG1630+377	COS/NUV, TIME-TAG, PSA	G185M 1953 A	BUFFER-TIME=18 09; FP-POS=1			1313 Secs (1313 Secs) [==>]	[4]
	6	(COS.sp.624 982)	(6) PG1630+377	COS/NUV, TIME-TAG, PSA	G185M 1953 A	BUFFER-TIME=18 09; FP-POS=2			1313 Secs (1313 Secs) [==>]	[4]
	7	(COS.sp.624 982)	(6) PG1630+377	COS/NUV, TIME-TAG, PSA	G185M 1953 A	BUFFER-TIME=18 09; FP-POS=3			1313 Secs (1313 Secs) [==>]	[5]
	8	(COS.sp.624 982)	(6) PG1630+377	COS/NUV, TIME-TAG, PSA	G185M 1953 A	BUFFER-TIME=18 09; FP-POS=4			1313 Secs (1313 Secs) [==>]	[5]



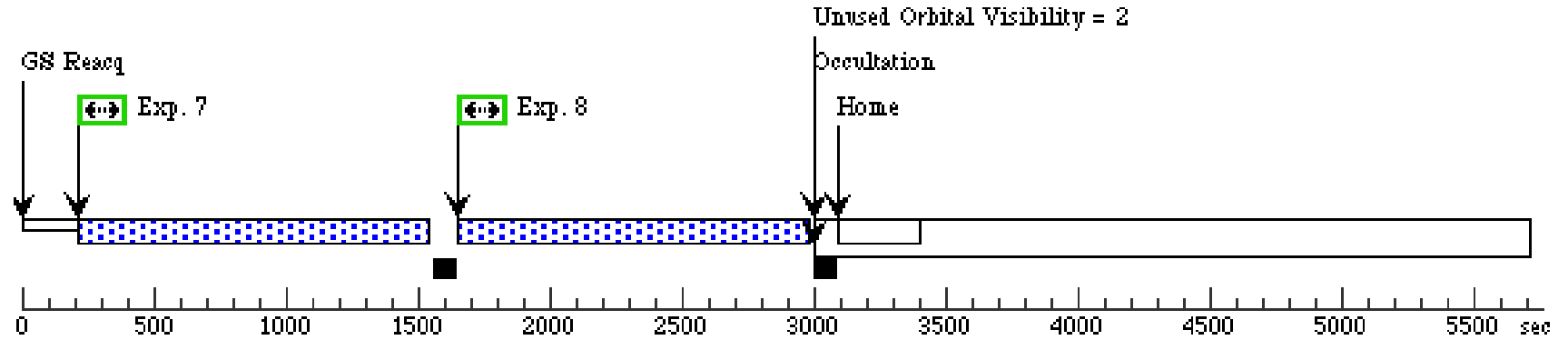
Orbit 4

Server Version: 20140605



Orbit 5

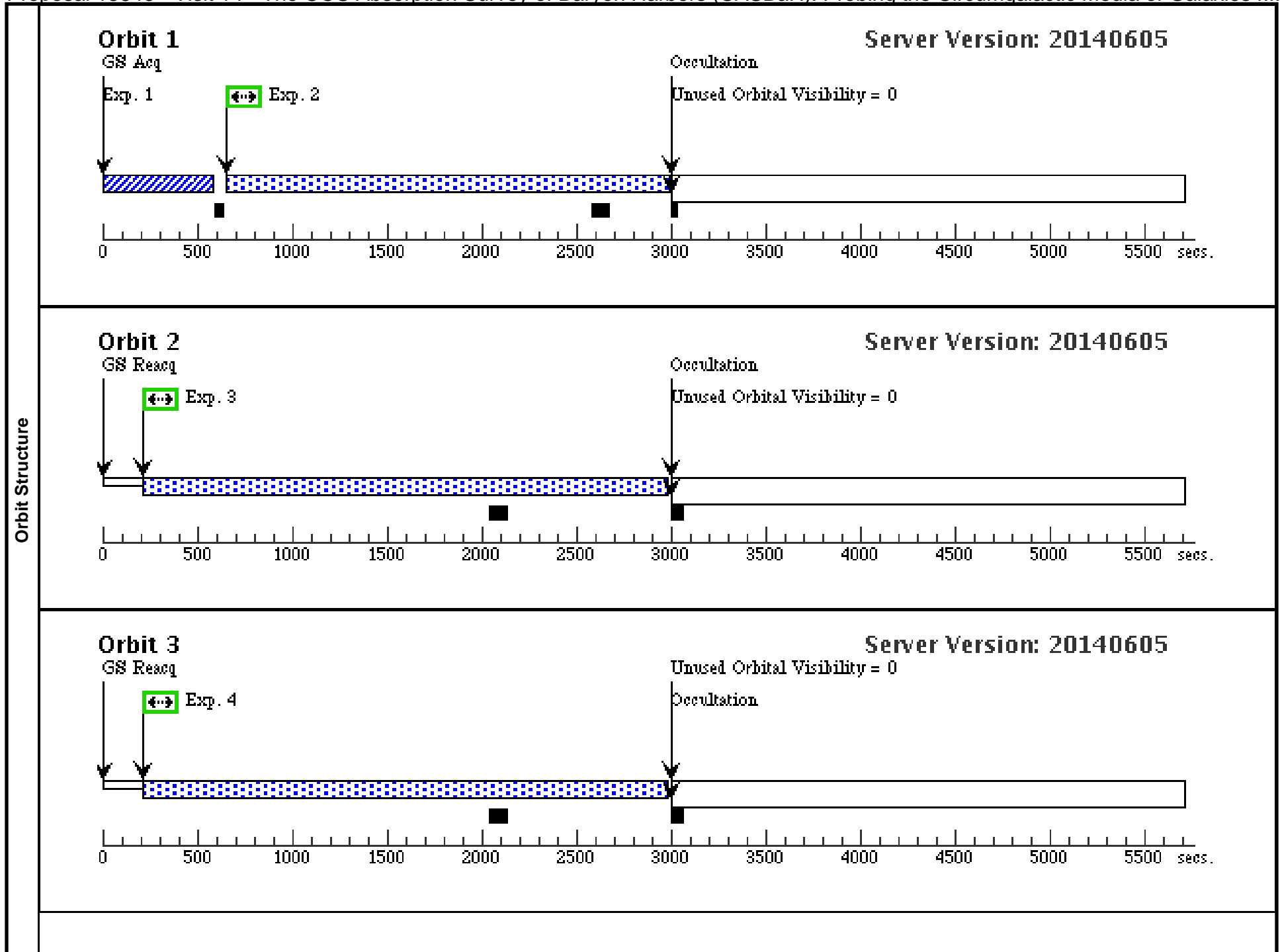
Server Version: 20140605



Proposal 13846 - Visit 14 - The COS Absorption Survey of Baryon Harbors (CASBaH): Probing the Circumgalactic Media of Galaxies f...

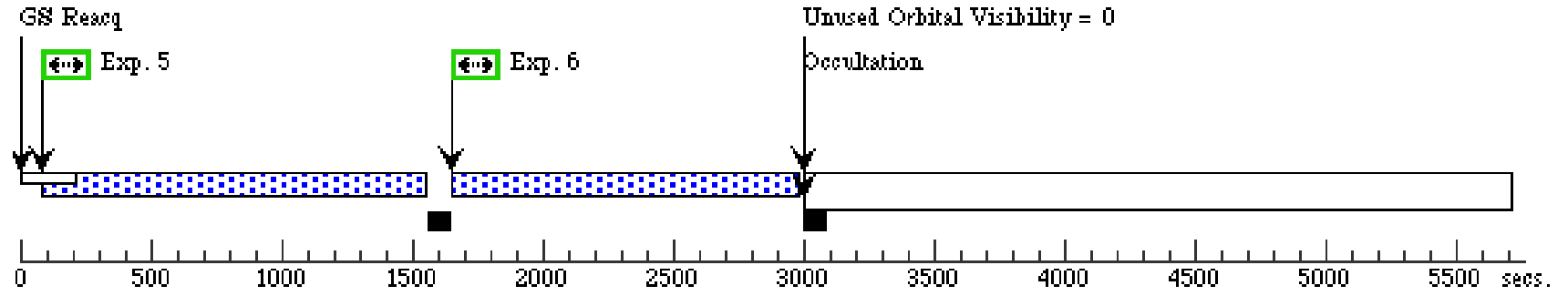
Fri Jul 25 02:01:43 GMT 2014

Visit	Proposal 13846, Visit 14 Diagnostic Status: Warning Scientific Instruments: COS/NUV Special Requirements: SCHED 100%									
	(Visit 14) Warning (Form): For the best data quality, it is strongly recommended that all four FP-POS positions be used when observing at a given COS CENWAVE setting.									
Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous				
	(6)	PG1630+377	RA: 16 32 1.1200 (248.0046667d) Dec: +37 37 50.00 (37.63056d) Equinox: J2000		V=16.3+/-0.1 Flambda(1350) = 5.5e-15	Reference Frame: ICRS				
<i>Comments: This object has been successfully observed with HST spectrographs in past cycles. Coordinates are the same as those used in Program 11741.</i>										
Exposures	#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1	(COS.ta.624 625)	(6) PG1630+377	COS/NUV, ACQ/IMAGE, PSA	MIRRORB				78 Secs (78 Secs) [==>]	[1]
	2	(COS.sp.624 983)	(6) PG1630+377	COS/NUV, TIME-TAG, PSA	G225M 2250 A	BUFFER-TIME=18 21.0; FP-POS=1			2210 Secs (2210 Secs) [==>]	[1]
	3	(COS.sp.624 983)	(6) PG1630+377	COS/NUV, TIME-TAG, PSA	G225M 2250 A	BUFFER-TIME=18 21.0; FP-POS=3			2753 Secs (2753 Secs) [==>]	[2]
	4	(COS.sp.624 983)	(6) PG1630+377	COS/NUV, TIME-TAG, PSA	G225M 2250 A	BUFFER-TIME=18 21.0; FP-POS=4			2753 Secs (2753 Secs) [==>]	[3]
	5	(COS.sp.624 982)	(6) PG1630+377	COS/NUV, TIME-TAG, PSA	G185M 1986 A	BUFFER-TIME=18 09; FP-POS=1			1313 Secs (1313 Secs) [==>]	[4]
	6	(COS.sp.624 982)	(6) PG1630+377	COS/NUV, TIME-TAG, PSA	G185M 1986 A	BUFFER-TIME=18 09; FP-POS=2			1313 Secs (1313 Secs) [==>]	[4]
	7	(COS.sp.624 982)	(6) PG1630+377	COS/NUV, TIME-TAG, PSA	G185M 1986 A	BUFFER-TIME=18 09; FP-POS=3			1313 Secs (1313 Secs) [==>]	[5]
	8	(COS.sp.624 982)	(6) PG1630+377	COS/NUV, TIME-TAG, PSA	G185M 1986 A	BUFFER-TIME=18 09; FP-POS=4			1313 Secs (1313 Secs) [==>]	[5]



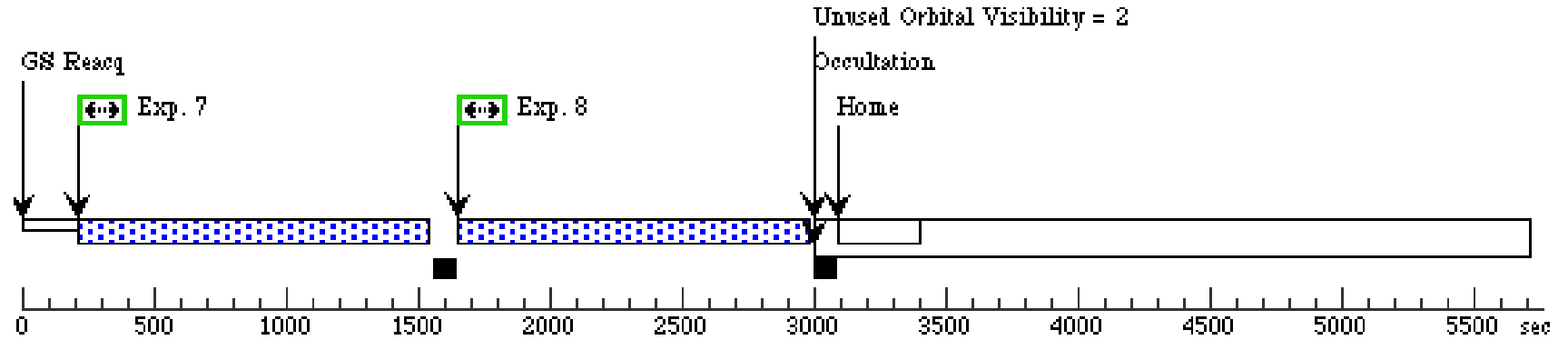
Orbit 4

Server Version: 20140605



Orbit 5

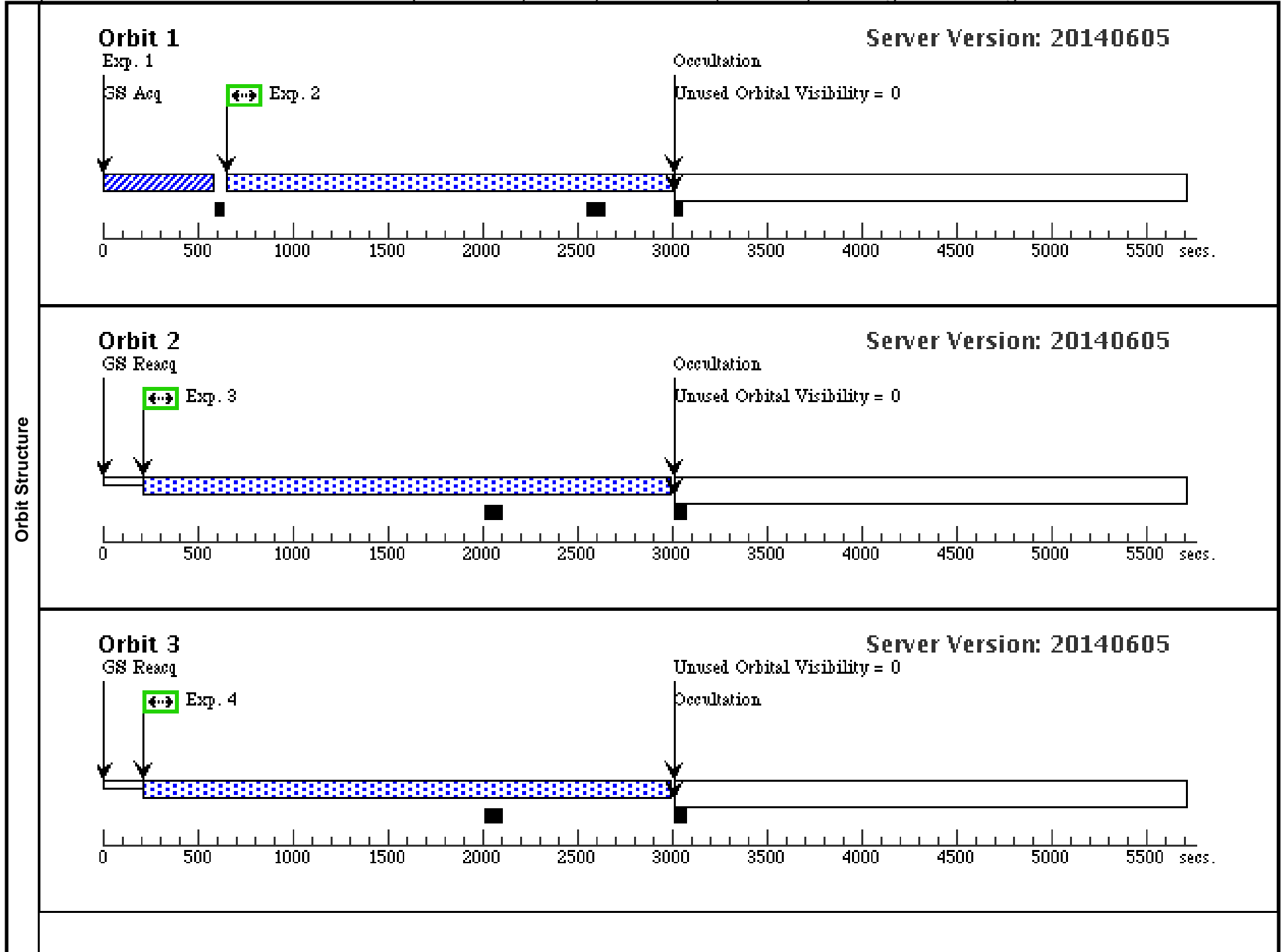
Server Version: 20140605



Proposal 13846 - Visit 15 - The COS Absorption Survey of Baryon Harbors (CASBaH): Probing the Circumgalactic Media of Galaxies f...

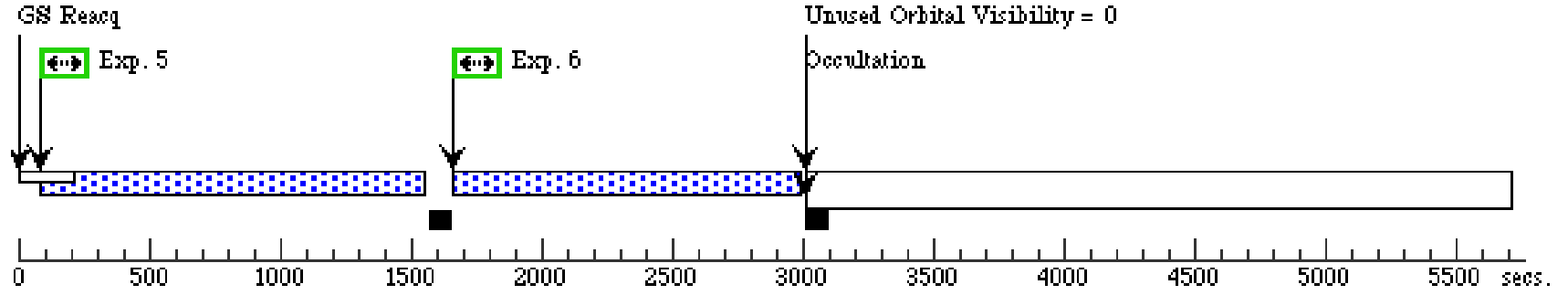
Fri Jul 25 02:01:43 GMT 2014

Visit	Proposal 13846, Visit 15 Diagnostic Status: Warning Scientific Instruments: COS/NUV Special Requirements: SCHED 100%									
	(Visit 15) Warning (Form): For the best data quality, it is strongly recommended that all four FP-POS positions be used when observing at a given COS CENWAVE setting.									
Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous				
	(3)	PG1148+549	RA: 11 51 20.4600 (177.8352500d) Dec: +54 37 33.07 (54.62585d) Equinox: J2000		V=15.78+/-0.1 Flambda(1350) = 1.0e-14	Reference Frame: ICRS				
<i>Comments: This object has been successfully observed with HST spectrographs in past cycles. Coordinates are the same as those used in Program 11741.</i>										
Exposures	#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1	(COS.ta.624 625)	(3) PG1148+549	COS/NUV, ACQ/IMAGE, PSA	MIRRORB				78 Secs (78 Secs) [==>]	[1]
	2	(COS.sp.624 985)	(3) PG1148+549	COS/NUV, TIME-TAG, PSA	G225M 2217 A	BUFFER-TIME=17 91.0; FP-POS=1			2222.0 Secs (2222 Secs) [==>]	[1]
	3	(COS.sp.624 985)	(3) PG1148+549	COS/NUV, TIME-TAG, PSA	G225M 2217 A	BUFFER-TIME=17 91.0; FP-POS=2			2765 Secs (2765 Secs) [==>]	[2]
	4	(COS.sp.624 985)	(3) PG1148+549	COS/NUV, TIME-TAG, PSA	G225M 2217 A	BUFFER-TIME=17 91.0; FP-POS=4			2765 Secs (2765 Secs) [==>]	[3]
	5	(COS.sp.624 984)	(3) PG1148+549	COS/NUV, TIME-TAG, PSA	G185M 1921 A	BUFFER-TIME=17 71; FP-POS=1			1319.0 Secs (1319 Secs) [==>]	[4]
	6	(COS.sp.624 984)	(3) PG1148+549	COS/NUV, TIME-TAG, PSA	G185M 1921 A	BUFFER-TIME=17 71; FP-POS=2			1319.0 Secs (1319 Secs) [==>]	[4]
	7	(COS.sp.624 984)	(3) PG1148+549	COS/NUV, TIME-TAG, PSA	G185M 1921 A	BUFFER-TIME=17 71; FP-POS=3			1320.0 Secs (1320 Secs) [==>]	[5]
	8	(COS.sp.624 984)	(3) PG1148+549	COS/NUV, TIME-TAG, PSA	G185M 1921 A	BUFFER-TIME=17 71; FP-POS=4			1320.0 Secs (1320 Secs) [==>]	[5]



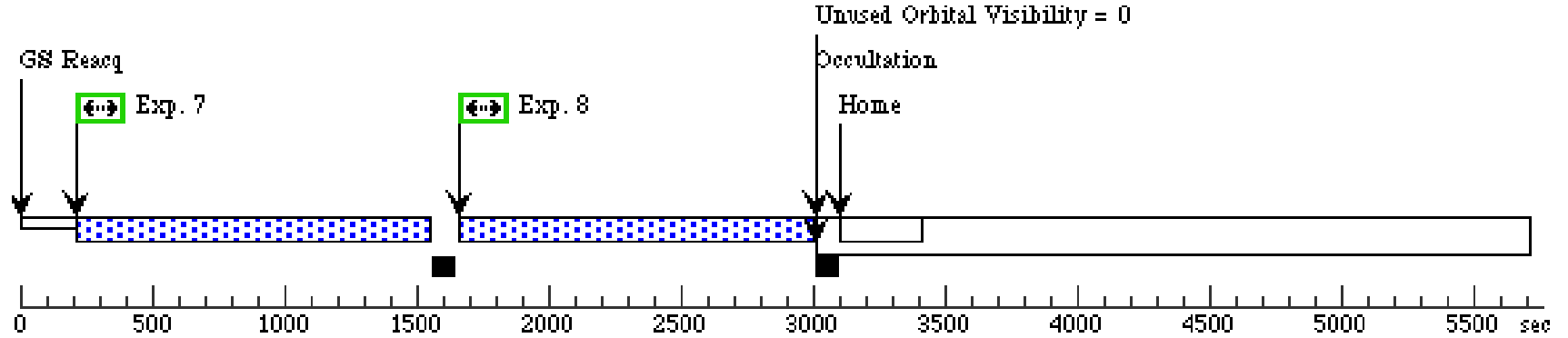
Orbit 4

Server Version: 20140605



Orbit 5

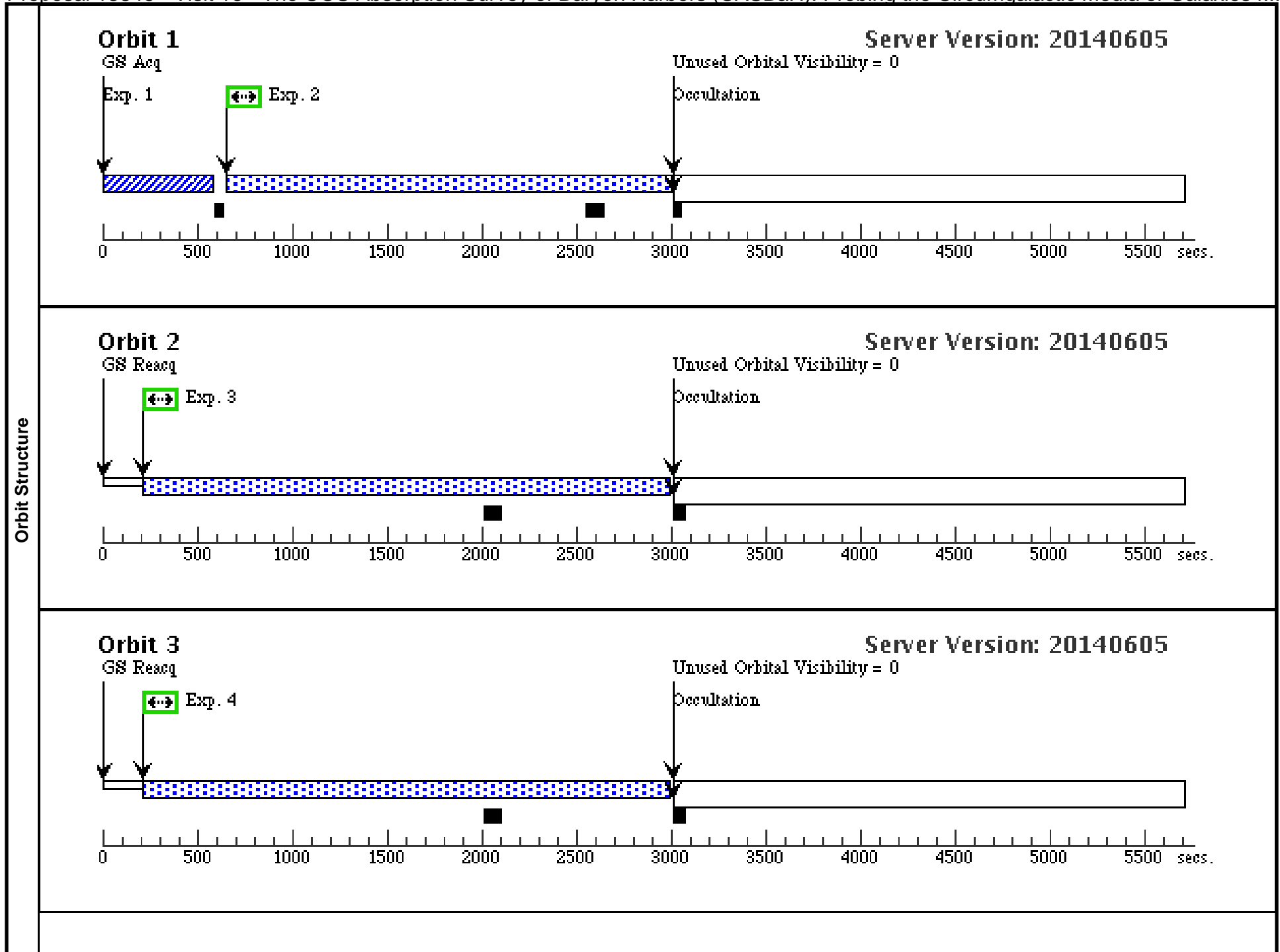
Server Version: 20140605



Proposal 13846 - Visit 16 - The COS Absorption Survey of Baryon Harbors (CASBaH): Probing the Circumgalactic Media of Galaxies f...

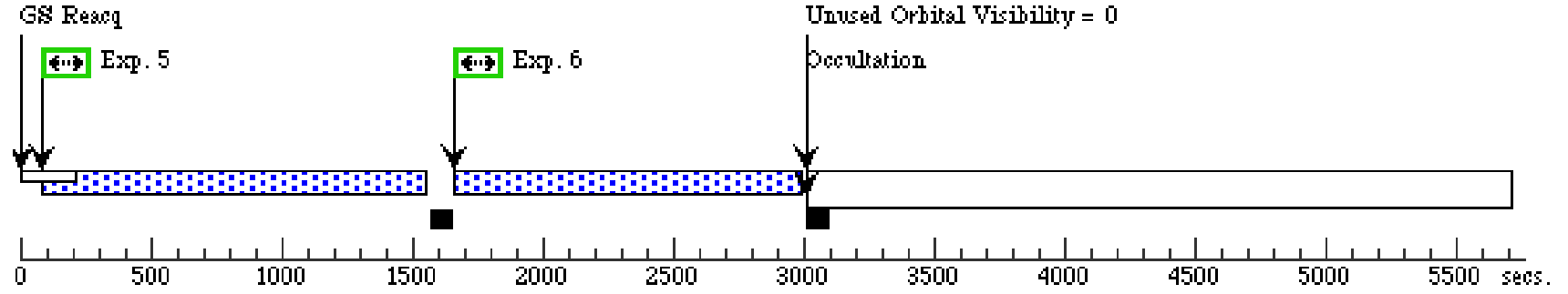
Fri Jul 25 02:01:43 GMT 2014

Visit	Proposal 13846, Visit 16 Diagnostic Status: Warning Scientific Instruments: COS/NUV Special Requirements: SCHED 100%									
	(Visit 16) Warning (Form): For the best data quality, it is strongly recommended that all four FP-POS positions be used when observing at a given COS CENWAVE setting.									
Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous				
	(3)	PG1148+549	RA: 11 51 20.4600 (177.8352500d) Dec: +54 37 33.07 (54.62585d) Equinox: J2000		V=15.78+/-0.1 Flambda(1350) = 1.0e-14	Reference Frame: ICRS				
<i>Comments: This object has been successfully observed with HST spectrographs in past cycles. Coordinates are the same as those used in Program 11741.</i>										
Exposures	#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1	(COS.ta.624 625)	(3) PG1148+549	COS/NUV, ACQ/IMAGE, PSA	MIRRORB				78 Secs (78 Secs) [==>]	[1]
	2	(COS.sp.624 985)	(3) PG1148+549	COS/NUV, TIME-TAG, PSA	G225M 2250 A	BUFFER-TIME=17 91.0; FP-POS=1			2222.0 Secs (2222 Secs) [==>]	[1]
	3	(COS.sp.624 985)	(3) PG1148+549	COS/NUV, TIME-TAG, PSA	G225M 2250 A	BUFFER-TIME=17 91.0; FP-POS=2			2765 Secs (2765 Secs) [==>]	[2]
	4	(COS.sp.624 985)	(3) PG1148+549	COS/NUV, TIME-TAG, PSA	G225M 2250 A	BUFFER-TIME=17 91.0; FP-POS=4			2765 Secs (2765 Secs) [==>]	[3]
	5	(COS.sp.624 984)	(3) PG1148+549	COS/NUV, TIME-TAG, PSA	G185M 1953 A	BUFFER-TIME=17 71; FP-POS=1			1319.0 Secs (1319 Secs) [==>]	[4]
	6	(COS.sp.624 984)	(3) PG1148+549	COS/NUV, TIME-TAG, PSA	G185M 1953 A	BUFFER-TIME=17 71; FP-POS=2			1319.0 Secs (1319 Secs) [==>]	[4]
	7	(COS.sp.624 984)	(3) PG1148+549	COS/NUV, TIME-TAG, PSA	G185M 1953 A	BUFFER-TIME=17 71; FP-POS=3			1320.0 Secs (1320 Secs) [==>]	[5]
	8	(COS.sp.624 984)	(3) PG1148+549	COS/NUV, TIME-TAG, PSA	G185M 1953 A	BUFFER-TIME=17 71; FP-POS=4			1320.0 Secs (1320 Secs) [==>]	[5]



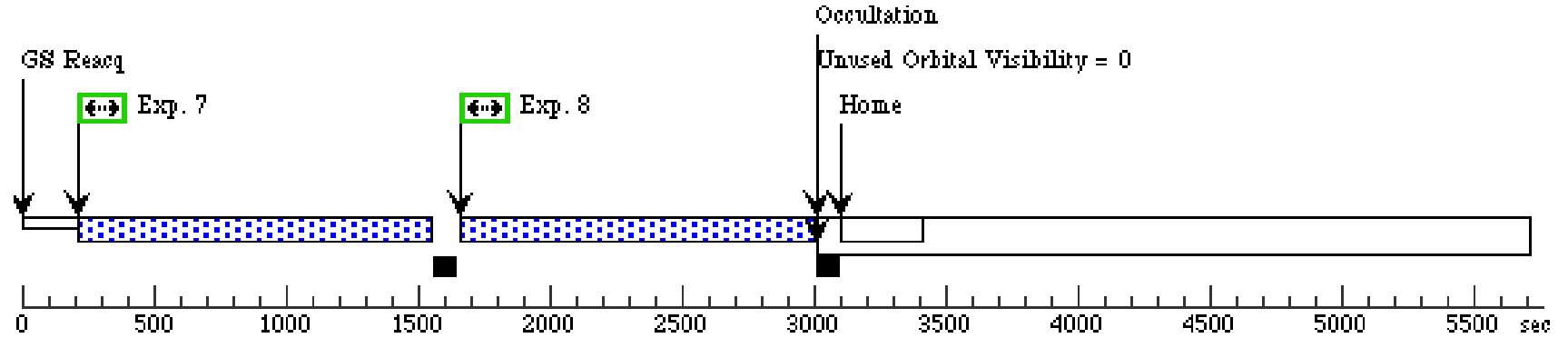
Orbit 4

Server Version: 20140605



Orbit 5

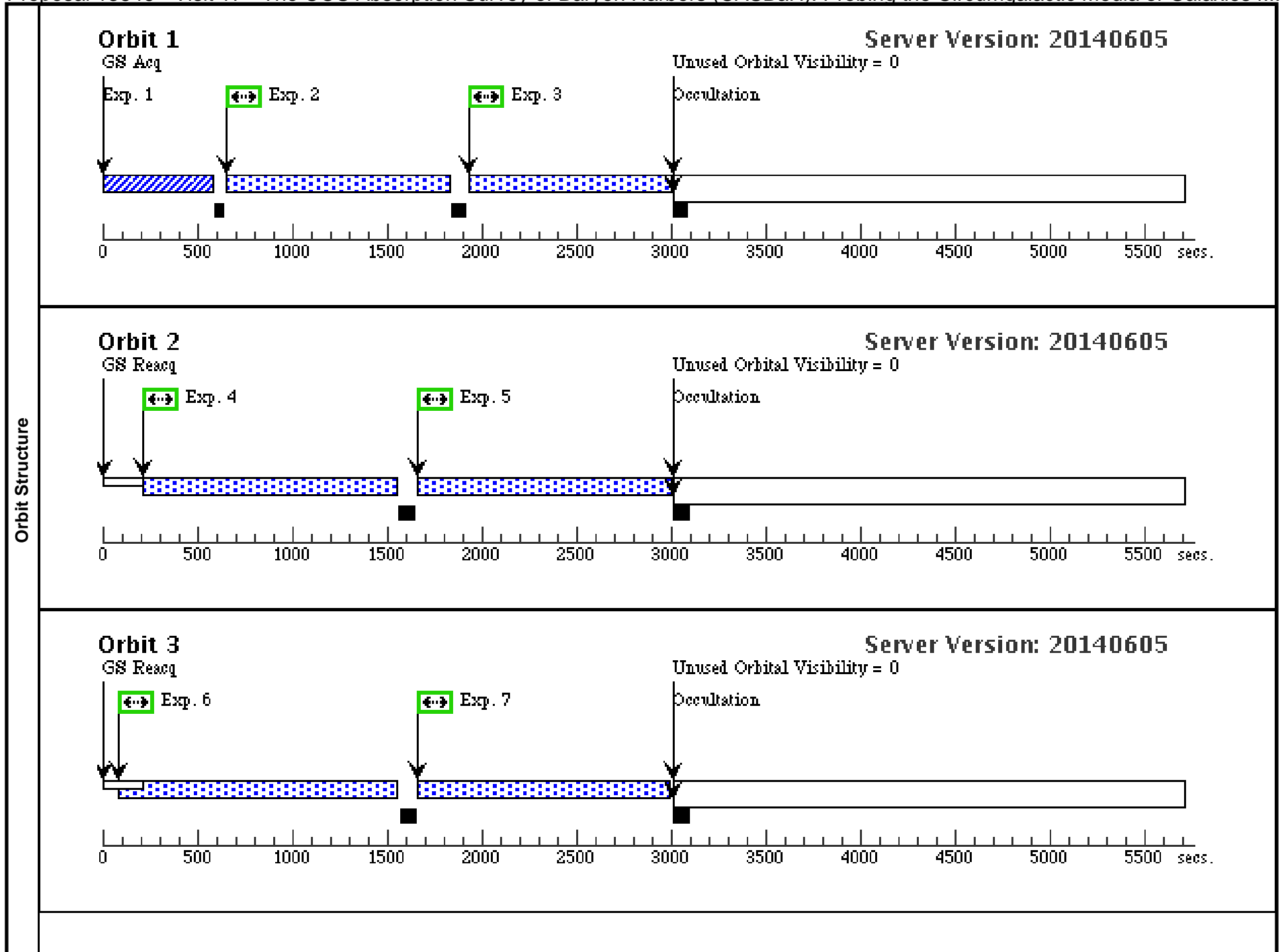
Server Version: 20140605

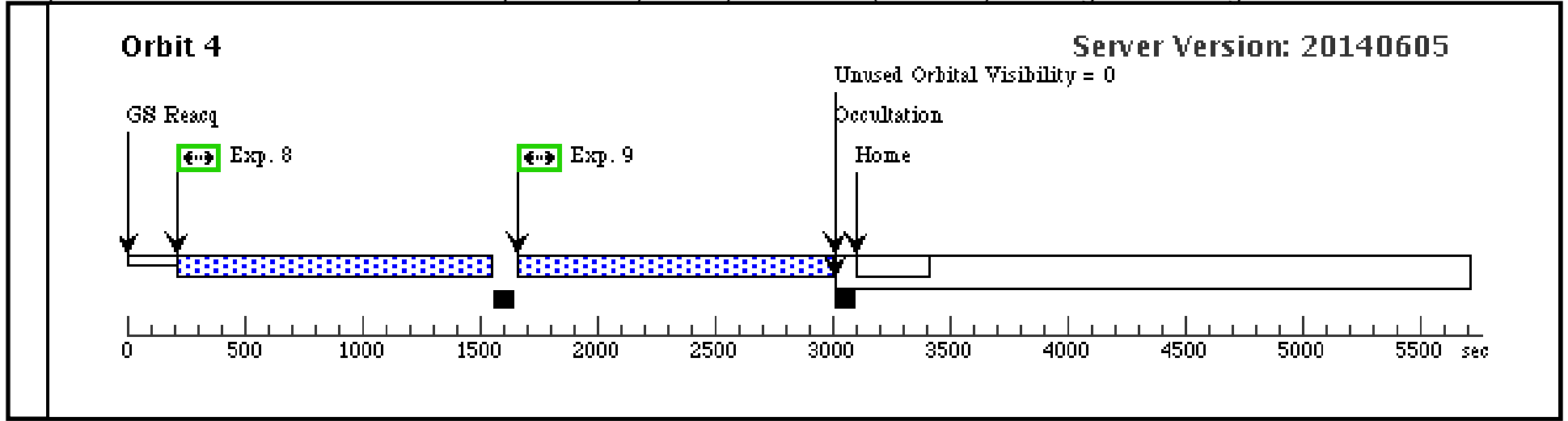


Proposal 13846 - Visit 17 - The COS Absorption Survey of Baryon Harbors (CASBaH): Probing the Circumgalactic Media of Galaxies f...

Fri Jul 25 02:01:43 GMT 2014

Visit	Proposal 13846, Visit 17 Diagnostic Status: No Diagnostics Scientific Instruments: COS/NUV Special Requirements: SCHED 100%									
	Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous			
	(3)	PG1148+549	RA: 11 51 20.4600 (177.8352500d) Dec: +54 37 33.07 (54.62585d) Equinox: J2000		V=15.78+/-0.1 Flambda(1350) = 1.0e-14	Reference Frame: ICRS				
	<i>Comments: This object has been successfully observed with HST spectrographs in past cycles. Coordinates are the same as those used in Program 11741.</i>									
Exposures	#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1	(COS.ta.624 625)	(3) PG1148+549	COS/NUV, ACQ/IMAGE, PSA	MIRRORB				78 Secs (78 Secs) [==>]	[1]
	2	(COS.sp.624 985)	(3) PG1148+549	COS/NUV, TIME-TAG, PSA	G225M 2283 A	BUFFER-TIME=17 91.0; FP-POS=1			1053 Secs (1053 Secs) [==>]	[1]
	3	(COS.sp.624 985)	(3) PG1148+549	COS/NUV, TIME-TAG, PSA	G225M 2283 A	BUFFER-TIME=17 91.0; FP-POS=2			1053 Secs (1053 Secs) [==>]	[1]
	4	(COS.sp.624 985)	(3) PG1148+549	COS/NUV, TIME-TAG, PSA	G225M 2283 A	BUFFER-TIME=17 91.0; FP-POS=3			1320 Secs (1320 Secs) [==>]	[2]
	5	(COS.sp.624 985)	(3) PG1148+549	COS/NUV, TIME-TAG, PSA	G225M 2283 A	BUFFER-TIME=17 91.0; FP-POS=4			1320 Secs (1320 Secs) [==>]	[2]
	6	(COS.sp.624 984)	(3) PG1148+549	COS/NUV, TIME-TAG, PSA	G185M 1986 A	BUFFER-TIME=17 71; FP-POS=1			1319.0 Secs (1319 Secs) [==>]	[3]
	7	(COS.sp.624 984)	(3) PG1148+549	COS/NUV, TIME-TAG, PSA	G185M 1986 A	BUFFER-TIME=17 71; FP-POS=2			1319.0 Secs (1319 Secs) [==>]	[3]
	8	(COS.sp.624 984)	(3) PG1148+549	COS/NUV, TIME-TAG, PSA	G185M 1986 A	BUFFER-TIME=17 71; FP-POS=3			1320.0 Secs (1320 Secs) [==>]	[4]
	9	(COS.sp.624 984)	(3) PG1148+549	COS/NUV, TIME-TAG, PSA	G185M 1986 A	BUFFER-TIME=17 71; FP-POS=4			1320.0 Secs (1320 Secs) [==>]	[4]

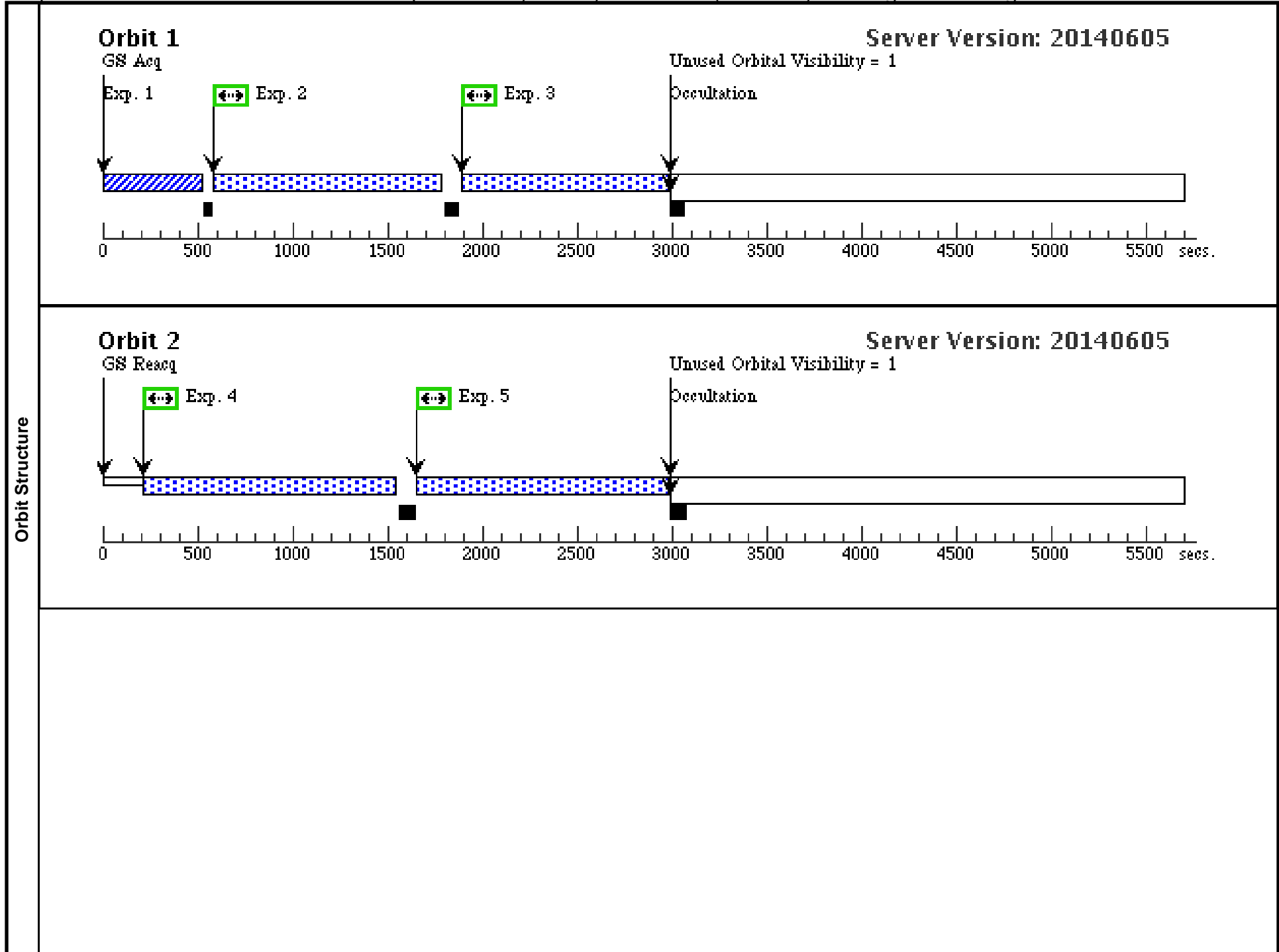




Proposal 13846 - Visit 18 - The COS Absorption Survey of Baryon Harbors (CASBaH): Probing the Circumgalactic Media of Galaxies f...

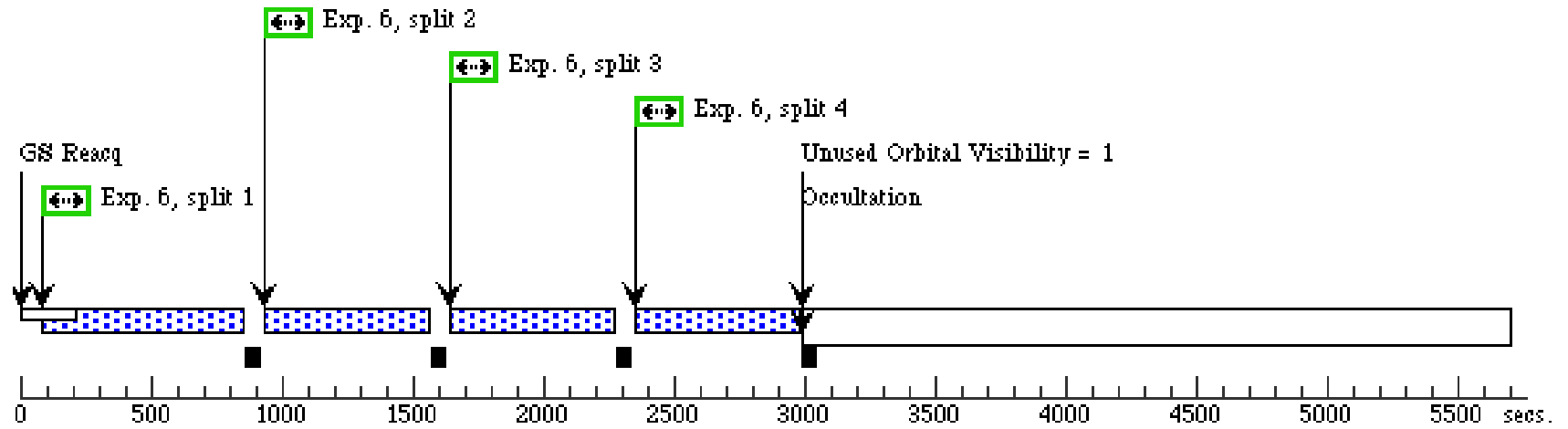
Fri Jul 25 02:01:44 GMT 2014

Visit	Proposal 13846, Visit 18 Diagnostic Status: No Diagnostics Scientific Instruments: COS/NUV Special Requirements: SCHED 100%									
	Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous			
	(5)	PG1407+265	RA: 14 09 23.9040 (212.3496000d) Dec: +26 18 21.00 (26.30583d) Equinox: J2000		V=15.7+/-0.1 Flambda(1350) = 9e-15	Reference Frame: ICRS				
	<i>Comments: This object has been successfully observed with HST spectrographs in past cycles. Coordinates are the same as those used in Program 11741.</i>									
Exposures	#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1	(COS.ta.624 628)	(5) PG1407+265	COS/NUV, ACQ/IMAGE, PSA	MIRRORB				45.8 Secs (45.8 Secs)	
									[==>]	[1]
	2	(COS.sp.624 987)	(5) PG1407+265	COS/NUV, TIME-TAG, PSA	G225M 2217 A	BUFFER-TIME=17 75; FP-POS=1			1077.0 Secs (1077 Secs)	
									[==>]	[1]
	3	(COS.sp.624 987)	(5) PG1407+265	COS/NUV, TIME-TAG, PSA	G225M 2217 A	BUFFER-TIME=17 75; FP-POS=2			1077.0 Secs (1077 Secs)	
									[==>]	[1]
	4	(COS.sp.624 987)	(5) PG1407+265	COS/NUV, TIME-TAG, PSA	G225M 2217 A	BUFFER-TIME=17 75; FP-POS=3			1312.0 Secs (1312 Secs)	
									[==>]	[2]
5	(COS.sp.624 987)	(5) PG1407+265	COS/NUV, TIME-TAG, PSA	G225M 2217 A	BUFFER-TIME=17 75; FP-POS=4			1312.0 Secs (1312 Secs)		
								[==>]	[2]	
6	(COS.sp.624 986)	(5) PG1407+265	COS/NUV, TIME-TAG, PSA	G185M 1921 A	BUFFER-TIME=17 51; FP-POS=ALL			614 Secs (2456 Secs)		
								[==>(Split 1)]		
								[==>(Split 2)]		
								[==>(Split 3)]	[3]	
								[==>(Split 4)]		
7	(COS.sp.624 986)	(5) PG1407+265	COS/NUV, TIME-TAG, PSA	G185M 1953 A	BUFFER-TIME=17 51; FP-POS=ALL			614 Secs (2456 Secs)		
								[==>(Split 1)]		
								[==>(Split 2)]		
								[==>(Split 3)]	[4]	
								[==>(Split 4)]		
8	(COS.sp.624 986)	(5) PG1407+265	COS/NUV, TIME-TAG, PSA	G185M 1986 A	BUFFER-TIME=17 51; FP-POS=ALL			614 Secs (2456 Secs)		
								[==>(Split 1)]		
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								[==>(Split 4)]		



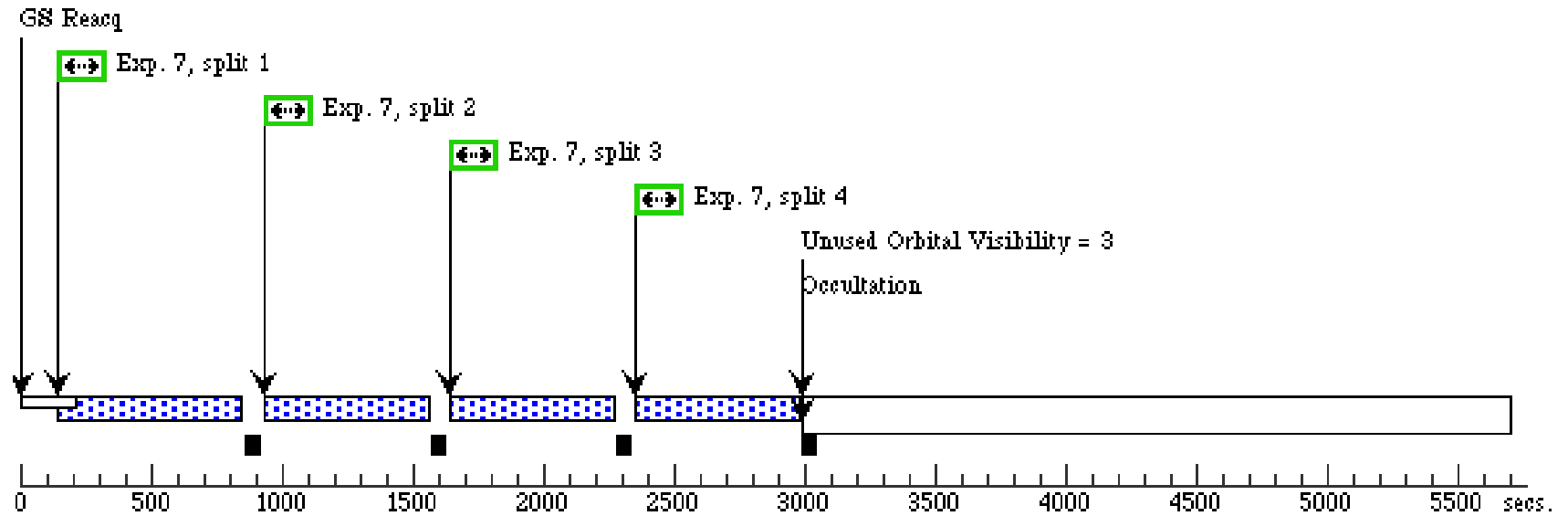
Orbit 3

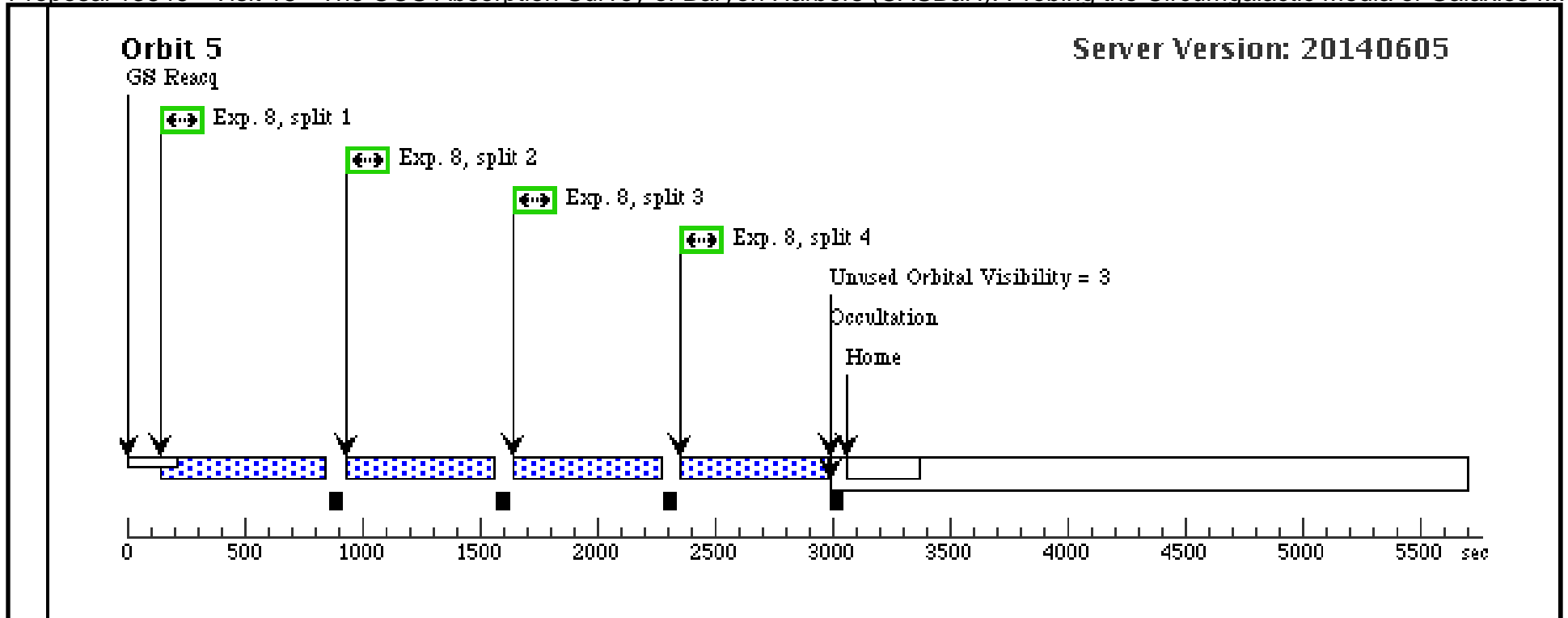
Server Version: 20140605



Orbit 4

Server Version: 20140605

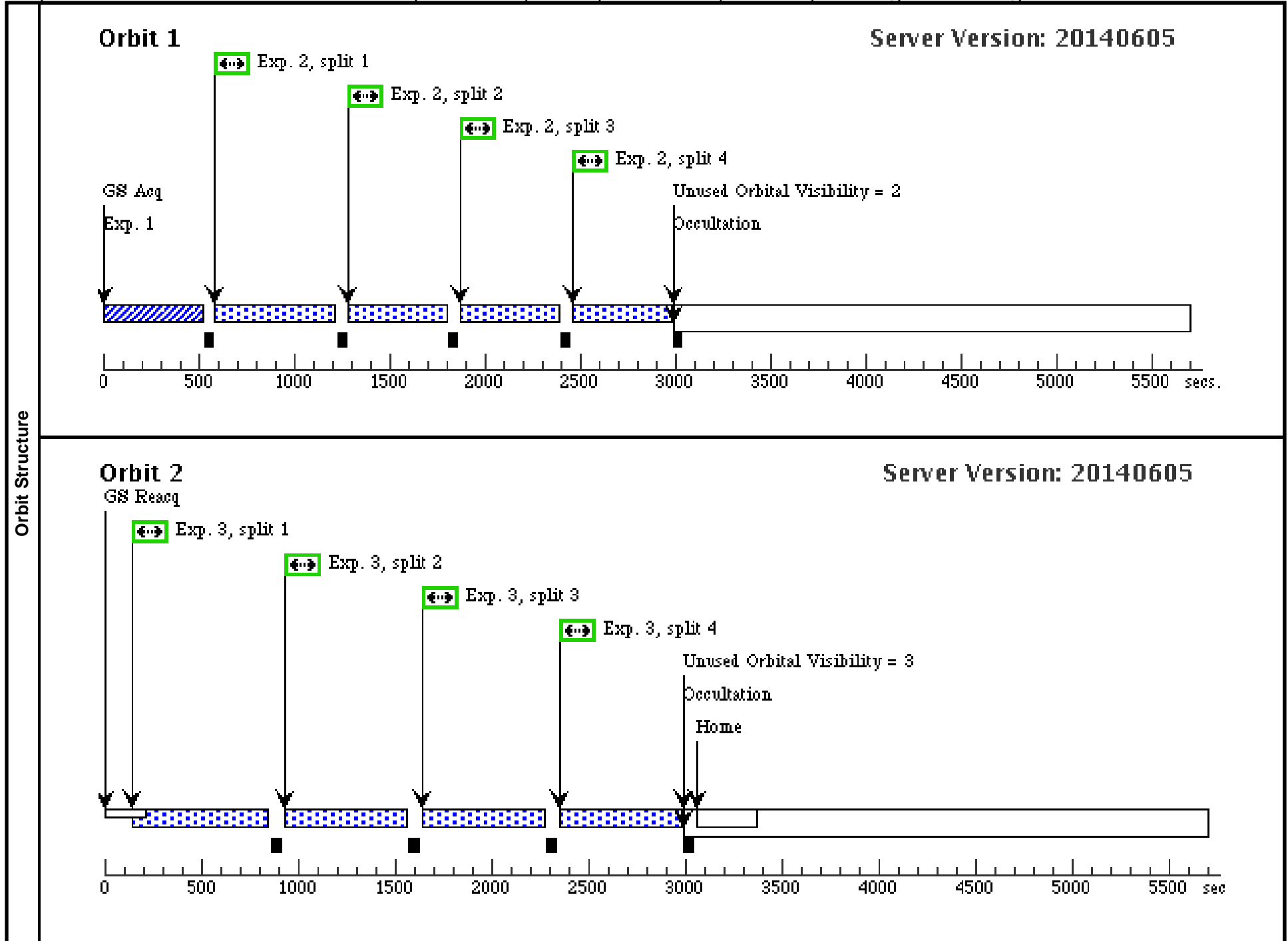




Proposal 13846 - Visit 19 - The COS Absorption Survey of Baryon Harbors (CASBaH): Probing the Circumgalactic Media of Galaxies f...

Fri Jul 25 02:01:44 GMT 2014

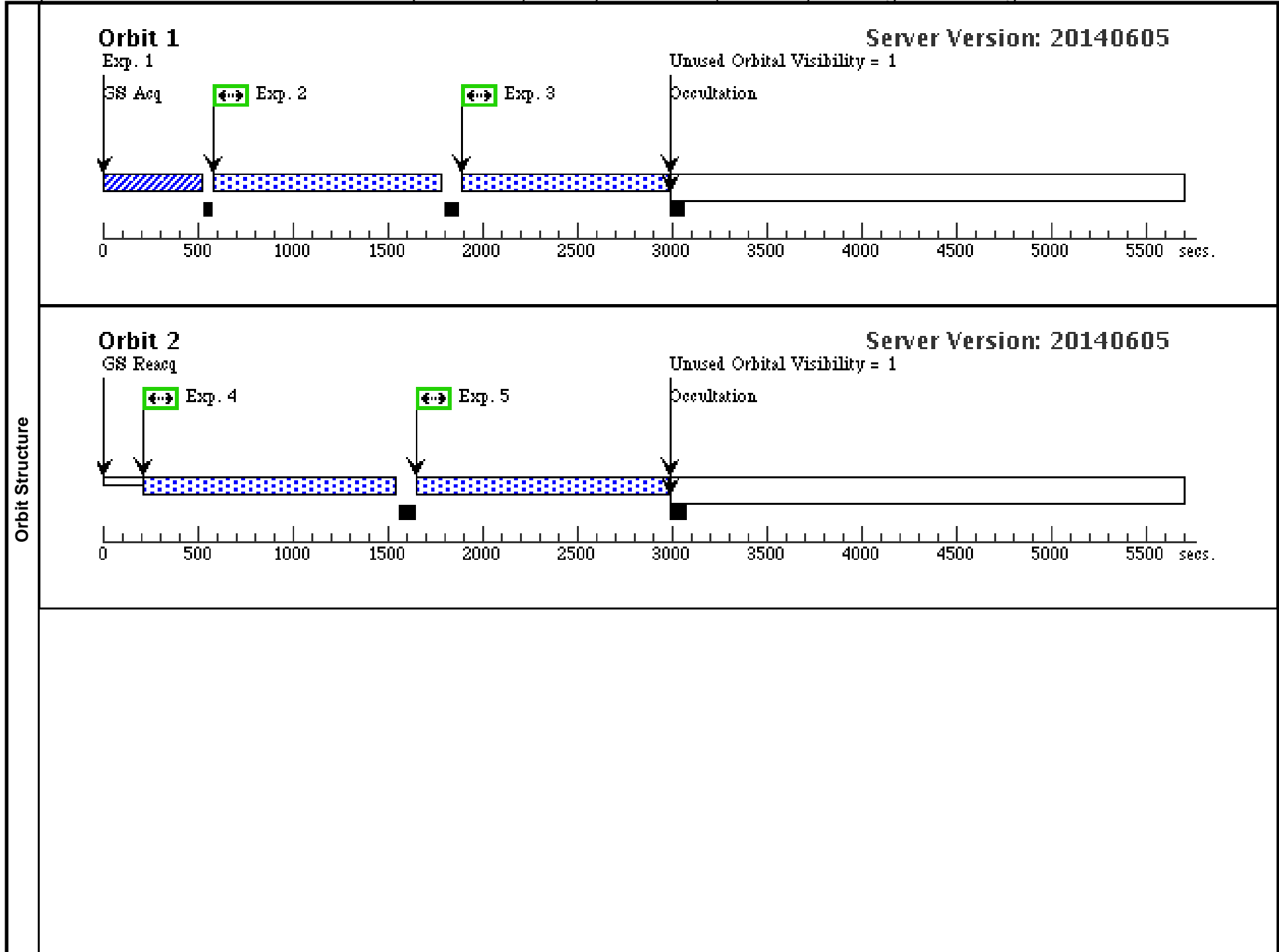
Visit	Proposal 13846, Visit 19 Diagnostic Status: No Diagnostics Scientific Instruments: COS/NUV Special Requirements: SCHED 100%									
	Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous			
	(5)	PG1407+265	RA: 14 09 23.9040 (212.3496000d) Dec: +26 18 21.00 (26.30583d) Equinox: J2000		V=15.7+/-0.1 Flambda(1350) = 9e-15	Reference Frame: ICRS				
	<i>Comments: This object has been successfully observed with HST spectrographs in past cycles. Coordinates are the same as those used in Program 11741.</i>									
Exposures	#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1	(COS.ta.624 628)	(5) PG1407+265	COS/NUV, ACQ/IMAGE, PSA	MIRRORB				45.8 Secs (45.8 Secs)	
									[==>]	[1]
	2	(COS.sp.624 987)	(5) PG1407+265	COS/NUV, TIME-TAG, PSA	G225M 2283 A	BUFFER-TIME=17 75; FP-POS=ALL			502 Secs (2008 Secs)	
								[==>(Split 1)] [==>(Split 2)] [==>(Split 3)] [==>(Split 4)]	[1]	
	3	(COS.sp.624 987)	(5) PG1407+265	COS/NUV, TIME-TAG, PSA	G225M 2250 A	BUFFER-TIME=17 75; FP-POS=ALL			614 Secs (2456 Secs)	
								[==>(Split 1)] [==>(Split 2)] [==>(Split 3)] [==>(Split 4)]	[2]	



Proposal 13846 - Visit 20 - The COS Absorption Survey of Baryon Harbors (CASBaH): Probing the Circumgalactic Media of Galaxies f...

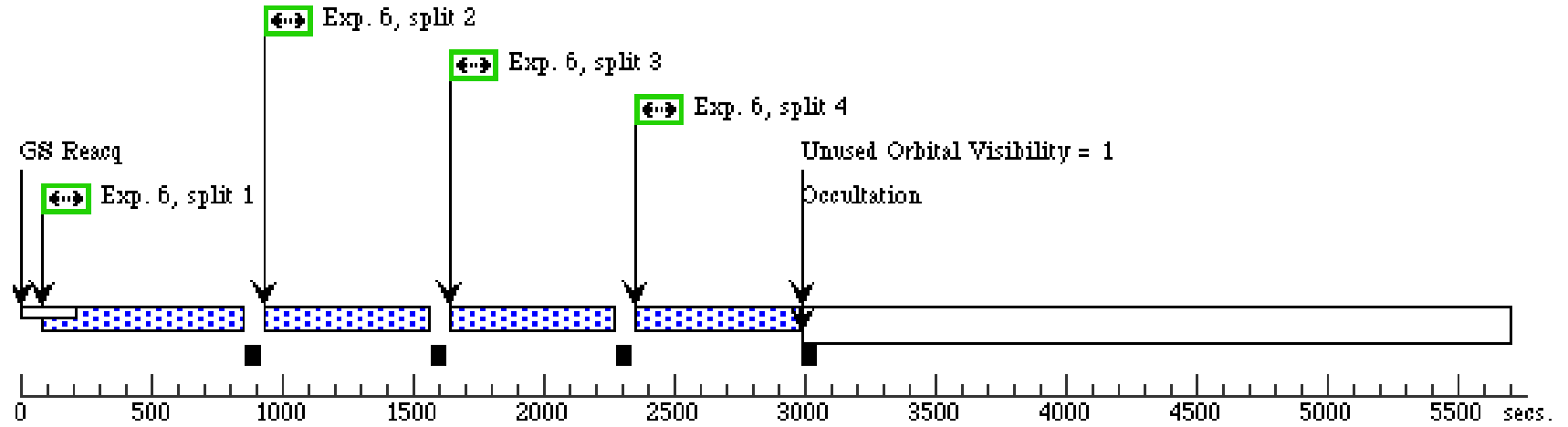
Fri Jul 25 02:01:44 GMT 2014

Visit	Proposal 13846, Visit 20 Diagnostic Status: No Diagnostics Scientific Instruments: COS/NUV Special Requirements: SCHED 100%									
	Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous			
	(8)	FBQS0751+2919	RA: 07 51 12.3070 (117.8012792d) Dec: +29 19 38.36 (29.32732d) Equinox: J2000		V=15.8+/-0.1 Flambda(1350) = 6e-15	Reference Frame: ICRS				
	<i>Comments: This object has been successfully observed with HST spectrographs in past cycles. Coordinates are the same as those used in Program 11741.</i>									
Exposures	#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1	(COS.ta.624 632)	(8) FBQS0751+2919	COS/NUV, ACQ/IMAGE, PSA	MIRRORB				45.2 Secs (45.2 Secs)	
									[==>]	[1]
	2	(COS.sp.624 989)	(8) FBQS0751+2919	COS/NUV, TIME-TAG, PSA	G225M 2217 A	BUFFER-TIME=18 02.0; FP-POS=1			1077 Secs (1077 Secs)	
									[==>]	[1]
	3	(COS.sp.624 989)	(8) FBQS0751+2919	COS/NUV, TIME-TAG, PSA	G225M 2217 A	BUFFER-TIME=18 02.0; FP-POS=2			1077 Secs (1077 Secs)	
									[==>]	[1]
	4	(COS.sp.624 989)	(8) FBQS0751+2919	COS/NUV, TIME-TAG, PSA	G225M 2217 A	BUFFER-TIME=18 02.0; FP-POS=3			1312 Secs (1312 Secs)	
									[==>]	[2]
5	(COS.sp.624 989)	(8) FBQS0751+2919	COS/NUV, TIME-TAG, PSA	G225M 2217 A	BUFFER-TIME=18 02.0; FP-POS=4			1312 Secs (1312 Secs)		
								[==>]	[2]	
6	(COS.sp.624 988)	(8) FBQS0751+2919	COS/NUV, TIME-TAG, PSA	G185M 1921 A	BUFFER-TIME=17 84; FP-POS=ALL			614 Secs (2456 Secs)		
								[==>(Split 1)]		
								[==>(Split 2)]		
								[==>(Split 3)]	[3]	
								[==>(Split 4)]		
7	(COS.sp.624 988)	(8) FBQS0751+2919	COS/NUV, TIME-TAG, PSA	G185M 1953 A	BUFFER-TIME=17 84; FP-POS=ALL			614 Secs (2456 Secs)		
								[==>(Split 1)]		
								[==>(Split 2)]		
								[==>(Split 3)]	[4]	
								[==>(Split 4)]		
8	(COS.sp.624 988)	(8) FBQS0751+2919	COS/NUV, TIME-TAG, PSA	G185M 1986 A	BUFFER-TIME=17 84; FP-POS=ALL			614 Secs (2456 Secs)		
								[==>(Split 1)]		
								[==>(Split 2)]		
								[==>(Split 3)]	[5]	
								[==>(Split 4)]		



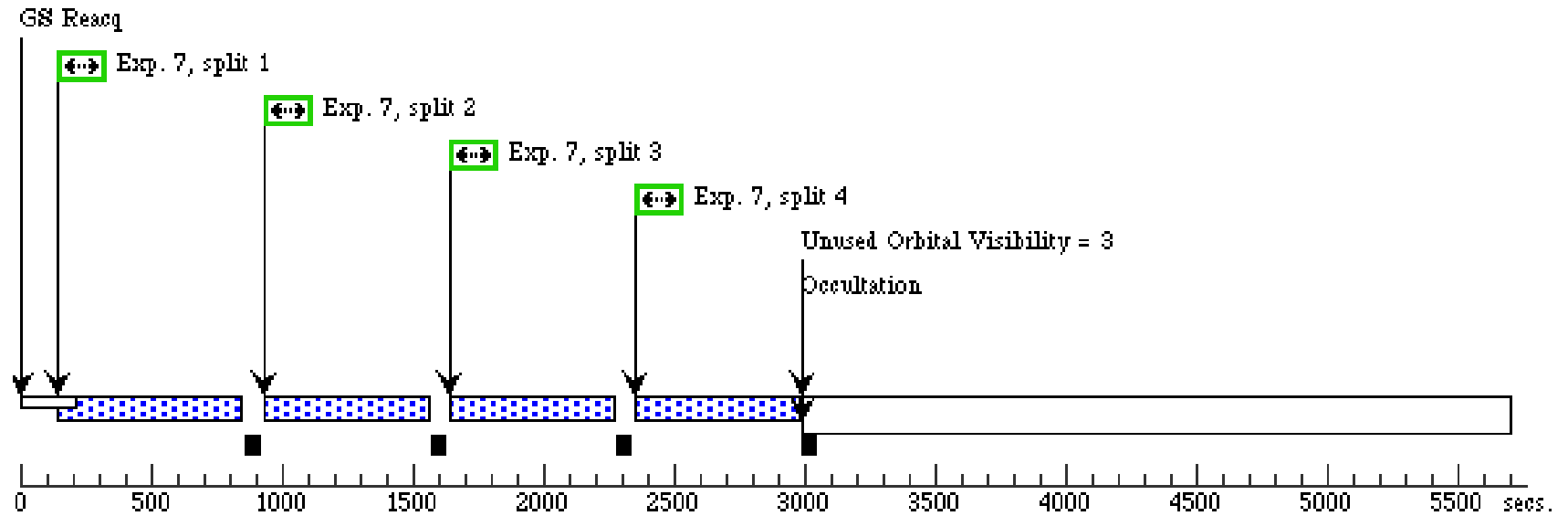
Orbit 3

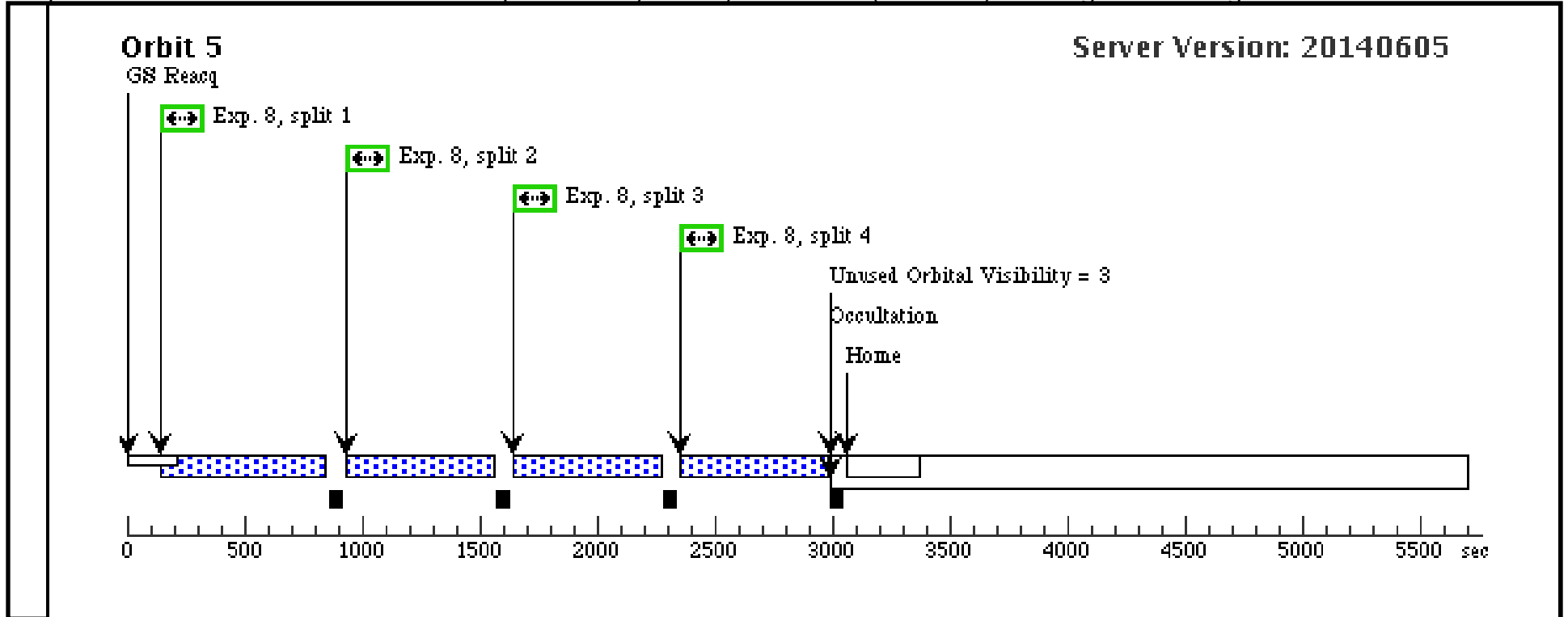
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Orbit 4

Server Version: 20140605

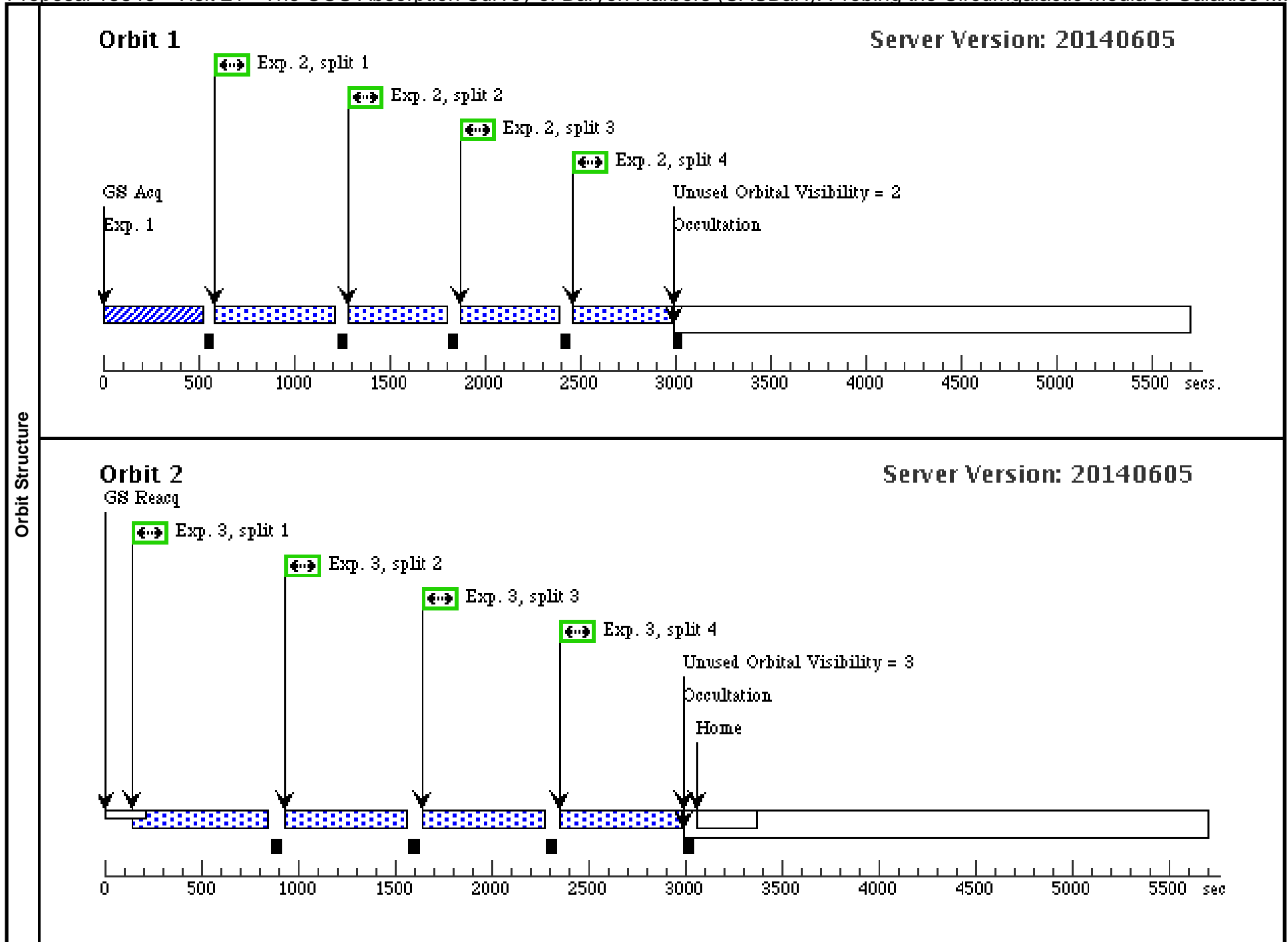




Proposal 13846 - Visit 21 - The COS Absorption Survey of Baryon Harbors (CASBaH): Probing the Circumgalactic Media of Galaxies f...

Fri Jul 25 02:01:44 GMT 2014

Visit	Proposal 13846, Visit 21 Diagnostic Status: No Diagnostics Scientific Instruments: COS/NUV Special Requirements: SCHED 100%									
	Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous			
	(8)	FBQS0751+2919	RA: 07 51 12.3070 (117.8012792d) Dec: +29 19 38.36 (29.32732d) Equinox: J2000		V=15.8+/-0.1 Flambda(1350) = 6e-15	Reference Frame: ICRS				
	<i>Comments: This object has been successfully observed with HST spectrographs in past cycles. Coordinates are the same as those used in Program 11741.</i>									
Exposures	#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1	(COS.ta.624 632)	(8) FBQS0751+2919	COS/NUV, ACQ/IMAGE, PSA	MIRRORB				45.2 Secs (45.2 Secs)	
									[==>]	[1]
	2	(COS.sp.624 989)	(8) FBQS0751+2919	COS/NUV, TIME-TAG, PSA	G225M 2283 A	BUFFER-TIME=18 02; FP-POS=ALL			502 Secs (2008 Secs)	
								[==>(Split 1)] [==>(Split 2)] [==>(Split 3)] [==>(Split 4)]	[1]	
	3	(COS.sp.624 989)	(8) FBQS0751+2919	COS/NUV, TIME-TAG, PSA	G225M 2250 A	BUFFER-TIME=18 02; FP-POS=ALL			614 Secs (2456 Secs)	
								[==>(Split 1)] [==>(Split 2)] [==>(Split 3)] [==>(Split 4)]	[2]	

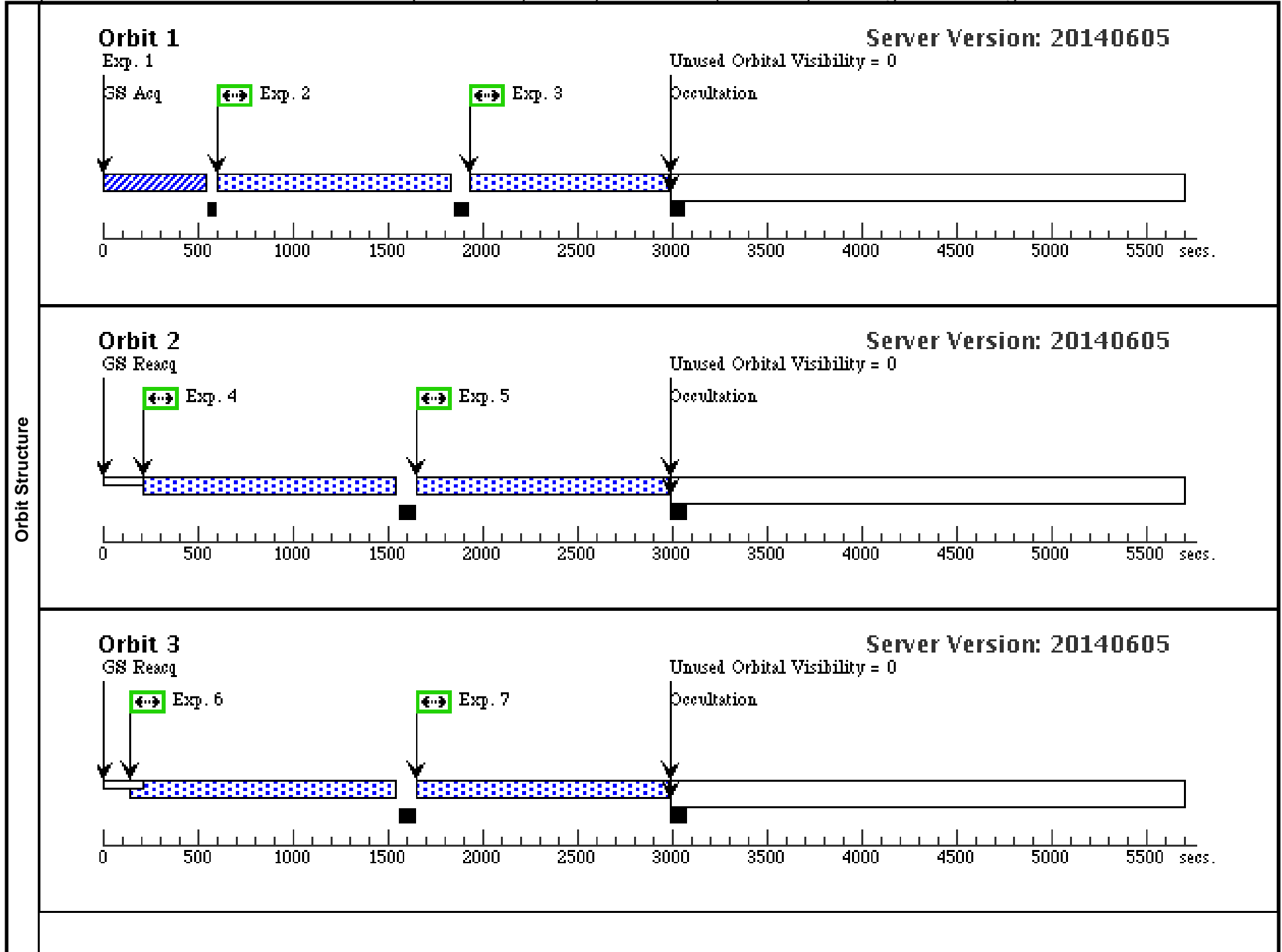


Proposal 13846 - Visit 22 - The COS Absorption Survey of Baryon Harbors (CASBaH): Probing the Circumgalactic Media of Galaxies f...

Visit	Proposal 13846, Visit 22 Fri Jul 25 02:01:44 GMT 2014 Diagnostic Status: No Diagnostics Scientific Instruments: COS/NUV Special Requirements: SCHED 100%					
	Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes
(7)		LBQS1435-0134	RA: 14 37 48.2840 (219.4511833d) Dec: -01 47 10.78 (-1.78633d) Equinox: J2000		V=15.78+/-0.1 Flambda(1350) = 8e-15	Reference Frame: ICRS
<i>Comments: This object has been successfully observed with HST spectrographs in past cycles. Coordinates are the same as those used in Program 11741.</i>						

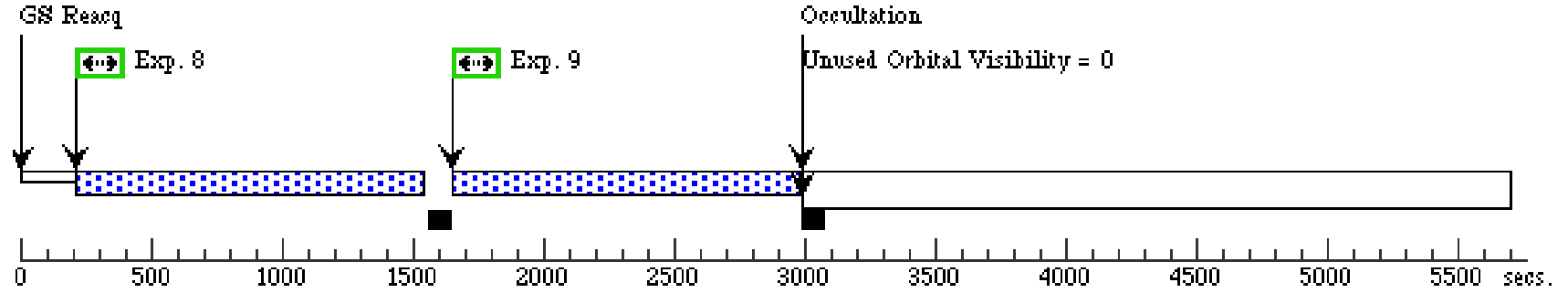
Proposal 13846 - Visit 22 - The COS Absorption Survey of Baryon Harbors (CASBaH): Probing the Circumgalactic Media of Galaxies f...

Exposures	#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit	
	1	(COS.ta.624 634)	(7) LBQS1435-0134	COS/NUV, ACQ/IMAGE, PSA	MIRRORB					55.7 Secs (55.7 Secs)	
									[==>]	[1]	
	2	(COS.sp.624 975)	(7) LBQS1435-0134	COS/NUV, TIME-TAG, PSA	G185M 1986 A	BUFFER-TIME=17 84; FP-POS=1				1033.0 Secs (1033 Secs)	
									[==>]	[1]	
	3	(COS.sp.624 975)	(7) LBQS1435-0134	COS/NUV, TIME-TAG, PSA	G185M 1986 A	BUFFER-TIME=17 84; FP-POS=2				1033.0 Secs (1033 Secs)	
									[==>]	[1]	
	4	(COS.sp.624 975)	(7) LBQS1435-0134	COS/NUV, TIME-TAG, PSA	G185M 1986 A	BUFFER-TIME=17 84; FP-POS=3				1313.0 Secs (1313 Secs)	
									[==>]	[2]	
	5	(COS.sp.624 975)	(7) LBQS1435-0134	COS/NUV, TIME-TAG, PSA	G185M 1986 A	BUFFER-TIME=17 84; FP-POS=4				1312.0 Secs (1312 Secs)	
									[==>]	[2]	
	6	(COS.sp.624 975)	(7) LBQS1435-0134	COS/NUV, TIME-TAG, PSA	G185M 1953 A	BUFFER-TIME=17 84; FP-POS=1				1313.0 Secs (1313 Secs)	
									[==>]	[3]	
7	(COS.sp.624 975)	(7) LBQS1435-0134	COS/NUV, TIME-TAG, PSA	G185M 1953 A	BUFFER-TIME=17 84; FP-POS=2				1312.0 Secs (1312 Secs)		
								[==>]	[3]		
8	(COS.sp.624 975)	(7) LBQS1435-0134	COS/NUV, TIME-TAG, PSA	G185M 1953 A	BUFFER-TIME=17 84; FP-POS=3				1312.0 Secs (1312 Secs)		
								[==>]	[4]		
9	(COS.sp.624 975)	(7) LBQS1435-0134	COS/NUV, TIME-TAG, PSA	G185M 1953 A	BUFFER-TIME=17 84; FP-POS=4				1313.0 Secs (1313 Secs)		
								[==>]	[4]		
10	(COS.sp.624 975)	(7) LBQS1435-0134	COS/NUV, TIME-TAG, PSA	G185M 1921 A	BUFFER-TIME=17 84; FP-POS=1				1313.0 Secs (1313 Secs)		
								[==>]	[5]		
11	(COS.sp.624 975)	(7) LBQS1435-0134	COS/NUV, TIME-TAG, PSA	G185M 1921 A	BUFFER-TIME=17 84; FP-POS=2				1312.0 Secs (1312 Secs)		
								[==>]	[5]		
12	(COS.sp.624 975)	(7) LBQS1435-0134	COS/NUV, TIME-TAG, PSA	G185M 1921 A	BUFFER-TIME=17 84; FP-POS=3				1313.0 Secs (1313 Secs)		
								[==>]	[6]		
13	(COS.sp.624 975)	(7) LBQS1435-0134	COS/NUV, TIME-TAG, PSA	G185M 1921 A	BUFFER-TIME=17 84; FP-POS=4				1312.0 Secs (1312 Secs)		
								[==>]	[6]		



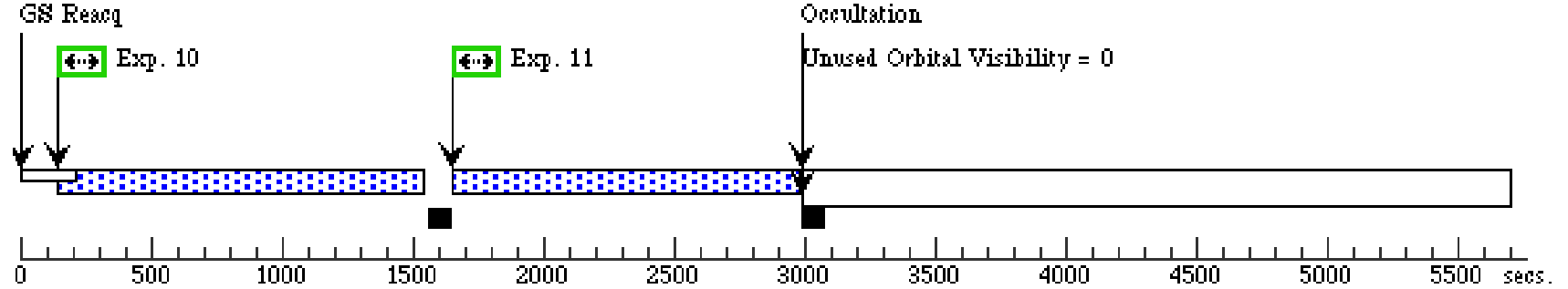
Orbit 4

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Orbit 5

Server Version: 20140605



Orbit 6

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