



# 11592 - Testing the Origin(s) of the Highly Ionized High-Velocity Clouds: A Survey of Galactic Halo Stars at $z > 3$ kpc

Cycle: 17, Proposal Category: GO

(Availability Mode: SUPPORTED)

## INVESTIGATORS

<i>Name</i>	<i>Institution</i>	<i>E-Mail</i>
<b>Dr. Nicolas Lehner (PI)</b>	<b>University of Notre Dame</b>	<b>nlehner@nd.edu</b>
Prof. J. Christopher Howk (CoI)	University of Notre Dame	jhowk@nd.edu
Mr. William Zech (CoI)	University of Notre Dame	wzech@nd.edu

## VISITS

<i>Visit</i>	<i>Targets used in Visit</i>	<i>Configurations used in Visit</i>	<i>Orbits Used</i>	<i>Last Orbit Planner Run</i>	<i>OP Current with Visit?</i>
01	(1) PG0009+036	COS/FUV	1	21-Jan-2010 21:01:18.0	yes
02	(2) PG0934+145	COS/FUV	1	21-Jan-2010 21:01:25.0	yes
03	(3) PG0914+001	COS/FUV	1	21-Jan-2010 21:01:30.0	yes
04	(4) PG0955+291	COS/FUV	1	21-Jan-2010 21:01:34.0	yes
05	(5) PG1002+506	COS/FUV	1	21-Jan-2010 21:01:38.0	yes
06	(6) PG1243+275	COS/FUV	1	21-Jan-2010 21:01:45.0	yes
07	(7) PG1323-086	COS/FUV	1	21-Jan-2010 21:01:51.0	yes
08	(8) PG1704+222	COS/FUV	1	21-Jan-2010 21:01:55.0	yes
09	(9) PG1708+142	COS/FUV	1	21-Jan-2010 21:01:59.0	yes

Proposal 11592 (STScI Edit Number: 11, Created: Thursday, January 21, 2010 9:02:55 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>
10	(10) PG2219+094	STIS/CCD STIS/FUV-MAMA	1	21-Jan-2010 21:02:02.0	yes
11	(11) NGC6723-III60	COS/FUV	1	21-Jan-2010 21:02:06.0	yes
12	(12) NGC104-UIT14-2	COS/FUV	1	21-Jan-2010 21:02:09.0	yes
13	(13) NGC5904-K772	COS/FUV	1	21-Jan-2010 21:02:12.0	yes
14	(14) NGC6341-326	COS/FUV	1	21-Jan-2010 21:02:16.0	yes
15	(15) NGC5824-ZNG1	COS/FUV	1	21-Jan-2010 21:02:20.0	yes
16	(16) PG0122+214	STIS/CCD STIS/FUV-MAMA	1	21-Jan-2010 21:02:22.0	yes
17	(17) PG0832+675	COS/FUV	1	21-Jan-2010 21:02:26.0	yes
18	(18) PG1511+367	STIS/CCD STIS/FUV-MAMA	1	21-Jan-2010 21:02:29.0	yes
19	(19) PG1610+239	COS/FUV	1	21-Jan-2010 21:02:32.0	yes
20	(20) PHL346	STIS/CCD STIS/FUV-MAMA	1	21-Jan-2010 21:02:35.0	yes
21	(21) SB357	COS/FUV	1	21-Jan-2010 21:02:40.0	yes
22	(22) HS1914+7139	COS/FUV	1	21-Jan-2010 21:02:45.0	yes
23	(23) EC10500-1358	COS/FUV	1	21-Jan-2010 21:02:49.0	yes
24	(24) PG0855+294	STIS/CCD STIS/FUV-MAMA	1	21-Jan-2010 21:02:52.0	yes

24 Total Orbits Used

## **ABSTRACT**

Cosmological simulation predicts that highly ionized gas plays an important role in the formation and evolution of galaxies and their interplay with the intergalactic medium. The NASA HST and FUSE missions have revealed high-velocity CIV and OVI absorption along extragalactic sightlines through the Galactic halo. These highly ionized high-velocity clouds (HVCs) could cover 85% of the sky and have a detection rate higher than the HI HVCs. Two competing, equally exciting, theories may explain the origin of these highly ionized HVCs: 1) the "Galactic" theory, where the HVCs are the result of feedback processes and trace the disk-halo mass exchange, perhaps including the accretion of matter condensing from an extended corona; 2) the "Local Group" theory, where they are part of the local warm-hot intergalactic medium, representing some of the missing baryonic matter of the Universe. Only direct distance determinations can discriminate between these models. Our group has found that some of these highly ionized HVCs have a Galactic origin, based on STIS observations of one star at  $z < 5.3$  kpc. We propose an HST FUV spectral survey to search for and characterize the high velocity NV, CIV, and SiIV interstellar absorption toward 24 stars at much larger distances than any previous searches ( $4 < d < 21$  kpc,  $3 < |z| < 13$  kpc). COS will provide atomic to highly ionized species (e.g., OI, CII, CIV, SiIV) that can be observed at sufficient resolution ( $R \sim 22,000$ ) to not only detect these highly ionized HVCs but also to model their properties and understand their physics and origins. This survey is only possible because of the high sensitivity of COS in the FUV spectral range.

## **OBSERVING DESCRIPTION**

In order to achieve the goals of our study we need to measure the equivalent widths, column densities, kinematics of the high ions (CIV 1548, 1550, SiIV 1393, 1402, and NV 1238, 1242) and determine the relationship between high and low ions and atomic species (O I 1302, N I 1199, 1201, Si II 1304, 1526, Fe II 1608, etc). These species are available in the COS G130M and G160M and STIS E140M bandwidths. The absorption of these ions will be observed in the stars for which the distances are known. Stars in our sample satisfy the main criteria that they are at high  $z > 3$  kpc with known and accurate distances, suitable for interstellar studies, can be observed with COS or STIS, and are bright enough to achieve  $S/N > 15-20$ . STIS E140M will only be used for targets that may be too bright for COS.

For 13 of the stars, the UV flux was directly estimated from previous FUV observations. For another 5 stars, GALEX FUV magnitudes are available. Comparison between the flux derived from GALEX and the flux observed by HST, FUSE, IUE, or HUT shows that the GALEX fluxes are only accurate to a factor 2. We therefore also employ the stellar parameters to derive the exposure times (see below). Those estimates are in good

agreement. However, because of the uncertainty in the fluxes, two stars (PG1511+367 and PG0855+294) may be too bright for COS and hence are STIS E140M targets.

For field stars with no available FUV flux, we estimated the flux using the COS/STIS ETC with the temperature and reddening summarized in Target Description and ETC outputs, assuming the stars are on the main sequence. Most field stars have large  $v \sin(i)$  consistent with main sequence B-type stars. We note that detailed model atmosphere analyses of the halo B-type spectra have provided reliable atmospheric parameters. We estimated that 19 stars could be observed with COS. For the remaining 5, we propose STIS E140M observations, which will have the same wavelength coverage and S/N, but will also provide a better resolution. Following the TAC recommendations, if STIS is not repaired, only the COS target list should be observed.

For the brightest COS targets, our strategy is to divide the exposures in two subexposures in each segment. Following our contact scientist, we chose to select different central wavelengths rather than using FP-POS. Our setting allows us to have the high ions to be present in at least two different settings allowing us to reach  $S/N > \sim 30$  and to have a nearly full coverage of the COS G130M and G160M wavelength. For the faintest targets, our setting will allow us to combine G130M and G160M observations to increase the S/N to  $> \sim 15$  near the SiIV doublet lines.

#### **REAL TIME JUSTIFICATION**

Not applicable.

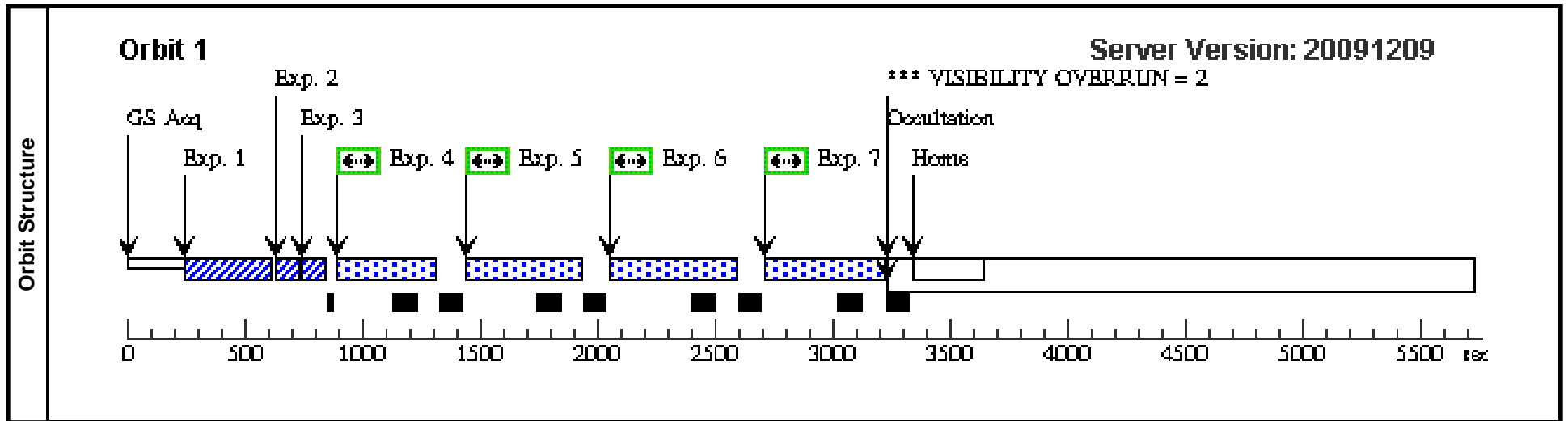
#### **CALIBRATION JUSTIFICATION**

(See Observing description.)

Proposal 11592 - Visit 01 - Testing the Origin(s) of the Highly Ionized High-Velocity Clouds: A Survey of Galactic Ha...

Fri Jan 22 02:02:56 GMT 2010

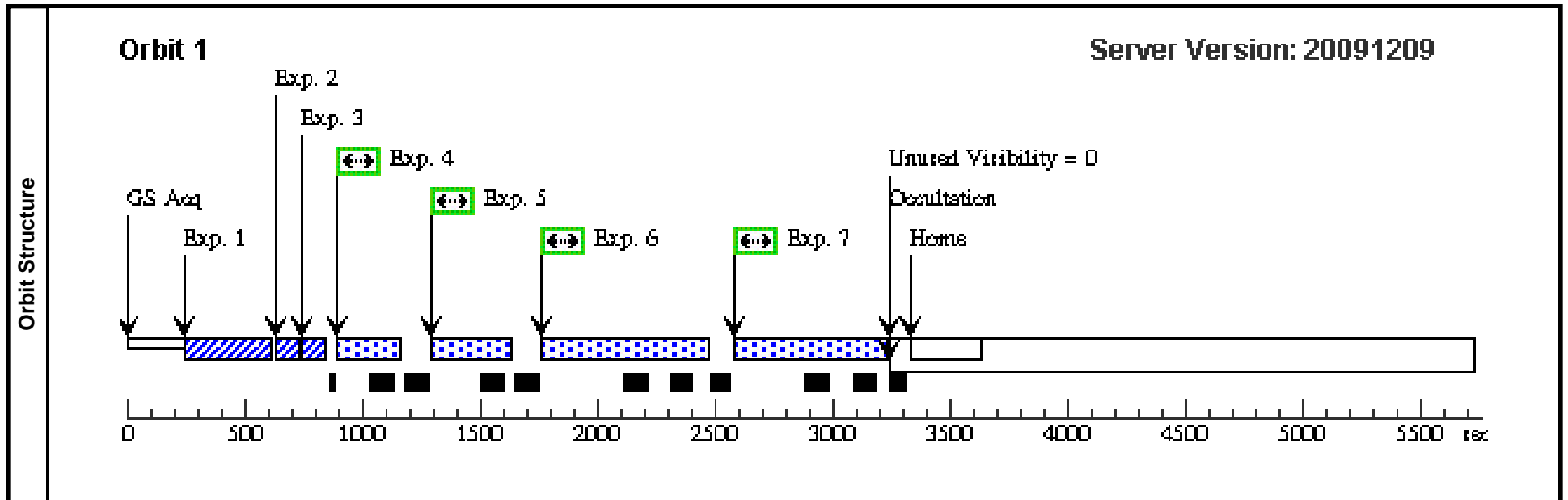
<b>Visit</b>	<b>Proposal 11592, Visit 01, completed</b> <b>Diagnostic Status: Warning</b> Scientific Instruments: COS/FUV Special Requirements: (none)									
	(Visit 01) Warning (Orbit Planner): VISIBILITY OVERRUN									
<b>Diagnosics</b>										
<b>Fixed Targets</b>	<b>#</b>	<b>Name</b>	<b>Target Coordinates</b>	<b>Targ. Coord. Corrections</b>	<b>Fluxes</b>	<b>Miscellaneous</b>				
	(1)	PG0009+036	RA: 00 12 27.7670 (3.1156958d) Dec: +03 54 31.67 (3.90880d) Equinox: J2000		V=13.155+/-0.1 F=(1.3-2)E-13 CGS (IUE)	Reference Frame: ICRS				
<i>Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.</i>										
<b>Exposures</b>	<b>#</b>	<b>Label</b>	<b>Target</b>	<b>Config,Mode,Aperture</b>	<b>Spectral Els.</b>	<b>Opt. Params.</b>	<b>Special Reqs.</b>	<b>Groups</b>	<b>Exp. Time/[Actual Dur.]</b>	<b>Orbit</b>
	1	(1) PG0009+036		COS/FUV, ACQ/SEARCH, PSA	G130M 1291 A	SCAN-SIZE=3; CENTER=FLUX-W T			0.2 Secs [==>]	[1]
	2	(1) PG0009+036		COS/FUV, ACQ/PEAKXD, PSA	G130M 1291 A				0.2 Secs [==>]	[1]
	3	(1) PG0009+036		COS/FUV, ACQ/PEAKD, PSA	G130M 1291 A	STEP-SIZE=1.2			0.2 Secs [==>]	[1]
	4	(1) PG0009+036		COS/FUV, TIME-TAG, PSA	G130M 1291 A	BUFFER-TIME=20 3; FLASH=YES			370 Secs [==>]	[1]
	5	(1) PG0009+036		COS/FUV, TIME-TAG, PSA	G130M 1327 A	BUFFER-TIME=20 3; FLASH=YES			370 Secs [==>]	[1]
	6	(1) PG0009+036		COS/FUV, TIME-TAG, PSA	G160M 1577 A	BUFFER-TIME=20 8; FLASH=YES			375 Secs [==>]	[1]
	7	(1) PG0009+036		COS/FUV, TIME-TAG, PSA	G160M 1589 A	BUFFER-TIME=20 8; FLASH=YES			382 Secs [==>]	[1]



Proposal 11592 - Visit 02 - Testing the Origin(s) of the Highly Ionized High-Velocity Clouds: A Survey of Galactic Ha...

Fri Jan 22 02:02:56 GMT 2010

Visit	<b>Proposal 11592, Visit 02, implementation</b> <b>Diagnostic Status: No Diagnostics</b> Scientific Instruments: COS/FUV Special Requirements: (none)									
	Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous			
	(2)	PG0934+145	RA: 09 37 3.9111 (144.2662962d) Dec: +14 18 21.57 (14.30599d) Equinox: J2000		V=13.4 13.23 (B)	Reference Frame: ICRS				
	<i>Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.</i>									
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
	1	(2) PG0934+145		COS/FUV, ACQ/SEARCH, PSA	G130M 1291 A	SCAN-SIZE=3; CENTER=FLUX-W T	GS ACQ SCENARI O BASE1B3		0.3 Secs [==>]	[1]
	2	(2) PG0934+145		COS/FUV, ACQ/PEAKXD, PSA	G130M 1291 A				0.3 Secs [==>]	[1]
	3	(2) PG0934+145		COS/FUV, ACQ/PEAKD, PSA	G130M 1291 A	STEP-SIZE=1.2			0.3 Secs [==>]	[1]
	4	(2) PG0934+145		COS/FUV, TIME-TAG, PSA	G130M 1291 A	BUFFER-TIME=10 8; FLASH=YES			284 Secs [==>216.0 Secs ]	[1]
	5	(2) PG0934+145		COS/FUV, TIME-TAG, PSA	G130M 1327 A	BUFFER-TIME=10 8; FLASH=YES			284 Secs [==>216.0 Secs ]	[1]
	6	(2) PG0934+145		COS/FUV, TIME-TAG, PSA	G160M 1577 A	BUFFER-TIME=20 0; FLASH=YES			284 Secs [==>543.0 Secs ]	[1]
	7	(2) PG0934+145		COS/FUV, TIME-TAG, PSA	G160M 1589 A	BUFFER-TIME=20 0; FLASH=YES			284 Secs [==>522.0 Secs ]	[1]

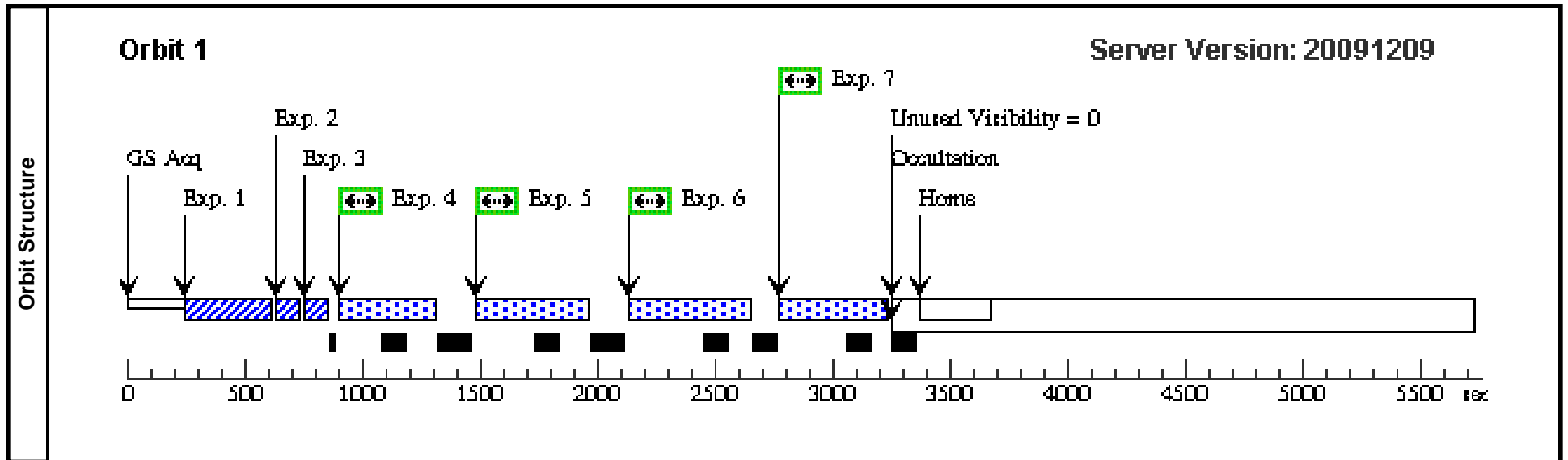


<b>Visit</b>	<b>Proposal 11592, Visit 03, implementation</b> Diagnostic Status: No Diagnostics Scientific Instruments: COS/FUV Special Requirements: (none)										
	<b>Fixed Targets</b>	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous				
(3)		PG0914+001	RA: 09 17 12.2388 (139.3009950d) Dec: -00 08 38.63 (-.14406d) Equinox: J2000		V=14.74 14.54 (B) ; GALEX FUV_MAG = 15.29 +/- 0.03 (F=4e-14 CGS)	Reference Frame: ICRS					
<i>Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.</i>											
<b>Exposures</b>	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit	
	1	(3) PG0914+001		COS/FUV, ACQ/SEARCH, PSA	G130M 1327 A	SCAN-SIZE=3; CENTER=FLUX-W T			2.2 Secs [==>]	[1]	
	2	(3) PG0914+001		COS/FUV, ACQ/PEAKXD, PSA	G130M 1327 A				2.2 Secs [==>]	[1]	
	3	(3) PG0914+001		COS/FUV, ACQ/PEAKD, PSA	G130M 1327 A	STEP-SIZE=1.2			2.2 Secs [==>]	[1]	
	4	(3) PG0914+001		COS/FUV, TIME-TAG, PSA	G130M 1327 A	BUFFER-TIME=98 2; FLASH=YES			1097 Secs [==>908.0 Secs ]	[1]	
	5	(3) PG0914+001		COS/FUV, TIME-TAG, PSA	G160M 1577 A	BUFFER-TIME=11 90; FLASH=YES			1234 Secs [==>1042.0 Secs ]	[1]	
<b>Orbit Structure</b>	<div style="display: flex; justify-content: space-between;"> <span><b>Orbit 1</b></span> <span><b>Server Version: 20091209</b></span> </div> <p>The diagram illustrates the orbit structure over a 5500-second period. It shows the timing of various activities: GS Acq (0s), five exposures (Exp. 1-5) with different patterns, and a Home sequence. A significant portion of the orbit (from ~3300s to 5500s) is marked as 'Unused Visibility = 0' and 'Occultation'. The x-axis is labeled 'sec' and ranges from 0 to 5500.</p>										

Proposal 11592 - Visit 03 - Testing the Origin(s) of the Highly Ionized High-Velocity Clouds: A Survey of Galactic Ha...

Fri Jan 22 02:02:58 GMT 2010

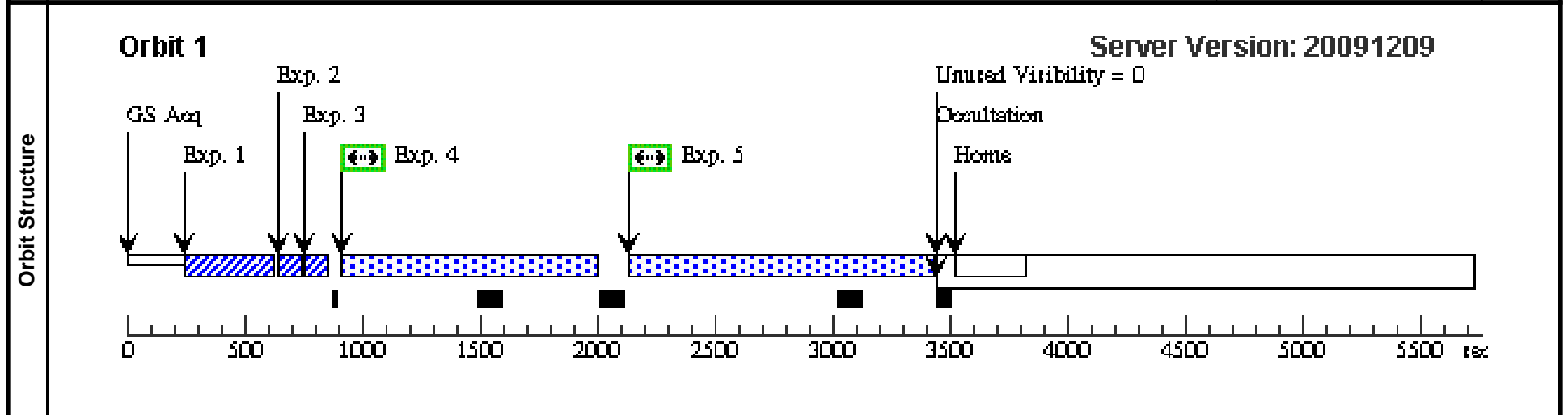
Visit	<b>Proposal 11592, Visit 04, implementation</b> <b>Diagnostic Status: No Diagnostics</b> Scientific Instruments: COS/FUV Special Requirements: (none)									
	Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous			
	(4)	PG0955+291	RA: 09 58 15.1400 (149.5630833d) Dec: +28 52 33.20 (28.87589d) Equinox: J2000			V=12.88 12.68 (B); GALEX FUV_MAG = 13.56 (F=2E-13 CGS)	Reference Frame: ICRS	<i>Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.</i>		
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
	1		(4) PG0955+291	COS/FUV, ACQ/SEARCH, PSA	G130M 1291 A	SCAN-SIZE=3; CENTER=FLUX-W T			1 Secs [==>]	[1]
	2		(4) PG0955+291	COS/FUV, ACQ/PEAKXD, PSA	G130M 1291 A				1 Secs [==>]	[1]
	3		(4) PG0955+291	COS/FUV, ACQ/PEAKD, PSA	G130M 1291 A	STEP-SIZE=1.2			1 Secs [==>]	[1]
	4		(4) PG0955+291	COS/FUV, TIME-TAG, PSA	G130M 1291 A	BUFFER-TIME=14 9; FLASH=YES			387 Secs [==>355.0 Secs ]	[1]
	5		(4) PG0955+291	COS/FUV, TIME-TAG, PSA	G130M 1327 A	BUFFER-TIME=14 9; FLASH=YES			387 Secs [==>357.0 Secs ]	[1]
	6		(4) PG0955+291	COS/FUV, TIME-TAG, PSA	G160M 1577 A	BUFFER-TIME=17 7; FLASH=YES			387 Secs [==>354.0 Secs ]	[1]
	7		(4) PG0955+291	COS/FUV, TIME-TAG, PSA	G160M 1589 A	BUFFER-TIME=17 7; FLASH=YES			389 Secs [==>340.0 Secs ]	[1]



<b>Visit</b>	<b>Proposal 11592, Visit 05, implementation</b>				
	<b>Diagnostic Status: No Diagnostics</b>				
	Scientific Instruments: COS/FUV				
	Special Requirements: (none)				

<b>Fixed Targets</b>	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
	(5)	PG1002+506	RA: 10 05 29.2400 (151.3718333d) Dec: +50 20 40.10 (50.34447d) Equinox: J2000		V=15.56+/-0.1 F=(2-4)E-14 CGS (IUE)	Reference Frame: ICRS
<i>Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.</i>						

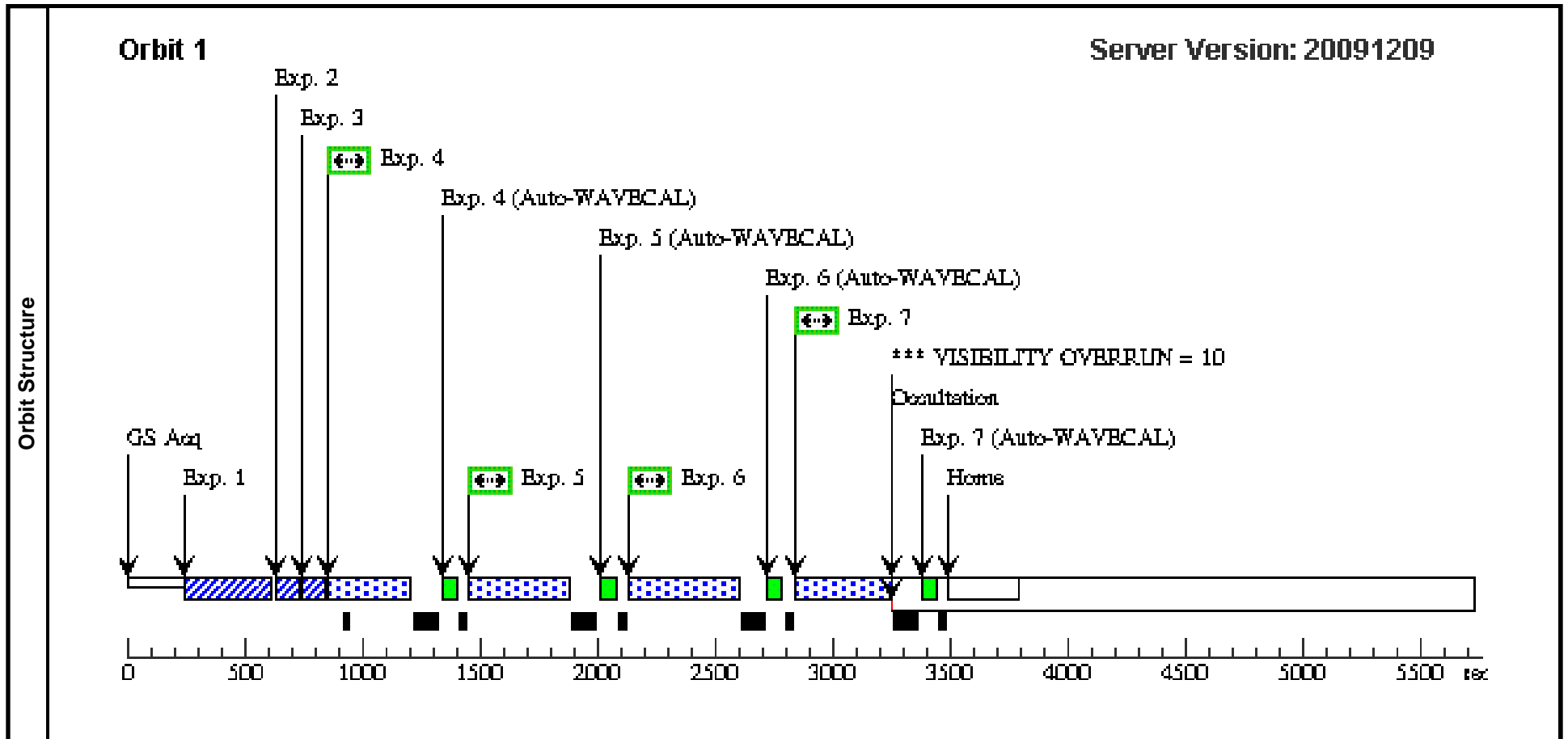
<b>Exposures</b>	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
	1	(5) PG1002+506		COS/FUV, ACQ/SEARCH, PSA	G130M 1327 A	SCAN-SIZE=3; CENTER=FLUX-W T			1.2 Secs [==>]	[1]
	2	(5) PG1002+506		COS/FUV, ACQ/PEAKXD, PSA	G130M 1327 A				1.2 Secs [==>]	[1]
	3	(5) PG1002+506		COS/FUV, ACQ/PEAKD, PSA	G130M 1327 A	STEP-SIZE=1.2			1.2 Secs [==>]	[1]
	4	(5) PG1002+506		COS/FUV, TIME-TAG, PSA	G130M 1327 A	BUFFER-TIME=54 8; FLASH=YES			500 Secs [==>1041.0 Secs ]	[1]
5	(5) PG1002+506		COS/FUV, TIME-TAG, PSA	G160M 1577 A	BUFFER-TIME=74 7; FLASH=YES			600 Secs [==>1133.0 Secs ]	[1]	



Proposal 11592 - Visit 05 - Testing the Origin(s) of the Highly Ionized High-Velocity Clouds: A Survey of Galactic Ha...

Fri Jan 22 02:02:58 GMT 2010

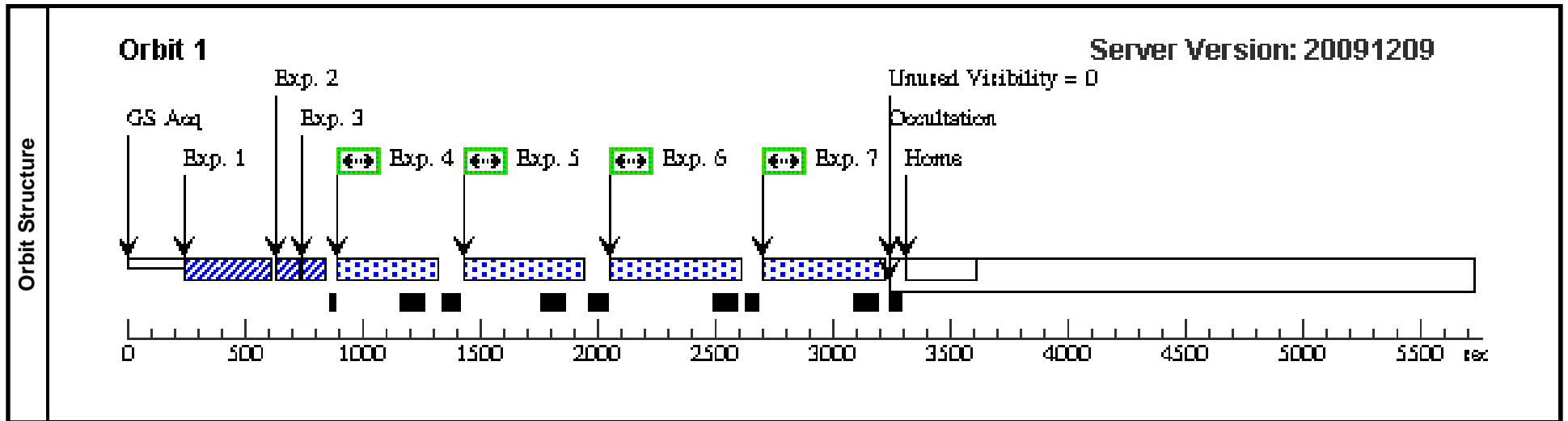
<b>Visit</b>	<b>Proposal 11592, Visit 06, scheduling</b> <b>Diagnostic Status: Warning</b> Scientific Instruments: COS/FUV Special Requirements: (none)									
	(Visit 06) Warning (Orbit Planner): VISIBILITY OVERRUN									
<b>Diagnosics</b>										
<b>Fixed Targets</b>	<b>#</b>	<b>Name</b>	<b>Target Coordinates</b>	<b>Targ. Coord. Corrections</b>	<b>Fluxes</b>	<b>Miscellaneous</b>				
	(6)	PG1243+275	RA: 12 46 14.3700 (191.5598750d) Dec: +27 15 8.52 (27.25237d) Equinox: J2000		V=14.12+/-0.10 F=50E-14 CGS (FUSE)	Reference Frame: ICRS				
<i>Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.</i>										
<b>Exposures</b>	<b>#</b>	<b>Label</b>	<b>Target</b>	<b>Config,Mode,Aperture</b>	<b>Spectral Els.</b>	<b>Opt. Params.</b>	<b>Special Reqs.</b>	<b>Groups</b>	<b>Exp. Time/[Actual Dur.]</b>	<b>Orbit</b>
	1	(6) PG1243+275		COS/FUV, ACQ/SEARCH, PSA	G130M 1291 A	SCAN-SIZE=3; CENTER=FLUX-W T	GS ACQ SCENARI O BASE1B3		0.1 Secs [==>]	[1]
	2	(6) PG1243+275		COS/FUV, ACQ/PEAKXD, PSA	G130M 1291 A				0.1 Secs [==>]	[1]
	3	(6) PG1243+275		COS/FUV, ACQ/PEAKD, PSA	G130M 1291 A	STEP-SIZE=1.2			0.1 Secs [==>]	[1]
	4	(6) PG1243+275		COS/FUV, ACCUM, PSA	G130M 1291 A				388 Secs [==>298.0 Secs ]	[1]
	5	(6) PG1243+275		COS/FUV, ACCUM, PSA	G130M 1327 A				388 Secs [==>298.0 Secs ]	[1]
	6	(6) PG1243+275		COS/FUV, ACCUM, PSA	G160M 1577 A				388 Secs [==>298.0 Secs ]	[1]
	7	(6) PG1243+275		COS/FUV, ACCUM, PSA	G160M 1589 A				389 Secs [==>284.0 Secs ]	[1]



Proposal 11592 - Visit 07 - Testing the Origin(s) of the Highly Ionized High-Velocity Clouds: A Survey of Galactic Ha...

Fri Jan 22 02:02:59 GMT 2010

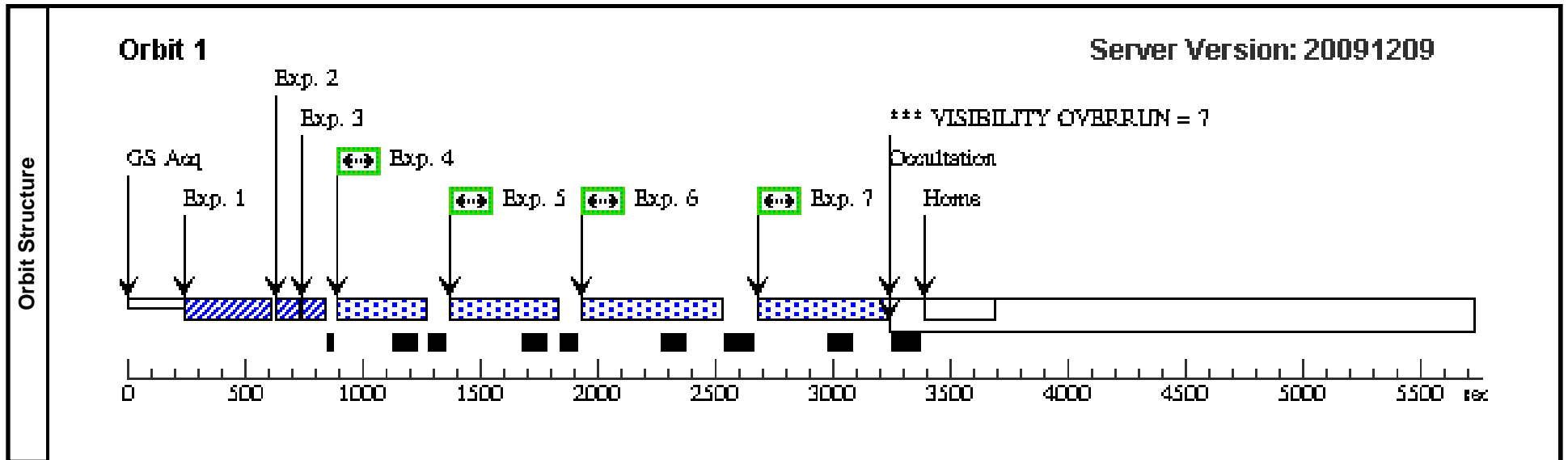
Visit	<b>Proposal 11592, Visit 07, implementation</b> <b>Diagnostic Status: No Diagnostics</b> Scientific Instruments: COS/FUV Special Requirements: (none)									
	Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous			
	(7)	PG1323-086	RA: 13 25 39.4700 (201.4144583d) Dec: -08 49 19.10 (-8.82197d) Equinox: J2000		V=14.6+/-0.2 F=(12-15)E-14 CGS (IUE)	Reference Frame: ICRS				
	<i>Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.</i>									
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
	1		(7) PG1323-086	COS/FUV, ACQ/SEARCH, PSA	G130M 1291 A	SCAN-SIZE=3; CENTER=FLUX-W T			0.3 Secs [==>]	[1]
	2		(7) PG1323-086	COS/FUV, ACQ/PEAKXD, PSA	G130M 1291 A				0.3 Secs [==>]	[1]
	3		(7) PG1323-086	COS/FUV, ACQ/PEAKD, PSA	G130M 1291 A	STEP-SIZE=1.2			0.3 Secs [==>]	[1]
	4		(7) PG1323-086	COS/FUV, TIME-TAG, PSA	G130M 1291 A	BUFFER-TIME=23 0; FLASH=YES			378 Secs [==>]	[1]
	5		(7) PG1323-086	COS/FUV, TIME-TAG, PSA	G130M 1327 A	BUFFER-TIME=23 0; FLASH=YES			391 Secs [==>]	[1]
	6		(7) PG1323-086	COS/FUV, TIME-TAG, PSA	G160M 1577 A	BUFFER-TIME=28 9; FLASH=YES			400 Secs [==>]	[1]
	7		(7) PG1323-086	COS/FUV, TIME-TAG, PSA	G160M 1589 A	BUFFER-TIME=28 9; FLASH=YES			400 Secs [==>]	[1]



Proposal 11592 - Visit 08 - Testing the Origin(s) of the Highly Ionized High-Velocity Clouds: A Survey of Galactic Ha...

Fri Jan 22 02:02:59 GMT 2010

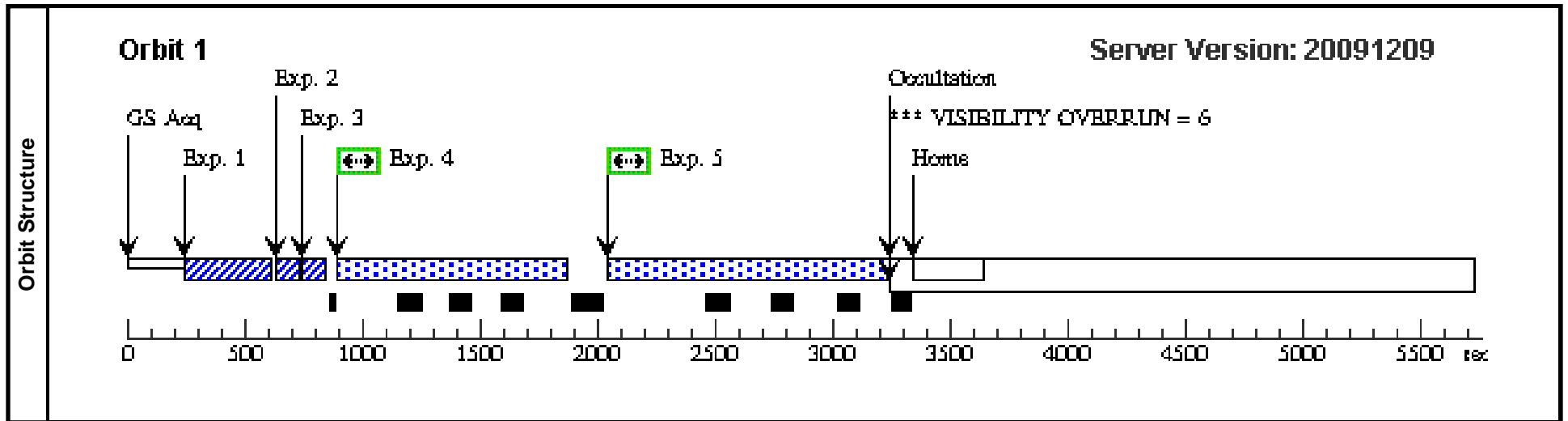
<b>Visit</b>	<b>Proposal 11592, Visit 08, completed</b> <b>Diagnostic Status: Warning</b> Scientific Instruments: COS/FUV Special Requirements: (none)									
	(Visit 08) Warning (Orbit Planner): VISIBILITY OVERRUN									
<b>Diagnosics</b>										
<b>Fixed Targets</b>	<b>#</b>	<b>Name</b>	<b>Target Coordinates</b>	<b>Targ. Coord. Corrections</b>	<b>Fluxes</b>	<b>Miscellaneous</b>				
	(8)	PG1704+222	RA: 17 06 46.1700 (256.6923750d) Dec: +22 05 52.10 (22.09781d) Equinox: J2000		V=12.74+/-0.1 F=2E-13 CGS (HUT)	Reference Frame: ICRS				
<i>Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.</i>										
<b>Exposures</b>	<b>#</b>	<b>Label</b>	<b>Target</b>	<b>Config,Mode,Aperture</b>	<b>Spectral Els.</b>	<b>Opt. Params.</b>	<b>Special Reqs.</b>	<b>Groups</b>	<b>Exp. Time/[Actual Dur.]</b>	<b>Orbit</b>
	1	(8) PG1704+222		COS/FUV, ACQ/SEARCH, PSA	G130M 1291 A	SCAN-SIZE=3; CENTER=FLUX-W T			0.2 Secs [==>]	[1]
	2	(8) PG1704+222		COS/FUV, ACQ/PEAKXD, PSA	G130M 1291 A				0.2 Secs [==>]	[1]
	3	(8) PG1704+222		COS/FUV, ACQ/PEAKD, PSA	G130M 1291 A	STEP-SIZE=1.2			0.2 Secs [==>]	[1]
	4	(8) PG1704+222		COS/FUV, TIME-TAG, PSA	G130M 1291 A	BUFFER-TIME=20 0; FLASH=YES			350 Secs [==>325.0 Secs ]	[1]
	5	(8) PG1704+222		COS/FUV, TIME-TAG, PSA	G130M 1327 A	BUFFER-TIME=20 0; FLASH=YES			357 Secs [==>332.0 Secs ]	[1]
	6	(8) PG1704+222		COS/FUV, TIME-TAG, PSA	G160M 1577 A	BUFFER-TIME=20 0; FLASH=YES			460 Secs [==>435.0 Secs ]	[1]
	7	(8) PG1704+222		COS/FUV, TIME-TAG, PSA	G160M 1589 A	BUFFER-TIME=20 0; FLASH=YES			460 Secs [==>435.0 Secs ]	[1]



Proposal 11592 - Visit 09 - Testing the Origin(s) of the Highly Ionized High-Velocity Clouds: A Survey of Galactic Ha...

Fri Jan 22 02:02:59 GMT 2010

<b>Visit</b>	<b>Proposal 11592, Visit 09, completed</b> <b>Diagnostic Status: Warning</b> Scientific Instruments: COS/FUV Special Requirements: (none)									
	(Visit 09) Warning (Orbit Planner): VISIBILITY OVERRUN									
<b>Diagnosics</b>										
<b>Fixed Targets</b>	<b>#</b>	<b>Name</b>	<b>Target Coordinates</b>	<b>Targ. Coord. Corrections</b>	<b>Fluxes</b>	<b>Miscellaneous</b>				
	(9)	PG1708+142	RA: 17 11 17.5100 (257.8229583d) Dec: +14 08 43.98 (14.14555d) Equinox: J2000		V=13.73+/-0.10 GALEX MAG_FUV = 15.00 +/- 0.02 (F=5E-14 CGS)	Reference Frame: ICRS				
<i>Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.</i>										
<b>Exposures</b>	<b>#</b>	<b>Label</b>	<b>Target</b>	<b>Config,Mode,Aperture</b>	<b>Spectral Els.</b>	<b>Opt. Params.</b>	<b>Special Reqs.</b>	<b>Groups</b>	<b>Exp. Time/[Actual Dur.]</b>	<b>Orbit</b>
	1	(9) PG1708+142		COS/FUV, ACQ/SEARCH, PSA	G130M 1327 A	SCAN-SIZE=3; CENTER=FLUX-W T			0.3 Secs [==>]	[1]
	2	(9) PG1708+142		COS/FUV, ACQ/PEAKXD, PSA	G130M 1327 A				0.2 Secs [==>]	[1]
	3	(9) PG1708+142		COS/FUV, ACQ/PEAKD, PSA	G130M 1327 A	STEP-SIZE=1.2			0.3 Secs [==>]	[1]
	4	(9) PG1708+142		COS/FUV, TIME-TAG, PSA	G130M 1327 A	BUFFER-TIME=21 9; FLASH=YES			930 Secs [==>]	[1]
	5	(9) PG1708+142		COS/FUV, TIME-TAG, PSA	G160M 1577 A	BUFFER-TIME=28 1; FLASH=YES			1033 Secs [==>]	[1]

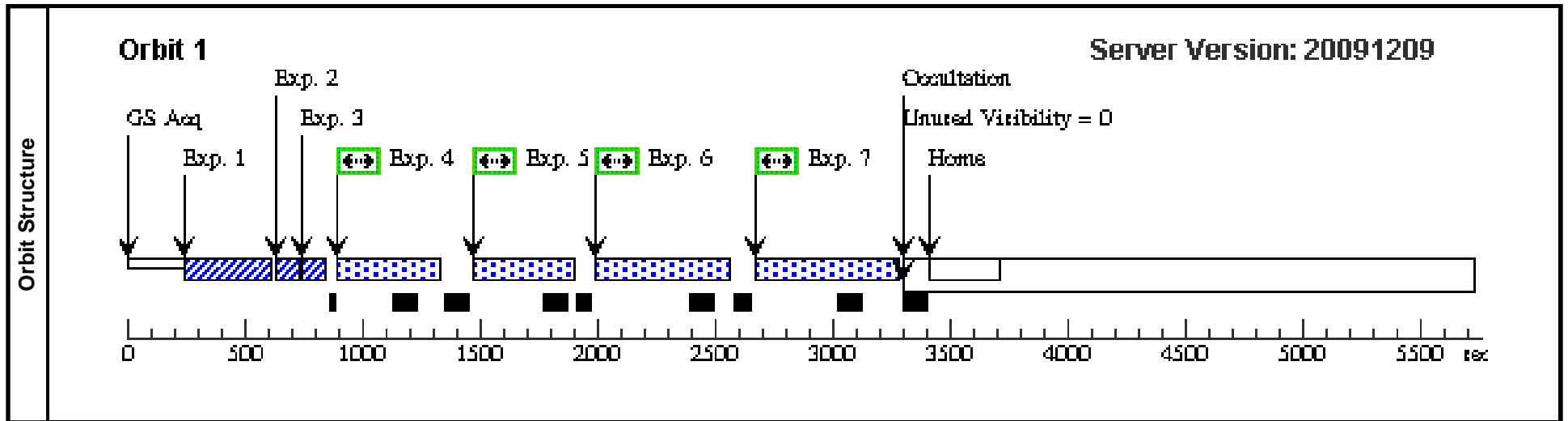


Visit	Proposal 11592, Visit 10, scheduling Diagnostic Status: No Diagnostics Scientific Instruments: STIS/FUV-MAMA, STIS/CCD Special Requirements: (none)									
Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous				
	(10)	PG2219+094	RA: 22 21 59.1000 (335.4962500d) Dec: +09 37 27.00 (9.62417d) Equinox: J2000		V=9.41+/-0.1 F=(75-100)E-14 CGS (IUE)	Reference Frame: ICRS				
	<i>Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.</i>									
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
	1		(10) PG2219+094	STIS/CCD, ACQ, F28X50LP	MIRROR				0.1 Secs [==>]	[1]
	2		(10) PG2219+094	STIS/FUV-MAMA, ACCUM, 0.2X0.2	E140M 1425 A				2486 Secs [==>]	[1]
Orbit Structure	<div style="display: flex; justify-content: space-between;"> <span><b>Orbit 1</b></span> <span><b>Server Version: 20091209</b></span> </div> <p>The diagram illustrates the timing of observations for Orbit 1. The x-axis represents time in seconds, ranging from 0 to 5500. Key events are marked with arrows: GS Acq at 0s, Exp. 1 at approximately 400s, Exp. 2 (Auto-WAYBCAL) at approximately 700s, a green box with a double arrow at approximately 800s, an occultation at approximately 3200s, and another Exp. 2 (Auto-WAYBCAL) at approximately 3400s. A 'Horns' event is marked at approximately 3500s. The occultation period is labeled 'Unused Visibility = 0'. The background of the timeline is filled with a blue and white checkered pattern, with a green box at the 800s mark and a white box at the 3400s mark.</p>									

Proposal 11592 - Visit 11 - Testing the Origin(s) of the Highly Ionized High-Velocity Clouds: A Survey of Galactic Ha...

Fri Jan 22 02:03:00 GMT 2010

Visit	<b>Proposal 11592, Visit 11, implementation</b> <b>Diagnostic Status: No Diagnostics</b> Scientific Instruments: COS/FUV Special Requirements: (none)									
	Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous			
	(11)	NGC6723-III60	RA: 18 59 28.8000 (284.8700000d) Dec: -36 40 48.80 (-36.68022d) Equinox: J2000			V=15.60+/-0.1 F=(10-20)E-14 CGS (STIS G14 0L)	Reference Frame: ICRS			
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
	1		(11) NGC6723-III60	COS/FUV, ACQ/SEARCH, PSA	G130M 1291 A	SCAN-SIZE=3; CENTER=FLUX-W T			0.3 Secs [==>]	[1]
	2		(11) NGC6723-III60	COS/FUV, ACQ/PEAKXD, PSA	G130M 1291 A				0.3 Secs [==>]	[1]
	3		(11) NGC6723-III60	COS/FUV, ACQ/PEAKD, PSA	G130M 1291 A	STEP-SIZE=1.2			0.3 Secs [==>]	[1]
	4		(11) NGC6723-III60	COS/FUV, TIME-TAG, PSA	G130M 1291 A	BUFFER-TIME=20 0; FLASH=YES			390 Secs [==>]	[1]
	5		(11) NGC6723-III60	COS/FUV, TIME-TAG, PSA	G130M 1327 A	BUFFER-TIME=20 0; FLASH=YES			310 Secs [==>]	[1]
	6		(11) NGC6723-III60	COS/FUV, TIME-TAG, PSA	G160M 1577 A	BUFFER-TIME=25 0; FLASH=YES			410 Secs [==>]	[1]
	7		(11) NGC6723-III60	COS/FUV, TIME-TAG, PSA	G160M 1589 A	BUFFER-TIME=25 0; FLASH=YES			490 Secs [==>]	[1]



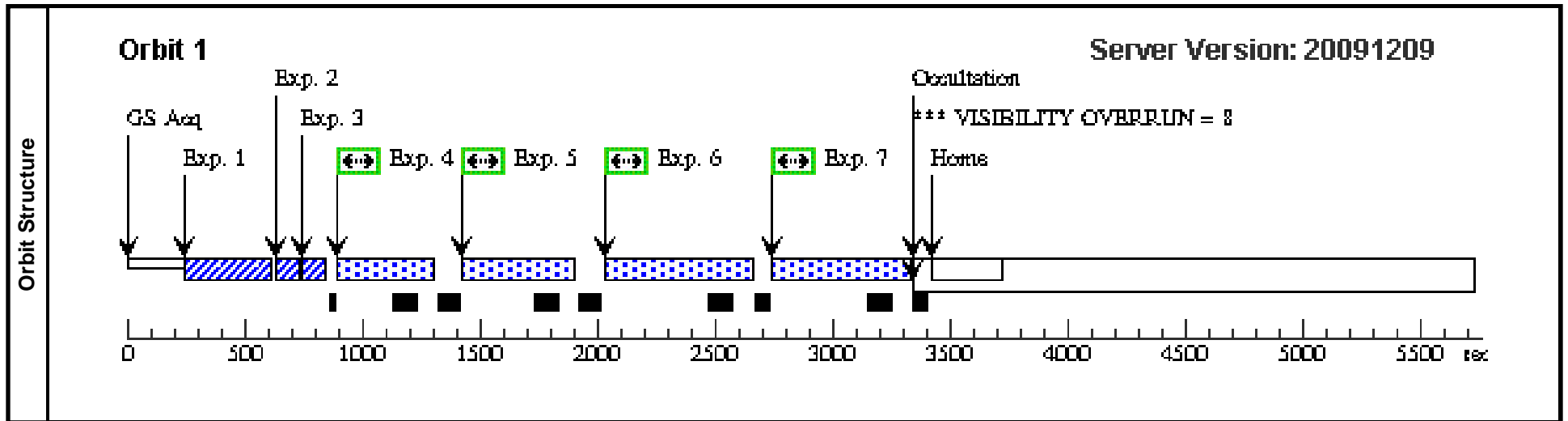
<b>Visit</b>	Proposal 11592, Visit 12, implementation Diagnostic Status: No Diagnostics Scientific Instruments: COS/FUV Special Requirements: (none)										
	<b>Fixed Targets</b>	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous				
(12)		NGC104-UIT14-2	RA: 00 23 45.6000 (5.9400000d) Dec: -72 05 45.50 (-72.09597d) Equinox: J2000		V=17.84+/-0.1 F=(1-3)E-14 CGS (STIS G140L )	Reference Frame: ICRS					
<b>Exposures</b>	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit	
	1	(12) NGC104-UIT14-2	(12) NGC104-UIT14	COS/FUV, ACQ/SEARCH, PSA	G130M 1327 A	SCAN-SIZE=3; CENTER=FLUX-W T			1.8 Secs [==>]	[1]	
	2	(12) NGC104-UIT14-2	(12) NGC104-UIT14	COS/FUV, ACQ/PEAKXD, PSA	G130M 1327 A				1.8 Secs [==>]	[1]	
	3	(12) NGC104-UIT14-2	(12) NGC104-UIT14	COS/FUV, ACQ/PEAKD, PSA	G130M 1327 A	STEP-SIZE=1.2			1.8 Secs [==>]	[1]	
	4	(12) NGC104-UIT14-2	(12) NGC104-UIT14	COS/FUV, TIME-TAG, PSA	G130M 1327 A	BUFFER-TIME=11 62; FLASH=YES			1150 Secs [==>]	[1]	
	5	(12) NGC104-UIT14-2	(12) NGC104-UIT14	COS/FUV, TIME-TAG, PSA	G160M 1577 A	BUFFER-TIME=13 90; FLASH=YES			1216 Secs [==>]	[1]	
<b>Orbit Structure</b>	<p><b>Orbit 1</b> <span style="float: right;">Server Version: 20091209</span></p> <p>Unured Visibility = 0</p> <p>The diagram illustrates the sequence of events for Orbit 1. It starts with GS Acq at 0 seconds. Five exposures (Exp. 1-5) are scheduled at various points: Exp. 1 (~250s), Exp. 2 (~600s), Exp. 3 (~800s), Exp. 4 (~950s), and Exp. 5 (~2300s). Exposures 4 and 5 are marked with green boxes. An occultation occurs at approximately 3600 seconds, followed by the Home signal at 3700 seconds. The timeline ends at 5500 seconds. The x-axis is labeled 'sec'.</p>										

<b>Visit</b>	Proposal 11592, Visit 13, implementation Diagnostic Status: No Diagnostics Scientific Instruments: COS/FUV Special Requirements: (none)										
	<b>Fixed Targets</b>	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous				
(13)		NGC5904-K772	RA: 15 18 35.4300 (229.6476250d) Dec: +02 05 45.40 (2.09594d) Equinox: J2000		V=14.80+/-0.2 GALEX FUV_MAG = 15.92 +/- 0.01 (F=2E-14 CGS)	Reference Frame: ICRS					
<b>Exposures</b>	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit	
	1	(13) NGC5904-K772	COS/FUV, ACQ/SEARCH, PSA	G130M 1327 A	SCAN-SIZE=3; CENTER=FLUX-W T				1.8 Secs [==>]	[1]	
	2	(13) NGC5904-K772	COS/FUV, ACQ/PEAKXD, PSA	G130M 1327 A					1.8 Secs [==>]	[1]	
	3	(13) NGC5904-K772	COS/FUV, ACQ/PEAKD, PSA	G130M 1327 A	STEP-SIZE=1.2				1.8 Secs [==>]	[1]	
	4	(13) NGC5904-K772	COS/FUV, TIME-TAG, PSA	G130M 1327 A	BUFFER-TIME=32 7; FLASH=YES				1120 Secs [==>934.0 Secs ]	[1]	
	5	(13) NGC5904-K772	COS/FUV, TIME-TAG, PSA	G160M 1577 A	BUFFER-TIME=49 5; FLASH=YES				1221 Secs [==>1030.0 Secs ]	[1]	
<b>Orbit Structure</b>	<p><b>Orbit 1</b> <span style="float: right;">Server Version: 20091209</span></p> <p>Timeline labels: GS Acq, Exp. 1, Exp. 2, Exp. 3, Exp. 4, Exp. 5, Occultation, Unused Visibility = 0, Home.</p> <p>X-axis: 0, 500, 1000, 1500, 2000, 2500, 3000, 3500, 4000, 4500, 5000, 5500 sec</p>										

Proposal 11592 - Visit 13 - Testing the Origin(s) of the Highly Ionized High-Velocity Clouds: A Survey of Galactic Ha...

Fri Jan 22 02:03:01 GMT 2010

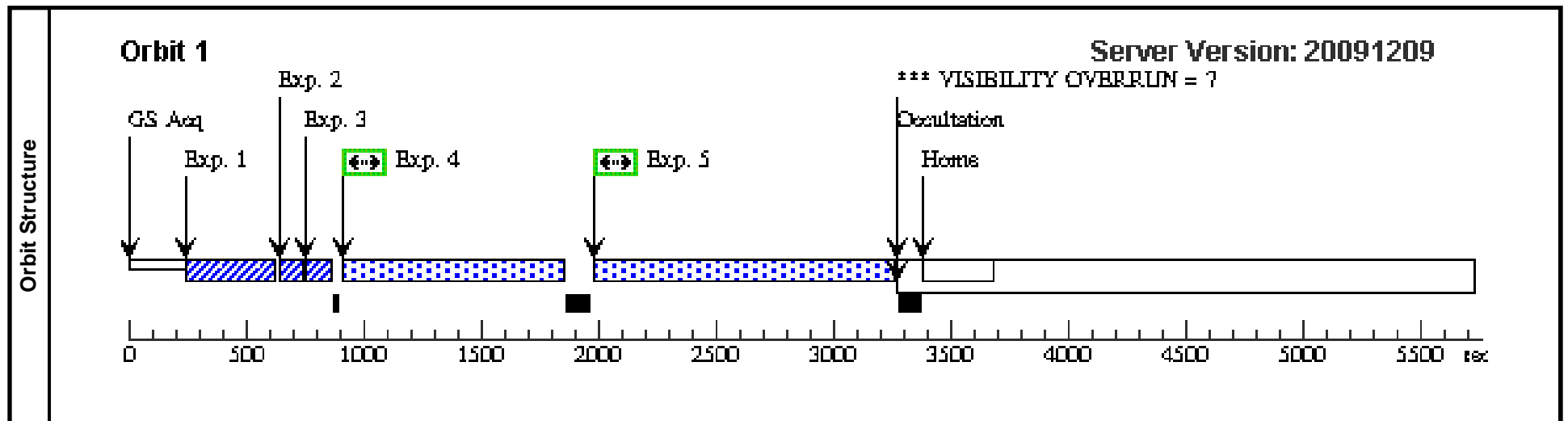
<b>Visit</b>	<b>Proposal 11592, Visit 14, completed</b> <b>Diagnostic Status: Warning</b> Scientific Instruments: COS/FUV Special Requirements: (none)									
	(Visit 14) Warning (Orbit Planner): VISIBILITY OVERRUN									
<b>Diagnostics</b>										
<b>Fixed Targets</b>	<b>#</b>	<b>Name</b>	<b>Target Coordinates</b>	<b>Targ. Coord. Corrections</b>	<b>Fluxes</b>	<b>Miscellaneous</b>				
	(14)	NGC6341-326	RA: 17 17 7.1800 (259.2799167d) Dec: +43 08 11.30 (43.13647d) Equinox: J2000		V=11.0+/-1 F=15E-14 CGS (HUT)	Reference Frame: ICRS				
<b>Exposures</b>	<b>#</b>	<b>Label</b>	<b>Target</b>	<b>Config,Mode,Aperture</b>	<b>Spectral Els.</b>	<b>Opt. Params.</b>	<b>Special Reqs.</b>	<b>Groups</b>	<b>Exp. Time/[Actual Dur.]</b>	<b>Orbit</b>
	1		(14) NGC6341-326	COS/FUV, ACQ/SEARCH, PSA	G130M 1291 A	SCAN-SIZE=3; CENTER=BRIGHT EST			0.3 Secs [==>]	[1]
	2		(14) NGC6341-326	COS/FUV, ACQ/PEAKXD, PSA	G130M 1291 A				0.3 Secs [==>]	[1]
	3		(14) NGC6341-326	COS/FUV, ACQ/PEAKD, PSA	G130M 1291 A	STEP-SIZE=1.2; CENTER=BRIGHT EST			0.3 Secs [==>]	[1]
	4		(14) NGC6341-326	COS/FUV, TIME-TAG, PSA	G130M 1291 A	BUFFER-TIME=20 0; FLASH=YES			428 Secs [==>357.0 Secs ]	[1]
	5		(14) NGC6341-326	COS/FUV, TIME-TAG, PSA	G130M 1327 A	BUFFER-TIME=20 0; FLASH=YES			428 Secs [==>357.0 Secs ]	[1]
	6		(14) NGC6341-326	COS/FUV, TIME-TAG, PSA	G160M 1577 A	BUFFER-TIME=30 0; FLASH=YES			533 Secs [==>462.0 Secs ]	[1]
	7		(14) NGC6341-326	COS/FUV, TIME-TAG, PSA	G160M 1589 A	BUFFER-TIME=30 0; FLASH=YES			533 Secs [==>462.0 Secs ]	[1]



Proposal 11592 - Visit 15 - Testing the Origin(s) of the Highly Ionized High-Velocity Clouds: A Survey of Galactic Ha...

Fri Jan 22 02:03:02 GMT 2010

<b>Visit</b>	Proposal 11592, Visit 15, completed Diagnostic Status: Warning Scientific Instruments: COS/FUV Special Requirements: (none)									
	(Visit 15) Warning (Orbit Planner): VISIBILITY OVERRUN									
<b>Diagnosics</b>										
<b>Fixed Targets</b>	<b>#</b>	<b>Name</b>	<b>Target Coordinates</b>	<b>Targ. Coord. Corrections</b>	<b>Fluxes</b>	<b>Miscellaneous</b>				
	(15)	NGC5824-ZNG1	RA: 15 03 58.6300 (225.9942917d) Dec: -33 04 8.42 (-33.06901d) Equinox: J2000		V=10.8+/-0.2 F=(2-3)E-14 CGS (IUE)	Reference Frame: ICRS				
<b>Exposures</b>	<b>#</b>	<b>Label</b>	<b>Target</b>	<b>Config,Mode,Aperture</b>	<b>Spectral Els.</b>	<b>Opt. Params.</b>	<b>Special Reqs.</b>	<b>Groups</b>	<b>Exp. Time/[Actual Dur.]</b>	<b>Orbit</b>
	1		(15) NGC5824-ZNG 1	COS/FUV, ACQ/SEARCH, PSA	G130M 1327 A	SCAN-SIZE=3; CENTER=FLUX-W T			1.4 Secs [==>]	[1]
	2		(15) NGC5824-ZNG 1	COS/FUV, ACQ/PEAKXD, PSA	G130M 1327 A				1.4 Secs [==>]	[1]
	3		(15) NGC5824-ZNG 1	COS/FUV, ACQ/PEAKD, PSA	G130M 1327 A		STEP-SIZE=1.2		1.4 Secs [==>]	[1]
	4		(15) NGC5824-ZNG 1	COS/FUV, TIME-TAG, PSA	G130M 1327 A		BUFFER-TIME=96 3; FLASH=YES		1063 Secs [==>887.0 Secs ]	[1]
	5		(15) NGC5824-ZNG 1	COS/FUV, TIME-TAG, PSA	G160M 1577 A		BUFFER-TIME=12 99; FLASH=YES		1299 Secs [==>1121.0 Secs ]	[1]

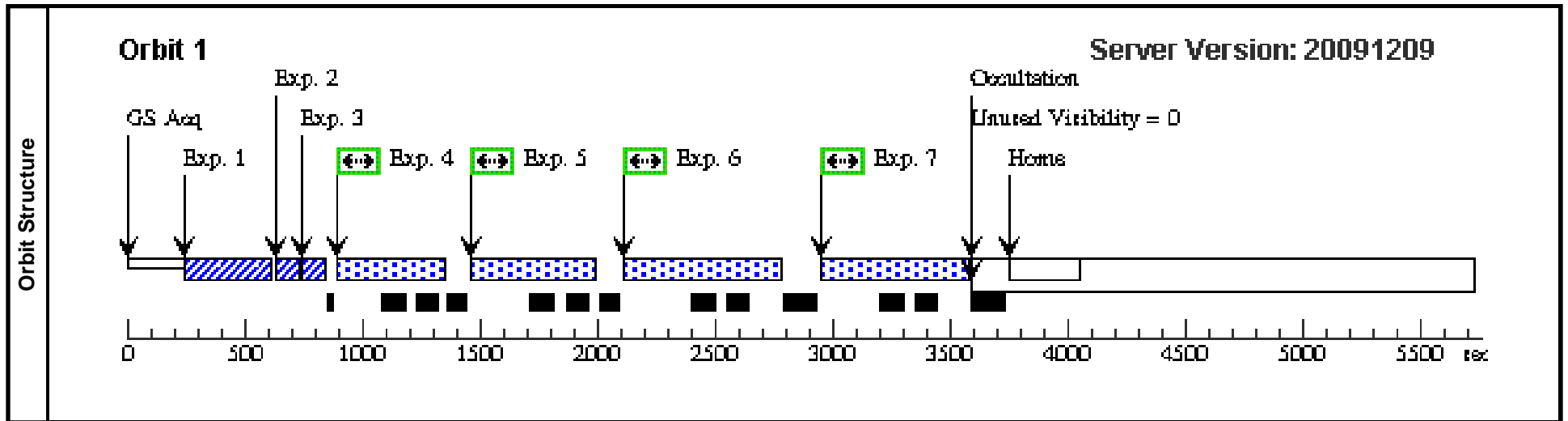


<b>Visit</b>	Proposal 11592, Visit 16, completed Diagnostic Status: Warning Scientific Instruments: STIS/FUV-MAMA, STIS/CCD Special Requirements: (none)																																		
	(Visit 16) Warning (Orbit Planner): VISIBILITY OVERRUN																																		
<b>Diagnosics</b>																																			
<b>Fixed Targets</b>	<table border="1"> <thead> <tr> <th>#</th> <th>Name</th> <th>Target Coordinates</th> <th>Targ. Coord. Corrections</th> <th>Fluxes</th> <th>Miscellaneous</th> </tr> </thead> <tbody> <tr> <td>(16)</td> <td>PG0122+214</td> <td>RA: 01 25 29.5200 (21.3730000d) Dec: +21 36 31.00 (21.60861d) Equinox: J2000</td> <td></td> <td>V=10.98+/-0.1 10.78 (B)</td> <td>Reference Frame: ICRS</td> </tr> </tbody> </table>	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous	(16)	PG0122+214	RA: 01 25 29.5200 (21.3730000d) Dec: +21 36 31.00 (21.60861d) Equinox: J2000		V=10.98+/-0.1 10.78 (B)	Reference Frame: ICRS	Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.																					
	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous																													
(16)	PG0122+214	RA: 01 25 29.5200 (21.3730000d) Dec: +21 36 31.00 (21.60861d) Equinox: J2000		V=10.98+/-0.1 10.78 (B)	Reference Frame: ICRS																														
<table border="1"> <thead> <tr> <th>#</th> <th>Label</th> <th>Target</th> <th>Config,Mode,Aperture</th> <th>Spectral Els.</th> <th>Opt. Params.</th> <th>Special Reqs.</th> <th>Groups</th> <th>Exp. Time/[Actual Dur.]</th> <th>Orbit</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>(16) PG0122+214</td> <td>(16) PG0122+214</td> <td>STIS/CCD, ACQ, F28X50LP</td> <td>MIRROR</td> <td></td> <td></td> <td></td> <td>0.1 Secs [=&gt;]</td> <td>[1]</td> </tr> <tr> <td>2</td> <td>(16) PG0122+214</td> <td>(16) PG0122+214</td> <td>STIS/FUV-MAMA, ACCUM, 0.2X0.2</td> <td>E140M 1425 A</td> <td></td> <td></td> <td></td> <td>2502 Secs [=&gt;]</td> <td>[1]</td> </tr> </tbody> </table>						#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit	1	(16) PG0122+214	(16) PG0122+214	STIS/CCD, ACQ, F28X50LP	MIRROR				0.1 Secs [=>]	[1]	2	(16) PG0122+214	(16) PG0122+214	STIS/FUV-MAMA, ACCUM, 0.2X0.2	E140M 1425 A				2502 Secs [=>]	[1]
#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit																										
1	(16) PG0122+214	(16) PG0122+214	STIS/CCD, ACQ, F28X50LP	MIRROR				0.1 Secs [=>]	[1]																										
2	(16) PG0122+214	(16) PG0122+214	STIS/FUV-MAMA, ACCUM, 0.2X0.2	E140M 1425 A				2502 Secs [=>]	[1]																										
<b>Exposures</b>																																			
	<p><b>Orbit 1</b> <span style="float: right;"><b>Server Version: 20091209</b></span></p> <p>Timeline labels: GS Acq, Exp. 1, Exp. 2 (Auto-WAVECAL), Exp. 2, Occultation, Home.</p> <p>Text: *** VISIBILITY OVERRUN = 9</p>																																		
<b>Orbit Structure</b>																																			

Proposal 11592 - Visit 16 - Testing the Origin(s) of the Highly Ionized High-Velocity Clouds: A Survey of Galactic Ha...

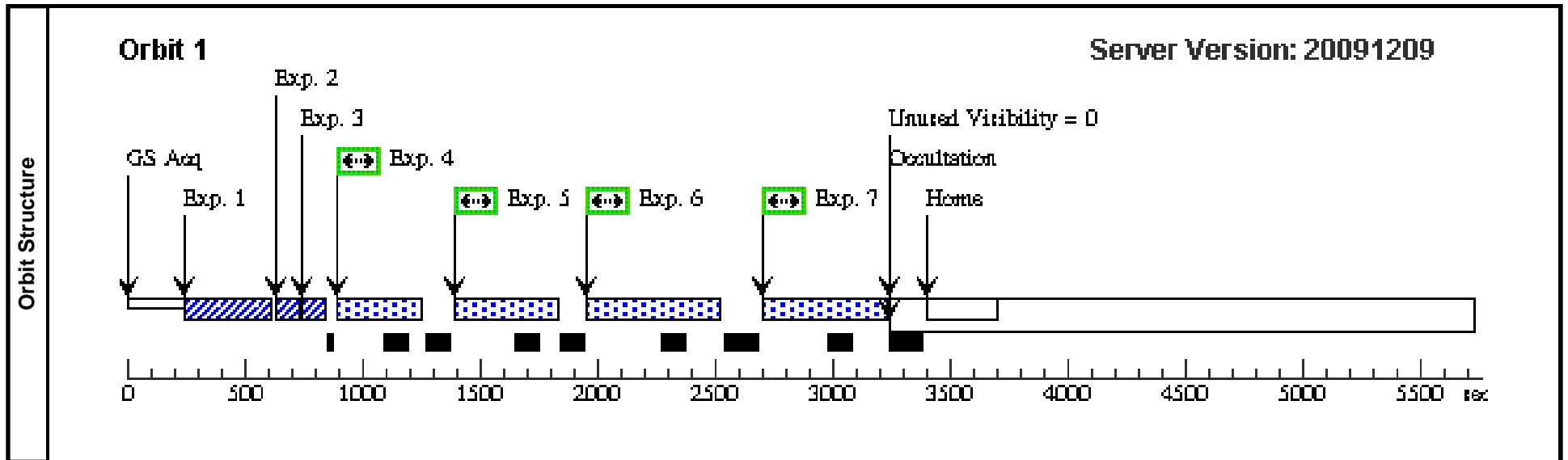
Fri Jan 22 02:03:02 GMT 2010

Visit	<b>Proposal 11592, Visit 17, implementation</b> <b>Diagnostic Status: No Diagnostics</b> Scientific Instruments: COS/FUV Special Requirements: (none)									
	Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous			
	(17)	PG0832+675	RA: 08 37 34.4800 (129.3936667d) Dec: +67 24 12.60 (67.40350d) Equinox: J2000			V=14.15+/-0.1 F=(20-30)E-14 CGS (IUE)	Reference Frame: ICRS	<i>Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.</i>		
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
	1		(17) PG0832+675	COS/FUV, ACQ/SEARCH, PSA	G130M 1291 A	SCAN-SIZE=3; CENTER=FLUX-W T			0.2 Secs [==>]	[1]
	2		(17) PG0832+675	COS/FUV, ACQ/PEAKXD, PSA	G130M 1291 A				0.2 Secs [==>]	[1]
	3		(17) PG0832+675	COS/FUV, ACQ/PEAKD, PSA	G130M 1291 A	STEP-SIZE=1.2			0.2 Secs [==>]	[1]
	4		(17) PG0832+675	COS/FUV, TIME-TAG, PSA	G130M 1291 A	BUFFER-TIME=15 0; FLASH=YES			426 Secs [==>404.0 Secs ]	[1]
	5		(17) PG0832+675	COS/FUV, TIME-TAG, PSA	G130M 1327 A	BUFFER-TIME=15 0; FLASH=YES			435 Secs [==>410.0 Secs ]	[1]
	6		(17) PG0832+675	COS/FUV, TIME-TAG, PSA	G160M 1577 A	BUFFER-TIME=15 0; FLASH=YES			536 Secs [==>510.0 Secs ]	[1]
	7		(17) PG0832+675	COS/FUV, TIME-TAG, PSA	G160M 1589 A	BUFFER-TIME=15 0; FLASH=YES			539 Secs [==>509.0 Secs ]	[1]



<b>Visit</b>	Proposal 11592, Visit 18, scheduling <b>Diagnostic Status: Warning</b> Scientific Instruments: STIS/FUV-MAMA, STIS/CCD Special Requirements: (none)																																		
	(Visit 18) Warning (Orbit Planner): VISIBILITY OVERRUN																																		
<b>Diagnostics</b>																																			
<b>Fixed Targets</b>	<table border="1"> <thead> <tr> <th>#</th> <th>Name</th> <th>Target Coordinates</th> <th>Targ. Coord. Corrections</th> <th>Fluxes</th> <th>Miscellaneous</th> </tr> </thead> <tbody> <tr> <td>(18)</td> <td>PG1511+367</td> <td>RA: 15 13 22.4000 (228.3433333d) Dec: +36 28 22.80 (36.47300d) Equinox: J2000</td> <td></td> <td>V=10.85+/-0.1 10.65 (B); GALEX FUV_MAG = 12.61 +/- 0.01 (F=4E-13 CGS)</td> <td>Reference Frame: ICRS</td> </tr> </tbody> </table>	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous	(18)	PG1511+367	RA: 15 13 22.4000 (228.3433333d) Dec: +36 28 22.80 (36.47300d) Equinox: J2000		V=10.85+/-0.1 10.65 (B); GALEX FUV_MAG = 12.61 +/- 0.01 (F=4E-13 CGS)	Reference Frame: ICRS	Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.																					
	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous																													
(18)	PG1511+367	RA: 15 13 22.4000 (228.3433333d) Dec: +36 28 22.80 (36.47300d) Equinox: J2000		V=10.85+/-0.1 10.65 (B); GALEX FUV_MAG = 12.61 +/- 0.01 (F=4E-13 CGS)	Reference Frame: ICRS																														
<b>Exposures</b>	<table border="1"> <thead> <tr> <th>#</th> <th>Label</th> <th>Target</th> <th>Config,Mode,Aperture</th> <th>Spectral Els.</th> <th>Opt. Params.</th> <th>Special Reqs.</th> <th>Groups</th> <th>Exp. Time/[Actual Dur.]</th> <th>Orbit</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>(18) PG1511+367</td> <td>STIS/CCD, ACQ, F28X50LP</td> <td>MIRROR</td> <td></td> <td></td> <td></td> <td></td> <td>1 Secs [=&gt;]</td> <td>[1]</td> </tr> <tr> <td>2</td> <td>(18) PG1511+367</td> <td>STIS/FUV-MAMA, ACCUM, 0.2X0.2</td> <td>E140M 1425 A</td> <td></td> <td></td> <td></td> <td></td> <td>2550 Secs [=&gt;]</td> <td>[1]</td> </tr> </tbody> </table>	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit	1	(18) PG1511+367	STIS/CCD, ACQ, F28X50LP	MIRROR					1 Secs [=>]	[1]	2	(18) PG1511+367	STIS/FUV-MAMA, ACCUM, 0.2X0.2	E140M 1425 A					2550 Secs [=>]	[1]				
	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit																									
1	(18) PG1511+367	STIS/CCD, ACQ, F28X50LP	MIRROR					1 Secs [=>]	[1]																										
2	(18) PG1511+367	STIS/FUV-MAMA, ACCUM, 0.2X0.2	E140M 1425 A					2550 Secs [=>]	[1]																										
<b>Orbit Structure</b>	<p><b>Orbit 1</b> <span style="float: right;"><b>Server Version: 20091209</b></span></p> <p style="text-align: center;">*** VISIBILITY OVERRUN = 9</p> <p>The diagram shows a horizontal timeline from 0 to 5500 seconds. Key events are marked with vertical arrows: GS Acq at ~100s, Exp. 1 at ~400s, Exp. 2 (Auto-WAVECAL) at ~600s, a second Exp. 2 at ~750s, Occultation starting at ~3300s and ending at ~3800s, and a final Exp. 2 (Auto-WAVECAL) at ~3400s. The timeline is divided into segments with different patterns: blue diagonal lines (0-400s), green (400-600s), blue checkered (600-3300s), white (3300-3800s), and blue diagonal lines (3800-5500s). A green box with a double-headed arrow highlights the second Exp. 2 at ~750s.</p>																																		

Visit	<b>Proposal 11592, Visit 19, implementation</b> <b>Diagnostic Status: No Diagnostics</b> Scientific Instruments: COS/FUV Special Requirements: (none)									
	Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous			
	(19)	PG1610+239	RA: 16 13 1.5234 (243.2563475d) Dec: +23 48 30.86 (23.80857d) Equinox: J2000		V=12.90 12.70 (B)	Reference Frame: ICRS				
	<i>Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.</i>									
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
	1		(19) PG1610+239	COS/FUV, ACQ/SEARCH, PSA	G130M 1291 A	SCAN-SIZE=3; CENTER=FLUX-W T			0.2 Secs [==>]	[1]
	2		(19) PG1610+239	COS/FUV, ACQ/PEAKXD, PSA	G130M 1291 A				0.2 Secs [==>]	[1]
	3		(19) PG1610+239	COS/FUV, ACQ/PEAKD, PSA	G130M 1291 A	STEP-SIZE=1.2			0.2 Secs [==>]	[1]
	4		(19) PG1610+239	COS/FUV, TIME-TAG, PSA	G130M 1291 A	BUFFER-TIME=16 0; FLASH=YES			316 Secs [==>313.0 Secs ]	[1]
	5		(19) PG1610+239	COS/FUV, TIME-TAG, PSA	G130M 1327 A	BUFFER-TIME=16 0; FLASH=YES			316 Secs [==>312.0 Secs ]	[1]
	6		(19) PG1610+239	COS/FUV, TIME-TAG, PSA	G160M 1577 A	BUFFER-TIME=17 5; FLASH=YES			416 Secs [==>410.0 Secs ]	[1]
	7		(19) PG1610+239	COS/FUV, TIME-TAG, PSA	G160M 1589 A	BUFFER-TIME=17 5; FLASH=YES			416 Secs [==>410.0 Secs ]	[1]

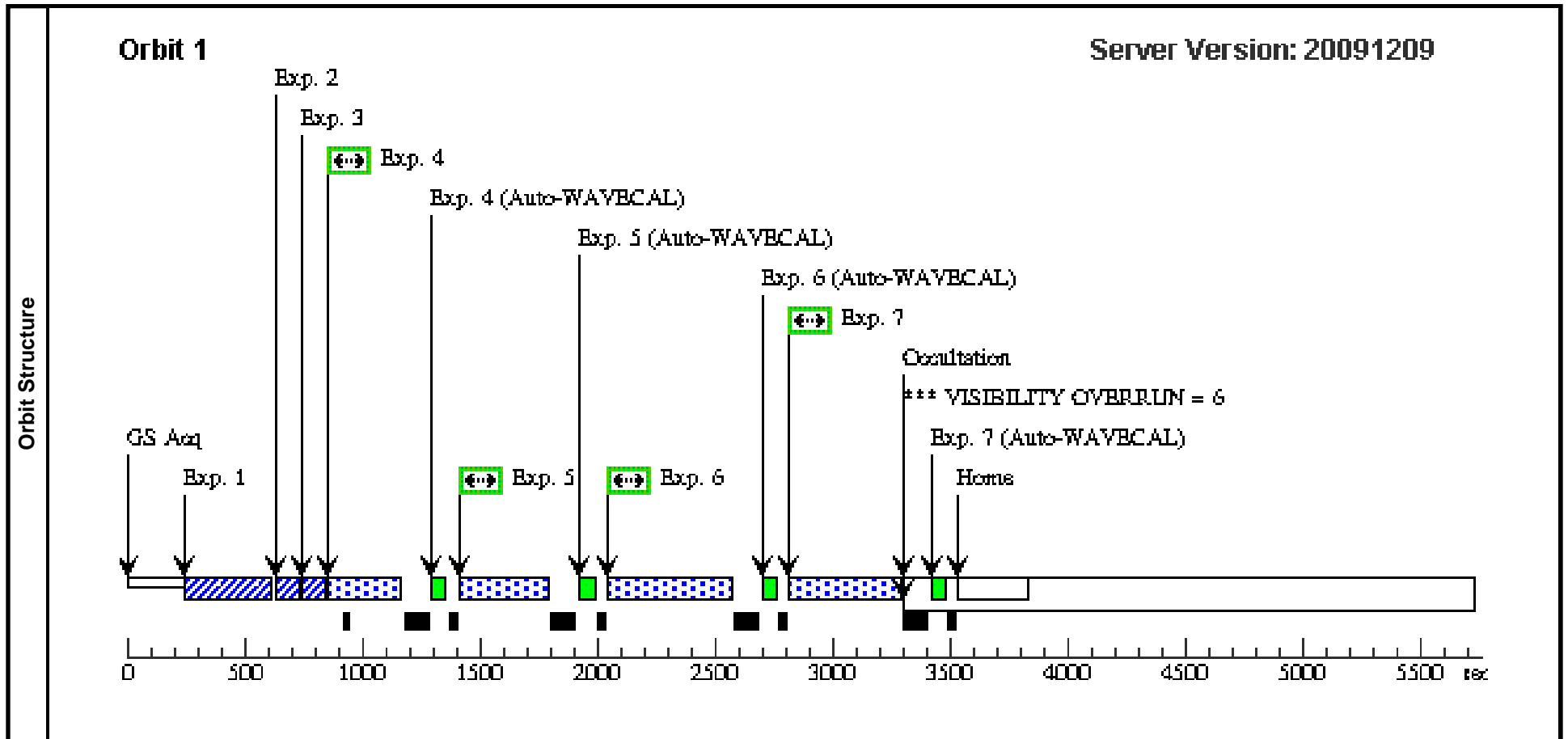


<b>Visit</b>	Proposal 11592, Visit 20, scheduling <b>Diagnostic Status: Warning</b> Scientific Instruments: STIS/FUV-MAMA, STIS/CCD Special Requirements: (none)																																		
	(Visit 20) Warning (Orbit Planner): VISIBILITY OVERRUN																																		
<b>Diagnosics</b>																																			
<b>Fixed Targets</b>	<table border="1"> <thead> <tr> <th>#</th> <th>Name</th> <th>Target Coordinates</th> <th>Targ. Coord. Corrections</th> <th>Fluxes</th> <th>Miscellaneous</th> </tr> </thead> <tbody> <tr> <td>(20)</td> <td>PHL346</td> <td>RA: 22 37 38.2800 (339.4095000d) Dec: -18 39 51.20 (-18.66422d) Equinox: J2000</td> <td></td> <td>V=11.4+/-0.1 F=150E-14 CGS (IUE)</td> <td>Reference Frame: ICRS</td> </tr> </tbody> </table>	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous	(20)	PHL346	RA: 22 37 38.2800 (339.4095000d) Dec: -18 39 51.20 (-18.66422d) Equinox: J2000		V=11.4+/-0.1 F=150E-14 CGS (IUE)	Reference Frame: ICRS	Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.																					
	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous																													
(20)	PHL346	RA: 22 37 38.2800 (339.4095000d) Dec: -18 39 51.20 (-18.66422d) Equinox: J2000		V=11.4+/-0.1 F=150E-14 CGS (IUE)	Reference Frame: ICRS																														
<b>Exposures</b>	<table border="1"> <thead> <tr> <th>#</th> <th>Label</th> <th>Target</th> <th>Config,Mode,Aperture</th> <th>Spectral Els.</th> <th>Opt. Params.</th> <th>Special Reqs.</th> <th>Groups</th> <th>Exp. Time/[Actual Dur.]</th> <th>Orbit</th> </tr> </thead> <tbody> <tr> <td>1</td> <td></td> <td>(20) PHL346</td> <td>STIS/CCD, ACQ, F28X50LP</td> <td>MIRROR</td> <td></td> <td></td> <td></td> <td>0.1 Secs [=&gt;]</td> <td>[1]</td> </tr> <tr> <td>2</td> <td></td> <td>(20) PHL346</td> <td>STIS/FUV-MAMA, ACCUM, 0.2X0.2</td> <td>E140M 1425 A</td> <td></td> <td></td> <td></td> <td>2501 Secs [=&gt;]</td> <td>[1]</td> </tr> </tbody> </table>	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit	1		(20) PHL346	STIS/CCD, ACQ, F28X50LP	MIRROR				0.1 Secs [=>]	[1]	2		(20) PHL346	STIS/FUV-MAMA, ACCUM, 0.2X0.2	E140M 1425 A				2501 Secs [=>]	[1]				
	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit																									
1		(20) PHL346	STIS/CCD, ACQ, F28X50LP	MIRROR				0.1 Secs [=>]	[1]																										
2		(20) PHL346	STIS/FUV-MAMA, ACCUM, 0.2X0.2	E140M 1425 A				2501 Secs [=>]	[1]																										
<b>Orbit Structure</b>	<p><b>Orbit 1</b> <span style="float: right;"><b>Server Version: 20091209</b></span></p> <p style="text-align: center;">*** VISIBILITY OVERRUN = 8</p> <p>The diagram shows a horizontal timeline from 0 to 5500 seconds. Key events are marked with vertical arrows: GS Acq at ~100s, Exp. 1 at ~400s, Exp. 2 (Auto-WAVECAL) at ~600s, Exp. 2 (highlighted in green) at ~700s, Occultation at ~3200s, and Home at ~3500s. A large blue checkered bar representing a visibility overrun starts at approximately 3200 seconds and extends to the end of the orbit. A green box with a double-headed arrow highlights the second exposure period.</p>																																		

Proposal 11592 - Visit 20 - Testing the Origin(s) of the Highly Ionized High-Velocity Clouds: A Survey of Galactic Ha...

Fri Jan 22 02:03:03 GMT 2010

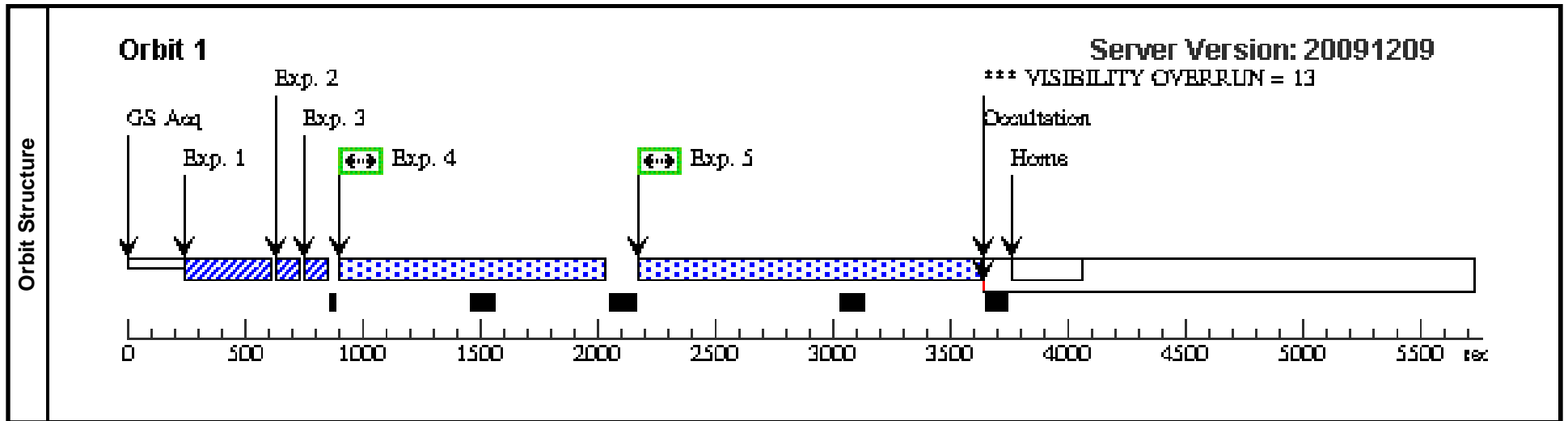
<b>Visit</b>	<b>Proposal 11592, Visit 21, completed</b> <b>Diagnostic Status: Warning</b> Scientific Instruments: COS/FUV Special Requirements: (none)									
	(Visit 21) Warning (Orbit Planner): VISIBILITY OVERRUN									
<b>Diagnosics</b>										
<b>Fixed Targets</b>	<b>#</b>	<b>Name</b>	<b>Target Coordinates</b>	<b>Targ. Coord. Corrections</b>	<b>Fluxes</b>	<b>Miscellaneous</b>				
	(21)	SB357	RA: 00 53 1.5300 (13.2563750d) Dec: -36 20 19.20 (-36.33867d) Equinox: J2000		V=12.51+/-0.1 F=(30-50)E-14 CGS (IUE)	Reference Frame: ICRS				
<i>Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.</i>										
<b>Exposures</b>	<b>#</b>	<b>Label</b>	<b>Target</b>	<b>Config,Mode,Aperture</b>	<b>Spectral Els.</b>	<b>Opt. Params.</b>	<b>Special Reqs.</b>	<b>Groups</b>	<b>Exp. Time/[Actual Dur.]</b>	<b>Orbit</b>
	1		(21) SB357	COS/FUV, ACQ/SEARCH, PSA	G130M 1291 A	SCAN-SIZE=3; CENTER=FLUX-W T			0.2 Secs [==>]	[1]
	2		(21) SB357	COS/FUV, ACQ/PEAKXD, PSA	G130M 1291 A				0.2 Secs [==>]	[1]
	3		(21) SB357	COS/FUV, ACQ/PEAKD, PSA	G130M 1291 A	STEP-SIZE=1.2			0.2 Secs [==>]	[1]
	4		(21) SB357	COS/FUV, ACCUM, PSA	G130M 1291 A				344 Secs [==>253.0 Secs ]	[1]
	5		(21) SB357	COS/FUV, ACCUM, PSA	G130M 1327 A				344 Secs [==>253.0 Secs ]	[1]
	6		(21) SB357	COS/FUV, ACCUM, PSA	G160M 1577 A				454 Secs [==>363.0 Secs ]	[1]
	7		(21) SB357	COS/FUV, ACCUM, PSA	G160M 1589 A				454 Secs [==>348.0 Secs ]	[1]



Proposal 11592 - Visit 22 - Testing the Origin(s) of the Highly Ionized High-Velocity Clouds: A Survey of Galactic Ha...

Fri Jan 22 02:03:03 GMT 2010

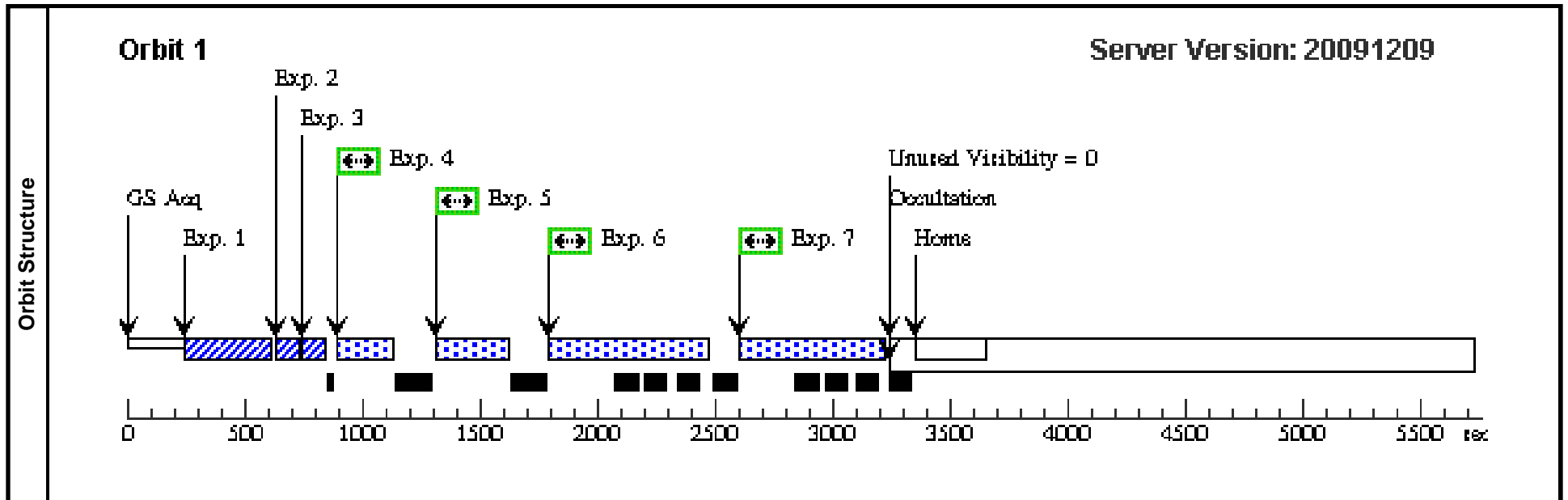
<b>Visit</b>	<b>Proposal 11592, Visit 22, completed</b> <b>Diagnostic Status: Warning</b> Scientific Instruments: COS/FUV Special Requirements: (none)									
	(Visit 22) Warning (Orbit Planner): VISIBILITY OVERRUN									
<b>Diagnosics</b>										
<b>Fixed Targets</b>	<b>#</b>	<b>Name</b>	<b>Target Coordinates</b>	<b>Targ. Coord. Corrections</b>	<b>Fluxes</b>	<b>Miscellaneous</b>				
	(22)	HS1914+7139	RA: 19 14 10.0000 (288.5416667d) Dec: +71 44 41.00 (71.74472d) Equinox: J2000		V=14.5+/-0.1	Reference Frame: ICRS				
<i>Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.</i>										
<b>Exposures</b>	<b>#</b>	<b>Label</b>	<b>Target</b>	<b>Config,Mode,Aperture</b>	<b>Spectral Els.</b>	<b>Opt. Params.</b>	<b>Special Reqs.</b>	<b>Groups</b>	<b>Exp. Time/[Actual Dur.]</b>	<b>Orbit</b>
	1		(22) HS1914+7139	COS/FUV, ACQ/SEARCH, PSA	G130M 1327 A	SCAN-SIZE=3; CENTER=FLUX-W T			1 Secs [==>]	[1]
	2		(22) HS1914+7139	COS/FUV, ACQ/PEAKXD, PSA	G130M 1327 A				1 Secs [==>]	[1]
	3		(22) HS1914+7139	COS/FUV, ACQ/PEAKD, PSA	G130M 1327 A	STEP-SIZE=1.2			1 Secs [==>]	[1]
	4		(22) HS1914+7139	COS/FUV, TIME-TAG, PSA	G130M 1327 A	BUFFER-TIME=52 1; FLASH=YES			1080 Secs [==>]	[1]
	5		(22) HS1914+7139	COS/FUV, TIME-TAG, PSA	G160M 1577 A	BUFFER-TIME=70 8; FLASH=YES			1301 Secs [==>]	[1]



Proposal 11592 - Visit 23 - Testing the Origin(s) of the Highly Ionized High-Velocity Clouds: A Survey of Galactic Ha...

Fri Jan 22 02:03:04 GMT 2010

Visit	<b>Proposal 11592, Visit 23, implementation</b> <b>Diagnostic Status: No Diagnostics</b> Scientific Instruments: COS/FUV Special Requirements: (none)									
	Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous			
	(23)	EC10500-1358	RA: 10 52 31.4500 (163.1310417d) Dec: -14 14 35.30 (-14.24314d) Equinox: J2000			V=12.6+/-0.1	Reference Frame: ICRS			
	<i>Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.</i>									
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
	1	(23) EC10500-1358	COS/FUV, ACQ/SEARCH, PSA	G130M 1291 A	SCAN-SIZE=3; CENTER=FLUX-W T			0.1 Secs [==>]	[1]	
	2	(23) EC10500-1358	COS/FUV, ACQ/PEAKXD, PSA	G130M 1291 A				0.1 Secs [==>]	[1]	
	3	(23) EC10500-1358	COS/FUV, ACQ/PEAKD, PSA	G130M 1291 A	STEP-SIZE=1.2			0.1 Secs [==>]	[1]	
	4	(23) EC10500-1358	COS/FUV, TIME-TAG, PSA	G130M 1291 A	BUFFER-TIME=12 6; FLASH=YES			334 Secs [==>186.0 Secs ]	[1]	
	5	(23) EC10500-1358	COS/FUV, TIME-TAG, PSA	G130M 1327 A	BUFFER-TIME=12 6; FLASH=YES			334 Secs [==>184.0 Secs ]	[1]	
	6	(23) EC10500-1358	COS/FUV, TIME-TAG, PSA	G160M 1577 A	BUFFER-TIME=13 2; FLASH=YES			434 Secs [==>514.0 Secs ]	[1]	
	7	(23) EC10500-1358	COS/FUV, TIME-TAG, PSA	G160M 1589 A	BUFFER-TIME=13 2; FLASH=YES			435 Secs [==>500.0 Secs ]	[1]	



<b>Visit</b>	Proposal 11592, Visit 24, scheduling Diagnostic Status: Warning Scientific Instruments: STIS/FUV-MAMA, STIS/CCD Special Requirements: (none)																																		
	(Visit 24) Warning (Orbit Planner): VISIBILITY OVERRUN																																		
<b>Diagnostics</b>																																			
<b>Fixed Targets</b>	<table border="1"> <thead> <tr> <th>#</th> <th>Name</th> <th>Target Coordinates</th> <th>Targ. Coord. Corrections</th> <th>Fluxes</th> <th>Miscellaneous</th> </tr> </thead> <tbody> <tr> <td>(24)</td> <td>PG0855+294</td> <td>RA: 08 58 20.3300 (134.5847083d) Dec: +29 12 3.70 (29.20103d) Equinox: J2000</td> <td></td> <td>V=11.2 11 (B); use GALEX FUV_MAG = 12.19 (F =6E-13 cgs)</td> <td>Reference Frame: ICRS</td> </tr> </tbody> </table>	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous	(24)	PG0855+294	RA: 08 58 20.3300 (134.5847083d) Dec: +29 12 3.70 (29.20103d) Equinox: J2000		V=11.2 11 (B); use GALEX FUV_MAG = 12.19 (F =6E-13 cgs)	Reference Frame: ICRS	Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.																					
	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous																													
(24)	PG0855+294	RA: 08 58 20.3300 (134.5847083d) Dec: +29 12 3.70 (29.20103d) Equinox: J2000		V=11.2 11 (B); use GALEX FUV_MAG = 12.19 (F =6E-13 cgs)	Reference Frame: ICRS																														
<b>Exposures</b>	<table border="1"> <thead> <tr> <th>#</th> <th>Label</th> <th>Target</th> <th>Config,Mode,Aperture</th> <th>Spectral Els.</th> <th>Opt. Params.</th> <th>Special Reqs.</th> <th>Groups</th> <th>Exp. Time/[Actual Dur.]</th> <th>Orbit</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>(24) PG0855+294</td> <td>STIS/CCD, ACQ, F28X50LP</td> <td>MIRROR</td> <td></td> <td></td> <td></td> <td></td> <td>0.1 Secs [=&gt;]</td> <td>[1]</td> </tr> <tr> <td>2</td> <td>(24) PG0855+294</td> <td>STIS/FUV-MAMA, ACCUM, 0.2X0.2</td> <td>E140M 1425 A</td> <td></td> <td></td> <td></td> <td></td> <td>2511 Secs [=&gt;]</td> <td>[1]</td> </tr> </tbody> </table>	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit	1	(24) PG0855+294	STIS/CCD, ACQ, F28X50LP	MIRROR					0.1 Secs [=>]	[1]	2	(24) PG0855+294	STIS/FUV-MAMA, ACCUM, 0.2X0.2	E140M 1425 A					2511 Secs [=>]	[1]				
	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit																									
1	(24) PG0855+294	STIS/CCD, ACQ, F28X50LP	MIRROR					0.1 Secs [=>]	[1]																										
2	(24) PG0855+294	STIS/FUV-MAMA, ACCUM, 0.2X0.2	E140M 1425 A					2511 Secs [=>]	[1]																										
<b>Orbit Structure</b>	<p><b>Orbit 1</b> <span style="float: right;">Server Version: 20091209</span></p> <p style="text-align: center;">*** VISIBILITY OVERRUN = 10</p>																																		
	<p>Timeline labels: GS Acq, Exp. 1, Exp. 2 (Auto-WAVECAL), Exp. 2, Occultation, Exp. 2 (Auto-WAVECAL), Home.</p> <p>X-axis: 0, 500, 1000, 1500, 2000, 2500, 3000, 3500, 4000, 4500, 5000, 5500 sec</p>																																		