11579 - The Difference Between Neutral- and Ionized-Gas Metal Abundances in Local Star-Forming Galaxies with COS

Cycle: 17, Proposal Category: GO

(Availability Mode: SUPPORTED)

INVESTIGATORS

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VISITS

Visit	*Targets used in Visit*	*Configurations used in Visit*	*Orbits Used*	*Last Orbit Planner Run*	*OP Current with Visit?*
01	(1) M83	ACS/SBC	1	01-Oct-2010 21:02:00.0	yes
02	(2) NGC3690	ACS/SBC	1	01-Oct-2010 21:02:04.0	yes
03	(3) NGC4214	ACS/SBC	1	01-Oct-2010 21:02:07.0	yes
04	(4) NGC4449	ACS/SBC	1	01-Oct-2010 21:02:10.0	yes
05	(5) NGC4670	ACS/SBC	1	01-Oct-2010 21:02:12.0	yes
06	(6) NGC5253	ACS/SBC	1	01-Oct-2010 21:02:15.0	yes
07	(7) IZW18	ACS/SBC	1	01-Oct-2010 21:02:17.0	yes
08	(8) SBS1415+437	ACS/SBC	1	01-Oct-2010 21:02:20.0	yes

Visit	*Targets used in Visit*	*Configurations used in Visit*	*Orbits Used*	*Last Orbit Planner Run*	*OP Current with Visit?*
11	(11) M83-OBJECT-1 (12) M83-OBJECT-2	COS/FUV COS/NUV	3	01-Oct-2010 21:02:31.0	yes
21	(21) NGC3690-OBJECT-1	COS/FUV COS/NUV	1	01-Oct-2010 21:02:39.0	yes
31	(31) NGC4214-OBJECT-1	COS/FUV COS/NUV	1	01-Oct-2010 21:02:43.0	yes
32	(32) NGC4214-OBJECT-1-REVISIT	COS/FUV COS/NUV	1	01-Oct-2010 21:02:47.0	yes
41	(41) NGC4449-OBJECT-1	COS/FUV COS/NUV	1	01-Oct-2010 21:02:51.0	yes
51	(51) NGC4670-OBJECT-1	COS/FUV COS/NUV	1	01-Oct-2010 21:02:56.0	yes
61	(61) NGC5253-OBJECT-1 (62) NGC5253-OBJECT-2	COS/FUV COS/NUV	4	01-Oct-2010 21:03:09.0	yes
71	(71) IZW18-OBJECT-1	COS/FUV COS/NUV	3	01-Oct-2010 21:03:21.0	yes
72	(71) IZW18-OBJECT-1	COS/FUV COS/NUV	3	01-Oct-2010 21:03:31.0	yes
81	(81) SBS1415+437-OBJECT-1	COS/FUV COS/NUV	5	01-Oct-2010 21:03:48.0	yes
91	(91) SBS0335-052-OBJECT-1	COS/FUV COS/NUV	4	01-Oct-2010 21:04:03.0	yes

35 Total Orbits Used

ABSTRACT

The metallicity of galaxies and its evolution with redshift is of paramount importance for understanding galaxy formation. Abundances in the interstellar medium (ISM) are typically determined using emission-line spectroscopy of HII regions. However, since HII regions are associated with recent SF they may not have abundances typical for the galaxy as a whole. This is true in particular for star-forming galaxies (SFGs), in which the

bulk of the metals may be contained in the neutral gas. It is therefore important to directly probe the metal abundances in the neutral gas. This can be done using absorption lines in the Far UV. We have developed techniques to do this in SFGs, where the absorption is measured for sightlines toward bright SF regions within the galaxy itself. We have successfully applied this technique to a sample of galaxies observed with FUSE. The results have been very promising, suggesting in I Zw 18 that abundances in the neutral gas may be up to 0.5 dex lower than in the ionized gas. However, the interpretation of the FUSE data is complicated by the very large FUSE aperture (30 arcsec), the modest S/N, and the limited selection of species available in the FUSE bandpass. The advent of COS on HST now allows a significant advance in all of these areas. We will therefore obtain absorption line spectroscopy with G130M in the same sample for which we already have crude constraints from FUSE. We will obtain ACS/SBC images to select the few optimal sightlines to target in each galaxy. The results will be interpreted through line-profile fitting to determine the metal abundances constrained by the available lines. The results will provide important new insights into the metallicities of galaxies, and into outstanding problems at high redshift such as the observed offset between the metallicities of Lyman Break Galaxies and Damped Lyman Alpha systems.

OBSERVING DESCRIPTION

We will perform COS/FUV spectroscopy of several point-like sources within 9 nearby star-forming galaxies previously observed with FUSE. We will infer the abundances of the neutral ISM for a more direct comparison with the abundances in the H II regions. The G130M grating at the central wavelength 1291 Ang will be used to cover the 1132-1274 and 1291-1433 Ang spectral range. The spectroscopic exposures in each pointing will be executed with FP-split to mitigate flat-fielding uncertainties and improve the S/N. Since the targets of each pointing will be faint point-like sources we will perform a standard peak-up target acquisition (TA) in NUV imaging mode.

We will start our observing campain by performing 1-orbit FUV imaging of each galaxy with a set-up which includes as much as possible of the wavelength range that we are interested in, i.e., ACS/SBC with F125LP. (For SBS 0335-052 an ACS/SBC F140LP archival image already exists that we can use as early-acquisition image.) The FUV image will be used as early-acquisition image for spectroscopy and will be crucial to guide the COS pointing. The spectroscopy of each galaxy should occur no earlier than 3 months after the acquistion of the ACS/SBC galaxy image. We will inspect our ACS/SBC images to find target sources that are bright enough for absorption line spectroscopy, as compact as possible, and no larger than ~1 arcsec in diameter, in order to achieve a spectral resolution that will allow us to perform the necessary neutral ISM analysis.

Having at least 3 sightlines per galaxy is useful in order to understand and calibrate out spatial dependences and variations of the metal abundances within the galaxy. However, this can only be done efficiently for the closest (D < 10 Mpc) SFGs which are also better resolved in terms of stellar clusters and SF regions. We thus plan for only one sightline for the most distant galaxies in the sample. This is reflected in our Phase II. However, the

exact number of pointings and orbits per galaxy, and the exact coordinates (right ascension and declination) of the pointings, will be modified and finalized after the imaging has been obtained.

REAL TIME JUSTIFICATION

N/A

CALIBRATION JUSTIFICATION

N/A

ADDITIONAL COMMENTS

N/A

Visit

Proposal 11579, Visit 01, completed Sat Oct 02 01:04:09 GMT 2010

Diagnostic Status: Warning

Scientific Instruments: ACS/SBC

Special Requirements: GYRO MODE 2G

Comments: BOP: there are no clear point sources in the DSS plate. Also, no GSC2 sources in the FOV (it is too crowded). There is a GALEX image and a GALEX source in the field, but no way to convert the NUV and FUV magnitudes into V. Also, used the FUV GALEX image: if the brightest pixel is 0.48 counts/s/pixel then observations are OK. In this case brightest pixel was ~ 5.8, thus too bright.

The only way to clear this field is to do photometry of the archival HST/WFPC2&ACS images.

Diagnostics

(Visit 01) Warning (Form): Gyro Mode overrides default value of 3GOBAD.

Patterns

#	Primary Pattern		Secondary Pattern	Exposures
(1)	Pattern Type=ACS-SBC-DITHER-BOX Purpose=DITHER Number Of Points=4 Point Spacing=0.179 Line Spacing=0.116	Coordinate Frame=POS-TARG Pattern Orientation=20.02 Angle Between Sides=63.65 Center Pattern=true		(1)

Fixed Targets

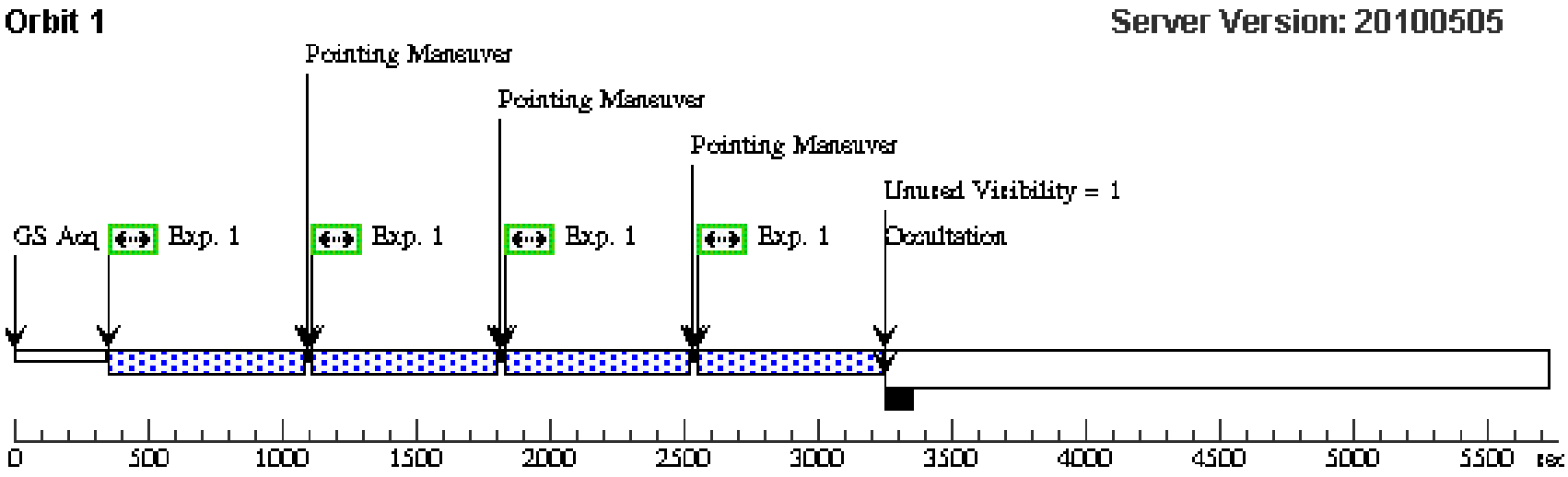
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	M83	RA: 13 37 0.5100 (204.2521250d) Dec: -29 52 0.50 (-29.86681d) Equinox: J2000		V=7.5+/-0.1	Reference Frame: ICRS

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

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
1	acs_sbc_m83	(1) M83	ACS/SBC, ACCUM, SBC-FIX	F125LP			Pattern 1, Exps 1-1 (1)	600 Secs	
								[==>660.0 Secs (Pattern 1)] *[==>660.0 Secs (Pattern 2)]* *[==>660.0 Secs (Pattern 3)]* *[==>660.0 Secs (Pattern 4)]*	***[1]***

Orbit Structure



Visit

Proposal 11579, Visit 02, completed Sat Oct 02 01:04:10 GMT 2010

Diagnostic Status: Warning

Scientific Instruments: ACS/SBC

Special Requirements: GYRO MODE 2G

Comments: BOP: there are no clear point sources in the DSS plate. Also, only a couple of GSC2 sources in the FOV that are unknown. No GALEX observations/sources.

The only way to clear this field is to do photometry of the archival HST/WFPC2&ACS images.

Diagnostics

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

(Visit 02) Warning (Form): Gyro Mode overrides default value of 3GOBAD.

Patterns

#	Primary Pattern		Secondary Pattern	Exposures
(1)	Pattern Type=ACS-SBC-DITHER-BOX Purpose=DITHER Number Of Points=4 Point Spacing=0.179 Line Spacing=0.116	Coordinate Frame=POS-TARG Pattern Orientation=20.02 Angle Between Sides=63.65 Center Pattern=true		(1)

Fixed Targets

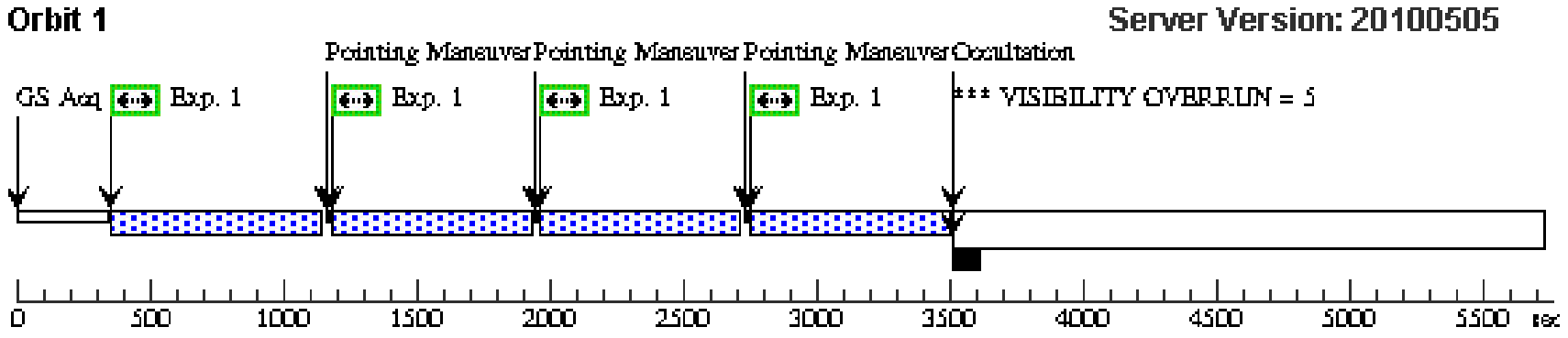
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(2)	NGC3690	RA: 11 28 31.0000 (172.1291667d) Dec: +58 33 41.00 (58.56139d) Equinox: J2000		V=12.0+/-0.1	Reference Frame: ICRS

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

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
1	acs_sbc_ngc3690	(2) NGC3690	ACS/SBC, ACCUM, SBC-FIX	F125LP			Pattern 1, Exps 1-1 (1)	600 Secs *[==>725.0 Secs (Pattern 1)]* *[==>725.0 Secs (Pattern 2)]* *[==>725.0 Secs (Pattern 3)]* *[==>725.0 Secs (Pattern 4)]*	***[1]***

Orbit Structure



Visit

Proposal 11579, Visit 03, completed Sat Oct 02 01:04:10 GMT 2010

Diagnostic Status: Warning

Scientific Instruments: ACS/SBC

Special Requirements: GYRO MODE 2G

Comments: BOP: there are no clear point sources in the DSS plate. Also, no GSC2 sources in the FOV (it is too crowded). There is a GALEX image and 5 GALEX sources in the field, but no way to convert the NUV and FUV magnitudes into V. Also, used the FUV GALEX image: if the brightest pixel is 0.48 counts/s/pixel then observations are OK. In this case brightest pixel was ~ 17, thus too bright.

The only way to clear this field is to do photometry of the archival HST/WFPC2&ACS images.

Diagnostics

(Visit 03) Warning (Form): Gyro Mode overrides default value of 3GOBAD.

Patterns

#	Primary Pattern		Secondary Pattern	Exposures
(1)	Pattern Type=ACS-SBC-DITHER-BOX Purpose=DITHER Number Of Points=4 Point Spacing=0.179 Line Spacing=0.116	Coordinate Frame=POS-TARG Pattern Orientation=20.02 Angle Between Sides=63.65 Center Pattern=true		(1)

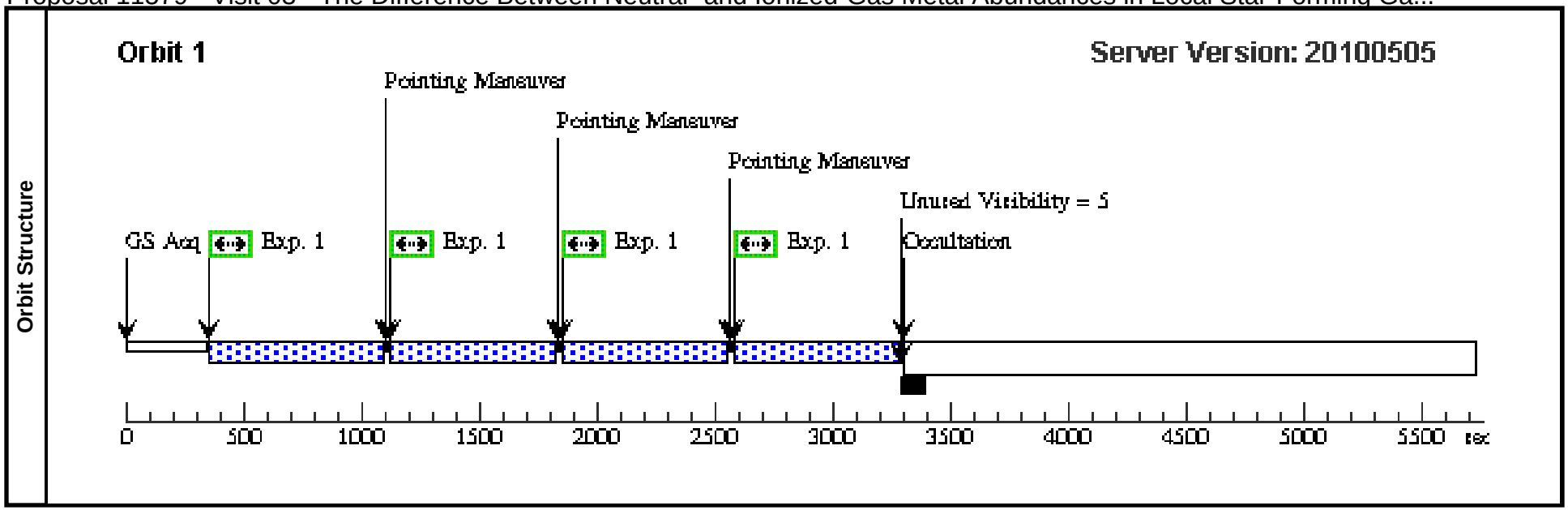
Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(3)	NGC4214	RA: 12 15 39.4100 (183.9142083d) Dec: +36 19 35.10 (36.32642d) Equinox: J2000		V=9.8+/-0.1	Reference Frame: ICRS

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

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
1	acs_sbc_ngc4214	(3) NGC4214	ACS/SBC, ACCUM, SBC-FIX	F125LP			Pattern 1, Exps 1-1 (1)	600 Secs	
								[==>670.0 Secs (Pattern 1)]	***[1]***
								[==>670.0 Secs (Pattern 2)]	
								[==>670.0 Secs (Pattern 3)]	
								[==>670.0 Secs (Pattern 4)]	


Orbit Structure
Orbit 1
Server Version: 20100505
Pointing Maneuver
Pointing Maneuver
Pointing Maneuver
Unused Visibility = 5
GS Acq
Exp. 1
Exp. 1
Exp. 1
Exp. 1
Occultation
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
sec

Visit

Proposal 11579, Visit 04, completed Sat Oct 02 01:04:11 GMT 2010

Diagnostic Status: Warning

Scientific Instruments: ACS/SBC

Special Requirements: GYRO MODE 2G

Comments: BOP: there are no clear point sources in the DSS plate. Also, no GSC2 sources in the FOV (it is too crowded). There is a GALEX image and 7 GALEX sources in the field, but no way to convert the NUV and FUV magnitudes into V. Also, used the FUV GALEX image: if the brightest pixel is 0.48 counts/s/pixel then observations are OK. In this case brightest pixel was ~ 2.5, thus too bright.

The only way to clear this field is to do photometry of the archival HST/WFPC2&ACS images.

Diagnostics

(Visit 04) Warning (Form): Gyro Mode overrides default value of 3GOBAD.

Patterns

#	Primary Pattern		Secondary Pattern	Exposures
(1)	Pattern Type=ACS-SBC-DITHER-BOX	Coordinate Frame=POS-TARG		(1)
	Purpose=DITHER	Pattern Orientation=20.02		
	Number Of Points=4	Angle Between Sides=63.65		
	Point Spacing=0.179	Center Pattern=true		
	Line Spacing=0.116			

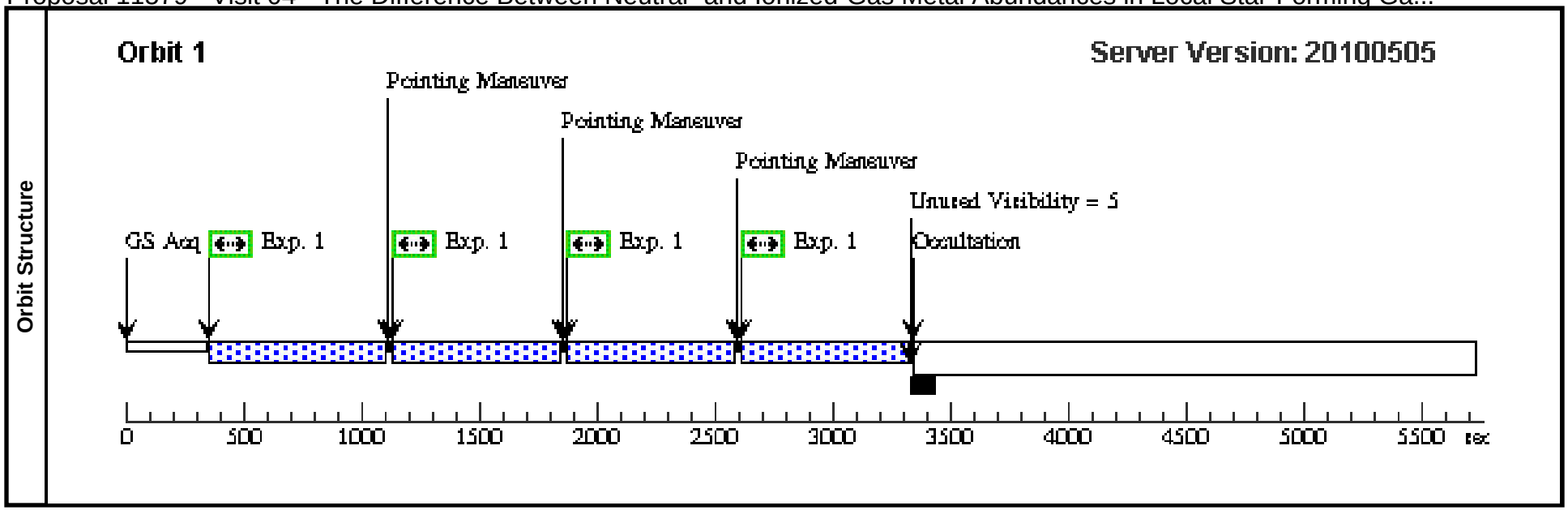
Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(4)	NGC4449	RA: 12 28 10.8100 (187.0450417d)		V=9.6+/-0.1	Reference Frame: ICRS
		Dec: +44 05 42.90 (44.09525d)			
		Equinox: J2000			

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

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
1	acs_sbc_ngc4449	(4) NGC4449	ACS/SBC, ACCUM, SBC-FIX	F125LP		GS ACQ SCENARIO BASE1T3	Pattern 1, Exps 1-1 (1)	600 Secs	
								[==>680.0 Secs (Pattern 1)]	***[1]***
								[==>680.0 Secs (Pattern 2)]	
								[==>680.0 Secs (Pattern 3)]	
								[==>680.0 Secs (Pattern 4)]	


Orbit Structure
Orbit 1
Server Version: 20100505
Pointing Maneuver
Pointing Maneuver
Pointing Maneuver
Unused Visibility = 5
GS Acq
Exp. 1
Exp. 1
Exp. 1
Exp. 1
Occultation
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
sec

Visit

Proposal 11579, Visit 05, completed Sat Oct 02 01:04:11 GMT 2010

Diagnostic Status: Warning

Scientific Instruments: ACS/SBC

Special Requirements: GYRO MODE 2G

Comments: BOP: there are no clear point sources in the DSS plate. There are 4 GSC2 sources in the FOV, 1 safe and 3 unknown. There is also a warning that the total global rate is too high (2.53 cnts/sec). There is a GALEX image and 1 GALEX source in the field, but no way to convert the NUV and FUV magnitudes into V. Also, used the FUV GALEX image: if the brightest pixel is 0.48 counts/s/pixel then observations are OK. In this case brightest pixel was ~ 1.7, thus too bright.

The only way to clear this field is to do photometry of the archival HST/WFPC2&ACS images.

Diagnostics

(Visit 05) Warning (Form): Gyro Mode overrides default value of 3GOBAD.

Patterns

#	Primary Pattern		Secondary Pattern	Exposures
(1)	Pattern Type=ACS-SBC-DITHER-BOX Purpose=DITHER Number Of Points=4 Point Spacing=0.179 Line Spacing=0.116	Coordinate Frame=POS-TARG Pattern Orientation=20.02 Angle Between Sides=63.65 Center Pattern=true		(1)

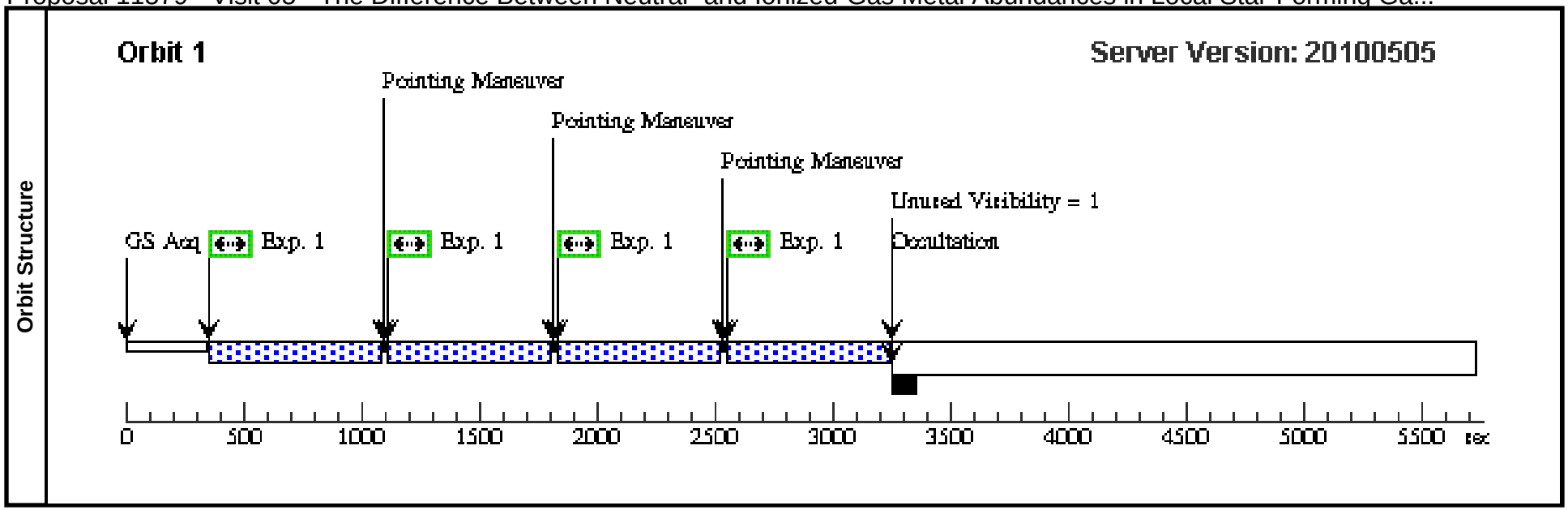
Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(5)	NGC4670	RA: 12 45 16.9000 (191.3204167d) Dec: +27 07 30.00 (27.12500d) Equinox: J2000		V=13.1+/-0.1	Reference Frame: ICRS

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

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
1	acs_sbc_ngc4670	(5) NGC4670	ACS/SBC, ACCUM, SBC-FIX	F125LP			Pattern 1, Exps 1-1 (1)	600 Secs *[==>660.0 Secs (Pattern 1)]* *[==>660.0 Secs (Pattern 2)]* *[==>660.0 Secs (Pattern 3)]* *[==>660.0 Secs (Pattern 4)]*	***[1]***


Orbit Structure
Orbit 1
Server Version: 20100505
Pointing Maneuver
Pointing Maneuver
Pointing Maneuver
Unused Visibility = 1
GS Acq
Exp. 1
Exp. 1
Exp. 1
Exp. 1
Occultation
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
sec

Visit

Proposal 11579, Visit 06, completed Sat Oct 02 01:04:11 GMT 2010

Diagnostic Status: Warning

Scientific Instruments: ACS/SBC

Special Requirements: GYRO MODE 2G

Comments: BOP: there are no clear point sources in the DSS plate. There is 1 GSC2 source in the FOV which is unknown. There is a GALEX image and 1 GALEX source in the field, but no way to convert the NUV and FUV magnitudes into V. Also, used the FUV GALEX image: if the brightest pixel is 0.48 counts/s/pixel then observations are OK. In this case brightest pixel was ~ 2.8, thus too bright.

The only way to clear this field is to do photometry of the archival HST/WFPC2&ACS images.

Diagnostics

(Visit 06) Warning (Form): Gyro Mode overrides default value of 3GOBAD.

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

Patterns

#	Primary Pattern		Secondary Pattern	Exposures
(1)	Pattern Type=ACS-SBC-DITHER-BOX Purpose=DITHER Number Of Points=4 Point Spacing=0.179 Line Spacing=0.116	Coordinate Frame=POS-TARG Pattern Orientation=20.02 Angle Between Sides=63.65 Center Pattern=true		(1)

Fixed Targets

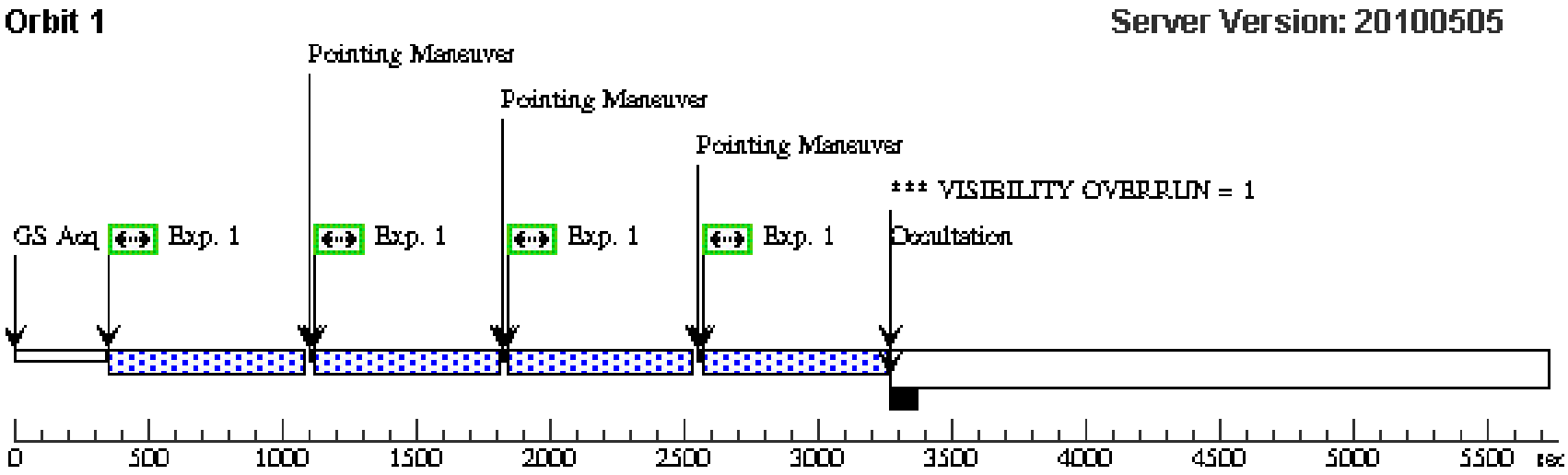
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(6)	NGC5253	RA: 13 39 55.9700 (204.9832083d) Dec: -31 38 27.00 (-31.64083d) Equinox: J2000		V=10.4+/-0.1	Reference Frame: ICRS

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

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
1	acs_sbc_ngc5253	(6) NGC5253	ACS/SBC, ACCUM, SBC-FIX	F125LP			Pattern 1, Exps 1-1 (1)	600 Secs	
								[==>665.0 Secs (Pattern 1)] *[==>665.0 Secs (Pattern 2)]* *[==>665.0 Secs (Pattern 3)]* *[==>665.0 Secs (Pattern 4)]*	***[1]***

Orbit Structure



Visit

Proposal 11579, Visit 07, completed Sat Oct 02 01:04:12 GMT 2010

Diagnostic Status: Warning

Scientific Instruments: ACS/SBC

Special Requirements: GYRO MODE 2G

Comments: BOP: there are no clear point sources in the DSS plate. There are 2 GSC2 sources in the FOV which are unknown. There is a GALEX image and 2 GALEX sources in the field (coincident with the 2 GSC2 sources), but no way to convert the NUV and FUV magnitudes into V. Also, used the FUV GALEX image: if the brightest pixel is 0.48 counts/s/pixel then observations are OK. In this case brightest pixel was ~ 5.7, thus too bright.

The only way to clear this field is to do photometry of the archival HST/WFPC2&ACS images.

Diagnostics

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

(Visit 07) Warning (Form): Gyro Mode overrides default value of 3GOBAD.

Patterns

#	Primary Pattern		Secondary Pattern	Exposures
(1)	Pattern Type=ACS-SBC-DITHER-BOX Purpose=DITHER Number Of Points=4 Point Spacing=0.179 Line Spacing=0.116	Coordinate Frame=POS-TARG Pattern Orientation=20.02 Angle Between Sides=63.65 Center Pattern=true		(1)

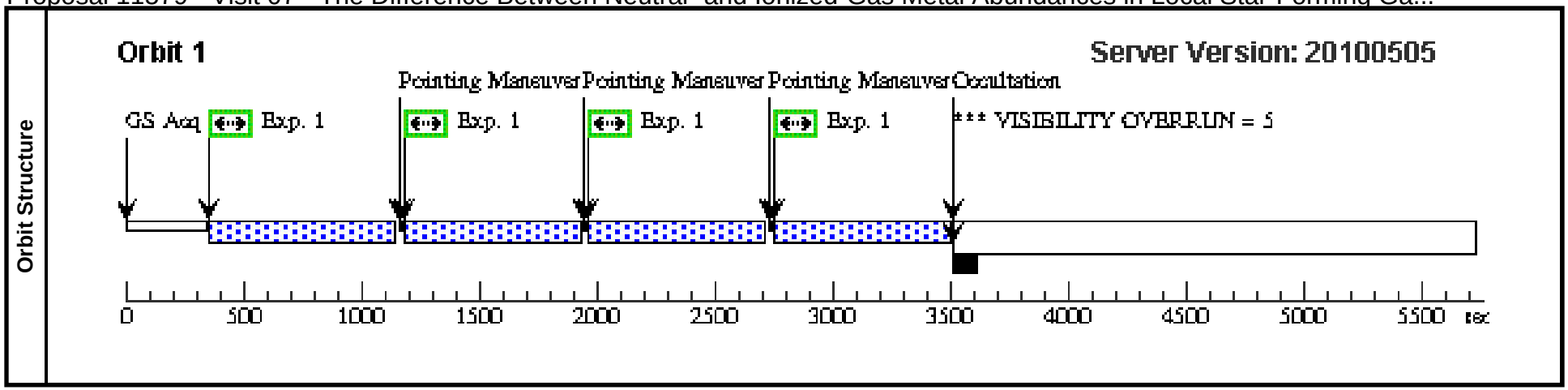
Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(7)	IZW18	RA: 09 34 2.3000 (143.5095833d) Dec: +55 14 24.99 (55.24028d) Equinox: J2000		V=15.6+/-0.1	Reference Frame: ICRS

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

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
1	acs_sbc_izw18	(7) IZW18	ACS/SBC, ACCUM, SBC-FIX	F125LP			Pattern 1, Exps 1-1 (1)	600 Secs *[==>725.0 Secs (Pattern 1)]* *[==>725.0 Secs (Pattern 2)]* *[==>725.0 Secs (Pattern 3)]* *[==>725.0 Secs (Pattern 4)]*	***[1]***


Orbit Structure
Orbit 1
Server Version: 20100505
Pointing Maneuver
Pointing Maneuver
Pointing Maneuver
Occultation
GS Acq
Exp. 1
Exp. 1
Exp. 1
Exp. 1
*** VISIBILITY OVERRUN = 5
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
sec

Visit

Proposal 11579, Visit 08, completed Sat Oct 02 01:04:12 GMT 2010

Diagnostic Status: Warning

Scientific Instruments: ACS/SBC

Special Requirements: GYRO MODE 2G

Comments: BOP: there are no clear point sources in the DSS plate. There are 6 GSC2 sources in the FOV, one is safe, 4 are unknown, and 1 exceeds the local count rate limit (it is the bright star outside the galaxy). There is a GALEX image and 5 GALEX sources in the field (2 coincide with the 1 bright GSC2 source that exceeds the LCR; it is a bright star in the FOV), but no way to convert the NUV and FUV magnitudes into V. Also, used the FUV GALEX image: if the brightest pixel is 0.48 counts/s/pixel then observations are OK. In this case brightest pixel was ~ 0.84, thus too bright.

The only way to clear this field is to do photometry of the archival HST/WFPC2&ACS images.

Diagnostics

(Visit 08) Warning (Form): Gyro Mode overrides default value of 3GOBAD.

Patterns

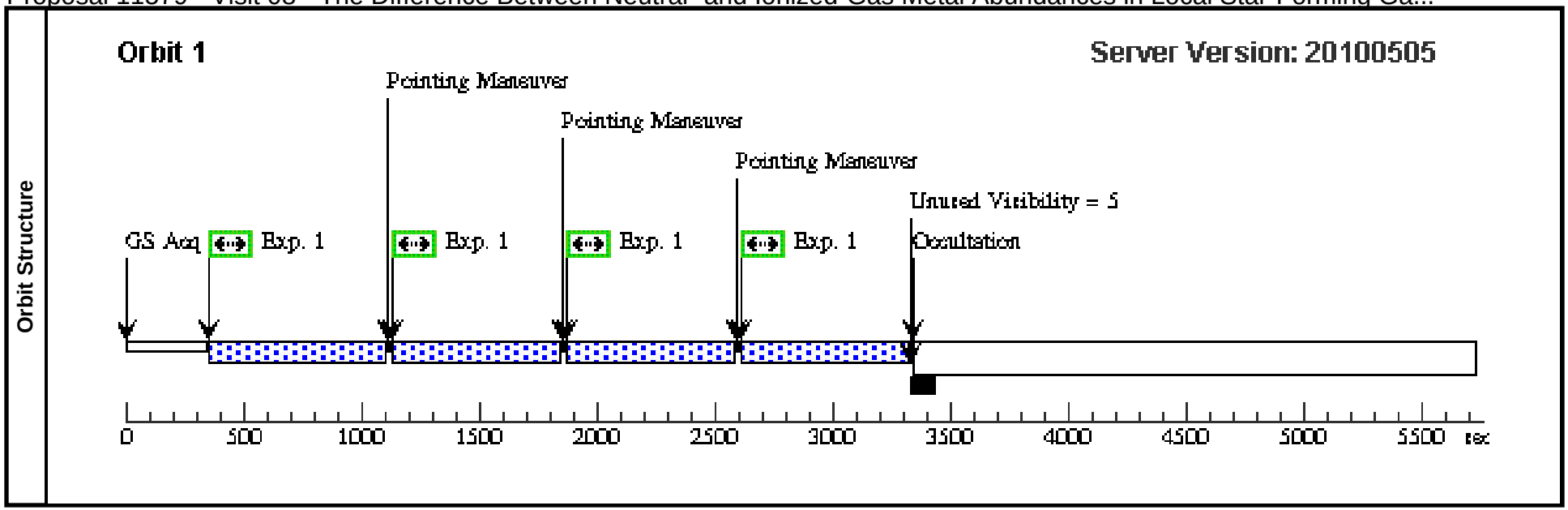
#	Primary Pattern		Secondary Pattern	Exposures
(1)	Pattern Type=ACS-SBC-DITHER-BOX Purpose=DITHER Number Of Points=4 Point Spacing=0.179 Line Spacing=0.116	Coordinate Frame=POS-TARG Pattern Orientation=20.02 Angle Between Sides=63.65 Center Pattern=true		(1)

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(8)	SBS1415+437	RA: 14 17 1.4000 (214.2558333d) Dec: +43 30 4.70 (43.50131d) Equinox: J2000		V=15.5+/-0.1	Reference Frame: ICRS

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
1	acs_sbc_sbs 1415	(8) SBS1415+437	ACS/SBC, ACCUM, SBC-FIX	F125LP			Pattern 1, Exps 1-1 (1)	600 Secs	
								[==>680.0 Secs (Pattern 1)] *[==>680.0 Secs (Pattern 2)]* *[==>680.0 Secs (Pattern 3)]* *[==>680.0 Secs (Pattern 4)]*	***[1]***


Orbit Structure
Orbit 1
Server Version: 20100505
Pointing Maneuver
Pointing Maneuver
Pointing Maneuver
Unused Visibility = 5
GS Acq
Exp. 1
Exp. 1
Exp. 1
Exp. 1
Occultation
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
sec

Visit

Proposal 11579, Visit 11, completed Sat Oct 02 01:04:13 GMT 2010

Diagnostic Status: Warning

Scientific Instruments: COS/NUV, COS/FUV

Special Requirements: (none)

Diagnostics

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

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

(Visit 11) Warning (Orbit Planner): INEFFICIENT ORDERING OF FP-POS POSITIONS

(cos_m83_object1_g130m_1291_orbit1 (11.003)) Warning (Form): FP-POS=AUTO requires input of TOTAL exposure time for all four automatically-generated exposures. However, BUFFER-TIME must be specified for a single exposure, and will be applied to each of the four automatically-generated exposures.

(cos_m83_object1_g130m_1291_orbit2 (11.004)) Warning (Form): FP-POS=AUTO requires input of TOTAL exposure time for all four automatically-generated exposures. However, BUFFER-TIME must be specified for a single exposure, and will be applied to each of the four automatically-generated exposures.

(cos_m83_object2_g130m_1291_orbit3 (11.006)) Warning (Form): FP-POS=AUTO requires input of TOTAL exposure time for all four automatically-generated exposures. However, BUFFER-TIME must be specified for a single exposure, and will be applied to each of the four automatically-generated exposures.

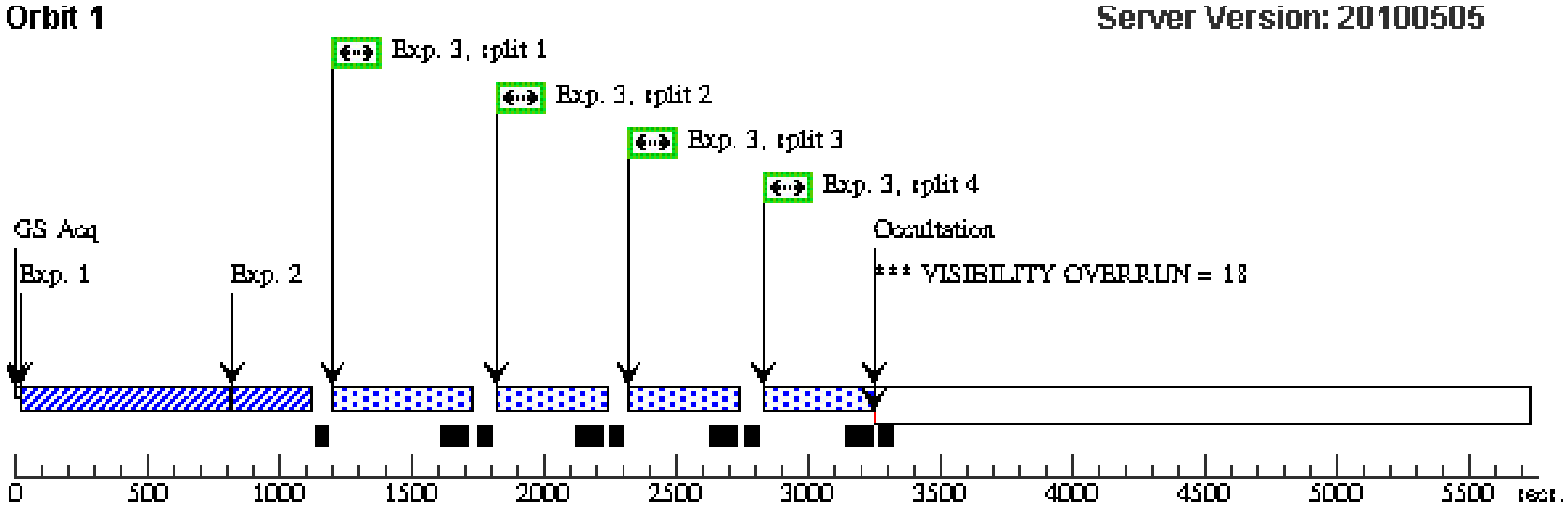
Fixed Targets

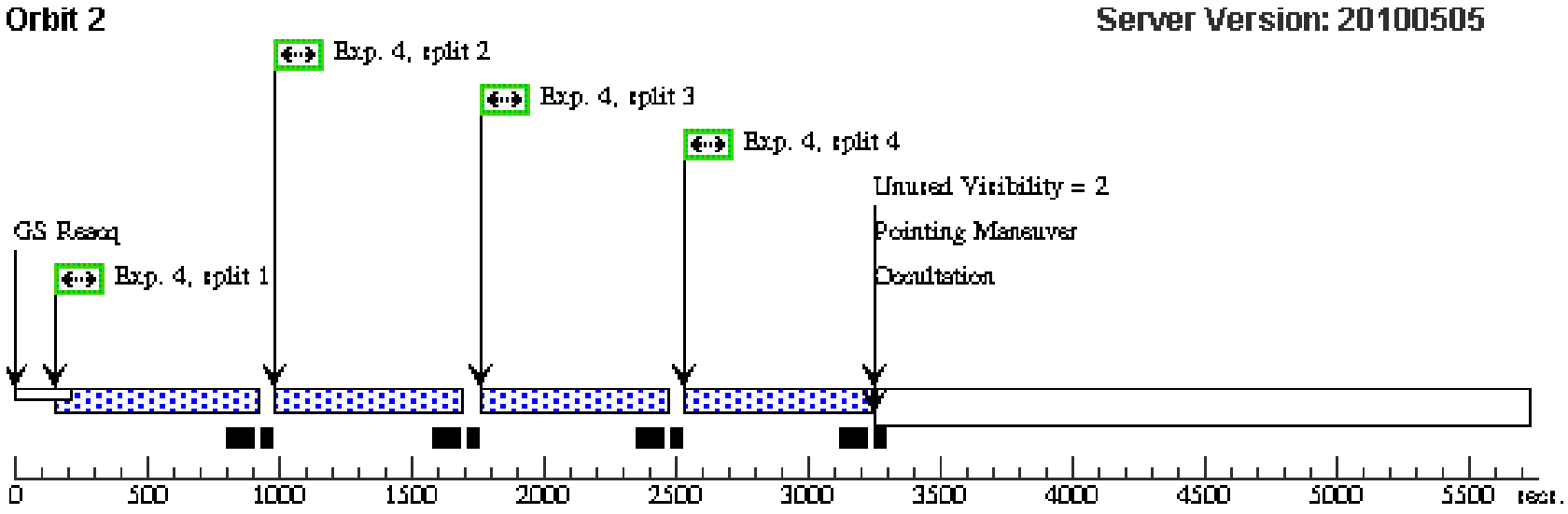
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(11)	M83-OBJECT-1	RA: 13 37 0.4581 (204.2519088d) Dec: -29 51 54.58 (-29.86516d) Equinox: J2000		V=7.5+/-0.1	Reference Frame: ICRS
Comments: The coordinates for this target were obtained from a HLA image which is based on 2MASS astrometry.					
(12)	M83-OBJECT-2	RA: 13 37 0.5081 (204.2521171d) Dec: -29 52 1.22 (-29.86701d) Equinox: J2000		V=7.5+/-0.1	Reference Frame: ICRS
Comments: The coordinates for this target were obtained from a HLA image which is based on 2MASS astrometry.					

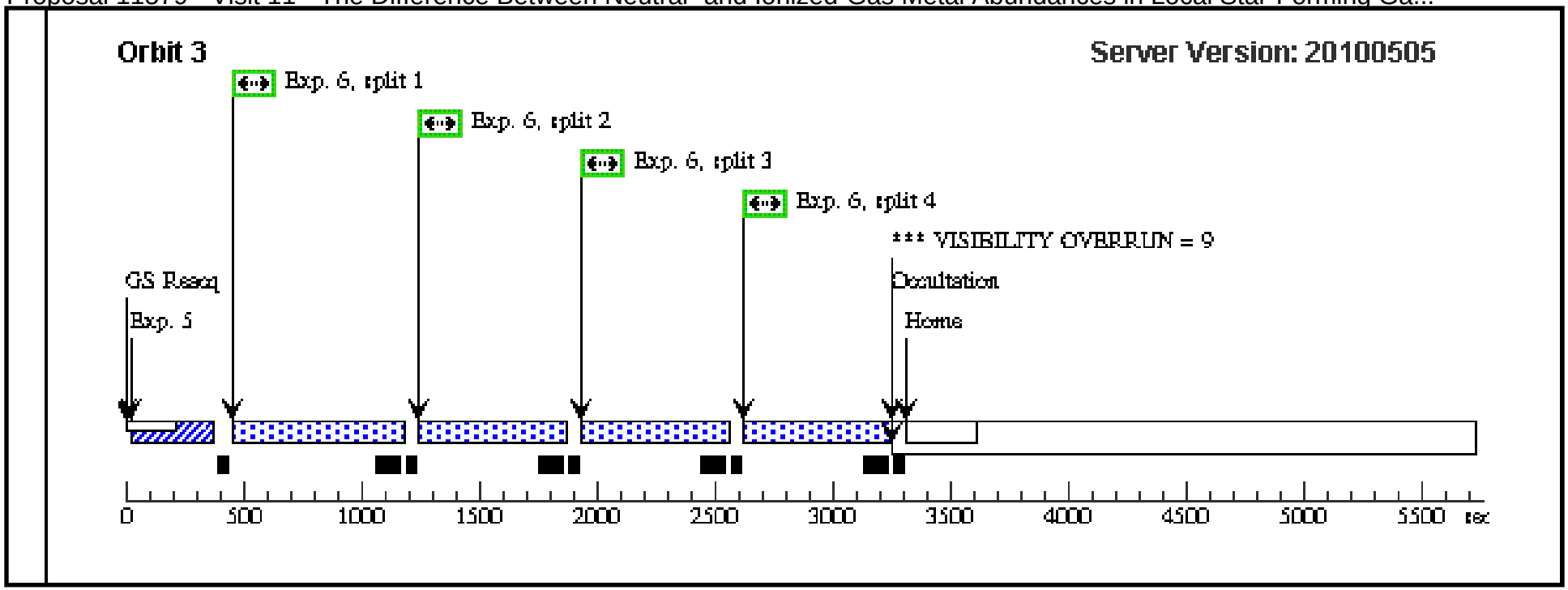
Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
1	cos_m83_object1_ta_search	(11) M83-OBJECT-1	COS/NUV, ACQ/SEARCH, PSA	MIRRORB	SCAN-SIZE=2			84 Secs *[==>]*	 ***[1]***
2	cos_m83_object1_ta_image	(11) M83-OBJECT-1	COS/NUV, ACQ/IMAGE, PSA	MIRRORB				84 Secs *[==>]*	 ***[1]***
3	cos_m83_object1_g130m_1291_orbit1	(11) M83-OBJECT-1	COS/FUV, TIME-TAG, PSA	G130M 1291 A	BUFFER-TIME=272; FP-POS=AUTO			1480 Secs *[==>(Split 1)]* *[==>(Split 2)]* *[==>(Split 3)]* *[==>(Split 4)]*	 ***[1]***
4	cos_m83_object1_g130m_1291_orbit2	(11) M83-OBJECT-1	COS/FUV, TIME-TAG, PSA	G130M 1291 A	BUFFER-TIME=556; FP-POS=AUTO			2612 Secs *[==>(Split 1)]* *[==>(Split 2)]* *[==>(Split 3)]* *[==>(Split 4)]*	 ***[2]***
5	cos_m83_object2_ta_image	(12) M83-OBJECT-2	COS/NUV, ACQ/IMAGE, PSA	MIRRORB				49 Secs *[==>]*	 ***[3]***
6	cos_m83_object2_g130m_1291_orbit3	(12) M83-OBJECT-2	COS/FUV, TIME-TAG, PSA	G130M 1291 A	BUFFER-TIME=473; FP-POS=AUTO			2284 Secs *[==>(Split 1)]* *[==>(Split 2)]* *[==>(Split 3)]* *[==>(Split 4)]*	 ***[3]***

Orbit Structure






Orbit 3
Server Version: 20100505
Exp. 6, split 1
Exp. 6, split 2
Exp. 6, split 3
Exp. 6, split 4
*** VISIBILITY OVERRUN = 9
GS Reacq
Exp. 5
Occultation
Home
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
sec

Visit

Proposal 11579, Visit 21, completed Sat Oct 02 01:04:14 GMT 2010

Diagnostic Status: Warning

Scientific Instruments: COS/NUV, COS/FUV

Special Requirements: (none)

Diagnostics

(Visit 21) Warning (Orbit Planner): VISIBILITY OVERRUN

(cos_ngc3690_object1_g130m_1291 (21.003)) Warning (Form): FP-POS=AUTO requires input of TOTAL exposure time for all four automatically-generated exposures. However, BUFFER-TIME must be specified for a single exposure, and will be applied to each of the four automatically-generated exposures.

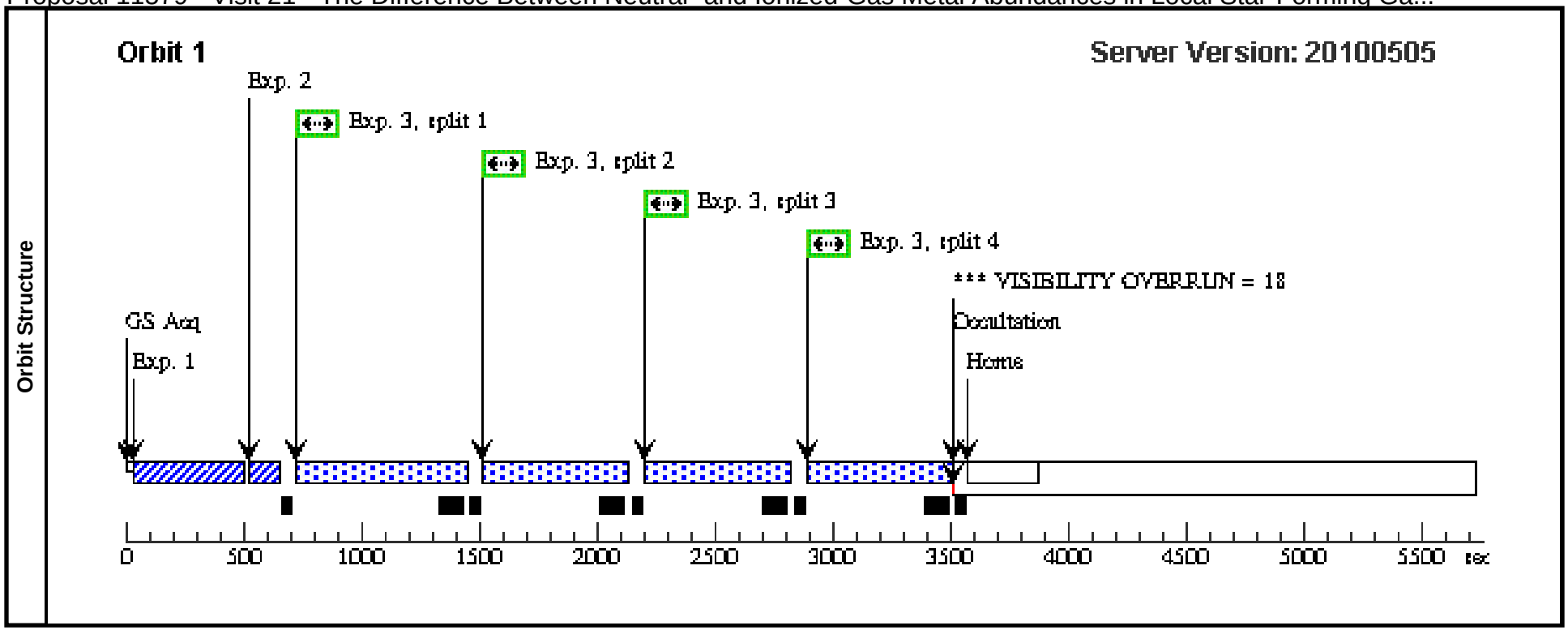
Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(21)	NGC3690-OBJECT-1	RA: 11 28 29.1490 (172.1214542d) Dec: +58 33 41.01 (58.56139d) Equinox: J2000		V=12.0+/-0.1	Reference Frame: ICRS

Comments: The coordinates for this target were obtained from a HLA image which is based on SDSS astrometry.

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
1	cos_ngc3690_object1_ta_search	(21) NGC3690-OBJECT-1	COS/NUV, ACQ/SEARCH, PSA	MIRRORA	SCAN-SIZE=2			7 Secs *[==>]*	 ***[1]***
2	cos_ngc3690_object1_ta_image	(21) NGC3690-OBJECT-1	COS/NUV, ACQ/IMAGE, PSA	MIRRORA				7 Secs *[==>]*	 ***[1]***
3	cos_ngc3690_object1_g130m_1291	(21) NGC3690-OBJECT-1	COS/FUV, TIME-TAG, PSA	G130M 1291 A	BUFFER-TIME=469; FP-POS=AUTO			2276 Secs *[==>(Split 1)]* *[==>(Split 2)]* *[==>(Split 3)]* *[==>(Split 4)]*	 ***[1]***


Orbit Structure
Orbit 1
Server Version: 20100505
Exp. 2
Exp. 3, split 1
Exp. 3, split 2
Exp. 3, split 3
Exp. 3, split 4
*** VISIBILITY OVERRUN = 18
GS Acq
Exp. 1
Occultation
Home
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
sec

Visit

Proposal 11579, Visit 31, failed Sat Oct 02 01:04:14 GMT 2010

Diagnostic Status: Warning

Scientific Instruments: COS/NUV, COS/FUV

Special Requirements: (none)

Diagnostics

(Visit 31) Warning (Orbit Planner): VISIBILITY OVERRUN

(cos_ngc4214_object1_g130m_1291 (31.003)) Warning (Form): FP-POS=AUTO requires input of TOTAL exposure time for all four automatically-generated exposures. However, BUFFER-TIME must be specified for a single exposure, and will be applied to each of the four automatically-generated exposures.

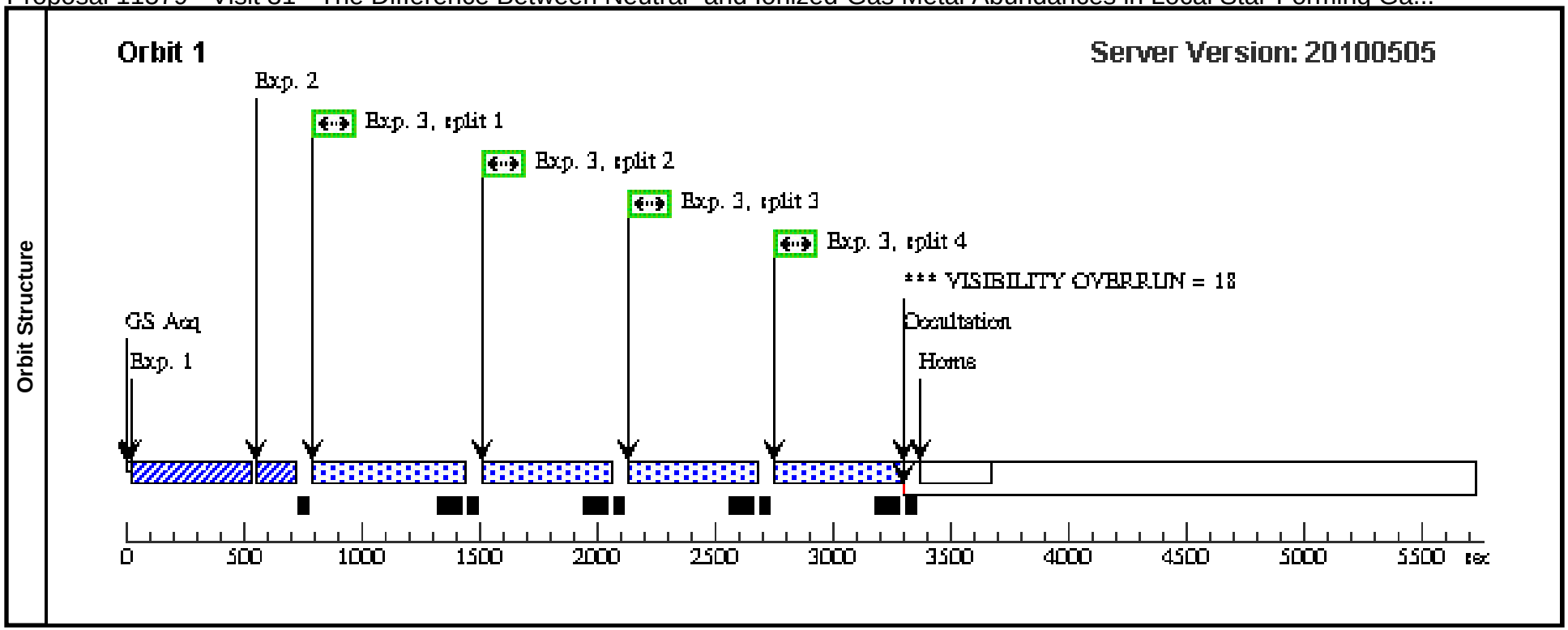
Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(31)	NGC4214-OBJECT-1	RA: 12 15 39.2600 (183.9135833d) Dec: +36 19 34.88 (36.32636d) Equinox: J2000		V=9.8+/-0.1	Reference Frame: ICRS

Comments: The coordinates for this target were obtained from a HLA image which is based on SDSS astrometry.

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
1	cos_ngc4214_object1_ta_search	(31) NGC4214-OBJECT-1	COS/NUV, ACQ/SEARCH, PSA	MIRRORB	SCAN-SIZE=2			15 Secs *[==>]*	***[1]***
2	cos_ngc4214_object1_ta_image	(31) NGC4214-OBJECT-1	COS/NUV, ACQ/IMAGE, PSA	MIRRORB				15 Secs *[==>]*	***[1]***
3	cos_ngc4214_object1_g130m_1291	(31) NGC4214-OBJECT-1	COS/FUV, TIME-TAG, PSA	G130M 1291 A	BUFFER-TIME=394; FP-POS=AUTO			1968 Secs *[==>(Split 1)]* *[==>(Split 2)]* *[==>(Split 3)]* *[==>(Split 4)]*	***[1]***


Orbit Structure
Orbit 1
Server Version: 20100505
Exp. 2
Exp. 3, split 1
Exp. 3, split 2
Exp. 3, split 3
Exp. 3, split 4
*** VISIBILITY OVERRUN = 18
GS Acq
Exp. 1
Occultation
Home
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
sec

Visit

Proposal 11579, Visit 32 Sat Oct 02 01:04:14 GMT 2010

Diagnostic Status: Warning

Scientific Instruments: COS/NUV, COS/FUV

Special Requirements: (none)

Diagnostics

(Visit 32) Warning (Orbit Planner): VISIBILITY OVERRUN

(cos_ngc4214_object1_g130m_1291 (32.003)) Warning (Form): FP-POS=AUTO requires input of TOTAL exposure time for all four automatically-generated exposures. However, BUFFER-TIME must be specified for a single exposure, and will be applied to each of the four automatically-generated exposures.

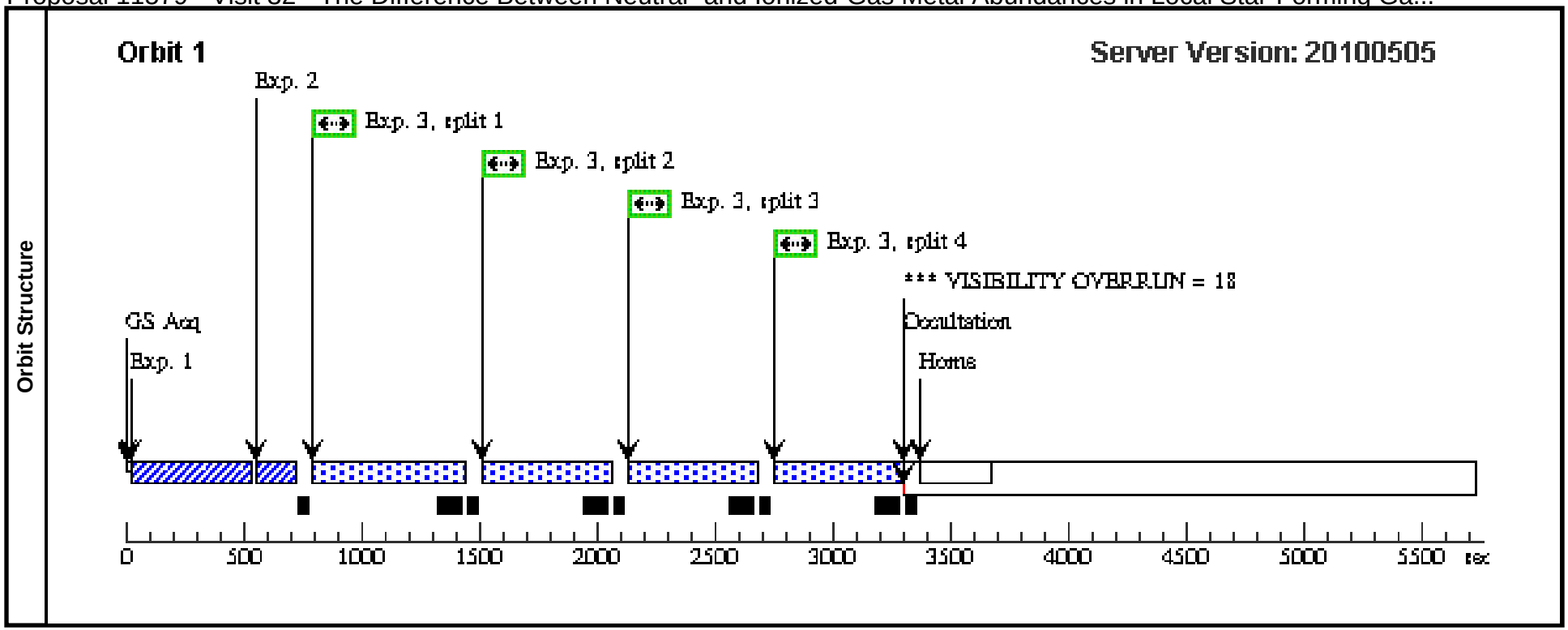
Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(32)	NGC4214-OBJECT-1-REVISIT	RA: 12 15 39.4800 (183.9145000d) Dec: +36 19 35.36 (36.32649d) Equinox: J2000		V=9.8+/-0.1	Reference Frame: ICRS

Comments: Coordinates for this target have now been changed from the previous Visit 31 coordinates. The renewed coordinates were obtained from the ACS-SBC pre-imaging observations.

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
1	cos_ngc4214_object1_ta_search	(32) NGC4214-OBJECT-1-REVISIT	COS/NUV, ACQ/SEARCH, PSA	MIRRORB	SCAN-SIZE=2			15 Secs *[==>]*	***[1]***
2	cos_ngc4214_object1_ta_image	(32) NGC4214-OBJECT-1-REVISIT	COS/NUV, ACQ/IMAGE, PSA	MIRRORB				15 Secs *[==>]*	***[1]***
3	cos_ngc4214_object1_g130m_1291	(32) NGC4214-OBJECT-1-REVISIT	COS/FUV, TIME-TAG, PSA	G130M 1291 A	BUFFER-TIME=394; FP-POS=AUTO			1968 Secs *[==>(Split 1)]* *[==>(Split 2)]* *[==>(Split 3)]* *[==>(Split 4)]*	***[1]***


Orbit Structure
Orbit 1
Server Version: 20100505
Exp. 2
Exp. 3, split 1
Exp. 3, split 2
Exp. 3, split 3
Exp. 3, split 4
*** VISIBILITY OVERRUN = 18
GS Acq
Exp. 1
Occultation
Home
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
sec

Visit

Proposal 11579, Visit 41, completed Sat Oct 02 01:04:15 GMT 2010

Diagnostic Status: Warning

Scientific Instruments: COS/NUV, COS/FUV

Special Requirements: (none)

Diagnostics

(Visit 41) Warning (Orbit Planner): VISIBILITY OVERRUN

(cos_ngc4449_object1_g130m_1291 (41.003)) Warning (Form): FP-POS=AUTO requires input of TOTAL exposure time for all four automatically-generated exposures. However, BUFFER-TIME must be specified for a single exposure, and will be applied to each of the four automatically-generated exposures.

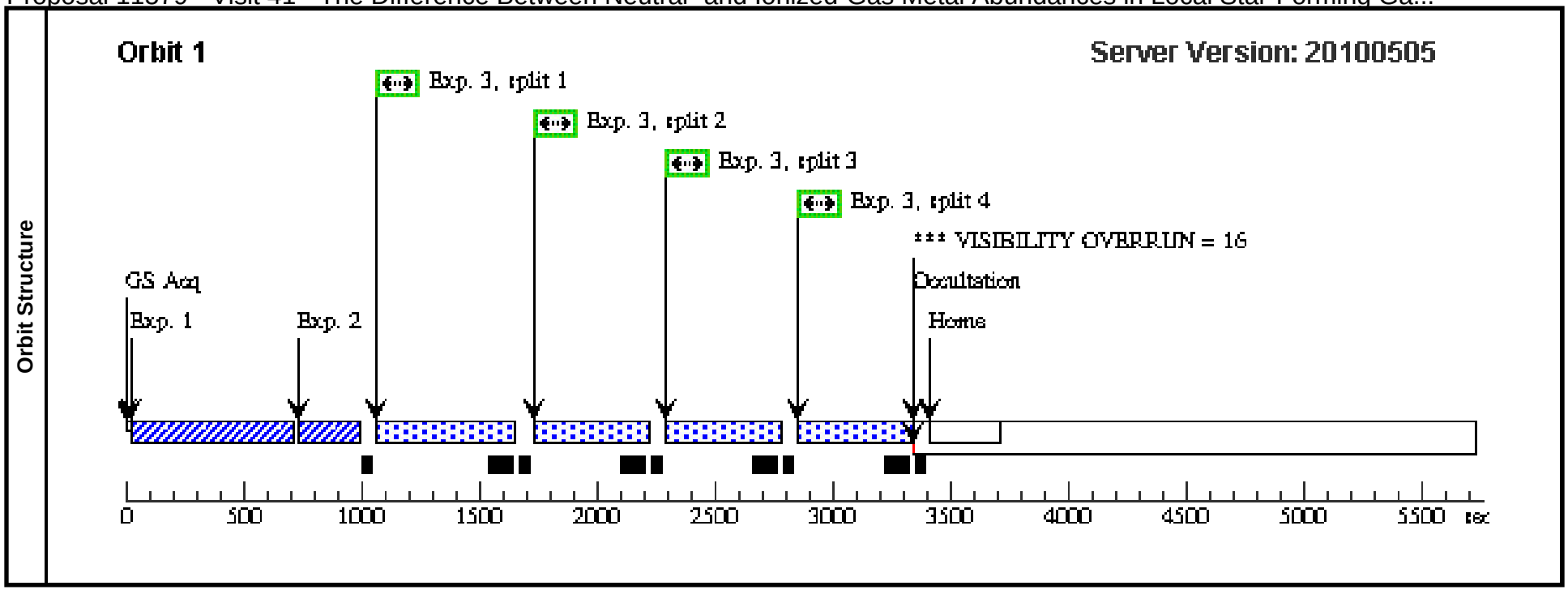
Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(41)	NGC4449-OBJECT-1	RA: 12 28 11.0890 (187.0462042d) Dec: +44 05 37.06 (44.09363d) Equinox: J2000		V=9.6+/-0.1	Reference Frame: ICRS

Comments: The coordinates for this target were obtained from a HLA image which is based on SDSS astrometry.

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
1	cos_ngc4449_object1_ta_search	(41) NGC4449-OBJECT-1	COS/NUV, ACQ/SEARCH, PSA	MIRRORB	SCAN-SIZE=2	GS ACQ SCENARIO BASE1B3		60 Secs *[==>]*	 ***[1]***
2	cos_ngc4449_object1_ta_image	(41) NGC4449-OBJECT-1	COS/NUV, ACQ/IMAGE, PSA	MIRRORB				60 Secs *[==>]*	 ***[1]***
3	cos_ngc4449_object1_g130m_1291	(41) NGC4449-OBJECT-1	COS/FUV, TIME-TAG, PSA	G130M 1291 A	BUFFER-TIME=337; FP-POS=AUTO			1736 Secs *[==>(Split 1)]* *[==>(Split 2)]* *[==>(Split 3)]* *[==>(Split 4)]*	 ***[1]***


Orbit Structure
Orbit 1
Server Version: 20100505
Exp. 3, split 1
Exp. 3, split 2
Exp. 3, split 3
Exp. 3, split 4
*** VISIBILITY OVERRUN = 16
GS Acq
Occultation
Exp. 1
Exp. 2
Home
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
sec

Visit

Proposal 11579, Visit 51, completed Sat Oct 02 01:04:15 GMT 2010

Diagnostic Status: Warning

Scientific Instruments: COS/NUV, COS/FUV

Special Requirements: (none)

Comments: This visit needs to be modified after the analysis of the data from Visit 5.

Diagnostics

(cos_ngc4670_object1_g130m_1291 (51.003)) Warning (Form): FP-POS=AUTO requires input of TOTAL exposure time for all four automatically-generated exposures. However, BUFFER-TIME must be specified for a single exposure, and will be applied to each of the four automatically-generated exposures.

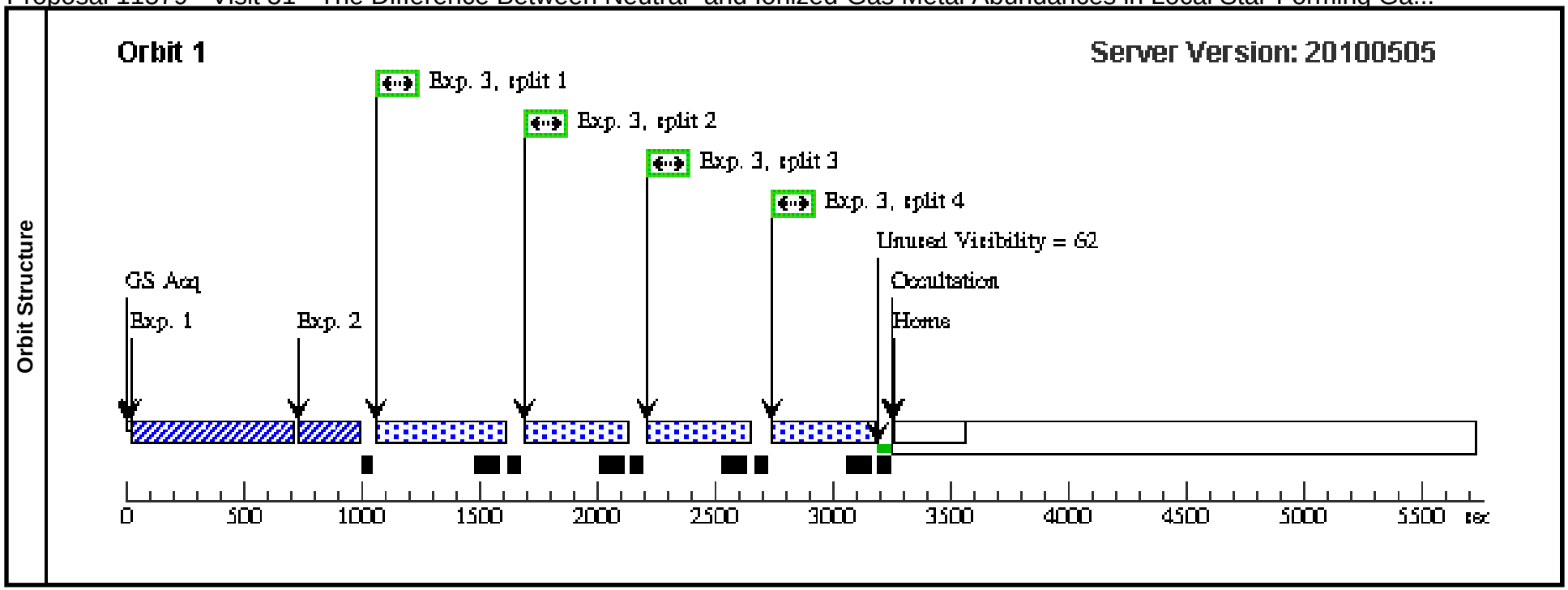
Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(51)	NGC4670-OBJECT-1	RA: 12 45 17.2650 (191.3219375d) Dec: +27 07 32.13 (27.12559d) Equinox: J2000		V=12.7+/-0.1	Reference Frame: ICRS

Comments: This object was selected by looking at ACS/SBC images of visit 5, and its coordinates were inferred from WFPC2 images taken from the HLA archive (i.e., with corrected WCS).

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
1	cos_ngc4670_object1_ta_search	(51) NGC4670-OBJECT-1	COS/NUV, ACQ/SEARCH, PSA	MIRRORB	SCAN-SIZE=2			60 Secs *[==>]*	***[1]***
2	cos_ngc4670_object1_ta_image	(51) NGC4670-OBJECT-1	COS/NUV, ACQ/IMAGE, PSA	MIRRORB				60 Secs *[==>]*	***[1]***
3	cos_ngc4670_object1_g130m_1291	(51) NGC4670-OBJECT-1	COS/FUV, TIME-TAG, PSA	G130M 1291 A	BUFFER-TIME=2866; FP-POS=AUTO			1544 Secs *[==>(Split 1)]* *[==>(Split 2)]* *[==>(Split 3)]* *[==>(Split 4)]*	***[1]***


Orbit Structure
Orbit 1
Server Version: 20100505
Exp. 3, split 1
Exp. 3, split 2
Exp. 3, split 3
Exp. 3, split 4
Unused Visibility = 62
GS Acq
Occultation
Exp. 1
Exp. 2
Home
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
sec

Visit

Proposal 11579, Visit 61, completed Sat Oct 02 01:04:15 GMT 2010

Diagnostic Status: Warning

Scientific Instruments: COS/NUV, COS/FUV

Special Requirements: (none)

Diagnostics

(Visit 61) Warning (Orbit Planner): VISIBILITY OVERRUN

(Visit 61) Warning (Orbit Planner): INEFFICIENT ORDERING OF FP-POS POSITIONS

(Visit 61) Warning (Orbit Planner): INEFFICIENT ORDERING OF FP-POS POSITIONS

(Visit 61) Warning (Orbit Planner): VISIBILITY OVERRUN

(cos_ngc5253_object1_g130m_1291 (61.003)) Warning (Form): FP-POS=AUTO requires input of TOTAL exposure time for all four automatically-generated exposures. However, BUFFER-TIME must be specified for a single exposure, and will be applied to each of the four automatically-generated exposures.

(cos_ngc5253_object1_g130m_1291 (61.004)) Warning (Form): FP-POS=AUTO requires input of TOTAL exposure time for all four automatically-generated exposures. However, BUFFER-TIME must be specified for a single exposure, and will be applied to each of the four automatically-generated exposures.

(cos_ngc5253_object2_g130m_1291_orbit2 (61.010)) Warning (Form): FP-POS=AUTO requires input of TOTAL exposure time for all four automatically-generated exposures. However, BUFFER-TIME must be specified for a single exposure, and will be applied to each of the four automatically-generated exposures.

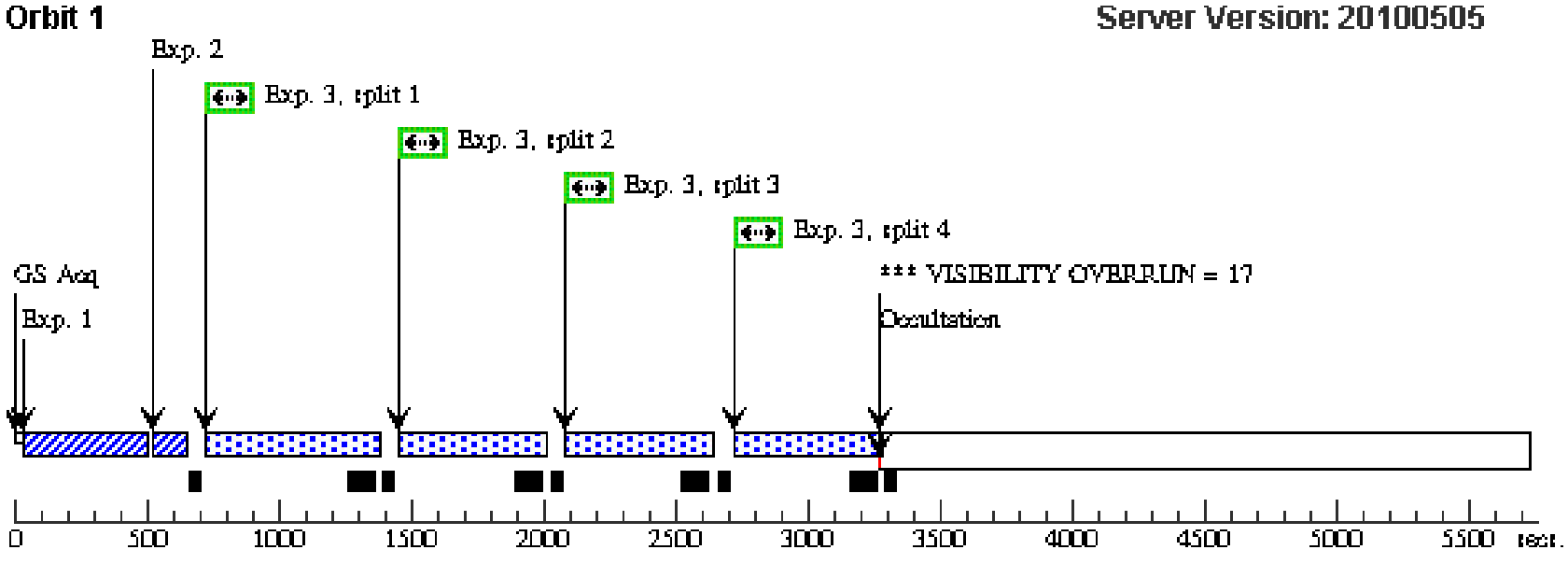
Fixed Targets

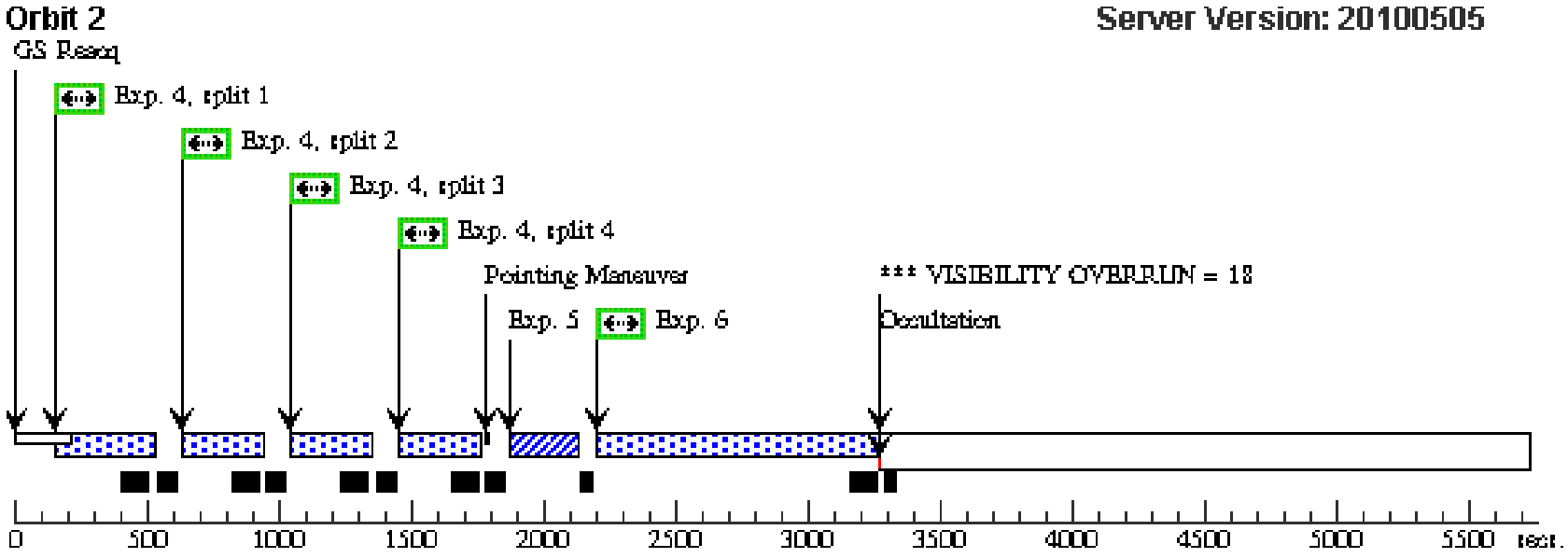
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(61)	NGC5253-OBJECT-1	RA: 13 39 56.0200 (204.9834167d) Dec: -31 38 31.30 (-31.64203d) Equinox: J2000		V=10.4+/-0.1	Reference Frame: ICRS
Comments: The coordinates for this target were obtained from a HLA image which is based on GSC2.3 astrometry.					
(62)	NGC5253-OBJECT-2	RA: 13 39 55.8890 (204.9828708d) Dec: -31 38 38.34 (-31.64398d) Equinox: J2000		V=10.4+/-0.1	Reference Frame: ICRS
Comments: The coordinates for this target were obtained from a HLA image which is based on GSC2.3 astrometry.					

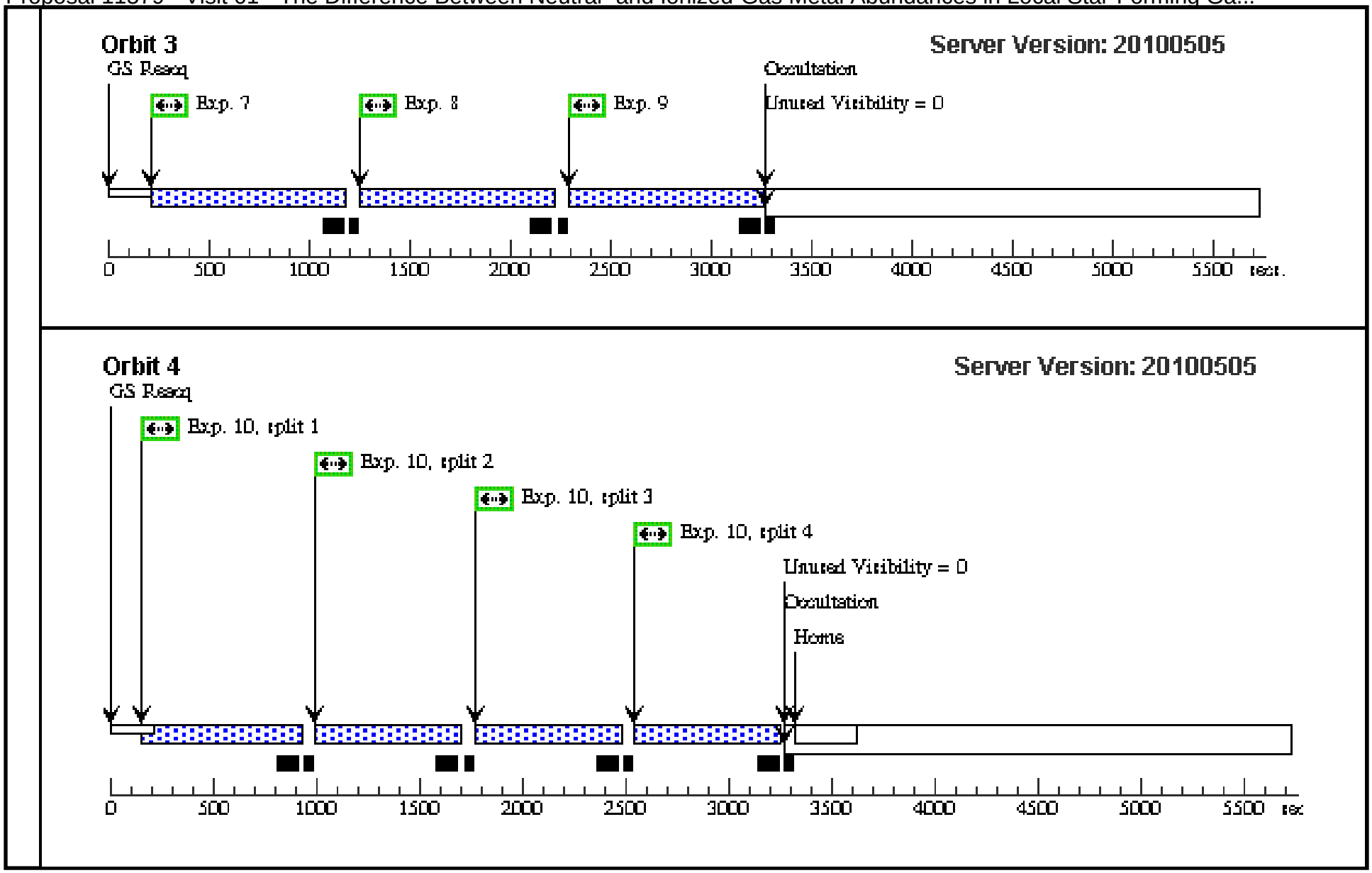
Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
1	cos_ngc5253_object1_ta_search	(61) NGC5253-OBJECT-1	COS/NUV, ACQ/SEARCH, PSA	MIRRORA	SCAN-SIZE=2			7 Secs *[==>]*	*[1]*
2	cos_ngc5253_object1_ta_image	(61) NGC5253-OBJECT-1	COS/NUV, ACQ/IMAGE, PSA	MIRRORA				7 Secs *[==>]*	*[1]*
3	cos_ngc5253_object1_g130m_1291	(61) NGC5253-OBJECT-1	COS/FUV, TIME-TAG, PSA	G130M 1291 A	BUFFER-TIME=405; FP-POS=AUTO			2010 Secs *[==>(Split 1)]* *[==>(Split 2)]* *[==>(Split 3)]* *[==>(Split 4)]*	*[1]*
4	cos_ngc5253_object1_g130m_1291	(61) NGC5253-OBJECT-1	COS/FUV, TIME-TAG, PSA	G130M 1291 A	BUFFER-TIME=157; FP-POS=AUTO			1028 Secs *[==>(Split 1)]* *[==>(Split 2)]* *[==>(Split 3)]* *[==>(Split 4)]*	*[2]*
5	cos_ngc5253_object2_ta_image	(62) NGC5253-OBJECT-2	COS/NUV, ACQ/IMAGE, PSA	MIRRORA				15 Secs *[==>]*	*[2]*
6	cos_ngc5253_object2_g130m_1291	(62) NGC5253-OBJECT-2	COS/FUV, TIME-TAG, PSA	G130M 1291 A	BUFFER-TIME=819; FP-POS=1			911 Secs *[==>]*	*[2]*
7	cos_ngc5253_object2_g130m_1291_orbit1	(62) NGC5253-OBJECT-2	COS/FUV, TIME-TAG, PSA	G130M 1291 A	BUFFER-TIME=819; FP-POS=2			919 Secs *[==>]*	*[3]*
8	cos_ngc5253_object2_g130m_1291_orbit1	(62) NGC5253-OBJECT-2	COS/FUV, TIME-TAG, PSA	G130M 1291 A	BUFFER-TIME=819; FP-POS=3			919 Secs *[==>]*	*[3]*
9	cos_ngc5253_object2_g130m_1291_orbit1	(62) NGC5253-OBJECT-2	COS/FUV, TIME-TAG, PSA	G130M 1291 A	BUFFER-TIME=819; FP-POS=4			913 Secs *[==>]*	*[3]*
10	cos_ngc5253_object2_g130m_1291_orbit2	(62) NGC5253-OBJECT-2	COS/FUV, TIME-TAG, PSA	G130M 1291 A	BUFFER-TIME=560; FP-POS=AUTO			2632 Secs *[==>(Split 1)]* *[==>(Split 2)]* *[==>(Split 3)]* *[==>(Split 4)]*	*[4]*

Orbit Structure






Orbit 3
Server Version: 20100505
GS Reacq
Exp. 7
Exp. 8
Exp. 9
Occultation
Unused Visibility = 0
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
sec.
Orbit 4
Server Version: 20100505
GS Reacq
Exp. 10, split 1
Exp. 10, split 2
Exp. 10, split 3
Exp. 10, split 4
Unused Visibility = 0
Occultation
Home
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
sec

Visit

Proposal 11579, Visit 71, scheduling Sat Oct 02 01:04:17 GMT 2010

Diagnostic Status: Warning

Scientific Instruments: COS/NUV, COS/FUV

Special Requirements: (none)

Comments: Part 1 of integration on IZw18 target (we cannot schedule a 6-orbit visit, so this is visit 1 with first 3 orbits).

Diagnostics

(Visit 71) Warning (Orbit Planner): INEFFICIENT ORDERING OF FP-POS POSITIONS

(Visit 71) Warning (Orbit Planner): VISIBILITY OVERRUN

(Visit 71) Warning (Orbit Planner): INEFFICIENT ORDERING OF FP-POS POSITIONS

(cos_izw18_object1_g130m_1291_orbit1 (71.003)) Warning (Form): FP-POS=AUTO requires input of TOTAL exposure time for all four automatically-generated exposures. However, BUFFER-TIME must be specified for a single exposure, and will be applied to each of the four automatically-generated exposures.

(cos_izw18_object1_g130m_1291_orbit2 (71.004)) Warning (Form): FP-POS=AUTO requires input of TOTAL exposure time for all four automatically-generated exposures. However, BUFFER-TIME must be specified for a single exposure, and will be applied to each of the four automatically-generated exposures.

(cos_izw18_object1_g130m_1291_orbit3 (71.005)) Warning (Form): FP-POS=AUTO requires input of TOTAL exposure time for all four automatically-generated exposures. However, BUFFER-TIME must be specified for a single exposure, and will be applied to each of the four automatically-generated exposures.

Fixed Targets

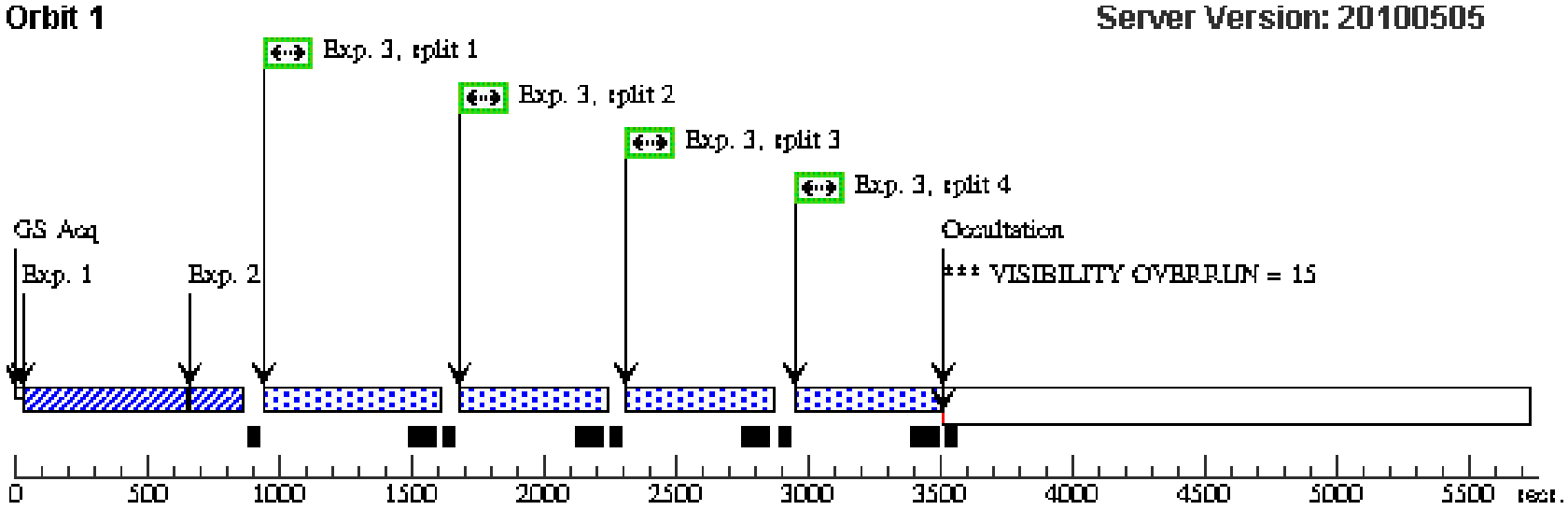
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(71)	IZW18-OBJECT-1	RA: 09 34 1.9700 (143.5082083d) Dec: +55 14 28.10 (55.24114d) Equinox: J2000		V=15.6+/-0.1	Reference Frame: ICRS

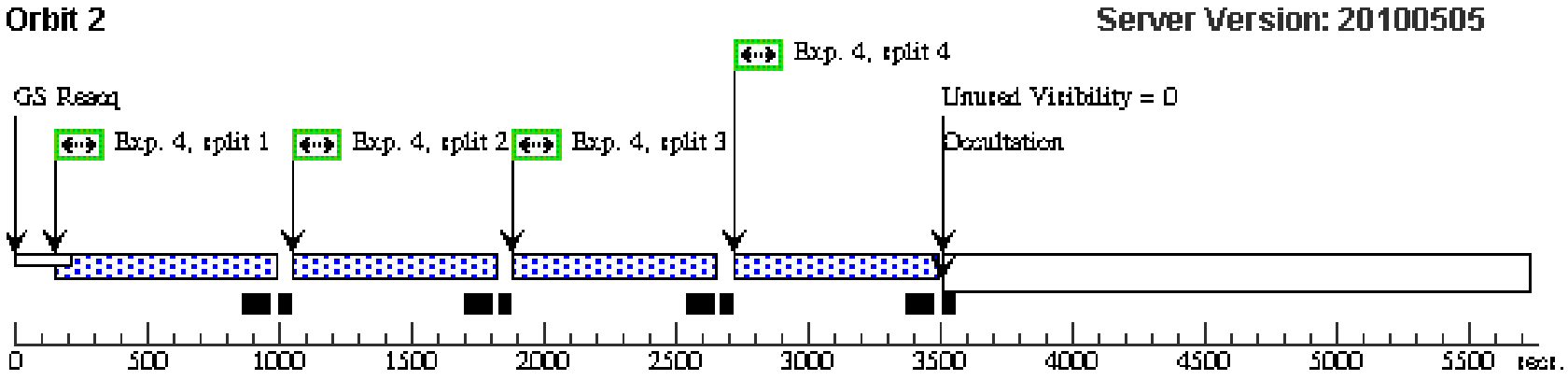
Comments: The coordinates for this target were obtained from a HLA image which is based on SDSS astrometry.

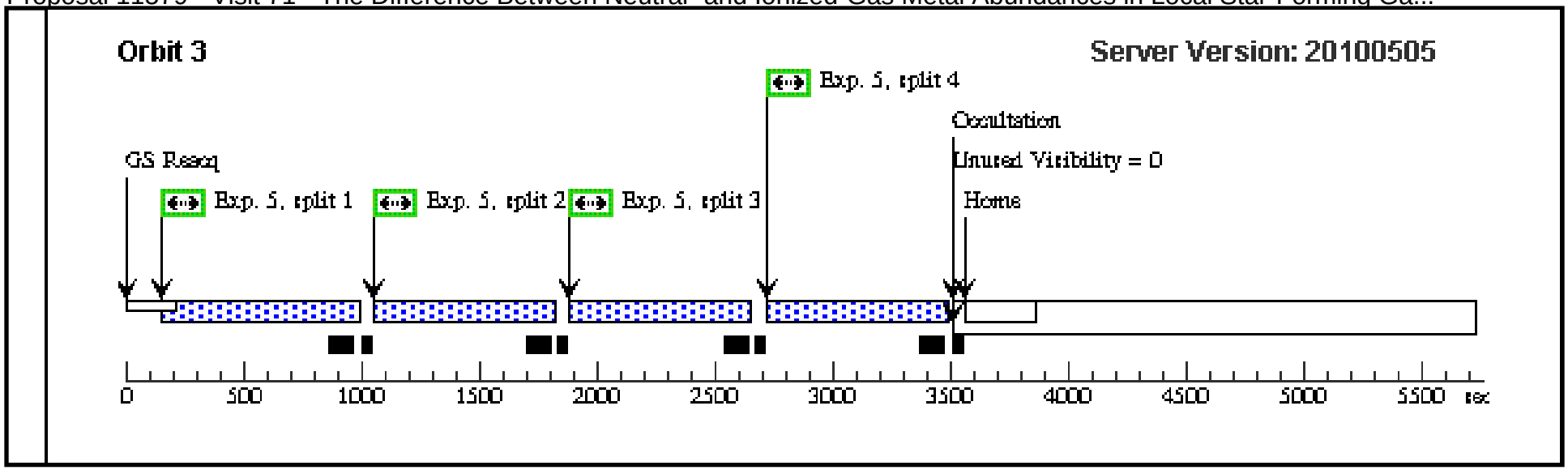
Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
1	cos_izw18_object1_ta_search	(71) IZW18-OBJECT-1	COS/NUV, ACQ/SEARCH, PSA	MIRRORA	SCAN-SIZE=2			44 Secs *[==>]*	***[1]***
2	cos_izw18_object1_ta_image	(71) IZW18-OBJECT-1	COS/NUV, ACQ/IMAGE, PSA	MIRRORA				44 Secs *[==>]*	***[1]***
3	cos_izw18_object1_g130m_1291_orbit1	(71) IZW18-OBJECT-1	COS/FUV, TIME-TAG, PSA	G130M 1291 A	BUFFER-TIME=407; FP-POS=AUTO			2024 Secs *[==>(Split 1)]* *[==>(Split 2)]* *[==>(Split 3)]* *[==>(Split 4)]*	***[1]***
4	cos_izw18_object1_g130m_1291_orbit2	(71) IZW18-OBJECT-1	COS/FUV, TIME-TAG, PSA	G130M 1291 A	BUFFER-TIME=617; FP-POS=AUTO			2868 Secs *[==>(Split 1)]* *[==>(Split 2)]* *[==>(Split 3)]* *[==>(Split 4)]*	***[2]***
5	cos_izw18_object1_g130m_1291_orbit3	(71) IZW18-OBJECT-1	COS/FUV, TIME-TAG, PSA	G130M 1291 A	BUFFER-TIME=617; FP-POS=AUTO			2868 Secs *[==>(Split 1)]* *[==>(Split 2)]* *[==>(Split 3)]* *[==>(Split 4)]*	***[3]***

Orbit Structure






Orbit 3
Server Version: 20100505
Exp. 5, split 4
Occultation
GS Reacq
Unused Visibility = 0
Exp. 5, split 1
Exp. 5, split 2
Exp. 5, split 3
Home
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
sec

Visit

Proposal 11579, Visit 72, scheduling Sat Oct 02 01:04:18 GMT 2010

Diagnostic Status: Warning

Scientific Instruments: COS/NUV, COS/FUV

Special Requirements: SAME ORIENT AS 71

Comments: Part 2 of integration on IZw18 target (we cannot schedule a 6-orbit visit, so this is visit 2 with second 3 orbits).

Diagnostics

(Visit 72) Warning (Orbit Planner): VISIBILITY OVERRUN

(Visit 72) Warning (Orbit Planner): INEFFICIENT ORDERING OF FP-POS POSITIONS

(Visit 72) Warning (Orbit Planner): INEFFICIENT ORDERING OF FP-POS POSITIONS

(cos_izw18_object1_g130m_1291_orbit1 (72.003)) Warning (Form): FP-POS=AUTO requires input of TOTAL exposure time for all four automatically-generated exposures. However, BUFFER-TIME must be specified for a single exposure, and will be applied to each of the four automatically-generated exposures.

(cos_izw18_object1_g130m_1291_orbit2 (72.004)) Warning (Form): FP-POS=AUTO requires input of TOTAL exposure time for all four automatically-generated exposures. However, BUFFER-TIME must be specified for a single exposure, and will be applied to each of the four automatically-generated exposures.

(cos_izw18_object1_g130m_1291_orbit3 (72.005)) Warning (Form): FP-POS=AUTO requires input of TOTAL exposure time for all four automatically-generated exposures. However, BUFFER-TIME must be specified for a single exposure, and will be applied to each of the four automatically-generated exposures.

Fixed Targets

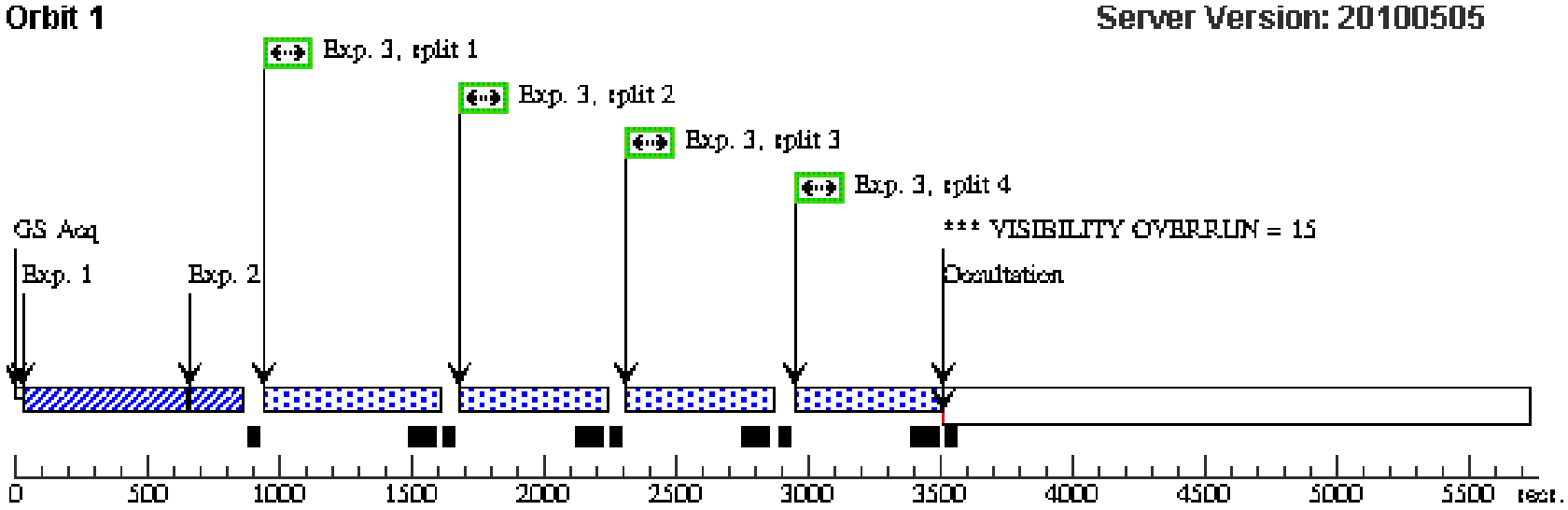
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(71)	IZW18-OBJECT-1	RA: 09 34 1.9700 (143.5082083d) Dec: +55 14 28.10 (55.24114d) Equinox: J2000		V=15.6+/-0.1	Reference Frame: ICRS

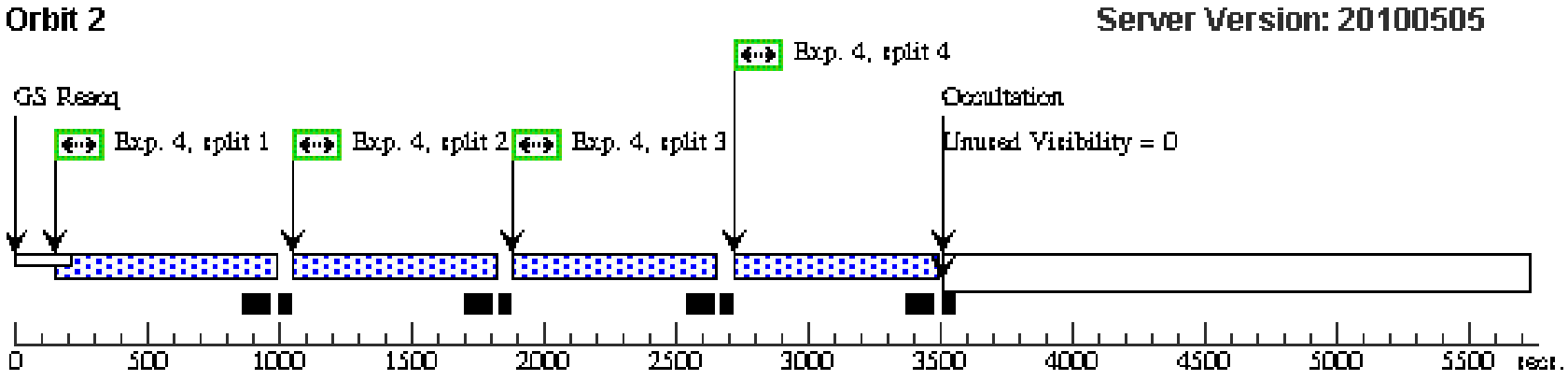
Comments: The coordinates for this target were obtained from a HLA image which is based on SDSS astrometry.

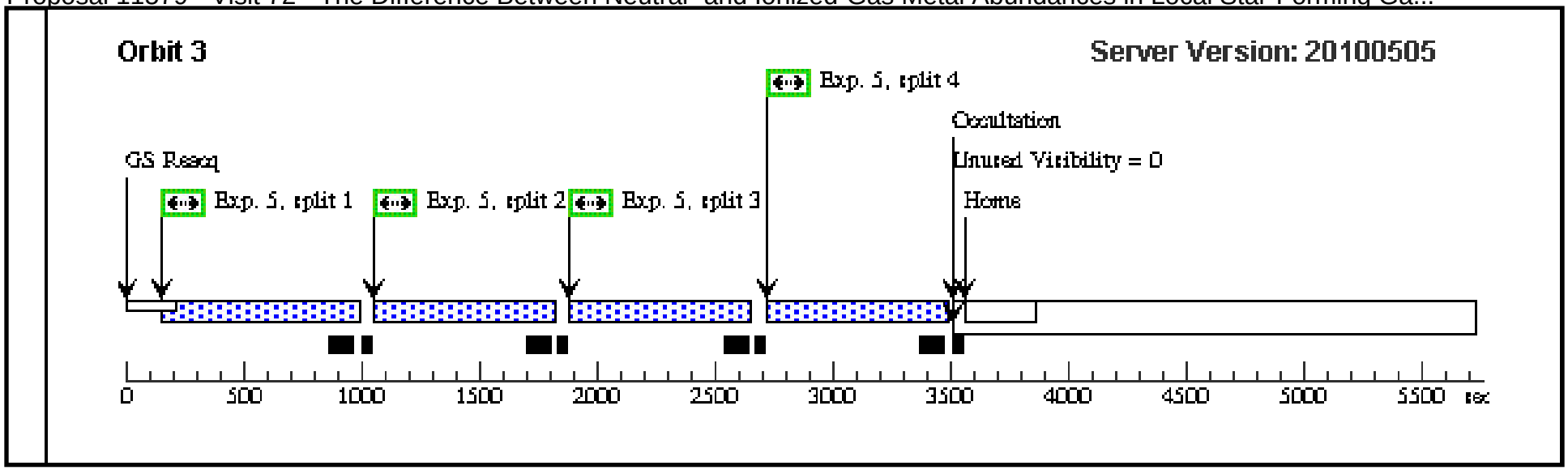
Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
1	cos_izw18_object1_ta_search	(71) IZW18-OBJECT-1	COS/NUV, ACQ/SEARCH, PSA	MIRRORA	SCAN-SIZE=2			44 Secs *[==>]*	 ***[1]***
2	cos_izw18_object1_ta_image	(71) IZW18-OBJECT-1	COS/NUV, ACQ/IMAGE, PSA	MIRRORA				44 Secs *[==>]*	 ***[1]***
3	cos_izw18_object1_g130m_1291_orbit1	(71) IZW18-OBJECT-1	COS/FUV, TIME-TAG, PSA	G130M 1291 A	BUFFER-TIME=407; FP-POS=AUTO			2024 Secs *[==>(Split 1)]* *[==>(Split 2)]* *[==>(Split 3)]* *[==>(Split 4)]*	 ***[1]***
4	cos_izw18_object1_g130m_1291_orbit2	(71) IZW18-OBJECT-1	COS/FUV, TIME-TAG, PSA	G130M 1291 A	BUFFER-TIME=617; FP-POS=AUTO			2868 Secs *[==>(Split 1)]* *[==>(Split 2)]* *[==>(Split 3)]* *[==>(Split 4)]*	 ***[2]***
5	cos_izw18_object1_g130m_1291_orbit3	(71) IZW18-OBJECT-1	COS/FUV, TIME-TAG, PSA	G130M 1291 A	BUFFER-TIME=617; FP-POS=AUTO			2868 Secs *[==>(Split 1)]* *[==>(Split 2)]* *[==>(Split 3)]* *[==>(Split 4)]*	 ***[3]***

Orbit Structure






Orbit 3
Server Version: 20100505
Exp. 5, split 4
Occultation
GS Reacq
Unused Visibility = 0
Exp. 5, split 1
Exp. 5, split 2
Exp. 5, split 3
Home
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
sec

Visit

Proposal 11579, Visit 81, completed Sat Oct 02 01:04:18 GMT 2010

Diagnostic Status: Warning

Scientific Instruments: COS/NUV, COS/FUV

Special Requirements: (none)

Diagnostics

(Visit 81) Warning (Orbit Planner): INEFFICIENT ORDERING OF FP-POS POSITIONS

(Visit 81) Warning (Orbit Planner): INEFFICIENT ORDERING OF FP-POS POSITIONS

(Visit 81) Warning (Orbit Planner): INEFFICIENT ORDERING OF FP-POS POSITIONS

(Visit 81) Warning (Orbit Planner): VISIBILITY OVERRUN

(Visit 81) Warning (Orbit Planner): INEFFICIENT ORDERING OF FP-POS POSITIONS

(cos_sbs1415+437_object1_g130m_1291_orbit1 (81.003)) Warning (Form): FP-POS=AUTO requires input of TOTAL exposure time for all four automatically-generated exposures. However, BUFFER-TIME must be specified for a single exposure, and will be applied to each of the four automatically-generated exposures.

(cos_sbs1415+437_object1_g130m_1291_orbit2 (81.004)) Warning (Form): FP-POS=AUTO requires input of TOTAL exposure time for all four automatically-generated exposures. However, BUFFER-TIME must be specified for a single exposure, and will be applied to each of the four automatically-generated exposures.

(cos_sbs1415+437_object1_g130m_1291_orbit3 (81.005)) Warning (Form): FP-POS=AUTO requires input of TOTAL exposure time for all four automatically-generated exposures. However, BUFFER-TIME must be specified for a single exposure, and will be applied to each of the four automatically-generated exposures.

(cos_sbs1415+437_object1_g130m_1291_orbit4 (81.006)) Warning (Form): FP-POS=AUTO requires input of TOTAL exposure time for all four automatically-generated exposures. However, BUFFER-TIME must be specified for a single exposure, and will be applied to each of the four automatically-generated exposures.

(cos_sbs1415+437_object1_g130m_1291_orbit5 (81.007)) Warning (Form): FP-POS=AUTO requires input of TOTAL exposure time for all four automatically-generated exposures. However, BUFFER-TIME must be specified for a single exposure, and will be applied to each of the four automatically-generated exposures.

Fixed Targets

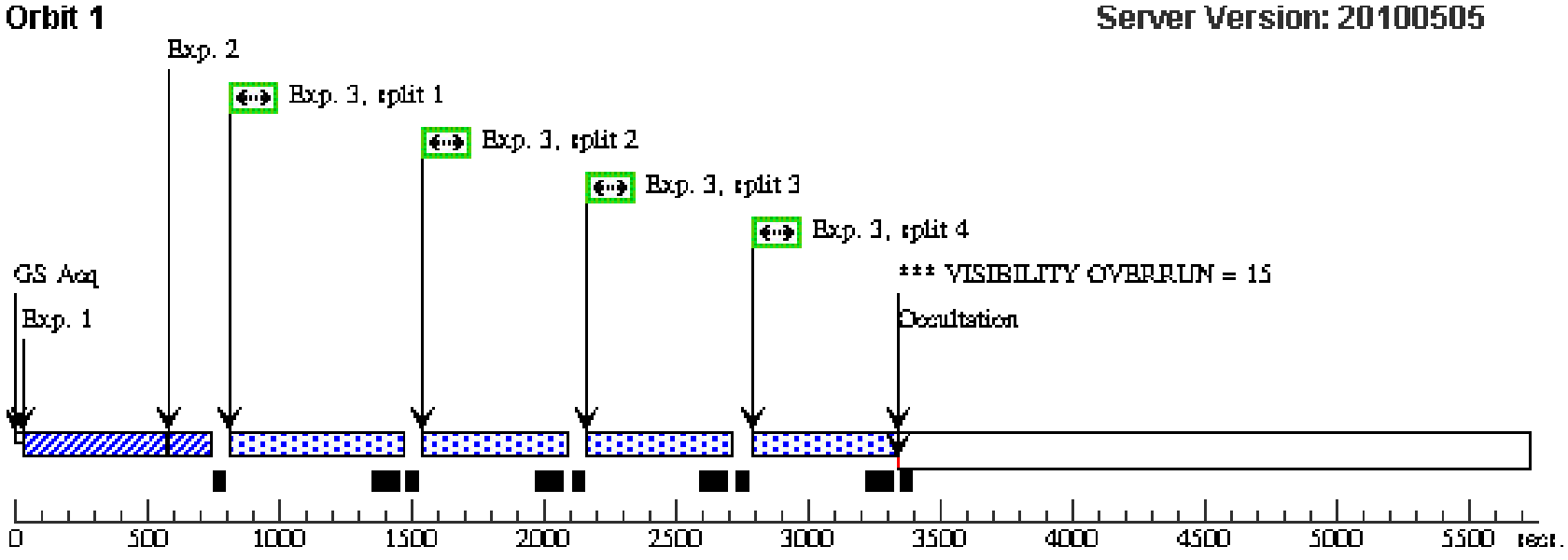
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(81)	SBS1415+437-OBJECT-1	RA: 14 17 1.4200 (214.2559167d) Dec: +43 30 5.16 (43.50143d) Equinox: J2000		V=15.5+/-0.1	Reference Frame: ICRS

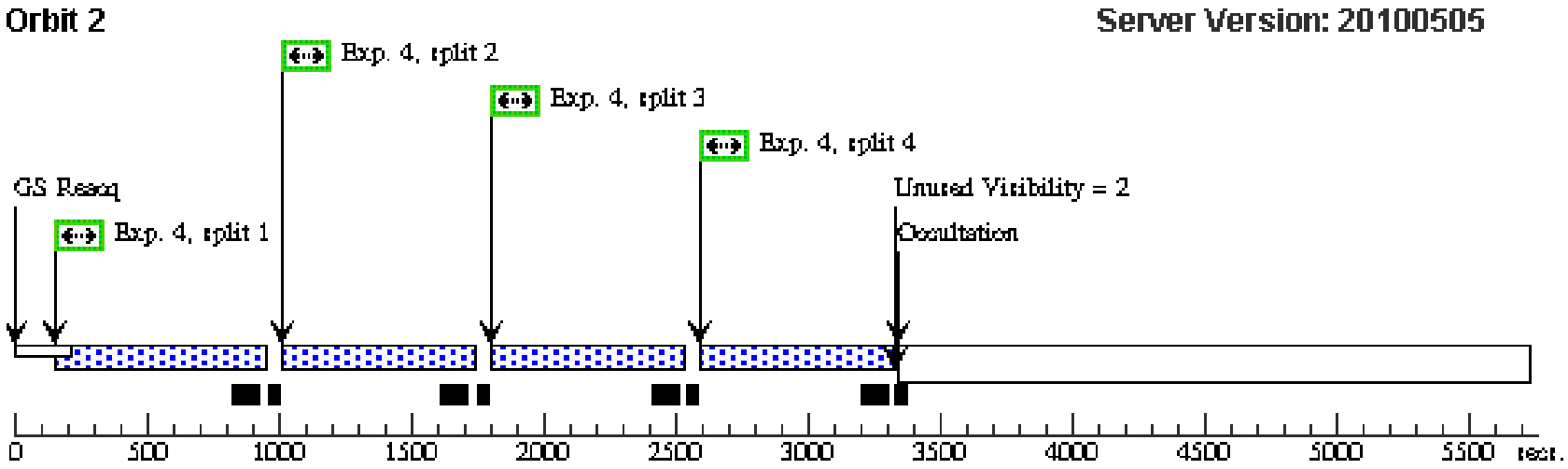
Comments: The coordinates for this target were obtained from a HLA image which is based on SDSS astrometry.

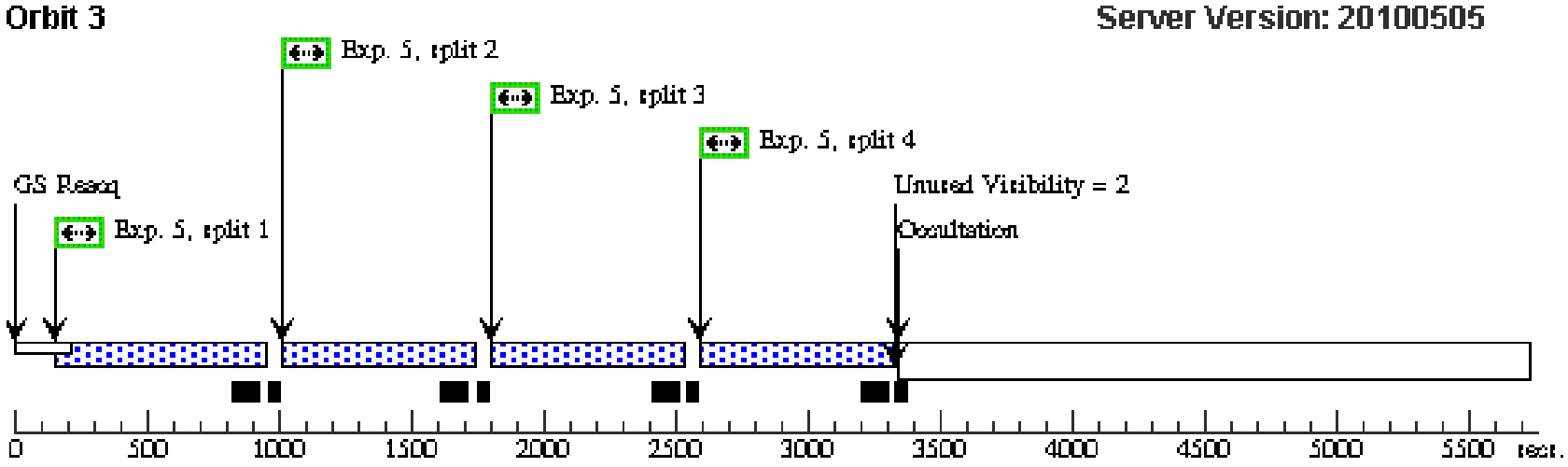
Exposures

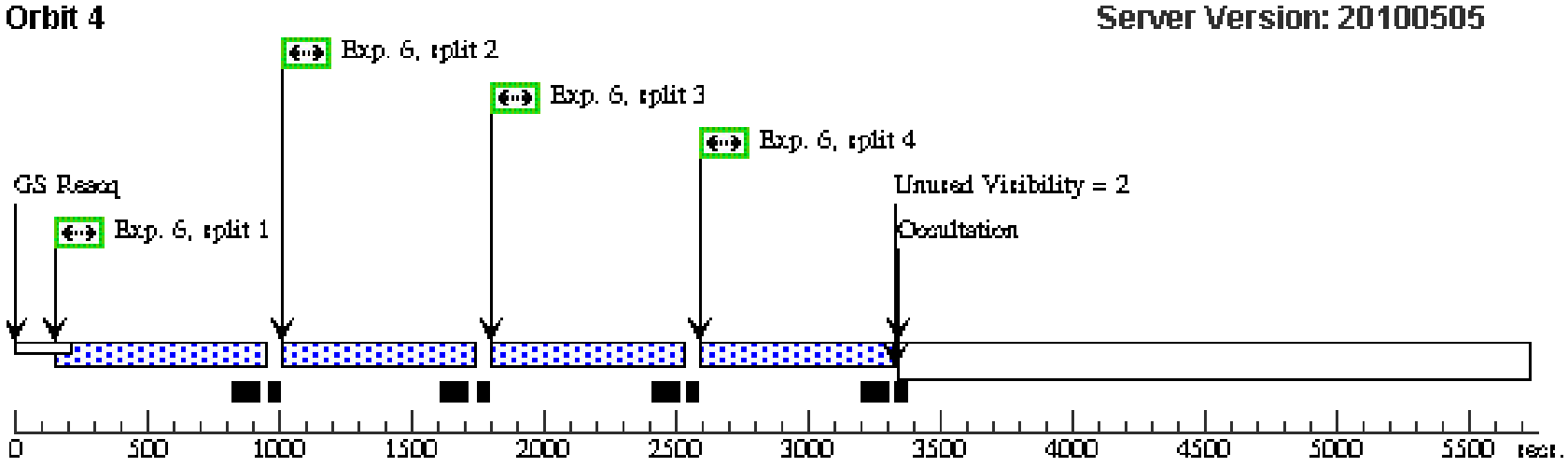
#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
1	cos_sbs1415+437_object1_ta_search	(81) SBS1415+437-OBJECT-1	COS/NUV, ACQ/SEARCH, PSA	MIRRORA	SCAN-SIZE=2			23 Secs *[==>]*	 ***[1]***
2	cos_sbs1415+437_object1_ta_image	(81) SBS1415+437-OBJECT-1	COS/NUV, ACQ/IMAGE, PSA	MIRRORA				23 Secs *[==>]*	 ***[1]***
3	cos_sbs1415+437_object1_g130m_1291_orbit1	(81) SBS1415+437-OBJECT-1	COS/FUV, TIME-TAG, PSA	G130M 1291 A	BUFFER-TIME=395; FP-POS=AUTO			1980 Secs *[==>(Split 1)]* *[==>(Split 2)]* *[==>(Split 3)]* *[==>(Split 4)]*	 ***[1]***
4	cos_sbs1415+437_object1_g130m_1291_orbit2	(81) SBS1415+437-OBJECT-1	COS/FUV, TIME-TAG, PSA	G130M 1291 A	BUFFER-TIME=574; FP-POS=AUTO			2696 Secs *[==>(Split 1)]* *[==>(Split 2)]* *[==>(Split 3)]* *[==>(Split 4)]*	 ***[2]***
5	cos_sbs1415+437_object1_g130m_1291_orbit3	(81) SBS1415+437-OBJECT-1	COS/FUV, TIME-TAG, PSA	G130M 1291 A	BUFFER-TIME=574; FP-POS=AUTO			2696 Secs *[==>(Split 1)]* *[==>(Split 2)]* *[==>(Split 3)]* *[==>(Split 4)]*	 ***[3]***
6	cos_sbs1415+437_object1_g130m_1291_orbit4	(81) SBS1415+437-OBJECT-1	COS/FUV, TIME-TAG, PSA	G130M 1291 A	BUFFER-TIME=574; FP-POS=AUTO			2696 Secs *[==>(Split 1)]* *[==>(Split 2)]* *[==>(Split 3)]* *[==>(Split 4)]*	 ***[4]***
7	cos_sbs1415+437_object1_g130m_1291_orbit5	(81) SBS1415+437-OBJECT-1	COS/FUV, TIME-TAG, PSA	G130M 1291 A	BUFFER-TIME=574; FP-POS=AUTO			2696 Secs *[==>(Split 1)]* *[==>(Split 2)]* *[==>(Split 3)]* *[==>(Split 4)]*	 ***[5]***

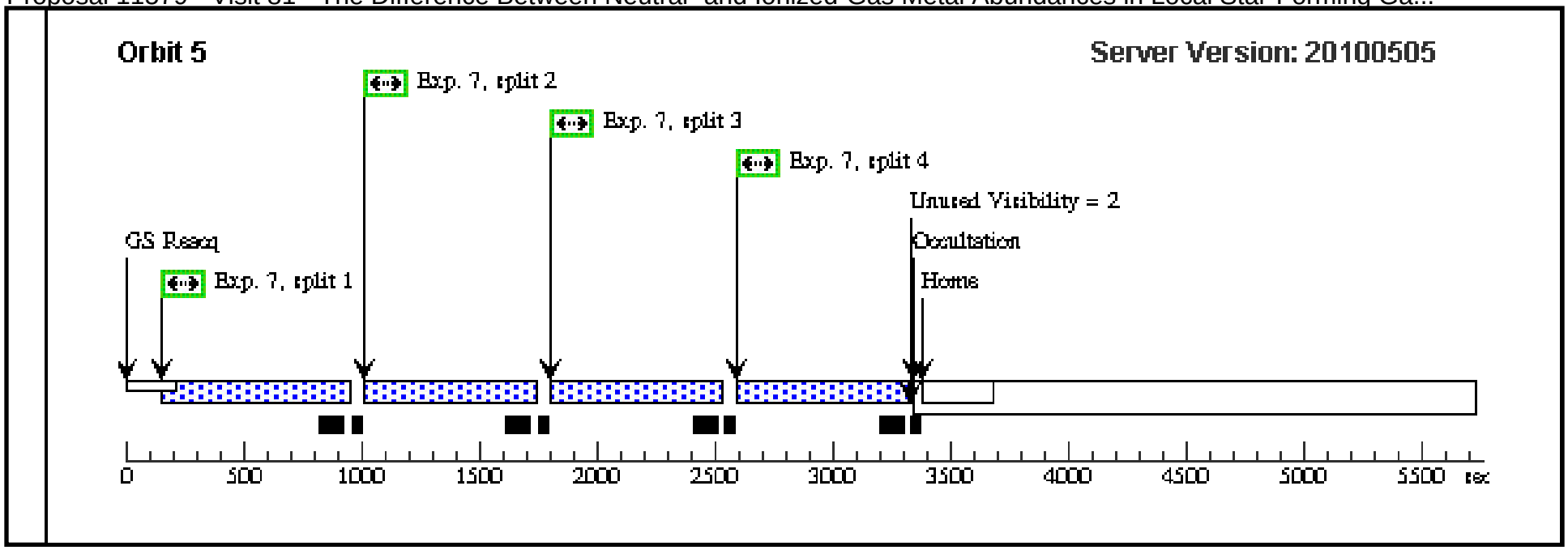
Orbit Structure






Orbit 3
Server Version: 20100505
Exp. 5, split 2
Exp. 5, split 3
Exp. 5, split 4
GS Reacq
Unused Visibility = 2
Exp. 5, split 1
Occultation
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
sec.


Orbit 4
Server Version: 20100505
Exp. 6, split 2
Exp. 6, split 3
Exp. 6, split 4
GS Reacq
Unused Visibility = 2
Exp. 6, split 1
Occultation
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
sec.


Orbit 5
Server Version: 20100505
Exp. 7, split 2
Exp. 7, split 3
Exp. 7, split 4
Unused Visibility = 2
GS Reacq
Occultation
Exp. 7, split 1
Home
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
sec

Visit

Proposal 11579, Visit 91, completed Sat Oct 02 01:04:19 GMT 2010

Diagnostic Status: Warning

Scientific Instruments: COS/NUV, COS/FUV

Special Requirements: (none)

Diagnostics

(Visit 91) Warning (Orbit Planner): INEFFICIENT ORDERING OF FP-POS POSITIONS

(Visit 91) Warning (Orbit Planner): INEFFICIENT ORDERING OF FP-POS POSITIONS

(Visit 91) Warning (Orbit Planner): INEFFICIENT ORDERING OF FP-POS POSITIONS

(cos_sbs0335-052_object1_g130m_1291_orbit1 (91.002)) Warning (Form): FP-POS=AUTO requires input of TOTAL exposure time for all four automatically-generated exposures. However, BUFFER-TIME must be specified for a single exposure, and will be applied to each of the four automatically-generated exposures.

(cos_sbs0335-052_object1_g130m_1291_orbit2 (91.003)) Warning (Form): FP-POS=AUTO requires input of TOTAL exposure time for all four automatically-generated exposures. However, BUFFER-TIME must be specified for a single exposure, and will be applied to each of the four automatically-generated exposures.

(cos_sbs0335-052_object1_g130m_1291_orbit3 (91.004)) Warning (Form): FP-POS=AUTO requires input of TOTAL exposure time for all four automatically-generated exposures. However, BUFFER-TIME must be specified for a single exposure, and will be applied to each of the four automatically-generated exposures.

(cos_sbs0335-052_object1_g130m_1291_orbit4 (91.005)) Warning (Form): FP-POS=AUTO requires input of TOTAL exposure time for all four automatically-generated exposures. However, BUFFER-TIME must be specified for a single exposure, and will be applied to each of the four automatically-generated exposures.

Fixed Targets

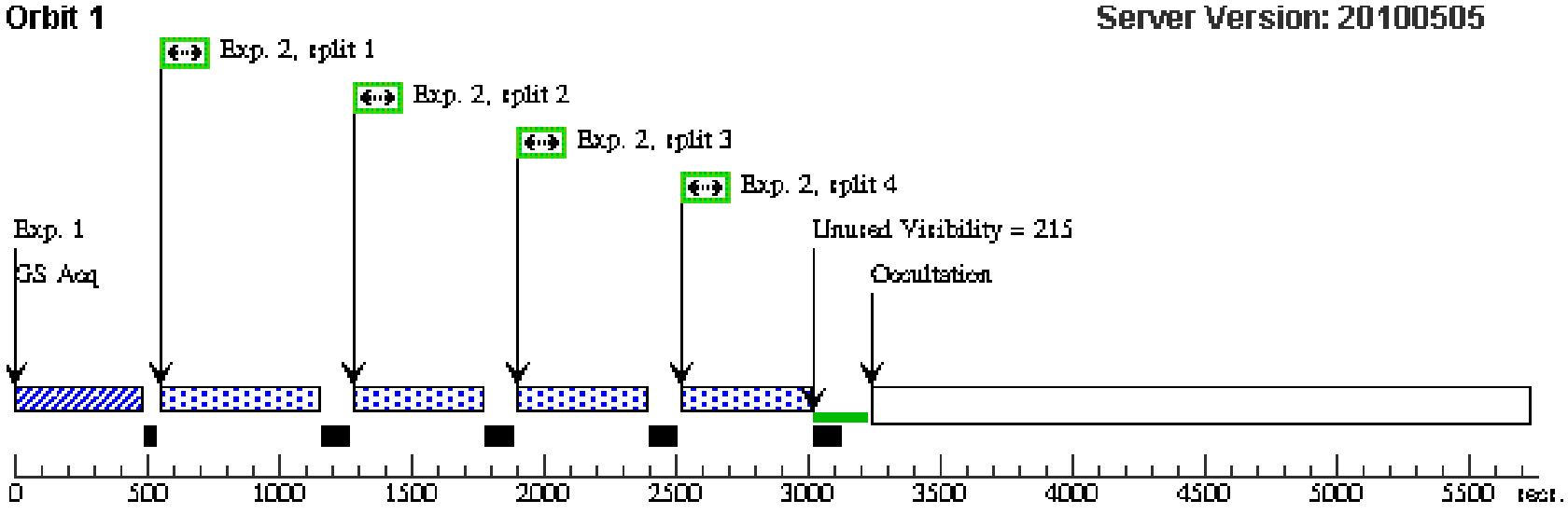
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(91)	SBS0335-052-OBJECT-1	RA: 03 37 43.9800 (54.4332500d) Dec: -05 02 38.90 (-5.04414d) Equinox: J2000		V=16.7+/-0.1	Reference Frame: ICRS

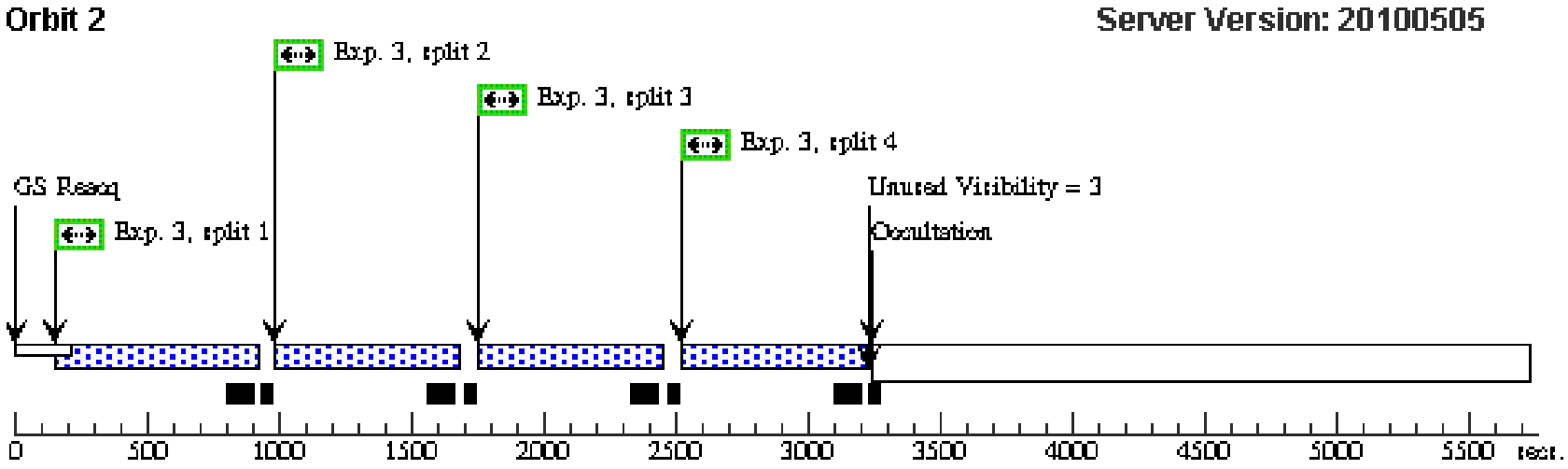
Comments: The coordinates for this target were obtained from a HLA image which is based on GSC2.3 astrometry.

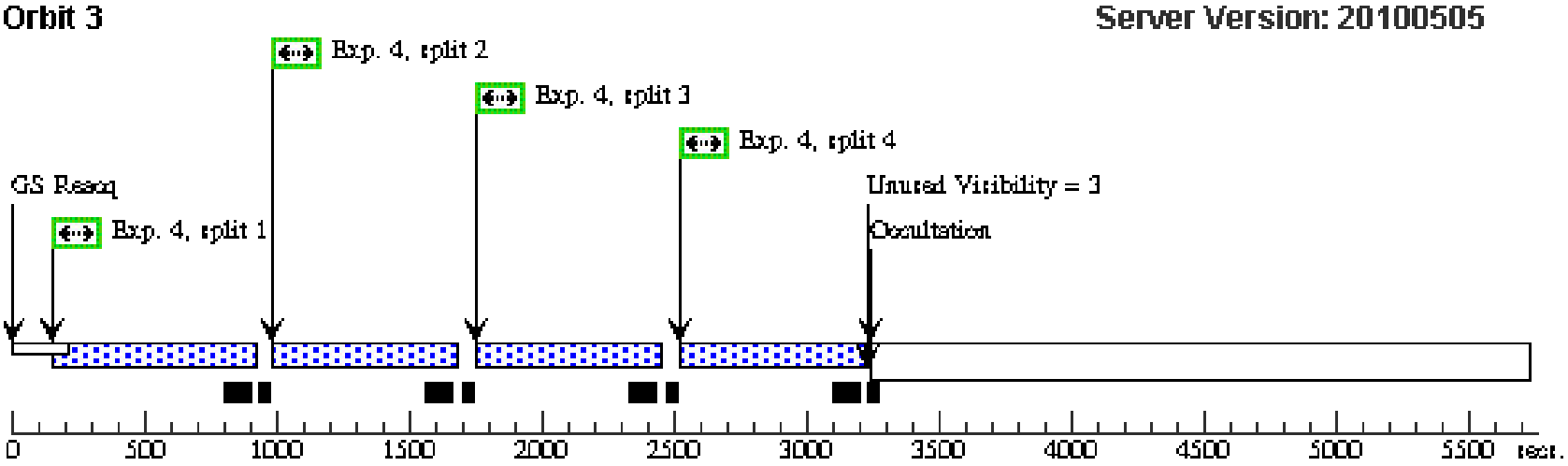
Exposures

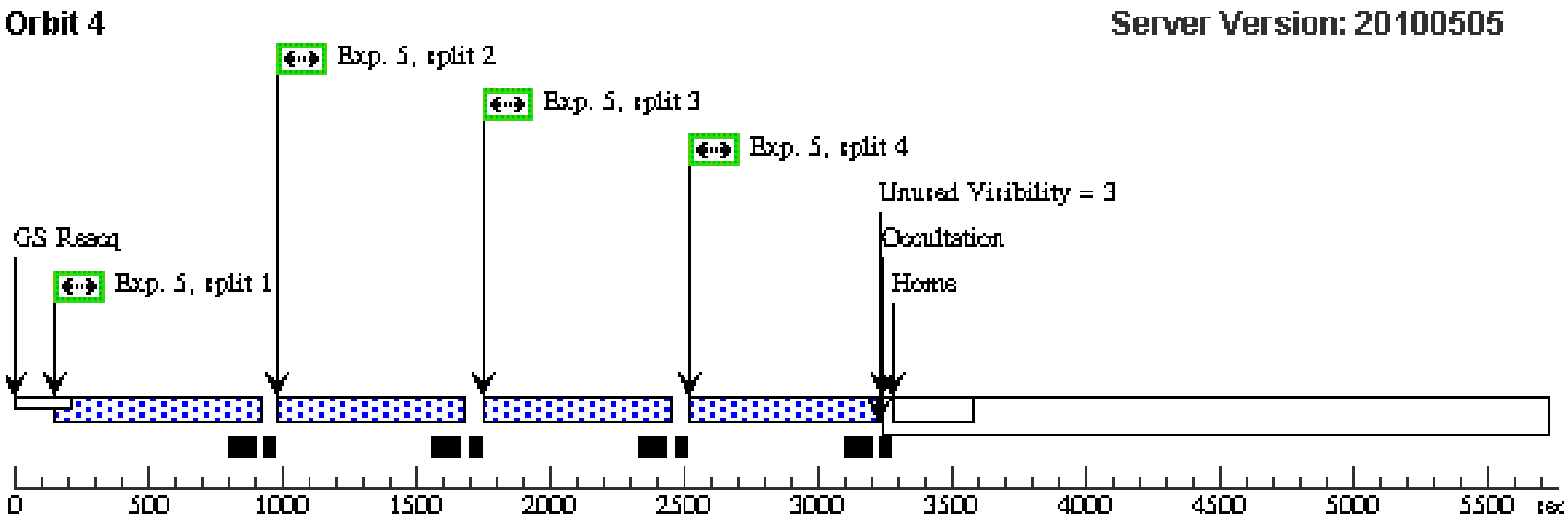
#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
1	cos_sbs0335-052_object1_ta_image	(91) SBS0335-052-OBJECT-1	COS/NUV, ACQ/IMAGE, PSA	MIRRORA				40 Secs *[==>]*	***[1]***
2	cos_sbs0335-052_object1_g130m_1291_orbit1	(91) SBS0335-052-OBJECT-1	COS/FUV, TIME-TAG, PSA	G130M 1291 A	BUFFER-TIME=436; FP-POS=AUTO			1744 Secs *[==>(Split 1)]* *[==>(Split 2)]* *[==>(Split 3)]* *[==>(Split 4)]*	***[1]***
3	cos_sbs0335-052_object1_g130m_1291_orbit2	(91) SBS0335-052-OBJECT-1	COS/FUV, TIME-TAG, PSA	G130M 1291 A	BUFFER-TIME=549; FP-POS=AUTO			2596 Secs *[==>(Split 1)]* *[==>(Split 2)]* *[==>(Split 3)]* *[==>(Split 4)]*	***[2]***
4	cos_sbs0335-052_object1_g130m_1291_orbit3	(91) SBS0335-052-OBJECT-1	COS/FUV, TIME-TAG, PSA	G130M 1291 A	BUFFER-TIME=549; FP-POS=AUTO			2596 Secs *[==>(Split 1)]* *[==>(Split 2)]* *[==>(Split 3)]* *[==>(Split 4)]*	***[3]***
5	cos_sbs0335-052_object1_g130m_1291_orbit4	(91) SBS0335-052-OBJECT-1	COS/FUV, TIME-TAG, PSA	G130M 1291 A	BUFFER-TIME=549; FP-POS=AUTO			2596 Secs *[==>(Split 1)]* *[==>(Split 2)]* *[==>(Split 3)]* *[==>(Split 4)]*	***[4]***

Orbit Structure






Orbit 3
Server Version: 20100505
Exp. 4, split 2
Exp. 4, split 3
Exp. 4, split 4
GS Reacq
Unused Visibility = 3
Exp. 4, split 1
Occultation
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500


Orbit 4
Server Version: 20100505
Exp. 5, split 2
Exp. 5, split 3
Exp. 5, split 4
Unused Visibility = 3
GS Reacq
Occultation
Exp. 5, split 1
Home
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500