12218 - Toward Resolving the Mass loss Discrepancy

Cycle: 18, 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) SK-65D47	STIS/CCD STIS/FUV-MAMA	1	07-Jul-2010 22:03:04.0	yes
02	(2) SK-67D105	STIS/CCD STIS/FUV-MAMA	1	07-Jul-2010 22:03:09.0	yes
03	(3) SK-67D111	STIS/CCD STIS/FUV-MAMA	1	07-Jul-2010 22:03:12.0	yes
04	(4) SK-70D115	STIS/CCD STIS/FUV-MAMA	1	07-Jul-2010 22:03:15.0	yes
05	(5) SK-69D50	STIS/CCD STIS/FUV-MAMA	1	07-Jul-2010 22:03:18.0	yes
06	(6) SK-67D168	STIS/CCD STIS/FUV-MAMA	1	07-Jul-2010 22:03:20.0	yes

Visit	*Targets used in Visit*	*Configurations used in Visit*	*Orbits Used*	*Last Orbit Planner Run*	*OP Current with Visit?*
07	(7) SK-71D41	STIS/CCD STIS/FUV-MAMA	1	07-Jul-2010 22:03:23.0	yes

7 Total Orbits Used

ABSTRACT

Recent observations have raised serious questions about the mass loss rates of O stars, suggesting that they may be up to 10 times smaller than previously believed. Such a severe revision in the mass loss rates would have wide ranging astrophysical consequences, and has been termed the "mass loss discrepancy". We propose new HST observations aimed at addressing this problem. The new data will be combined with FUSE and existing HST spectra, Spitzer photometry, and optical spectra to create a data set of lasting value. Our proposed analysis will highlight how different wind diagnostics in the same star can yield different results, thereby providing clues to the origin of the discrepancies.

OBSERVING DESCRIPTION

All observations are strightforward, with no safety issues. Each target is alotted one orbit for acquisition and obtaining an E140M spectrum. The following lists the ETC numbers used to determine the ACQs and exposures.

	ACQ	Spectrum (S/N in 45 min @1600A)	
Sk-65 47	O4 If*	1 s STIS.A329308	STIS.A329318 15.2
Sk-67 105	O4 f	1 s STIS.A329309	STIS.A329322 15.2
Sk-67 111	O6: Iafpe	1 s STIS.A329311	STIS.A329323 14.3
Sk-70 115	O6.5 Iaf	1 s STIS.A329312	STIS.A329324 12.3
Sk-69 50	O7 If	1 s STIS.A329313	STIS.A329326 8.7
Sk-67 168	O8 Iaf	1 s STIS.A329314	STIS.A329327 15.3
Sk-71 41	O8.5 I	2 s STIS.A329316	STIS.A329328 6.3

Visit

Proposal 12218, Visit 01 Thu Jul 08 02:03:27 GMT 2010

Diagnostic Status: No Diagnostics

Scientific Instruments: STIS/FUV-MAMA, STIS/CCD

Special Requirements: (none)

Fixed Targets

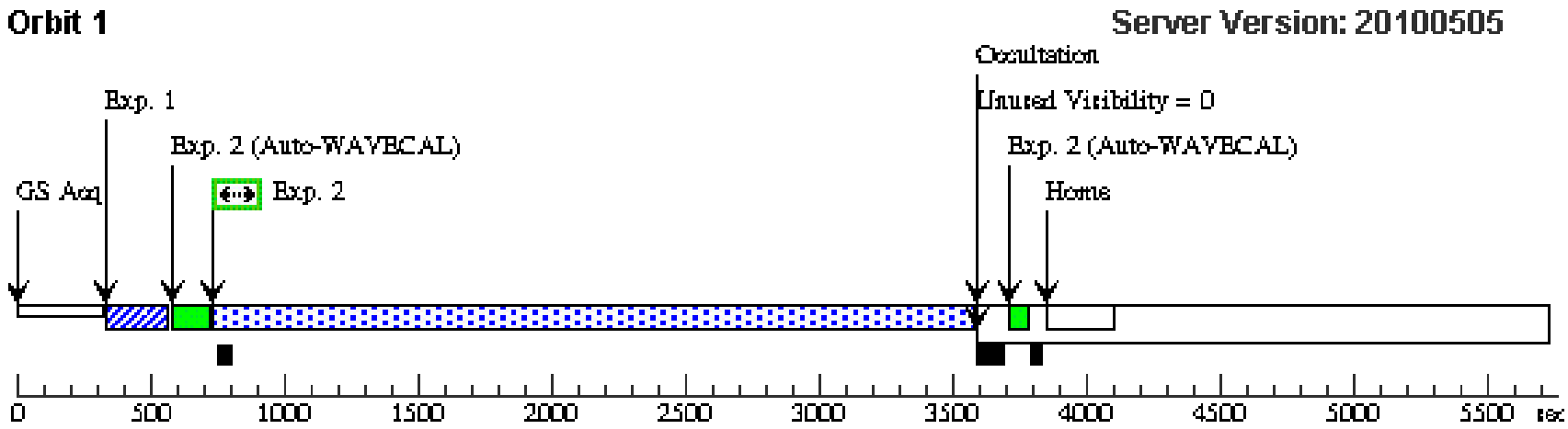
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	SK-65D47	RA: 05 20 54.7200 (80.2280000d) Dec: -65 27 17.90 (-65.45497d) Equinox: J2000		V=12.51	Reference Frame: ICRS

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

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
1		(1) SK-65D47	STIS/CCD, ACQ, F28X50LP	MIRROR				2 Secs *[==>]*	 ***[1]***
Comments: STIS.A329308									
2		(1) SK-65D47	STIS/FUV-MAMA, ACCUM, 0.2X0.2	E140M 1425 A				2500 Secs *[==>2835.0 Secs]*	 ***[1]***
Comments: STIS.A329318									

Orbit Structure



Visit

Proposal 12218, Visit 02 Thu Jul 08 02:03:28 GMT 2010

Diagnostic Status: No Diagnostics

Scientific Instruments: STIS/FUV-MAMA, STIS/CCD

Special Requirements: (none)

Fixed Targets

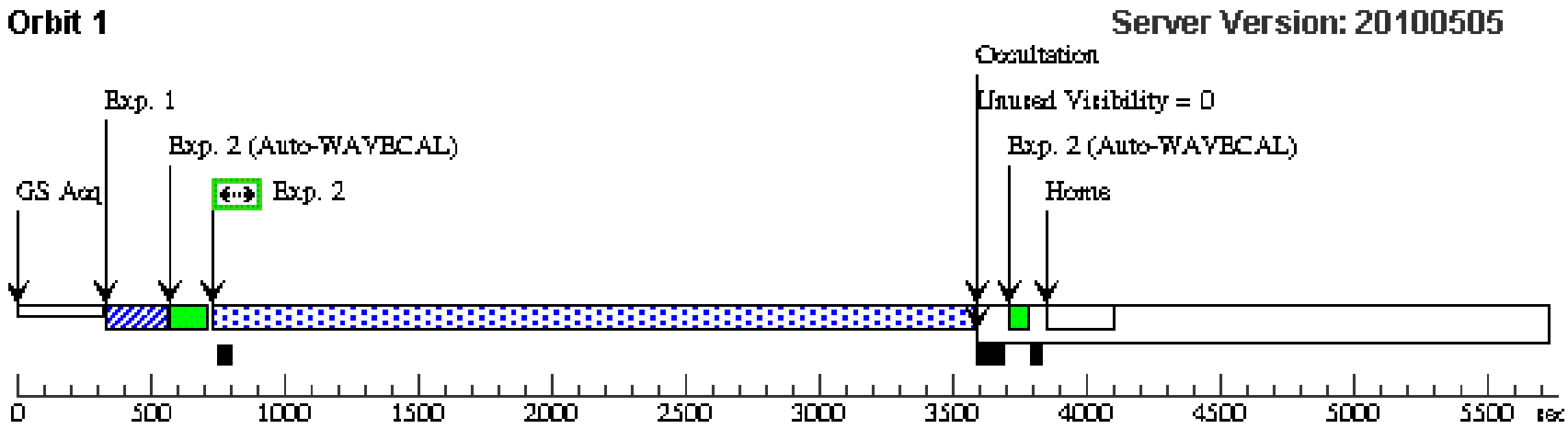
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(2)	SK-67D105	RA: 05 26 6.1900 (81.5257917d) Dec: -67 10 56.80 (-67.18244d) Equinox: J2000		V=12.42	Reference Frame: ICRS

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

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
1		(2) SK-67D105	STIS/CCD, ACQ, F28X50LP	MIRROR				1 Secs *[==>]*	*[1]*
Comments: STIS.A329309									
2		(2) SK-67D105	STIS/FUV-MAMA, ACCUM, 0.2X0.2	E140M 1425 A				2500 Secs *[==>2839.0 Secs]*	*[1]*
Comments: STIS.A329322									

Orbit Structure



Visit

Proposal 12218, Visit 03 Thu Jul 08 02:03:28 GMT 2010

Diagnostic Status: No Diagnostics

Scientific Instruments: STIS/FUV-MAMA, STIS/CCD

Special Requirements: (none)

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(3)	SK-67D111	RA: 05 26 48.0800 (81.7003333d) Dec: -67 29 29.80 (-67.49161d) Equinox: J2000		V=12.57	Reference Frame: ICRS

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

Exposures

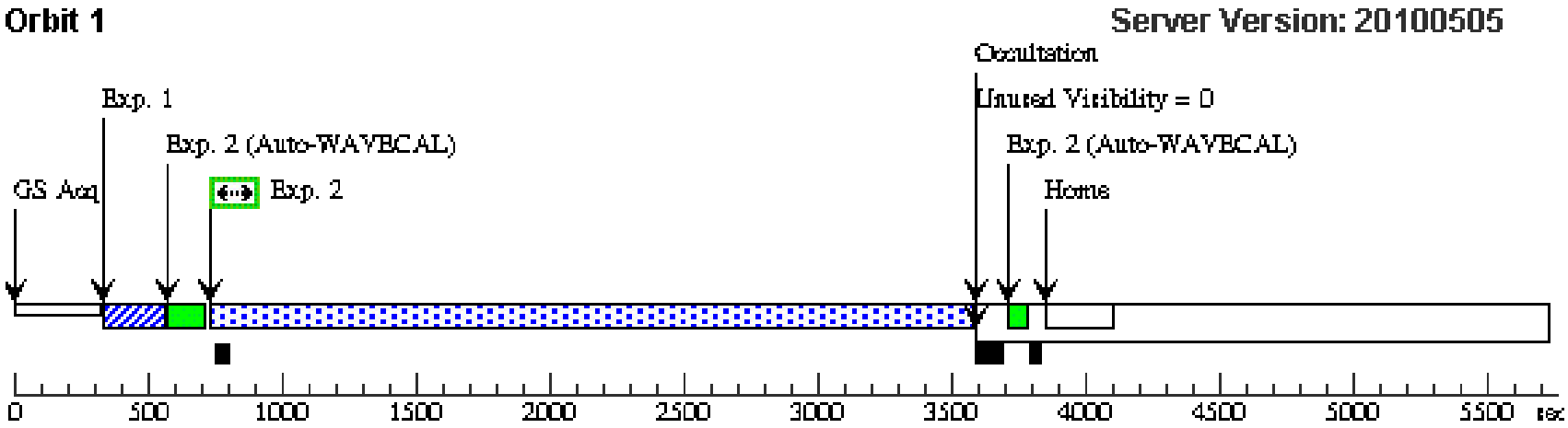
#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
1		(3) SK-67D111	STIS/CCD, ACQ, F28X50LP	MIRROR				1 Secs *[==>]*	 ***[1]***

Comments: STIS.A329311

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
2		(3) SK-67D111	STIS/FUV-MAMA, ACCUM, 0.2X0.2	E140M 1425 A				2500 Secs *[==>2839.0 Secs]*	 ***[1]***

Comments: STIS.A329323

Orbit Structure



Visit

Proposal 12218, Visit 04 Thu Jul 08 02:03:29 GMT 2010

Diagnostic Status: No Diagnostics

Scientific Instruments: STIS/FUV-MAMA, STIS/CCD

Special Requirements: (none)

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(4)	SK-70D115	RA: 05 48 49.6540 (87.2068917d) Dec: -70 03 57.82 (-70.06606d) Equinox: J2000		V=12.24	Reference Frame: ICRS

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

Exposures

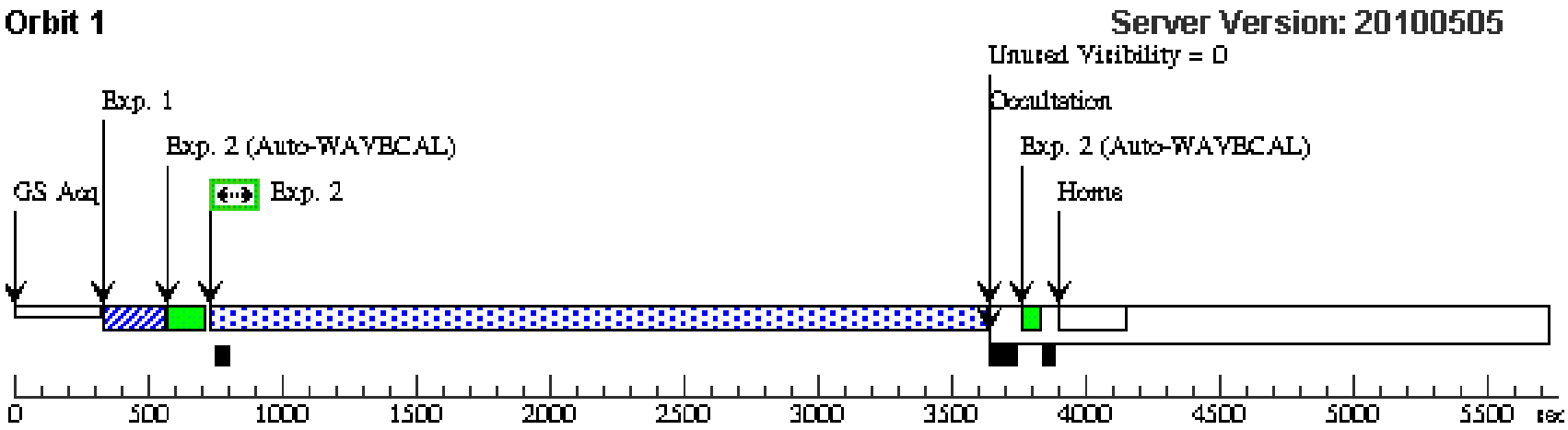
#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
1		(4) SK-70D115	STIS/CCD, ACQ, F28X50LP	MIRROR				1 Secs *[==>]*	 ***[1]***

Comments: STIS.A329312

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
2		(4) SK-70D115	STIS/FUV-MAMA, ACCUM, 0.2X0.2	E140M 1425 A				2500 Secs *[==>2885.0 Secs]*	 ***[1]***

Comments: STIS.A329324

Orbit Structure



Visit

Proposal 12218, Visit 05 Thu Jul 08 02:03:29 GMT 2010

Diagnostic Status: No Diagnostics

Scientific Instruments: STIS/FUV-MAMA, STIS/CCD

Special Requirements: (none)

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(5)	SK-69D50	RA: 04 57 15.1900 (74.3132917d) Dec: -69 20 20.40 (-69.33900d) Equinox: J2000		V=13.345	Reference Frame: ICRS

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

Exposures

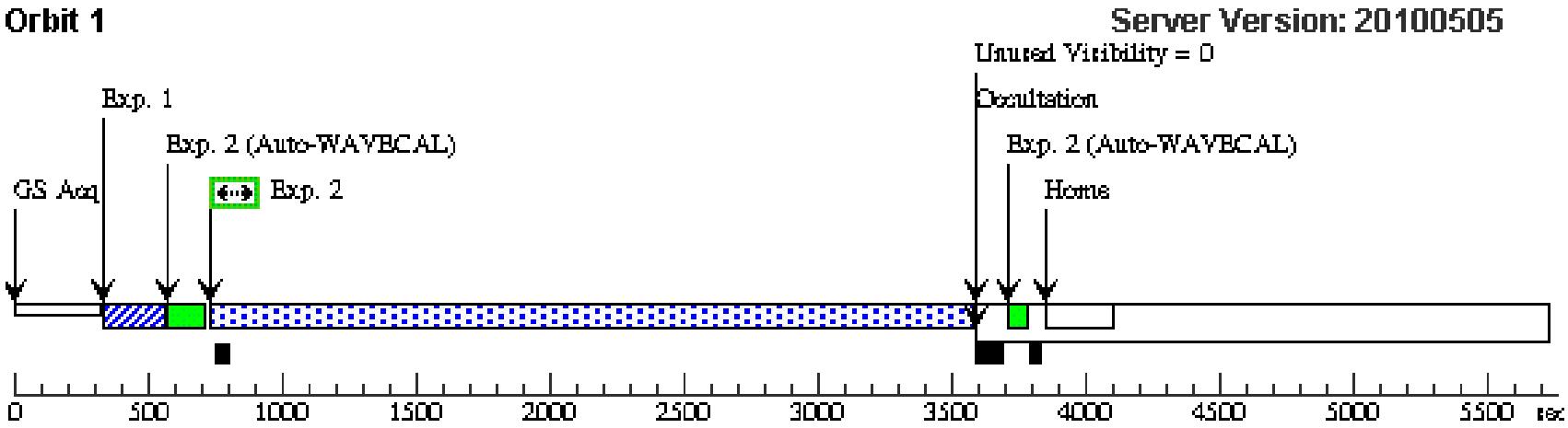
#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
1		(5) SK-69D50	STIS/CCD, ACQ, F28X50LP	MIRROR				1 Secs *[==>]*	 ***[1]***

Comments: STIS.A329313

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
2		(5) SK-69D50	STIS/FUV-MAMA, ACCUM, 0.2X0.2	E140M 1425 A				2500 Secs *[==>2839.0 Secs]*	 ***[1]***

Comments: STIS.A329326

Orbit Structure



Visit

Proposal 12218, Visit 06 Thu Jul 08 02:03:29 GMT 2010

Diagnostic Status: No Diagnostics

Scientific Instruments: STIS/FUV-MAMA, STIS/CCD

Special Requirements: (none)

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(6)	SK-67D168	RA: 05 31 52.1100 (82.9671250d) Dec: -67 34 20.70 (-67.57242d) Equinox: J2000		V=12.08	Reference Frame: ICRS

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

Exposures

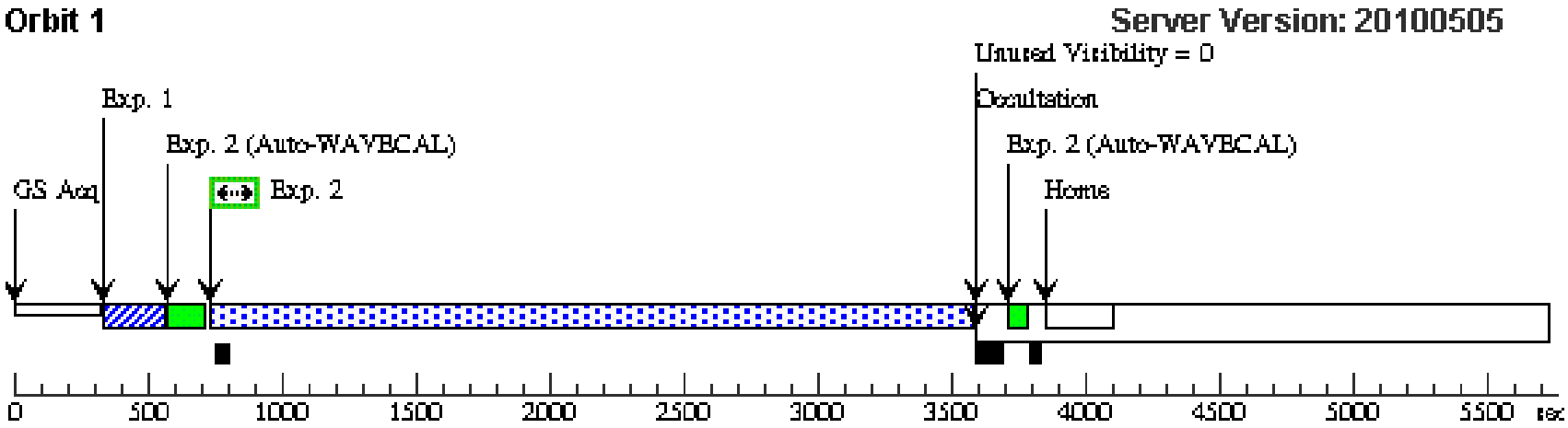
#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
1		(6) SK-67D168	STIS/CCD, ACQ, F28X50LP	MIRROR				1 Secs *[==>]*	 ***[1]***

Comments: STIS.A329314

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
2		(6) SK-67D168	STIS/FUV-MAMA, ACCUM, 0.2X0.2	E140M 1425 A				2500 Secs *[==>2839.0 Secs]*	 ***[1]***

Comments: STIS.A329327

Orbit Structure



Visit

Proposal 12218, Visit 07 Thu Jul 08 02:03:30 GMT 2010

Diagnostic Status: No Diagnostics

Scientific Instruments: STIS/FUV-MAMA, STIS/CCD

Special Requirements: (none)

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(7)	SK-71D41	RA: 05 30 40.1700 (82.6673750d) Dec: -71 05 37.00 (-71.09361d) Equinox: J2000		V=12.83	Reference Frame: ICRS

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

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
1		(7) SK-71D41	STIS/CCD, ACQ, F28X50LP	MIRROR				2 Secs *[==>]*	 ***[1]***
Comments: STIS.A329316									
2		(7) SK-71D41	STIS/FUV-MAMA, ACCUM, 0.2X0.2	E140M 1425 A				2500 Secs *[==>2881.0 Secs]*	 ***[1]***
Comments: STIS.A329328									

Orbit Structure