11608 - How Far Does H2 Go: Constraining FUV Variability in the Gaseous Inner Holes of Protoplanetary Disks

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	(4) DM-TAU CCDFLAT	STIS/CCD STIS/FUV-MAMA STIS/NUV-MAMA	2	07-Oct-2010 21:01:07.0	yes
02	(4) DM-TAU CCDFLAT	STIS/CCD STIS/FUV-MAMA STIS/NUV-MAMA	2	07-Oct-2010 21:01:16.0	yes
03	(4) DM-TAU CCDFLAT	STIS/CCD STIS/FUV-MAMA STIS/NUV-MAMA	2	07-Oct-2010 21:01:25.0	yes
04	(3) GM-AUR CCDFLAT	STIS/CCD STIS/FUV-MAMA STIS/NUV-MAMA	2	07-Oct-2010 21:01:32.0	yes

Visit	*Targets used in Visit*	*Configurations used in Visit*	*Orbits Used*	*Last Orbit Planner Run*	*OP Current with Visit?*
05	(3) GM-AUR CCDFLAT	STIS/CCD STIS/FUV-MAMA STIS/NUV-MAMA	2	07-Oct-2010 21:01:39.0	yes
06	(3) GM-AUR CCDFLAT	STIS/CCD STIS/FUV-MAMA STIS/NUV-MAMA	2	07-Oct-2010 21:01:46.0	yes
07	(1) TW-HYA CCDFLAT	STIS/CCD STIS/FUV-MAMA STIS/NUV-MAMA	2	07-Oct-2010 21:01:55.0	yes
08	(1) TW-HYA CCDFLAT	STIS/CCD STIS/FUV-MAMA STIS/NUV-MAMA	2	07-Oct-2010 21:02:01.0	yes
09	(1) TW-HYA CCDFLAT	STIS/CCD STIS/FUV-MAMA STIS/NUV-MAMA	2	07-Oct-2010 21:02:08.0	yes

18 Total Orbits Used

ABSTRACT

By studying the innermost, planet-forming regions of circumstellar disks around low-mass pre-main sequence stars we can refine theories of planet formation and develop timescales for the evolution of disks and their planets. Spitzer infrared observations of T Tauri stars have given us an unprecedented look at dust evolution in young objects, particularly the transitional disks. However, despite this ground breaking progress in studying the dust in young disks, the relationship between the dust and gas properties in the inner disk remains essentially unknown. Using STIS on HST, we propose to quantify the variability of H2 emission originating within the inner holes of transitional disks and explore its implications on dust distribution and planet formation.

OBSERVING DESCRIPTION

There will be 3 visits for each of 3 targets (DM Tau, GM Aur and TW Hya). The visits will be separated by 1 week and 4 months. MAMA FUV and NUV observations will be done using the G140L and G230L gratings which cover 1150-1730 A and 1570-3180 A respectively for both DM Tau and GM Aur. The bright source, TW Hya, will use the E140M grating instead of the G140L grating to cover the FUV. Simultaneous optical and near-IR spectra will be taken using the CCD G430L grating (2900-5700 A) and the CCD G750L grating (5240-10270 A). We will also do fringe-flats to correct the spectra beyond 7000 A. We note that since this is a variability study we will need to use the STIS MAMA and the CCD in the same visit and since the CCD observations will take about 30 minutes, this visit structure is allowed according to the HST primer.

ADDITIONAL COMMENTS

We note that the only object of concern noticed by the BOT was one of our targets, TW Hya, in STIS/NUV-MAMA mode and we have taken this into consideration in our exposure times.

Changes from Phase I:

We have changed the apertures used in our fringe flats and ACCUM exposures to 0.3x0.09 and 52x2 respectively. We have removed peakups. We are now also using the LP filter for the ACQ of DM Tau and GM Aur. We are also setting timing requirements such that ground-based supporting observations will be possible.

Visit

Proposal 11608, Visit 01, scheduling Fri Oct 08 01:02:13 GMT 2010

Diagnostic Status: Warning

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

Special Requirements: BETWEEN 30-AUG-2011:00:00:00 AND 16-MAR-2012:00:00:00; BETWEEN 30-AUG-2010:00:00:00 AND 16-MAR-2011:00:00:00

Diagnostics

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

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

Fixed Targets

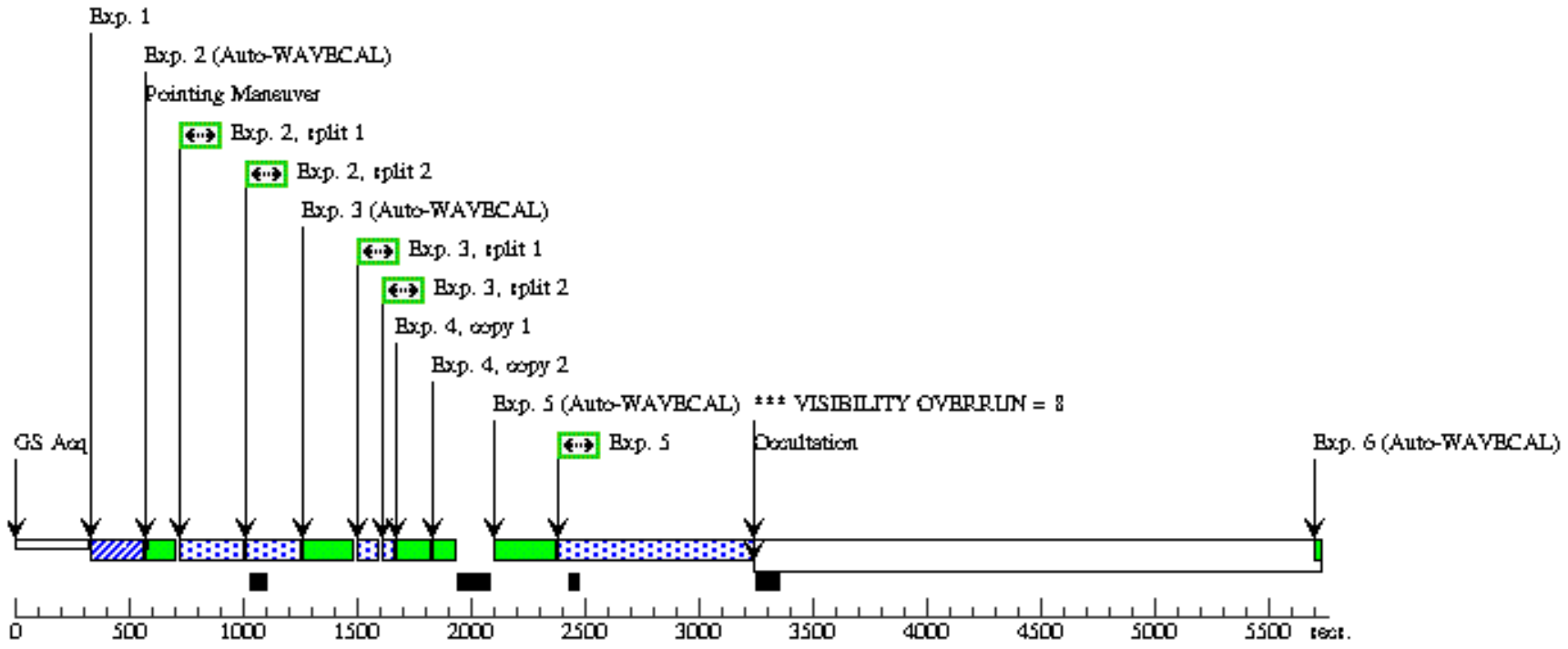
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(4)	DM-TAU	RA: 04 33 48.7300 (68.4530417d) Dec: +18 10 10.00 (18.16944d) Equinox: J2000		V=13.78	Reference Frame: ICRS

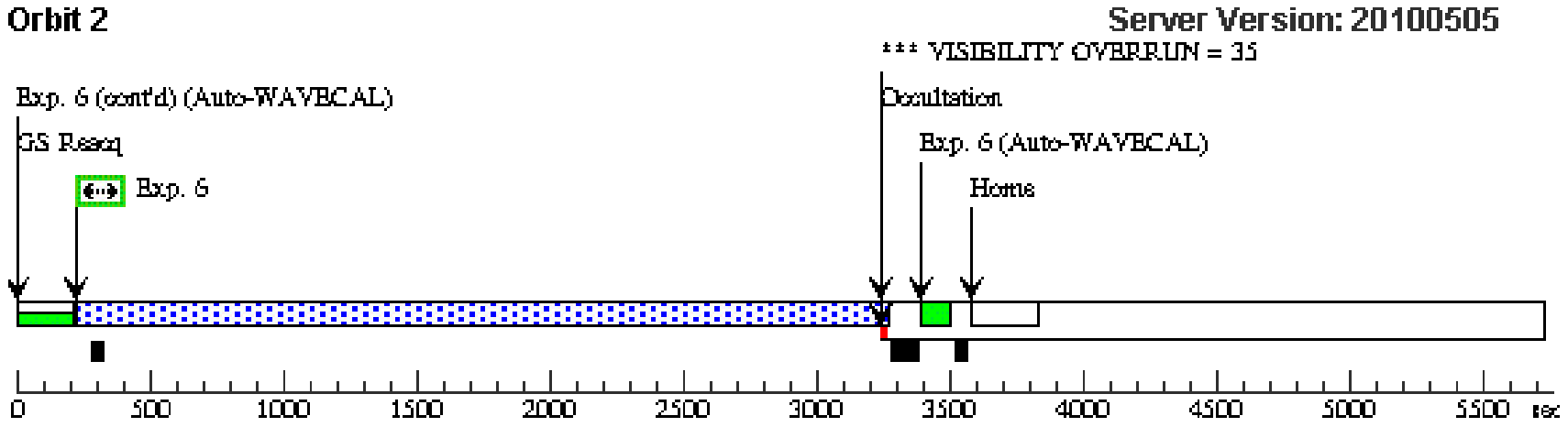
Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
1		(4) DM-TAU	STIS/CCD, ACQ, F28X50LP	MIRROR				1 Secs	
								[==>]	***[1]***
2		(4) DM-TAU	STIS/CCD, ACCUM, 52X2	G430L 4300 A				400 Secs	
								[==>(Split 1)] *[==>(Split 2)]*	***[1]***
3		(4) DM-TAU	STIS/CCD, ACCUM, 52X2	G750L 7751 A				25 Secs	
								[==>(Split 1)] *[==>(Split 2)]*	***[1]***
4		CCDFLAT	STIS/CCD, ACCUM, 0.3X0.09	G750L 7751 A				*[==>(Copy 1)]* *[==>(Copy 2)]*	***[1]***
5		(4) DM-TAU	STIS/NUV-MAMA, ACCUM, 52X2	G230L 2376 A				821 Secs	
								[==>]	***[1]***
6		(4) DM-TAU	STIS/FUV-MAMA, ACCUM, 52X2	G140L 1425 A				2994 Secs	
								[==>]	***[2]***

Orbit Structure





Visit

Proposal 11608, Visit 02, scheduling Fri Oct 08 01:02:15 GMT 2010

Diagnostic Status: Warning

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

Special Requirements: AFTER_01 BY 6 D TO 8 D; BETWEEN 30-AUG-2011:00:00:00 AND 16-MAR-2012:00:00:00; BETWEEN 30-AUG-2010:00:00:00 AND 16-MAR-2011:00:00:00

Diagnostics

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

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

Fixed Targets

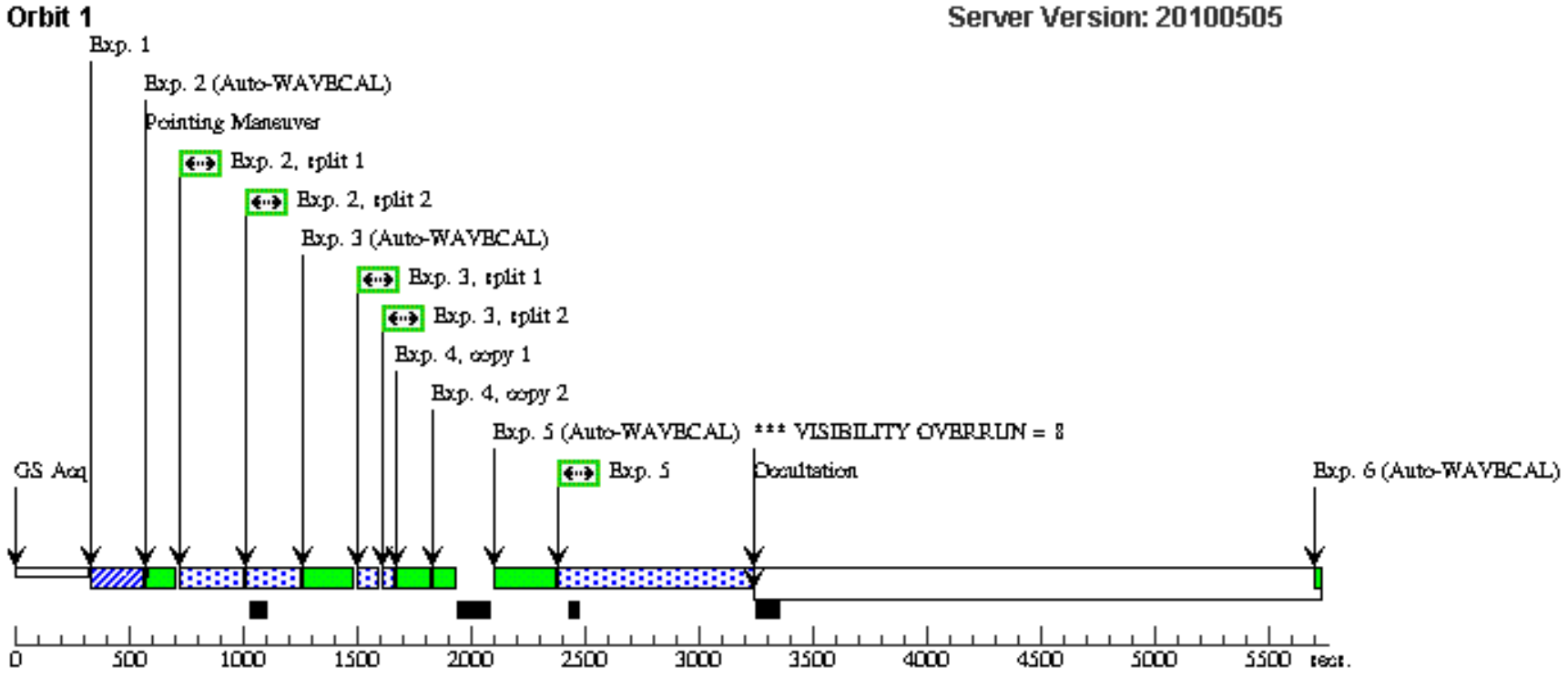
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(4)	DM-TAU	RA: 04 33 48.7300 (68.4530417d) Dec: +18 10 10.00 (18.16944d) Equinox: J2000		V=13.78	Reference Frame: ICRS

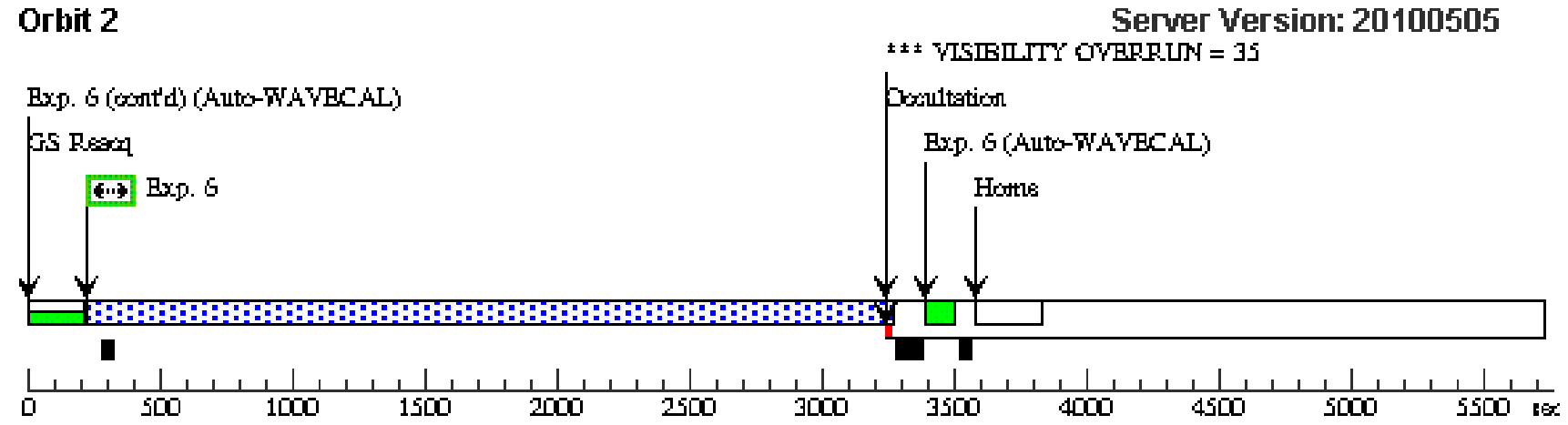
Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
1		(4) DM-TAU	STIS/CCD, ACQ, F28X50LP	MIRROR				1 Secs	
								[==>]	***[1]***
2		(4) DM-TAU	STIS/CCD, ACCUM, 52X2	G430L 4300 A				400 Secs	
								[==>(Split 1)] *[==>(Split 2)]*	***[1]***
3		(4) DM-TAU	STIS/CCD, ACCUM, 52X2	G750L 7751 A				25 Secs	
								[==>(Split 1)] *[==>(Split 2)]*	***[1]***
4		CCDFLAT	STIS/CCD, ACCUM, 0.3X0.09	G750L 7751 A				*[==>(Copy 1)]* *[==>(Copy 2)]*	***[1]***
5		(4) DM-TAU	STIS/NUV-MAMA, ACCUM, 52X2	G230L 2376 A				821 Secs	
								[==>]	***[1]***
6		(4) DM-TAU	STIS/FUV-MAMA, ACCUM, 52X2	G140L 1425 A				2994 Secs	
								[==>]	***[2]***

Orbit Structure





Visit

Proposal 11608, Visit 03, scheduling Fri Oct 08 01:02:15 GMT 2010

Diagnostic Status: Warning

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

Special Requirements: AFTER_01 BY 115 D TO 125 D; BETWEEN 30-AUG-2011:00:00:00 AND 16-MAR-2012:00:00:00; BETWEEN 30-AUG-2010:00:00:00 AND 16-MAR-2011:00:00:00

Diagnostics

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

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

Fixed Targets

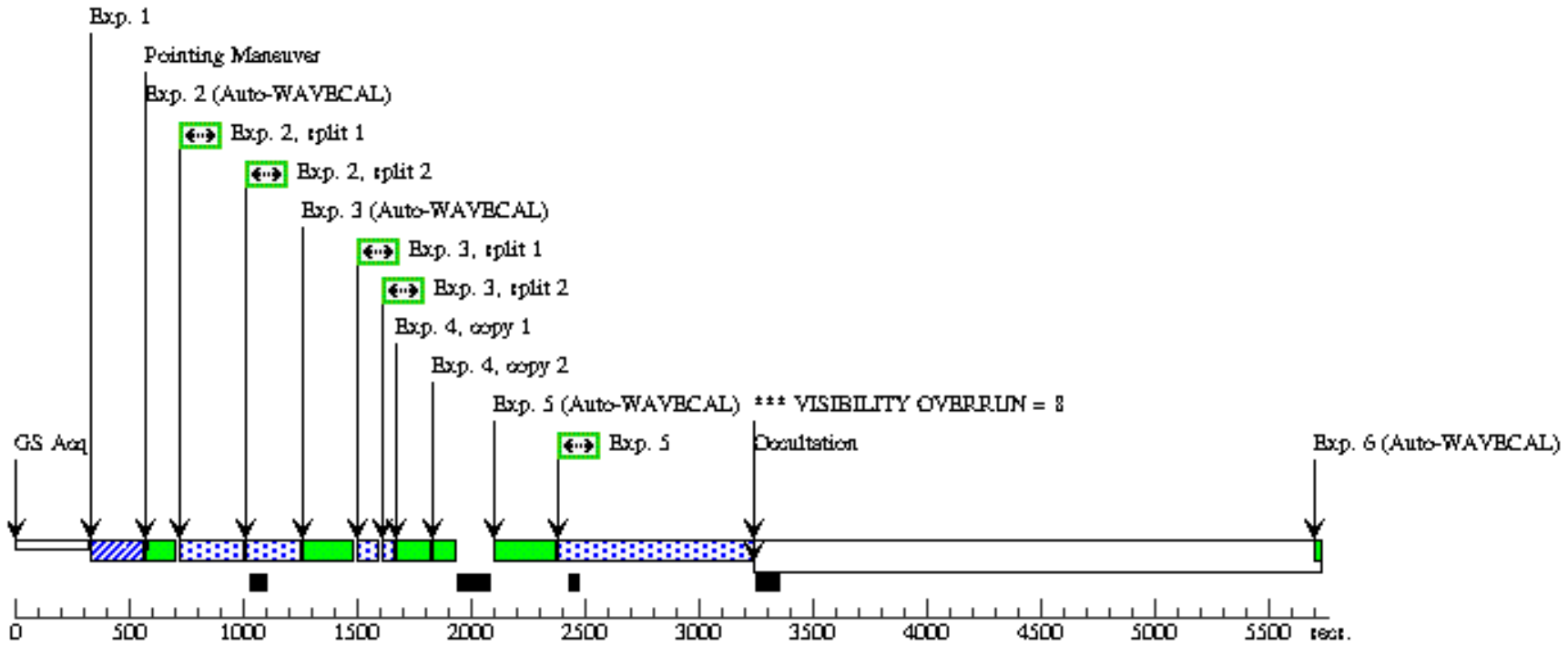
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(4)	DM-TAU	RA: 04 33 48.7300 (68.4530417d) Dec: +18 10 10.00 (18.16944d) Equinox: J2000		V=13.78	Reference Frame: ICRS

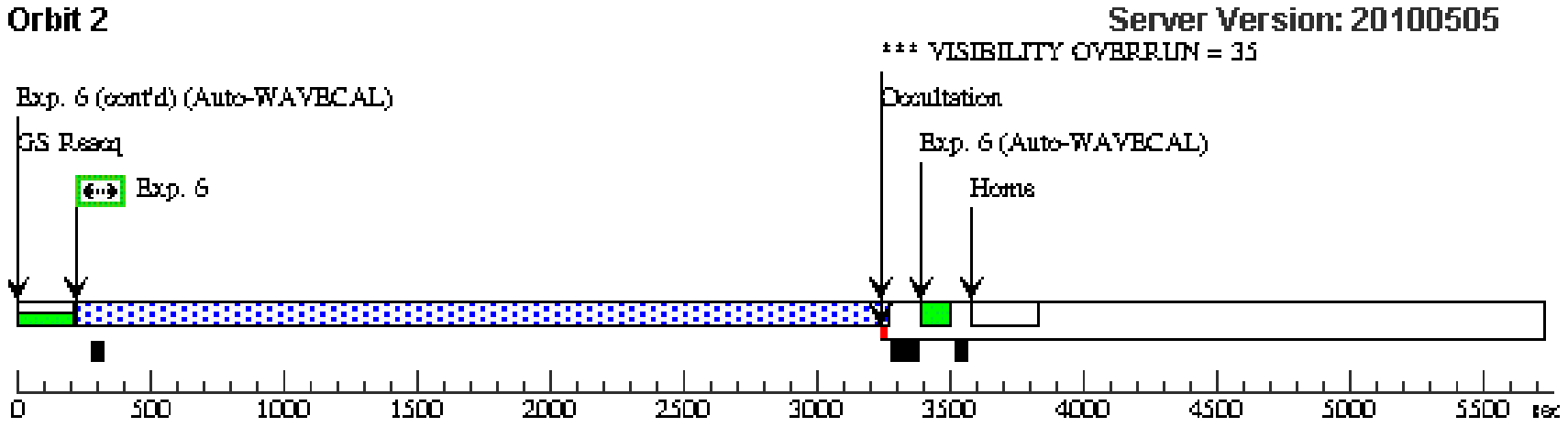
Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
1		(4) DM-TAU	STIS/CCD, ACQ, F28X50LP	MIRROR				1 Secs	
								[==>]	***[1]***
2		(4) DM-TAU	STIS/CCD, ACCUM, 52X2	G430L 4300 A				400 Secs	
								[==>(Split 1)] *[==>(Split 2)]*	***[1]***
3		(4) DM-TAU	STIS/CCD, ACCUM, 52X2	G750L 7751 A				25 Secs	
								[==>(Split 1)] *[==>(Split 2)]*	***[1]***
4		CCDFLAT	STIS/CCD, ACCUM, 0.3X0.09	G750L 7751 A				*[==>(Copy 1)]* *[==>(Copy 2)]*	***[1]***
5		(4) DM-TAU	STIS/NUV-MAMA, ACCUM, 52X2	G230L 2376 A				821 Secs	
								[==>]	***[1]***
6		(4) DM-TAU	STIS/FUV-MAMA, ACCUM, 52X2	G140L 1425 A				2994 Secs	
								[==>]	***[2]***

Orbit Structure





Visit

Proposal 11608, Visit 04, scheduling Fri Oct 08 01:02:16 GMT 2010

Diagnostic Status: Warning

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

Special Requirements: BETWEEN 30-AUG-2011:00:00:00 AND 16-MAR-2012:00:00:00; BETWEEN 30-AUG-2010:00:00:00 AND 16-MAR-2011:00:00:00

Diagnostics

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

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

Fixed Targets

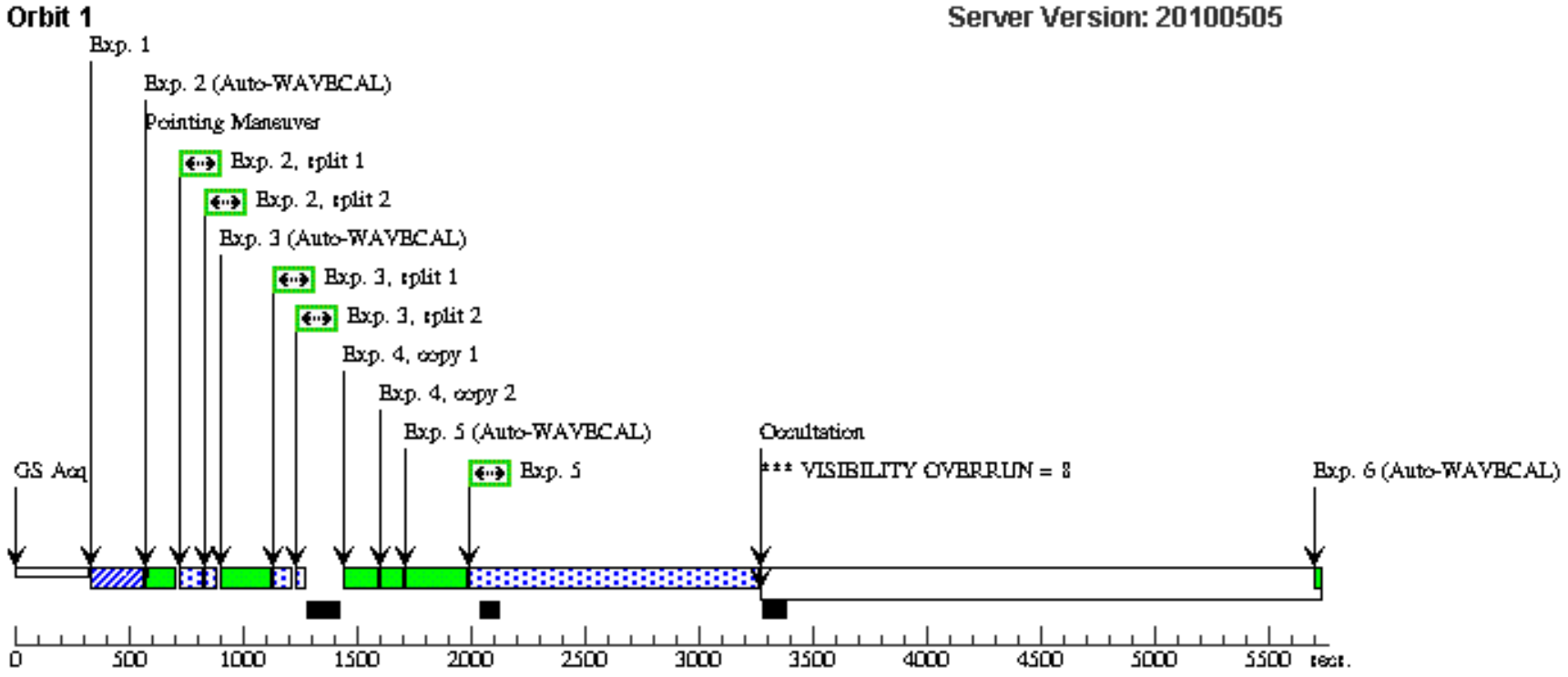
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(3)	GM-AUR	RA: 04 55 10.9800 (73.7957500d) Dec: +30 21 59.40 (30.36650d) Equinox: J2000		V=12.19	Reference Frame: ICRS

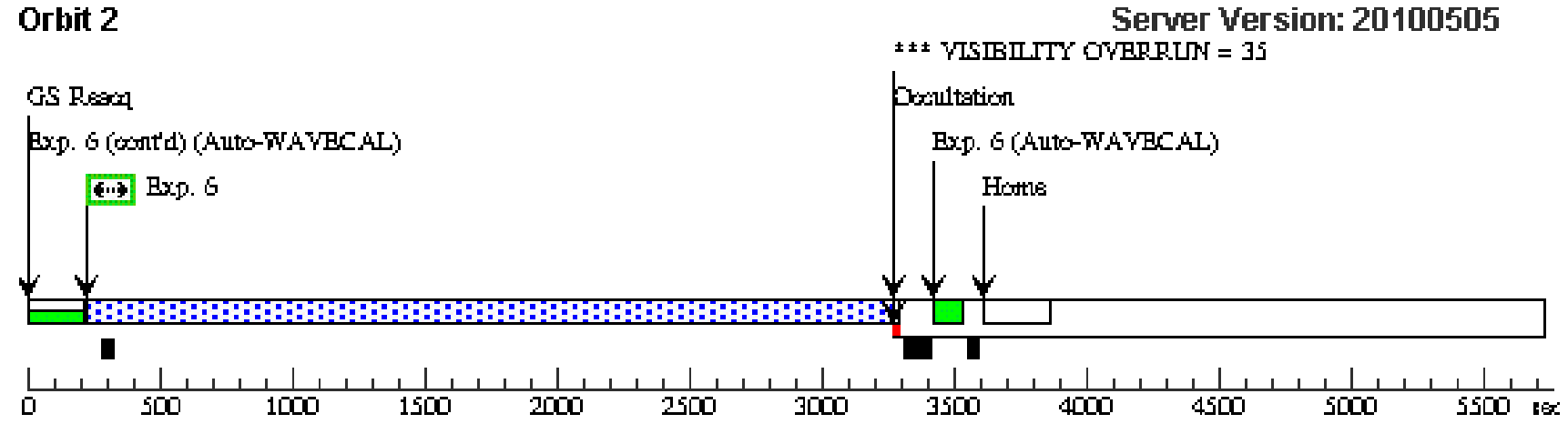
Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
1		(3) GM-AUR	STIS/CCD, ACQ, F28X50LP	MIRROR				0.5 Secs	
								[==>]	***[1]***
2		(3) GM-AUR	STIS/CCD, ACCUM, 52X2	G430L 4300 A				35 Secs *[==>(Split 1)]* *[==>(Split 2)]*	***[1]***
3		(3) GM-AUR	STIS/CCD, ACCUM, 52X2	G750L 7751 A				8 Secs *[==>(Split 1)]* *[==>(Split 2)]*	***[1]***
4		CCDFLAT	STIS/CCD, ACCUM, 0.3X0.09	G750L 7751 A				*[==>(Copy 1)]* *[==>(Copy 2)]*	***[1]***
5		(3) GM-AUR	STIS/NUV-MAMA, ACCUM, 52X2	G230L 2376 A				1231 Secs *[==>]*	***[1]***
6		(3) GM-AUR	STIS/FUV-MAMA, ACCUM, 52X2	G140L 1425 A				3020 Secs *[==>]*	***[2]***

Orbit Structure





Visit

Proposal 11608, Visit 05, scheduling Fri Oct 08 01:02:17 GMT 2010

Diagnostic Status: Warning

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

Special Requirements: AFTER_04 BY 6 D TO 8 D; BETWEEN 30-AUG-2011:00:00:00 AND 16-MAR-2012:00:00:00; BETWEEN 30-AUG-2010:00:00:00 AND 16-MAR-2011:00:00:00

Diagnostics

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

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

Fixed Targets

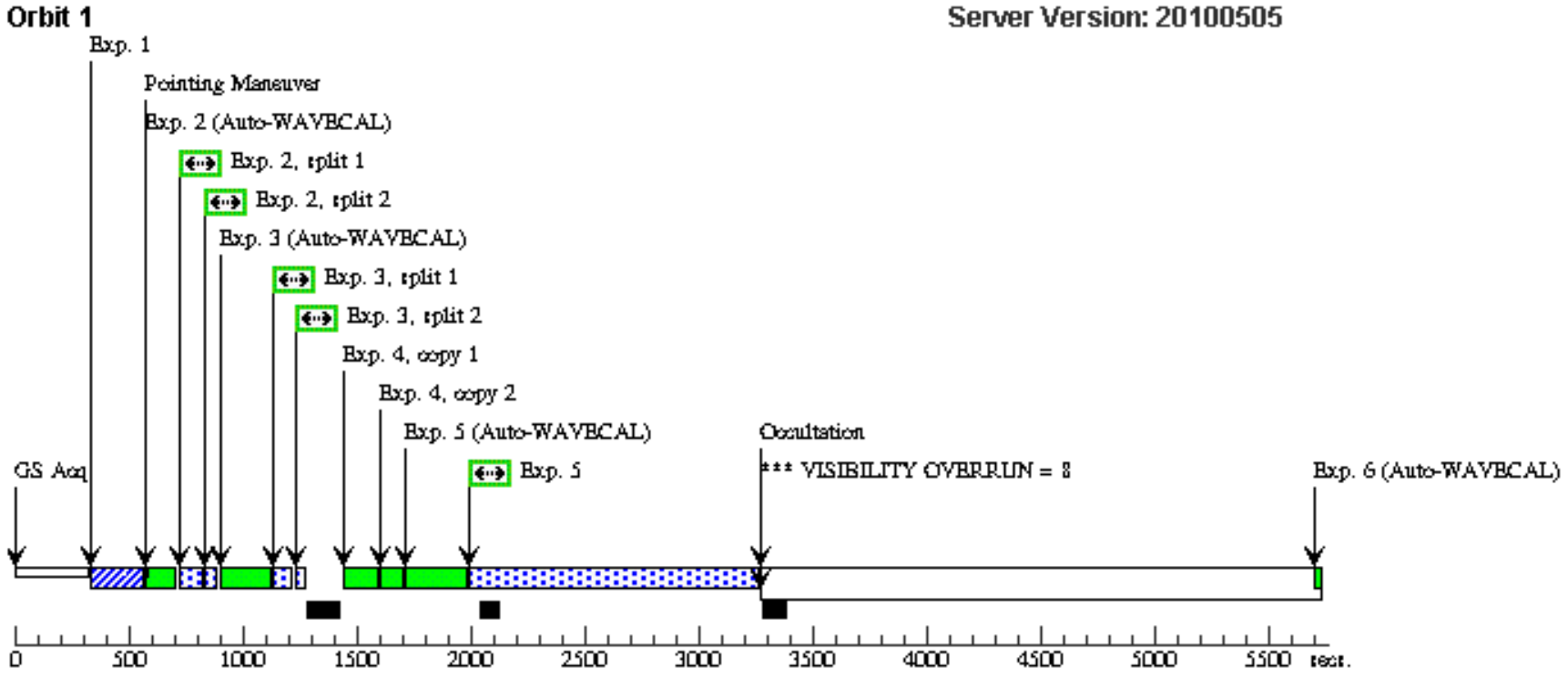
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(3)	GM-AUR	RA: 04 55 10.9800 (73.7957500d) Dec: +30 21 59.40 (30.36650d) Equinox: J2000		V=12.19	Reference Frame: ICRS

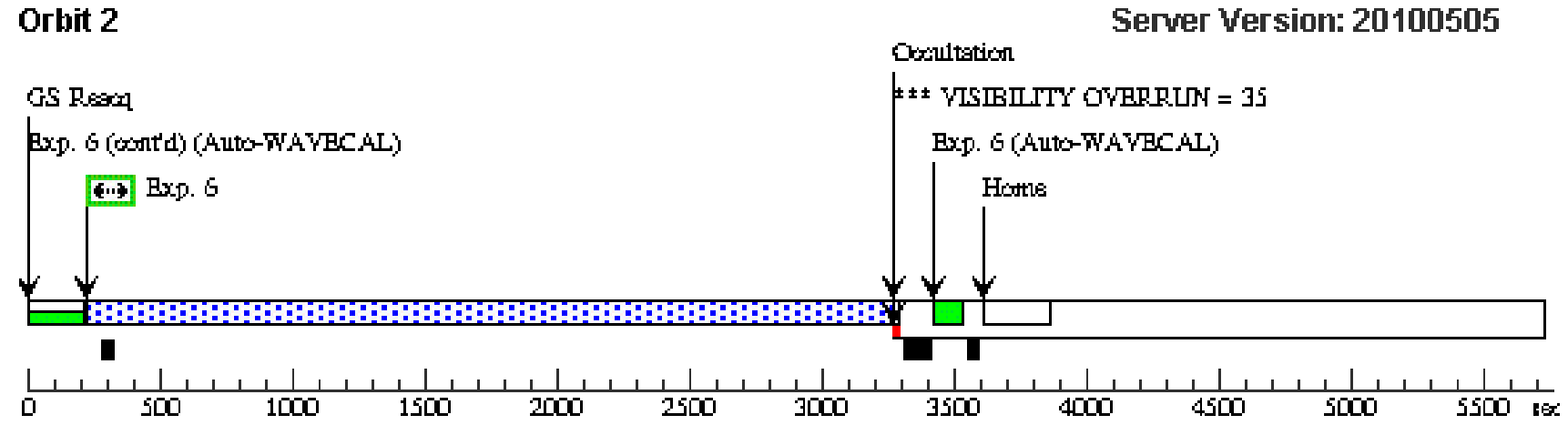
Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
1		(3) GM-AUR	STIS/CCD, ACQ, F28X50LP	MIRROR				0.5 Secs	
								[==>]	***[1]***
2		(3) GM-AUR	STIS/CCD, ACCUM, 52X2	G430L 4300 A				35 Secs	
								[==>(Split 1)] *[==>(Split 2)]*	***[1]***
3		(3) GM-AUR	STIS/CCD, ACCUM, 52X2	G750L 7751 A				8 Secs	
								[==>(Split 1)] *[==>(Split 2)]*	***[1]***
4		CCDFLAT	STIS/CCD, ACCUM, 0.3X0.09	G750L 7751 A				*[==>(Copy 1)]* *[==>(Copy 2)]*	***[1]***
5		(3) GM-AUR	STIS/NUV-MAMA, ACCUM, 52X2	G230L 2376 A				1231 Secs	
								[==>]	***[1]***
6		(3) GM-AUR	STIS/FUV-MAMA, ACCUM, 52X2	G140L 1425 A				3020 Secs	
								[==>]	***[2]***

Orbit Structure





Visit

Proposal 11608, Visit 06, scheduling Fri Oct 08 01:02:17 GMT 2010

Diagnostic Status: Warning

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

Special Requirements: AFTER_04 BY 115 D TO 125 D; BETWEEN 30-AUG-2011:00:00:00 AND 16-MAR-2012:00:00:00; BETWEEN 30-AUG-2010:00:00:00 AND 16-MAR-2011:00:00:00

Diagnostics

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

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

Fixed Targets

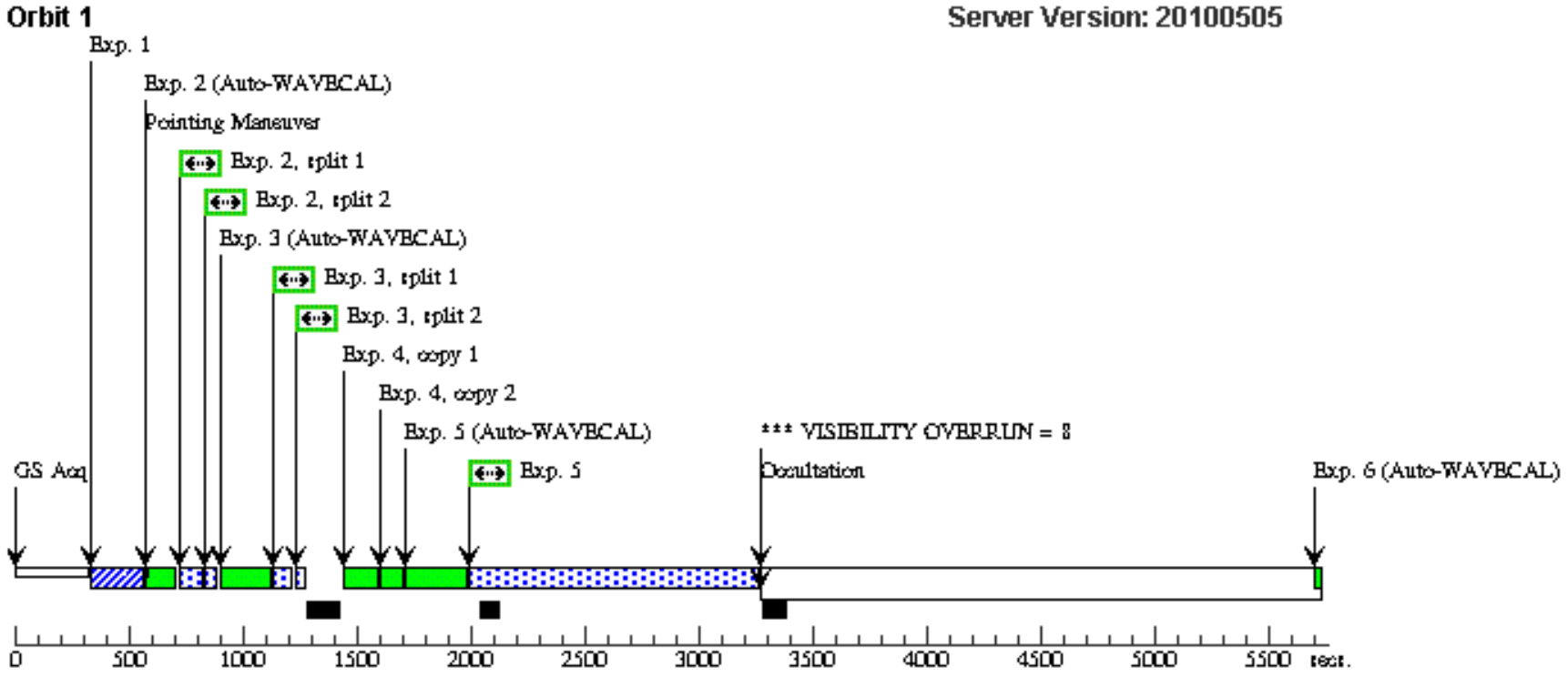
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(3)	GM-AUR	RA: 04 55 10.9800 (73.7957500d) Dec: +30 21 59.40 (30.36650d) Equinox: J2000		V=12.19	Reference Frame: ICRS

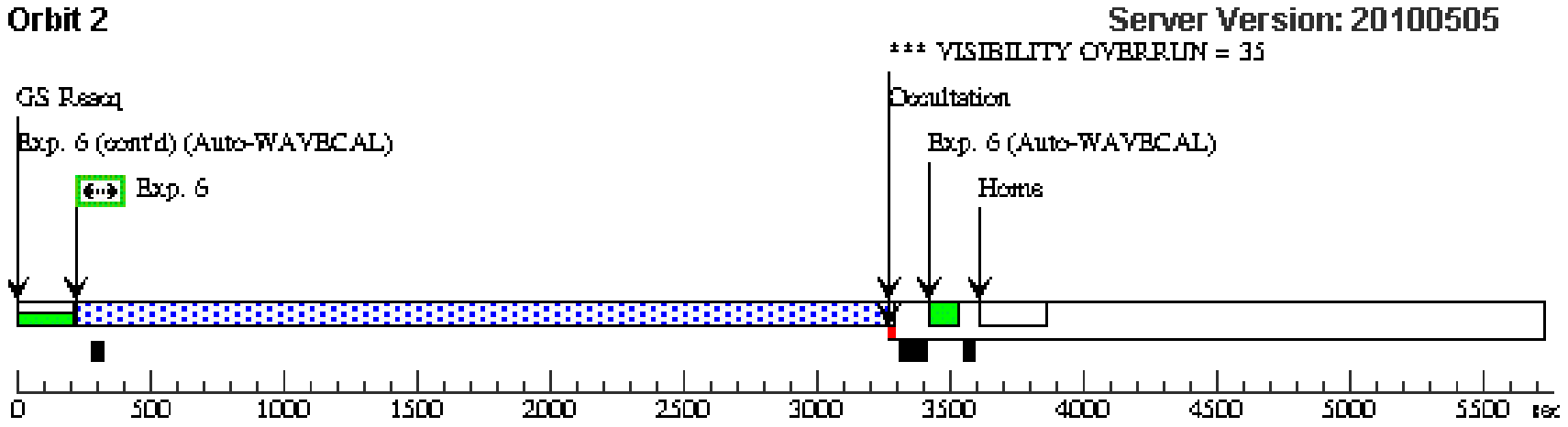
Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
1		(3) GM-AUR	STIS/CCD, ACQ, F28X50LP	MIRROR				0.5 Secs	
								[==>]	***[1]***
2		(3) GM-AUR	STIS/CCD, ACCUM, 52X2	G430L 4300 A				35 Secs	
								[==>(Split 1)] *[==>(Split 2)]*	***[1]***
3		(3) GM-AUR	STIS/CCD, ACCUM, 52X2	G750L 7751 A				8 Secs	
								[==>(Split 1)] *[==>(Split 2)]*	***[1]***
4		CCDFLAT	STIS/CCD, ACCUM, 0.3X0.09	G750L 7751 A				*[==>(Copy 1)]* *[==>(Copy 2)]*	***[1]***
5		(3) GM-AUR	STIS/NUV-MAMA, ACCUM, 52X2	G230L 2376 A				1231 Secs	
								[==>]	***[1]***
6		(3) GM-AUR	STIS/FUV-MAMA, ACCUM, 52X2	G140L 1425 A				3020 Secs	
								[==>]	***[2]***

Orbit Structure





Visit

Proposal 11608, Visit 07, completed Fri Oct 08 01:02:18 GMT 2010

Diagnostic Status: Warning

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

Special Requirements: BETWEEN 11-DEC-2008:00:00:00 AND 04-MAY-2009:00:00:00; BETWEEN 11-DEC-2009:00:00:00 AND 04-MAY-2010:00:00:00; BETWEEN 11-DEC-2010:00:00:00 AND 04-MAY-2011:00:00:00

Diagnostics

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

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

Fixed Targets

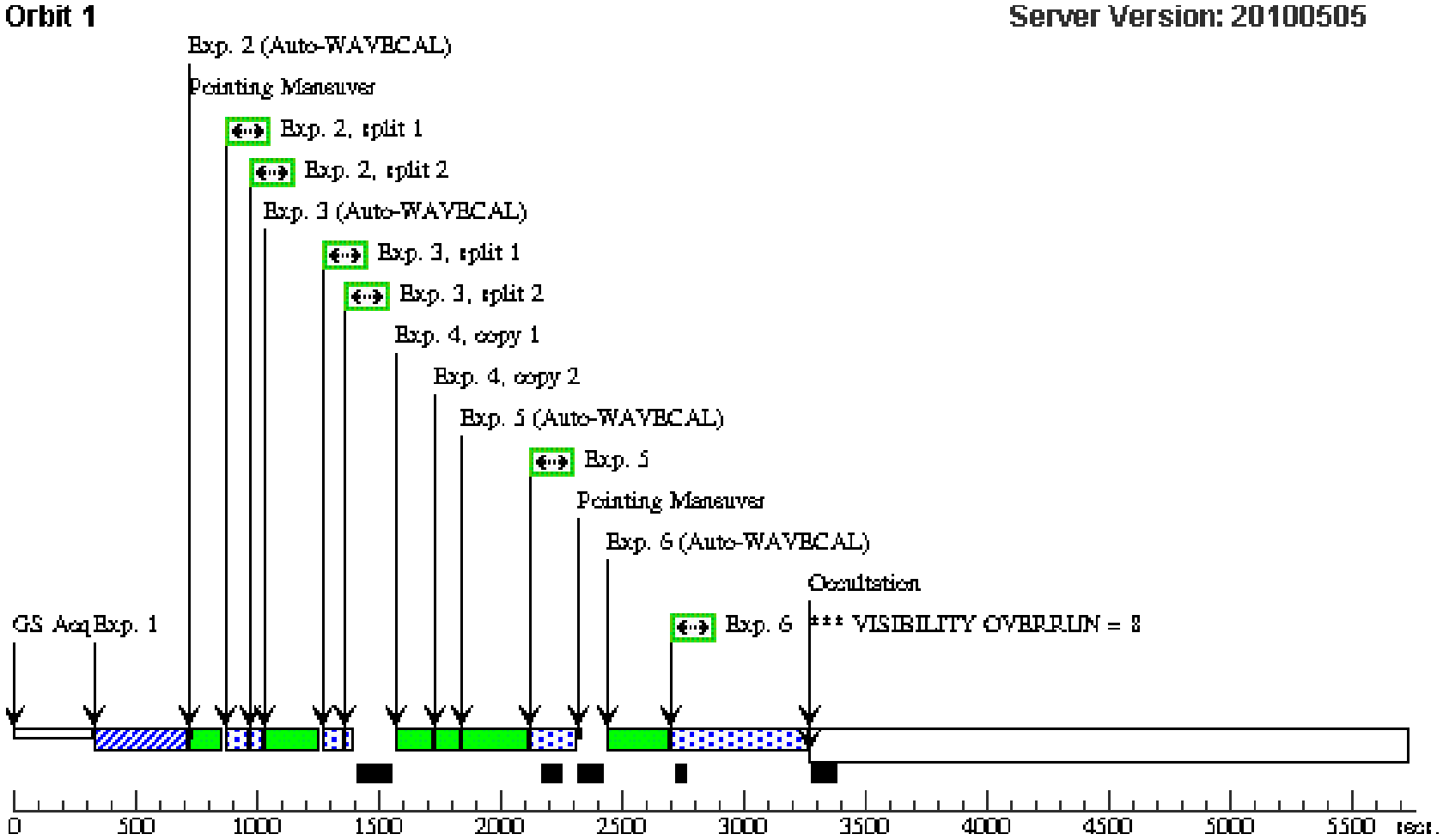
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	TW-HYA	RA: 11 01 51.9063 (165.4662763d) Dec: -34 42 17.02 (-34.70473d) Equinox: J2000		V=11.1	Reference Frame: ICRS

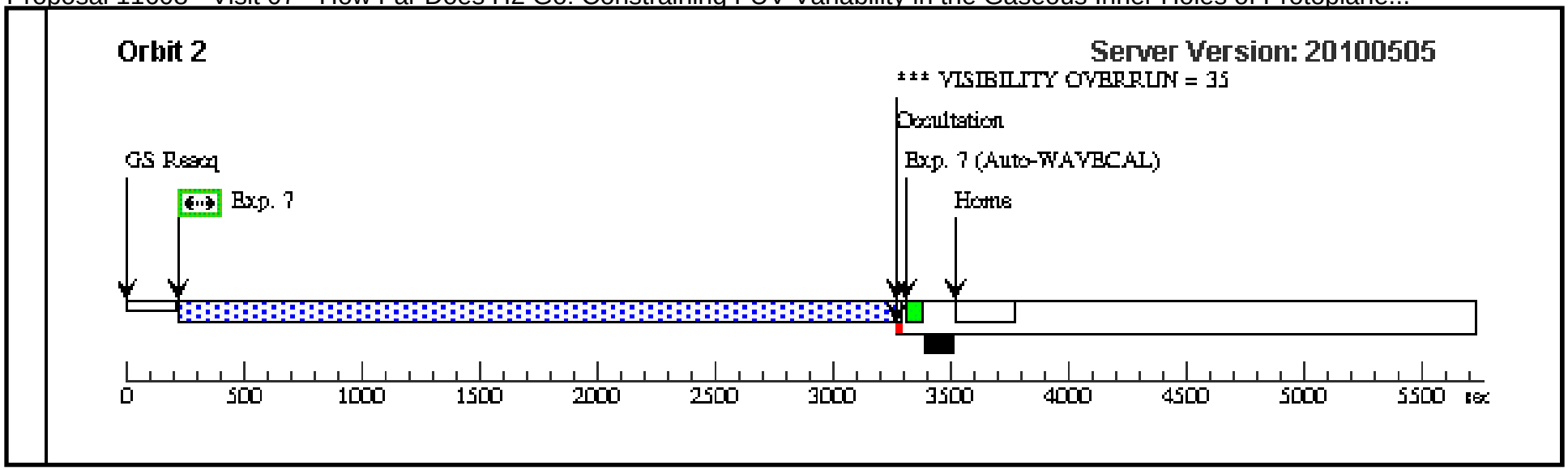
Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
1		(1) TW-HYA	STIS/CCD, ACQ, F28X50OII	MIRROR				30 Secs *[==>]*	***[1]***
2		(1) TW-HYA	STIS/CCD, ACCUM, 52X2	G430L 4300 A				20 Secs *[==>(Split 1)]* *[==>(Split 2)]*	***[1]***
3		(1) TW-HYA	STIS/CCD, ACCUM, 52X2	G750L 7751 A				1 Secs *[==>(Split 1)]* *[==>(Split 2)]*	***[1]***
4		CCDFLAT	STIS/CCD, ACCUM, 0.3X0.09	G750L 7751 A				*[==>(Copy 1)]* *[==>(Copy 2)]*	***[1]***
5		(1) TW-HYA	STIS/NUV-MAMA, ACCUM, 52X2	G230L 2376 A				150 Secs *[==>]*	***[1]***
6		(1) TW-HYA	STIS/FUV-MAMA, ACCUM, 0.2X0.2	E140M 1425 A				100 Secs *[==>548.0 Secs]*	***[1]***
7		(1) TW-HYA	STIS/FUV-MAMA, ACCUM, 0.2X0.2	E140M 1425 A				3058 Secs *[==>]*	***[2]***

Orbit Structure




Orbit 2
Server Version: 20100505
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Occultation
GS Reacq
Exp. 7
Exp. 7 (Auto-WAVECAL)
Home
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
sec

Visit

Proposal 11608, Visit 08, completed Fri Oct 08 01:02:18 GMT 2010

Diagnostic Status: Warning

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

Special Requirements: AFTER 07 BY 6 D TO 8 D; BETWEEN 11-DEC-2008:00:00:00 AND 04-MAY-2009:00:00:00; BETWEEN 11-DEC-2009:00:00:00 AND 04-MAY-2010:00:00:00; BETWEEN 11-DEC-2010:00:00:00 AND 04-MAY-2011:00:00:00

Diagnostics

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

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

Fixed Targets

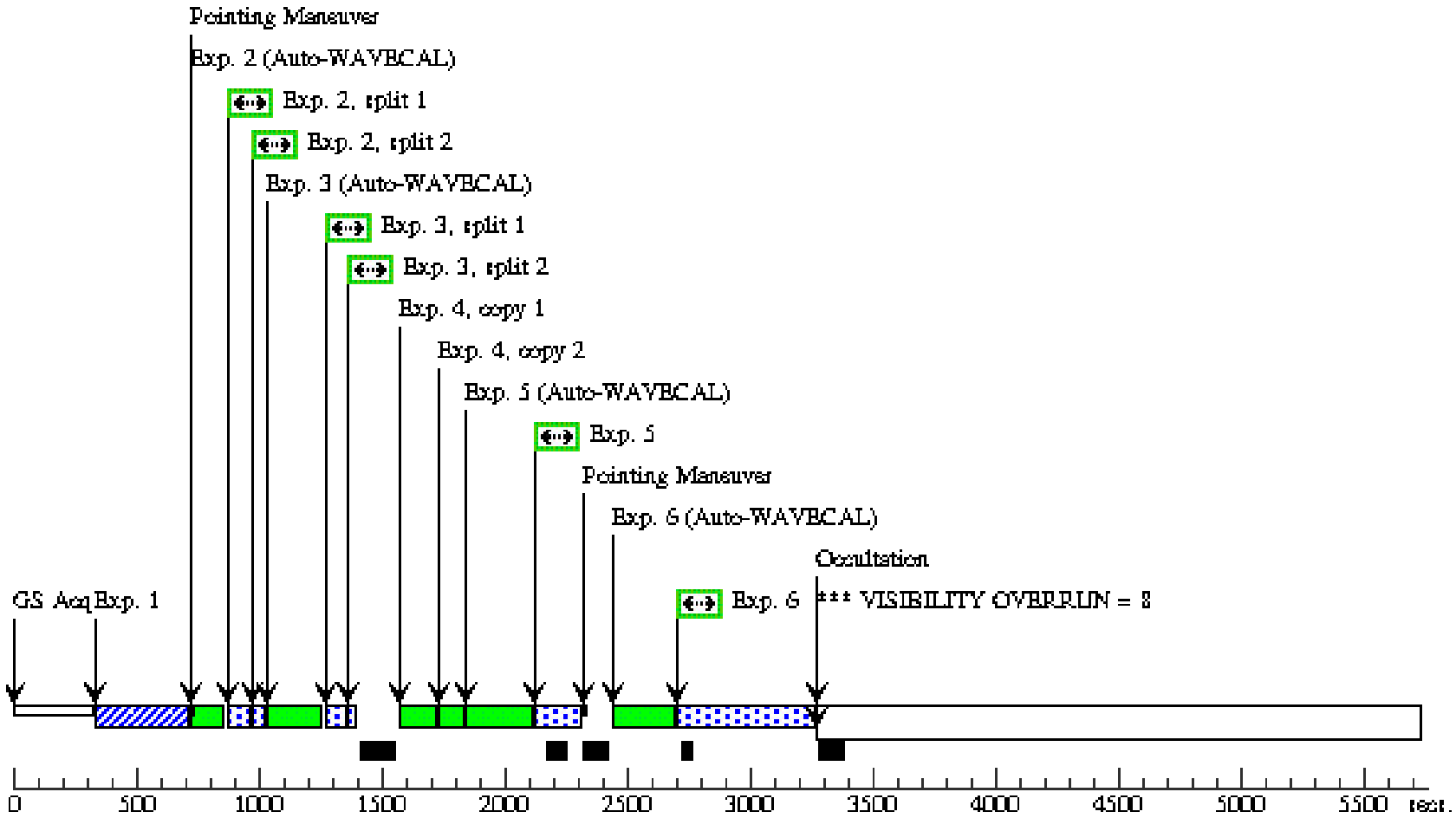
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	TW-HYA	RA: 11 01 51.9063 (165.4662763d) Dec: -34 42 17.02 (-34.70473d) Equinox: J2000		V=11.1	Reference Frame: ICRS

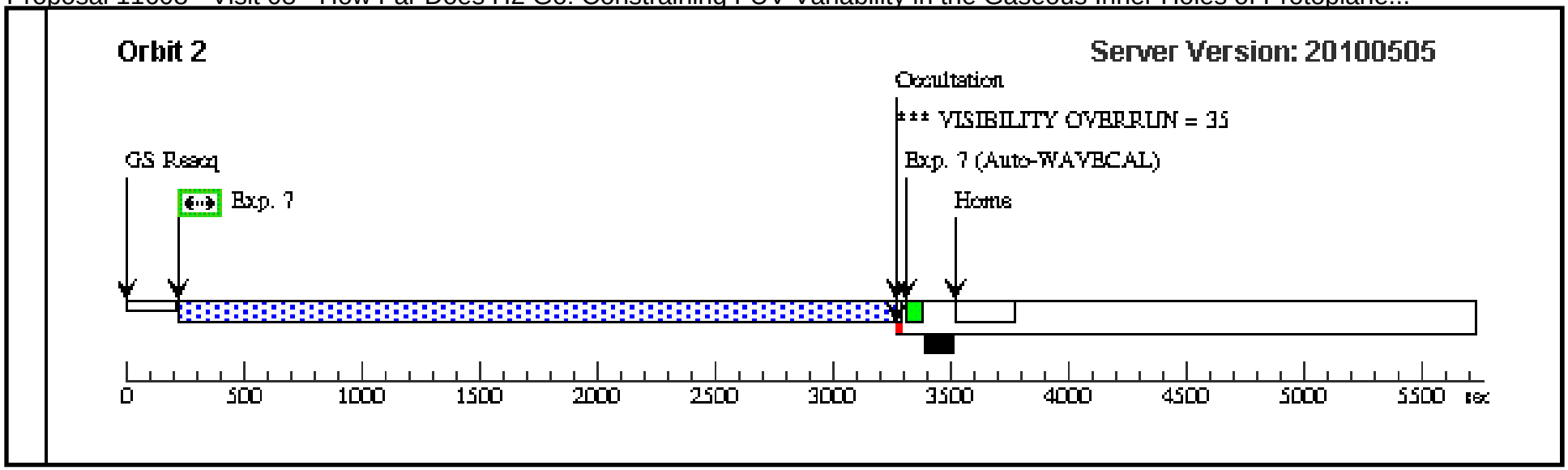
Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
1		(1) TW-HYA	STIS/CCD, ACQ, F28X50OII	MIRROR				30 Secs *[==>]*	***[1]***
2		(1) TW-HYA	STIS/CCD, ACCUM, 52X2	G430L 4300 A				20 Secs *[==>(Split 1)]* *[==>(Split 2)]*	***[1]***
3		(1) TW-HYA	STIS/CCD, ACCUM, 52X2	G750L 7751 A				1 Secs *[==>(Split 1)]* *[==>(Split 2)]*	***[1]***
4		CCDFLAT	STIS/CCD, ACCUM, 0.3X0.09	G750L 7751 A				*[==>(Copy 1)]* *[==>(Copy 2)]*	***[1]***
5		(1) TW-HYA	STIS/NUV-MAMA, ACCUM, 52X2	G230L 2376 A				150 Secs *[==>]*	***[1]***
6		(1) TW-HYA	STIS/FUV-MAMA, ACCUM, 0.2X0.2	E140M 1425 A				100 Secs *[==>548.0 Secs]*	***[1]***
7		(1) TW-HYA	STIS/FUV-MAMA, ACCUM, 0.2X0.2	E140M 1425 A				3058 Secs *[==>]*	***[2]***

Orbit Structure




Orbit 2
Server Version: 20100505
Occultation
*** VISIBILITY OVERRUN = 35
GS Reacq
Exp. 7
Exp. 7 (Auto-WAVECAL)
Home
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
sec

Visit

Proposal 11608, Visit 09, completed Fri Oct 08 01:02:19 GMT 2010

Diagnostic Status: Warning

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

Special Requirements: AFTER 07 BY 115 D TO 125 D; BETWEEN 11-DEC-2008:00:00:00 AND 04-MAY-2009:00:00:00; BETWEEN 11-DEC-2009:00:00:00 AND 30-MAY-2010:00:00:00; BETWEEN 11-DEC-2010:00:00:00 AND 04-MAY-2011:00:00:00

Diagnostics

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

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

Fixed Targets

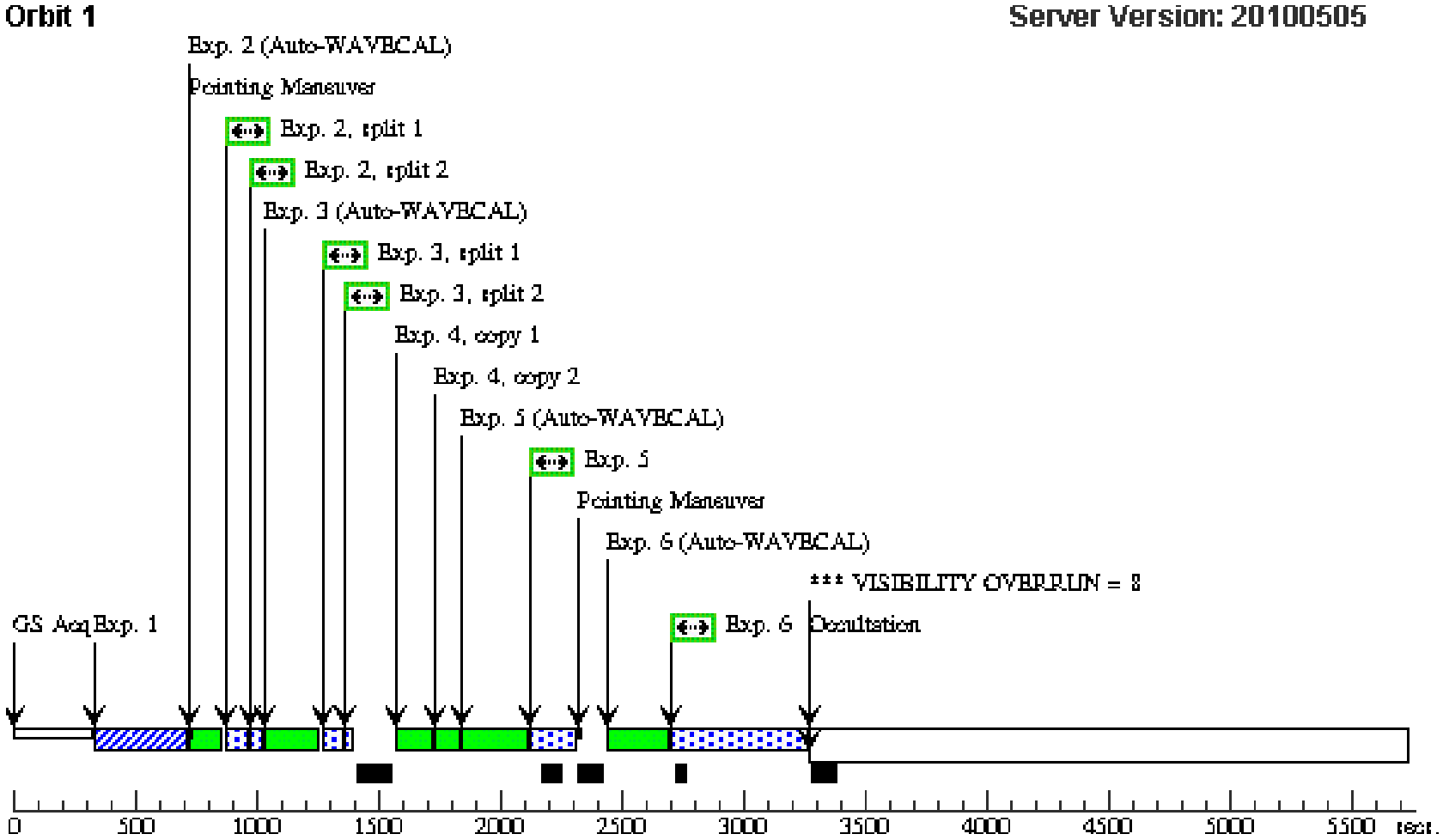
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	TW-HYA	RA: 11 01 51.9063 (165.4662763d) Dec: -34 42 17.02 (-34.70473d) Equinox: J2000		V=11.1	Reference Frame: ICRS

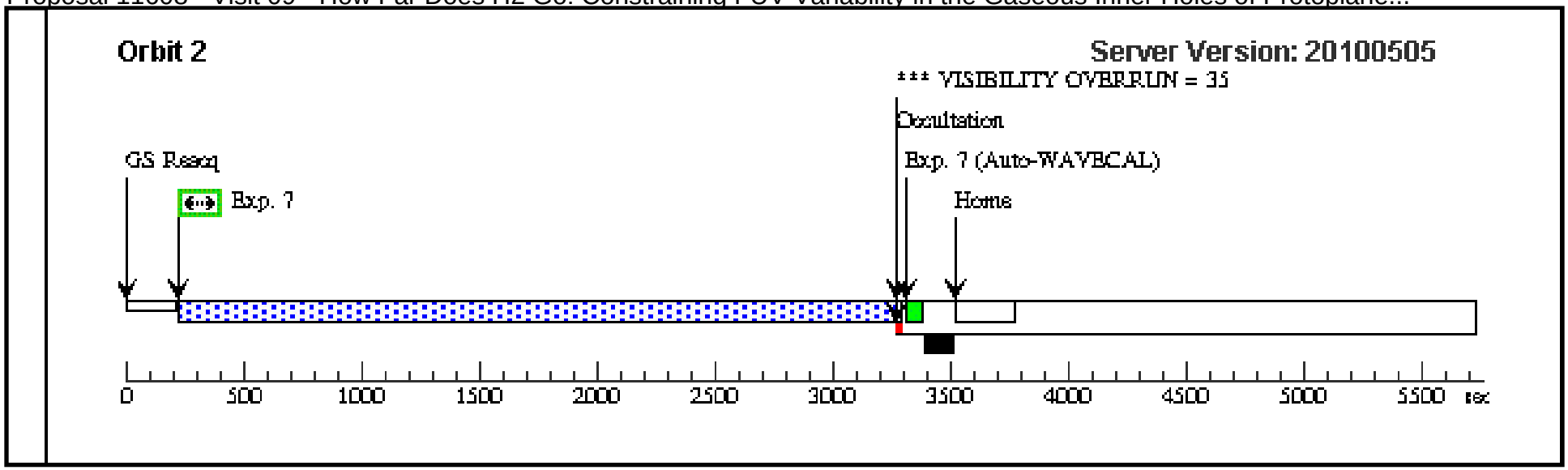
Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
1		(1) TW-HYA	STIS/CCD, ACQ, F28X50OII	MIRROR				30 Secs *[==>]*	*[1]*
2		(1) TW-HYA	STIS/CCD, ACCUM, 52X2	G430L 4300 A				20 Secs *[==>(Split 1)]* *[==>(Split 2)]*	*[1]*
3		(1) TW-HYA	STIS/CCD, ACCUM, 52X2	G750L 7751 A				1 Secs *[==>(Split 1)]* *[==>(Split 2)]*	*[1]*
4		CCDFLAT	STIS/CCD, ACCUM, 0.3X0.09	G750L 7751 A				*[==>(Copy 1)]* *[==>(Copy 2)]*	*[1]*
5		(1) TW-HYA	STIS/NUV-MAMA, ACCUM, 52X2	G230L 2376 A				150 Secs *[==>]*	*[1]*
6		(1) TW-HYA	STIS/FUV-MAMA, ACCUM, 0.2X0.2	E140M 1425 A				100 Secs *[==>548.0 Secs]*	*[1]*
7		(1) TW-HYA	STIS/FUV-MAMA, ACCUM, 0.2X0.2	E140M 1425 A				3058 Secs *[==>]*	*[2]*

Orbit Structure




Orbit 2
Server Version: 20100505
*** VISIBILITY OVERRUN = 35
Occultation
GS Reacq
Exp. 7
Exp. 7 (Auto-WAVECAL)
Home
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
sec