



11639 - Catching Accreting WDs Moving into Their Instability Strip(s)

Cycle: 17, Proposal Category: GO

(Availability Mode: AVAILABLE)

INVESTIGATORS

<i>Name</i>	<i>Institution</i>	<i>E-Mail</i>
Prof. Paula Szkody (PI)	University of Washington	szkody@astro.washington.edu
Dr. Boris T. Gaensicke (CoI) (ESA Member)	The University of Warwick	Boris.Gaensicke@warwick.ac.uk
Dr. Anjum Mukadam (CoI)	University of Washington	anjum@astro.washington.edu
Prof. Edward M. Sion (CoI)	Villanova University	emsion@ast.villanova.edu
Prof. Brian Warner (CoI)	University of Cape Town	warner@physci.uct.ac.za
Dr. Patrick Woudt (CoI)	University of Cape Town	pwoudt@circinus.ast.uct.ac.za
Dr. Arne A. Henden (CoI)	American Association Of Variable Star Observers	arne@aavso.org
Dr. Dean Townsley (CoI)	University of Chicago	townsley@uchicago.edu
Dr. Atsuko Nitta (CoI)	Gemini Observatory, Northern Operations	anitta@gemini.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) V-GW-LIB	COS/FUV	5	20-Sep-2010 21:01:58.0	yes
1A	(1) V-GW-LIB	S/C	1	20-Sep-2010 21:02:02.0	yes
1B	(4) TARGET1-SAFE-TARGET	COS/FUV	5	20-Sep-2010 21:02:08.0	yes
02	(2) V-V455-AND	COS/FUV COS/NUV	5	20-Sep-2010 21:02:16.0	yes
2A	(2) V-V455-AND	S/C	1	20-Sep-2010 21:02:19.0	yes
2B	(6) TARGET2-SAFE-TARGET	COS/FUV COS/NUV	5	20-Sep-2010 21:02:23.0	yes

<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>
03	(3) V-V842-CEN	COS/FUV	1	20-Sep-2010 21:02:27.0	yes
3A	(3) V-V842-CEN	S/C	1	20-Sep-2010 21:02:28.0	yes
3B	(5) TARGET3-SAFE-TARGET	COS/FUV	1	20-Sep-2010 21:02:31.0	yes
5A	(2) V-V455-AND	S/C	1	20-Sep-2010 21:02:32.0	yes
05	(2) V-V455-AND	COS/FUV COS/NUV	5	20-Sep-2010 21:02:36.0	yes

31 Total Orbits Used

ABSTRACT

Our past HST studies of the temperatures of 9 accreting, pulsating white dwarfs in cataclysmic variables show that 3 are in the normal instability strip for single white dwarfs, but the other 6 are much hotter (15,000-16,500K). This dual strip has been proposed to be due to mass differences in the white dwarfs related to evolutionary history and driven by the ionization of different elements in their respective driving regions. In 2007, GW Lib (the brightest and best studied of the 6 hot accreting pulsators) and V455 And (the brightest and best studied of the 3 cool accreting pulsators) underwent rare large amplitude dwarf nova outbursts (known to heat the white dwarf) and their pulsations disappeared. We propose COS observations to: a) take advantage of the unprecedented opportunity to view the change in pulsation modes due to cooling of the white dwarf envelope and b) determine the masses of the white dwarfs to test the dual strip theory. In addition, a nova that had its outburst 22 yrs ago has begun non-radial pulsations as it returns to quiescence. We will use COS to determine its temperature in relation to the instability strip for the pulsating white dwarfs in dwarf novae.

OBSERVING DESCRIPTION

Our goals are to obtain both time-resolved coverage in order to construct radial velocity and UV light curves, as well as to obtain a summed spectrum with sufficient S/N to allow a temperature fit with models. Thus, the number of orbits is driven by the need to sufficiently cover the binary orbits and a long enough baseline to identify the pulsation frequencies, and (almost) independent of the brightness of the target. Since the number

of contiguous HST orbits is limited to 5, we plan to use 4 orbits each with COS and G160M for optimum coverage of the binary orbits of GW Lib and V455 And and a fifth orbit on each with COS with G140L to increase the wavelength coverage for the temperature modeling. For V482 Cen, we will only use one orbit with G140L for temperature determination.

We used Hubeny's (1988) TLUSTY/SYNSPEC codes to calculate white dwarf model spectra adopting the temperatures that we estimate will be found during Cycle 17 observations, i.e. 12500K for V445 And and 17500K for GW Lib, $\log g=8$, 0.1 times solar abundances, and the scaling factors (=distances) found from our model fits to the quiescent STIS spectra. These model spectra were then uploaded to the COS ETC to calculate the signal-to-noise ratio achieved over 1/10th of the orbital period. The data will be taken in the TIME-TAG mode, so can be phase-binned during the reduction, and our experience shows that we need orbital phase bins of less than or equal to 0.1 to prevent orbital smearing of the radial velocities.

Using the ETC for COS with G160M centered at 1577Å, and the predicted flux for V455 And shown in Figure 1, we find that we will achieve a S/N of 10 in a 480s exposure binning by 4. This will allow a resolution of about 5000, providing 60km/s per resolution element. We can measure radial velocities to about 1/10 resolution element so we should easily be able to obtain a good value for K1. Even though the secondaries are not seen, at outburst the secondary is irradiated and produces narrow Balmer emission lines that we are measuring to provide K2 values. The grazing eclipse in V455 And provides a high inclination (near 77 deg) and the width of the lines in GW Lib gives an estimate of 11 deg. Thus, the information is available to determine masses with K1 values. For V455 And, we can also measure the rotation velocity of the white dwarf from the broadening of the absorption

lines to confirm that the 67 sec period seen in the optical is indeed the white dwarf rotation period. The S/N values for GW Lib should be even higher as it is hotter.

For the G140L grating (setting 1105), we can achieve $S/N > 20$ at a resolution of 2500-3000 in one orbit for V455 And and better for GW Lib, depending on the actual temperatures found. V482 Cen is expected to be hotter still, so its result should have the best S/N in one orbit.

Our past observations of GW Lib (and the other pulsators) with STIS (and SBC) showed that we could easily pick up the pulsations in a baseline of 5 orbits. The better S/N of COS will allow us to do this in 4 orbits, the same 4 orbits that are used to cover the binary orbit using the SiII and CI lines to determine the velocity curves.

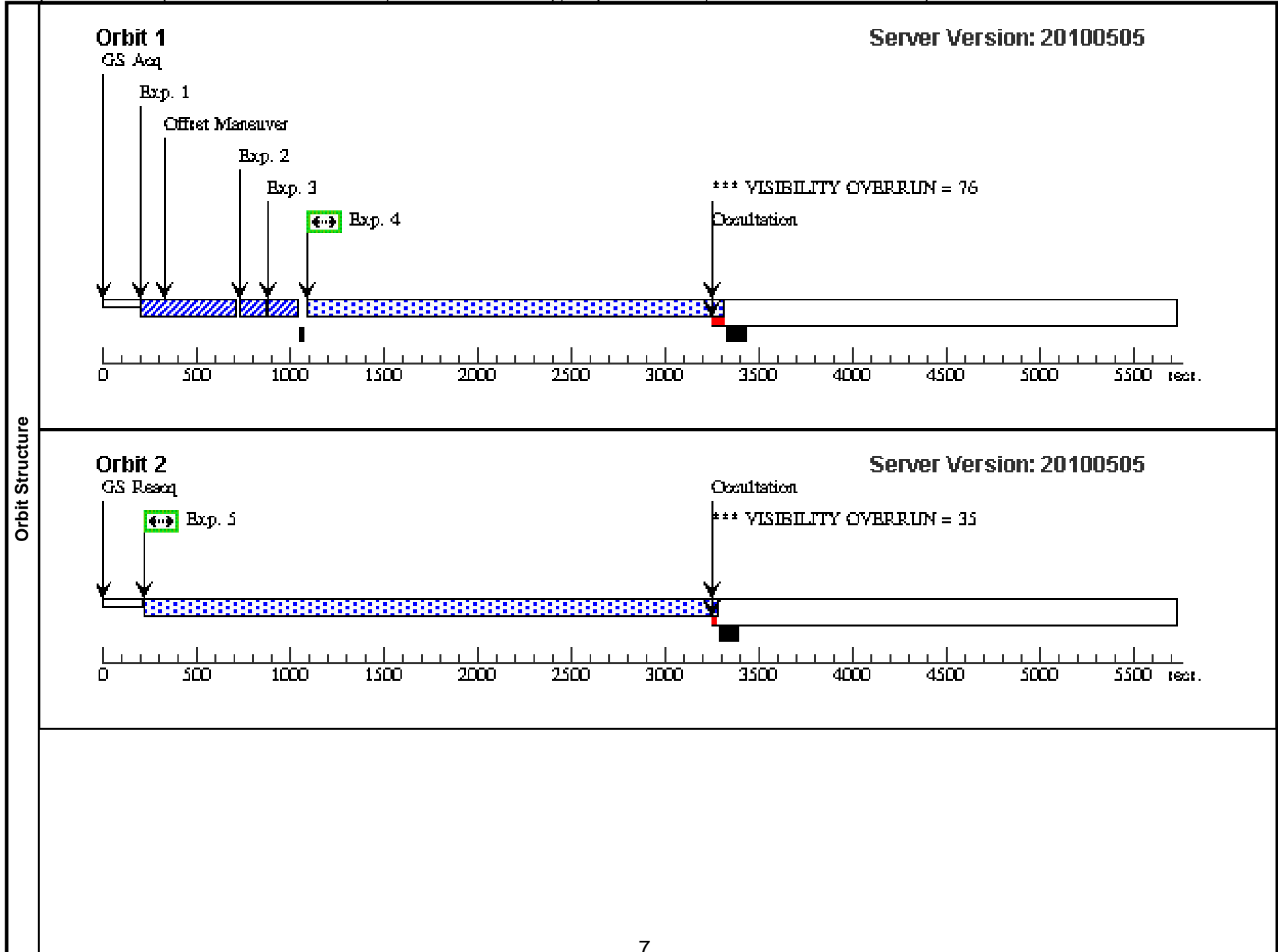
Our 3 past years of observations of the 9 objects so far have successfully used ground-based coverage prior to and during the HST observations to insure that the objects are close to quiescence. Given that the recurrence timescales for GW Lib and V455 And are 20-30 yrs and they just had an outburst, the odds of them having another outburst in the next year are very close to zero (the odds for V842 Cen are even more remote as it was a nova). However, we anticipate using our access to APO, Sutherland and the AAVSO network to monitor the brightness states and the amplitudes of the optical pulsations as in the past work.

Proposal 11639 (STScI Edit Number: 11, Created: Monday, September 20, 2010 8:02:40 PM EST) - Overview

Visit	Proposal 11639, Visit 01, completed Tue Sep 21 01:02:40 GMT 2010 Diagnostic Status: Warning Scientific Instruments: COS/FUV Special Requirements: ORIENT 289D TO 289 D; BETWEEN 09-MAR-2010:00:00:00 AND 16-MAR-2010:00:00:00 <i>Comments: Ground-based observations will be used to ensure object is at quiescence.</i>																						
	Diagnostics	(Visit 01) Warning (Orbit Planner): VISIBILITY OVERRUN																					
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Fixed Targets	<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>(1)</td> <td>V-GW-LIB</td> <td>RA: 15 19 55.3270 (229.9805292d)</td> <td>Proper Motion RA: -0.00450s/yr</td> <td>V=17.0+/-0.5</td> <td>Reference Frame: ICRS</td> </tr> <tr> <td></td> <td>Alt Name1: S90M004717</td> <td>Dec: -25 00 24.61 (-25.00684d) Equinox: J2000</td> <td>Proper Motion Dec: 0.0278"/yr Parallax: 0.010" Epoch of Position: 2001.39</td> <td>F-CONT(1500)=5.8E-15, F-LINE(1550)=9E-15, W-LINE(1550)=6</td> <td></td> </tr> </tbody> </table>					#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous	(1)	V-GW-LIB	RA: 15 19 55.3270 (229.9805292d)	Proper Motion RA: -0.00450s/yr	V=17.0+/-0.5	Reference Frame: ICRS		Alt Name1: S90M004717	Dec: -25 00 24.61 (-25.00684d) Equinox: J2000	Proper Motion Dec: 0.0278"/yr Parallax: 0.010" Epoch of Position: 2001.39	F-CONT(1500)=5.8E-15, F-LINE(1550)=9E-15, W-LINE(1550)=6	
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<i>Comments: This object is in the GSC2 catalog but published ICRS coords and pm by Thorstensen (2003) are used.</i>																							

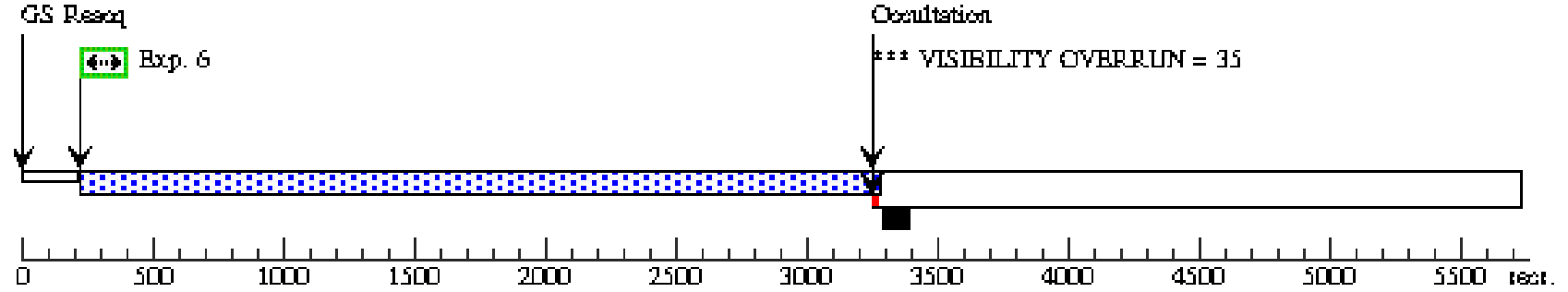
Proposal 11639 (STScI Edit Number: 11, Created: Monday, September 20, 2010 8:02:40 PM EST) - Overview

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
Exposures	1	(1) V-GW-LIB	COS/FUV, ACQ/SEARCH, PSA	G160M 1577 A	SEGMENT=BOTH; SCAN-SIZE=3; STEP-SIZE=1.767; CENTER=FLUX-W T	USE OFFSET V01S AF; GS ACQ SCENARI O BASE1B3		7.5 Secs [==>]	[1]
	2	(1) V-GW-LIB	COS/FUV, ACQ/PEAKXD, PSA	G160M 1577 A	SEGMENT=BOTH	USE OFFSET V01S AF		7.5 Secs [==>]	[1]
	3	(1) V-GW-LIB	COS/FUV, ACQ/PEAKD, PSA	G160M 1577 A	SEGMENT=BOTH; NUM-POS=3; STEP-SIZE=1.2; CENTER=FLUX-W T	USE OFFSET V01S AF		7.5 Secs [==>]	[1]
	4	(1) V-GW-LIB	COS/FUV, TIME-TAG, PSA	G160M 1577 A	SEGMENT=BOTH; BUFFER-TIME=22 21; FLASH=YES; FP-POS=3	USE OFFSET V01S AF		2221 Secs [==>2173.0 Secs]	[1]
	5	(1) V-GW-LIB	COS/FUV, TIME-TAG, PSA	G160M 1577 A	SEGMENT=BOTH; BUFFER-TIME=30 06; FLASH=YES; FP-POS=3	USE OFFSET V01S AF		3006 Secs [==>]	[2]
	6	(1) V-GW-LIB	COS/FUV, TIME-TAG, PSA	G160M 1577 A	SEGMENT=BOTH; BUFFER-TIME=30 06; FLASH=YES; FP-POS=3	USE OFFSET V01S AF		3006 Secs [==>]	[3]
	7	(1) V-GW-LIB	COS/FUV, TIME-TAG, PSA	G160M 1577 A	SEGMENT=BOTH; BUFFER-TIME=30 06; FLASH=YES; FP-POS=3	USE OFFSET V01S AF		3006 Secs [==>]	[4]
	8	(1) V-GW-LIB	COS/FUV, TIME-TAG, PSA	G140L 1105 A	SEGMENT=A; BUFFER-TIME=30 06; FLASH=YES; FP-POS=3	USE OFFSET V01S AF		3006 Secs [==>]	[5]



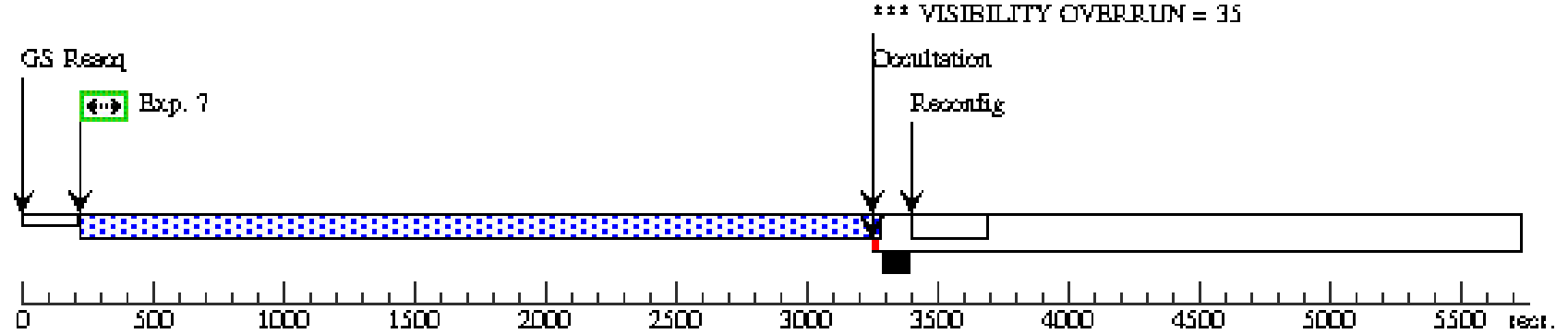
Orbit 3

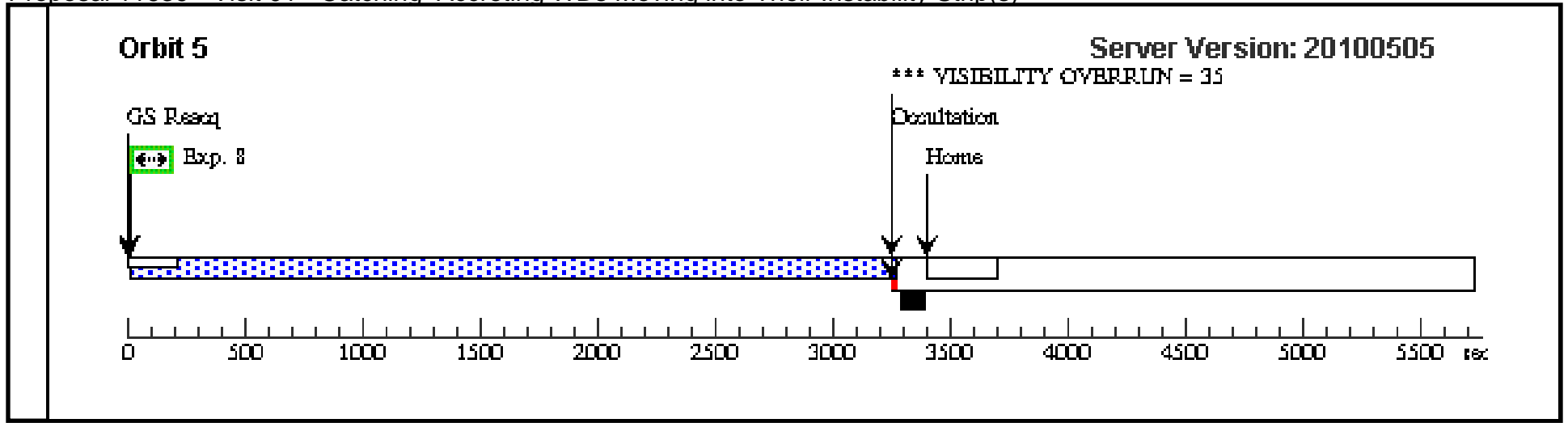
Server Version: 20100505



Orbit 4

Server Version: 20100505





Proposal 11639 - Visit 1A - Catching Accreting WDs Moving into Their Instability Strip(s)

Tue Sep 21 01:02:42 GMT 2010

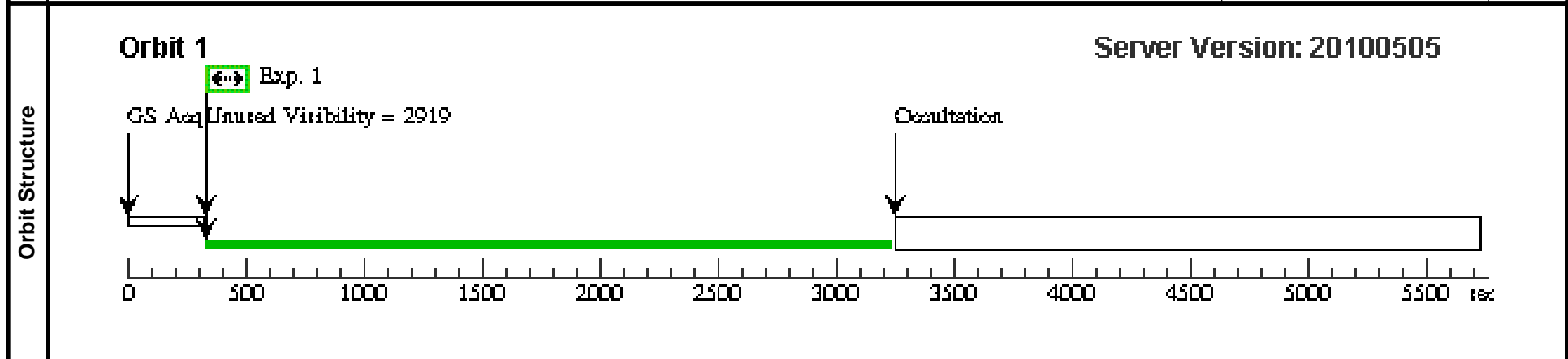
Visit	Proposal 11639, Visit 1A, completed				
	Diagnostic Status: No Diagnostics				
	Scientific Instruments: S/C				
	Special Requirements: ORIENT 289D TO 289 D				

Comments: This visit allocates and sets up the safe position offset slot for visit 01 which will use that slot.

Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
	(1)	V-GW-LIB	RA: 15 19 55.3270 (229.9805292d) Alt Name1: S90M004717 Dec: -25 00 24.61 (-25.00684d) Equinox: J2000	Proper Motion RA: -0.00450s/yr Proper Motion Dec: 0.0278"/yr Parallax: 0.010" Epoch of Position: 2001.39	V=17.0+/-0.5 F-CONT(1500)=5.8E-15, F-LINE(1550)=9E-15, W-LINE(1550)=6	Reference Frame: ICRS

Comments: This object is in the GSC2 catalog but published ICRS coords and pm by Thorstensen (2003) are used.

Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
	1		(1) V-GW-LIB	S/C, DATA, V1			POS TARG 232.772, -237.511; SAVE OFFSET V01 SAF; SPEC COM INSTR ECSLOTSET; GS ACQ SCENARI O BASE1B3; QESIPARM ANGL E 18; QESIPARM DIST 9; QESIPARM SLOT X		5 Secs [==>]	[1]



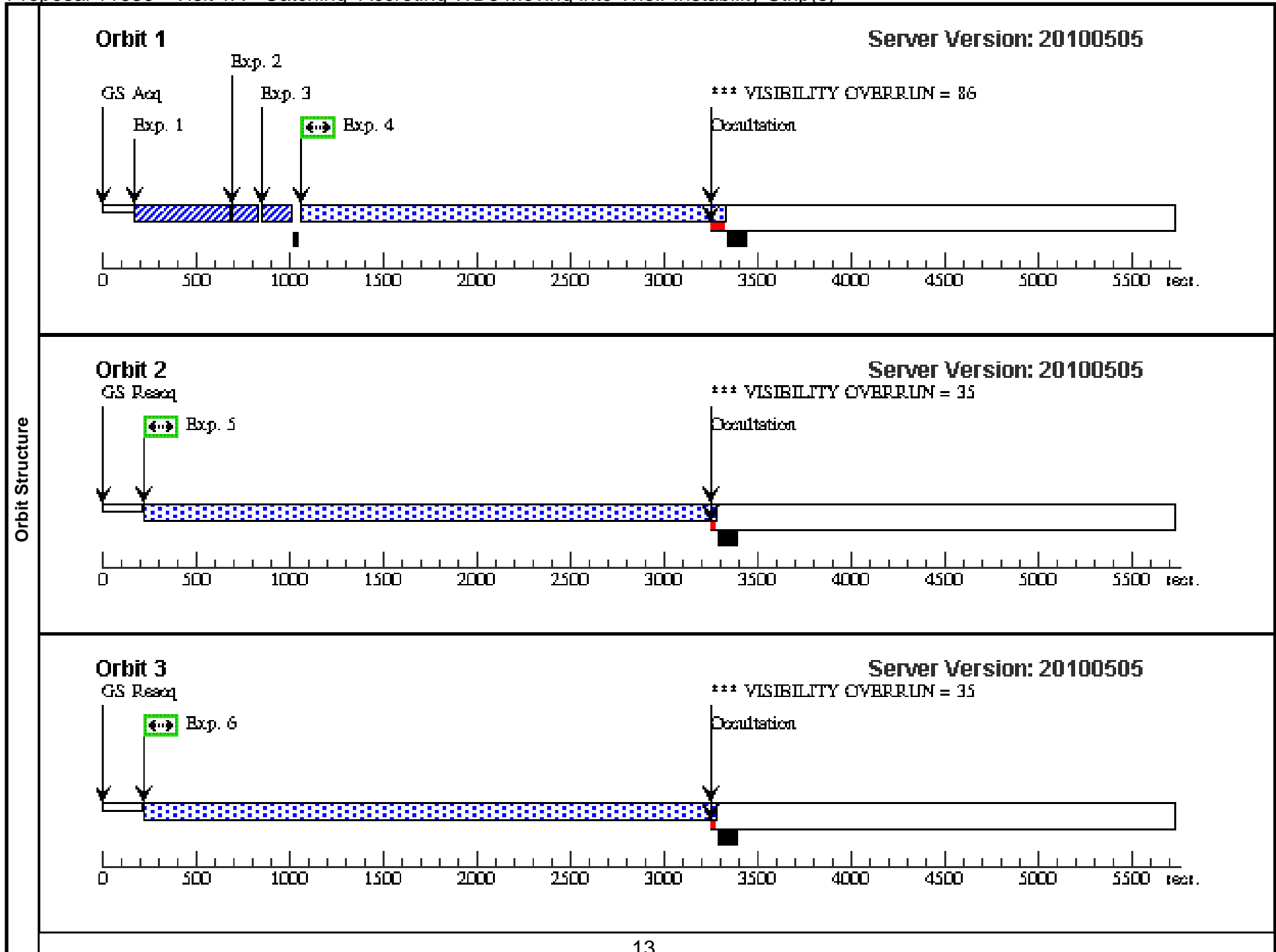
Proposal 11639 - Visit 1A - Catching Accreting WDs Moving into Their Instability Strip(s)

Tue Sep 21 01:02:42 GMT 2010

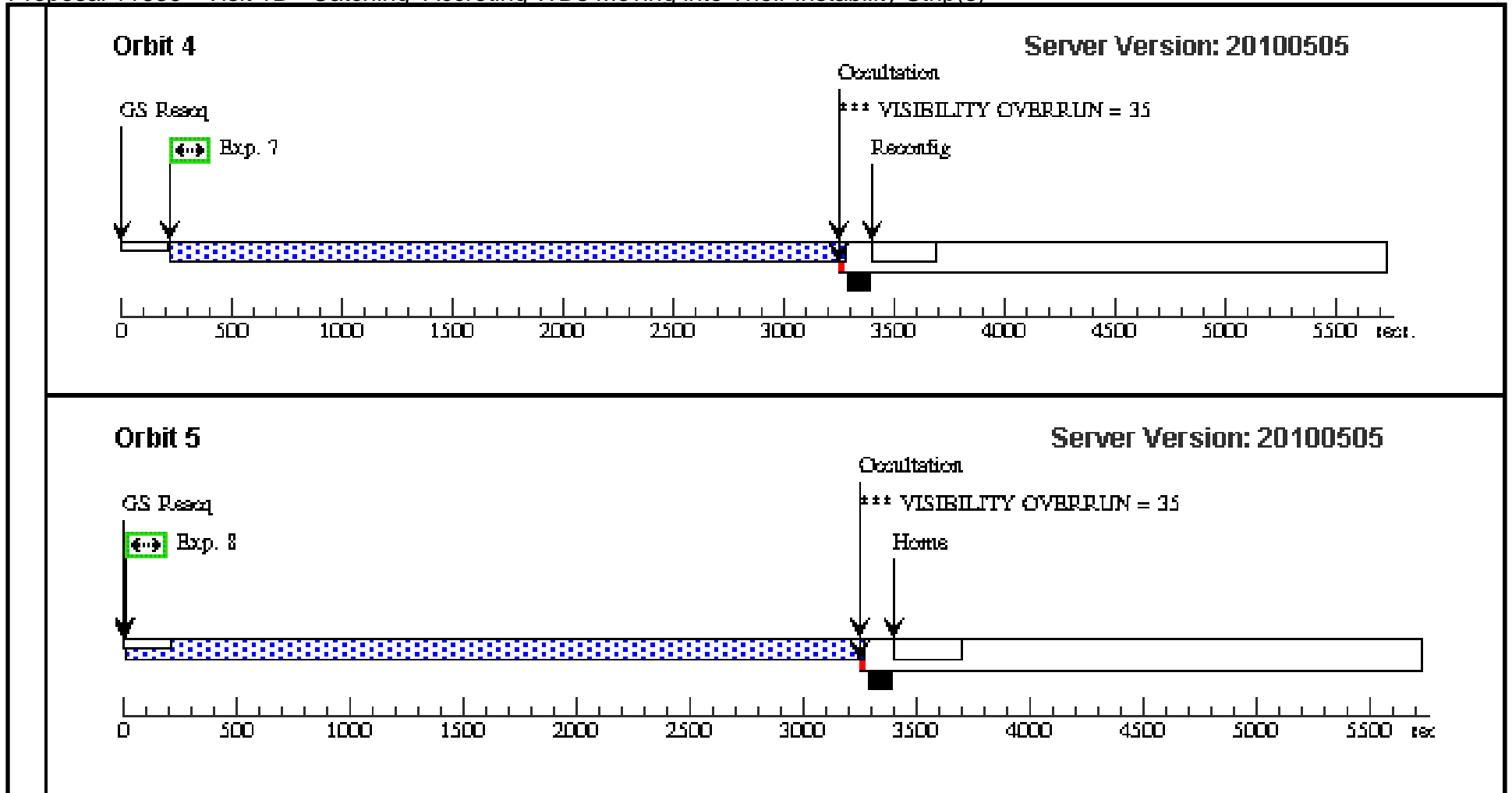
Visit	<p>Proposal 11639, Visit 1B, withdrawn</p> <p>Diagnostic Status: Warning</p> <p>Scientific Instruments: COS/FUV</p> <p>Special Requirements: ORIENT 289D TO 289 D; BETWEEN 09-MAR-2010:00:00:00 AND 16-MAR-2010:00:00:00</p> <p><i>Comments: This visit is for BOP checking the "safe" target only and should not execute onboard HST.</i></p>																																																													
	<p>(Visit 1B) Warning (Orbit Planner): VISIBILITY OVERRUN</p> <p>(Visit 1B) Warning (Orbit Planner): VISIBILITY OVERRUN</p> <p>(Visit 1B) Warning (Orbit Planner): VISIBILITY OVERRUN</p> <p>(Visit 1B) Warning (Orbit Planner): VISIBILITY OVERRUN</p> <p>(Visit 1B) Warning (Orbit Planner): VISIBILITY OVERRUN</p>																																																													
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Proposal 11639 - Visit 1A - Catching Accreting WDs Moving into Their Instability Strip(s)

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
Exposures	1	(4) TARGET1-SAF E-TARGET	COS/FUV, ACQ/SEARCH, PSA	G160M 1577 A	SEGMENT=BOTH; SCAN-SIZE=3; STEP-SIZE=1.767; CENTER=FLUX-W T	GS ACQ SCENARI O BASE1B3		7.5 Secs [==>]	[1]
	2	(4) TARGET1-SAF E-TARGET	COS/FUV, ACQ/PEAKXD, PSA	G160M 1577 A	SEGMENT=BOTH			7.5 Secs [==>]	[1]
	3	(4) TARGET1-SAF E-TARGET	COS/FUV, ACQ/PEAKD, PSA	G160M 1577 A	SEGMENT=BOTH; NUM-POS=3; STEP-SIZE=1.2; CENTER=FLUX-W T			7.5 Secs [==>]	[1]
	4	(4) TARGET1-SAF E-TARGET	COS/FUV, TIME-TAG, PSA	G160M 1577 A	SEGMENT=BOTH; BUFFER-TIME=22 21; FLASH=YES; FP-POS=3			2221 Secs [==>2216.0 Secs]	[1]
	5	(4) TARGET1-SAF E-TARGET	COS/FUV, TIME-TAG, PSA	G160M 1577 A	SEGMENT=BOTH; BUFFER-TIME=30 06; FLASH=YES; FP-POS=3			3006 Secs [==>]	[2]
	6	(4) TARGET1-SAF E-TARGET	COS/FUV, TIME-TAG, PSA	G160M 1577 A	SEGMENT=BOTH; BUFFER-TIME=30 06; FLASH=YES; FP-POS=3			3006 Secs [==>]	[3]
	7	(4) TARGET1-SAF E-TARGET	COS/FUV, TIME-TAG, PSA	G160M 1577 A	SEGMENT=BOTH; BUFFER-TIME=30 06; FLASH=YES; FP-POS=3			3006 Secs [==>]	[4]
	8	(4) TARGET1-SAF E-TARGET	COS/FUV, TIME-TAG, PSA	G140L 1105 A	SEGMENT=A; BUFFER-TIME=30 06; FLASH=YES; FP-POS=3			3006 Secs [==>]	[5]



Orbit Structure



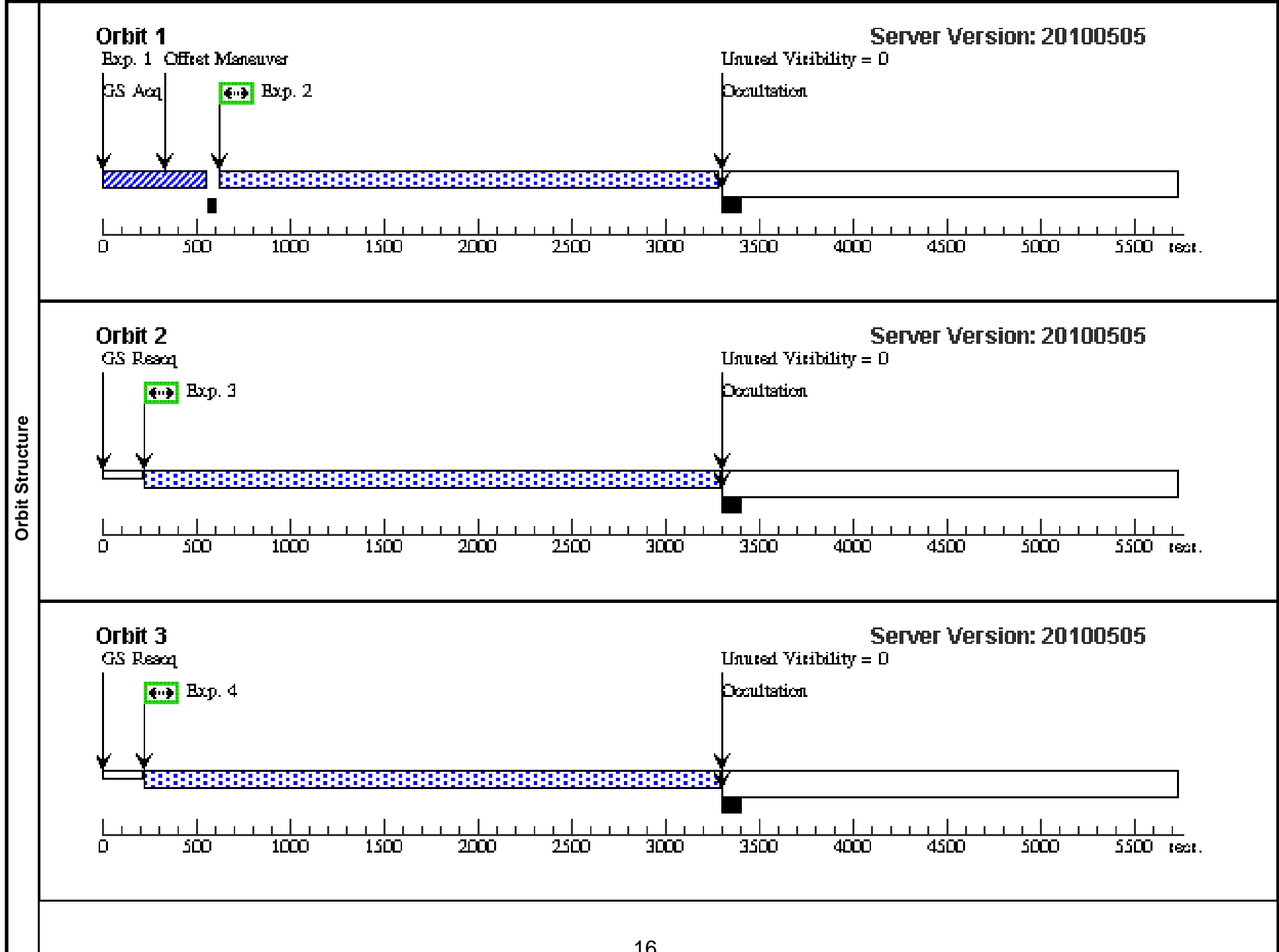
Proposal 11639 - Visit 1B - Catching Accreting WDs Moving into Their Instability Strip(s)

Tue Sep 21 01:02:43 GMT 2010

Visit	Proposal 11639, Visit 02, failed Diagnostic Status: No Diagnostics Scientific Instruments: COS/NUV, COS/FUV Special Requirements: ORIENT 188.8D TO 188.9 D; BETWEEN 01-AUG-2010:00:00:00 AND 30-SEP-2010:00:00:00 Comments: <i>Ground-based observations will be used to ensure object is at quiescence.</i>				

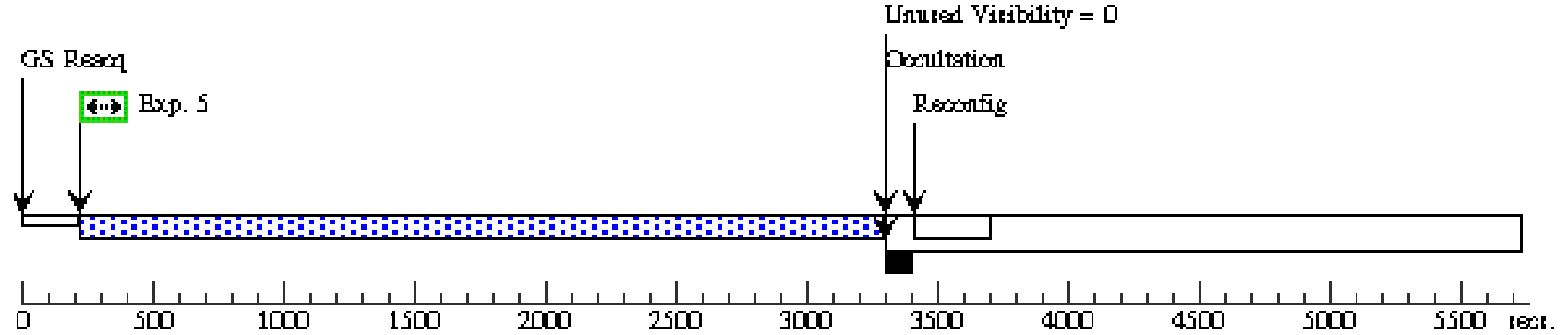
Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
	(2)	V-V455-AND Alt Name1: N08R007461	RA: 23 34 1.4210 (353.5059208d) Dec: +39 21 40.22 (39.36117d) Equinox: J2000	Proper Motion RA: -0.00490s/yr Proper Motion Dec: -0.137"/yr Epoch of Position: 2004.86	V=16.5+/-0.5 F-CONT(1700)=4.0E-15, F-LINE(1550)=1.9E-14, W-LINE(1550)=13	Reference Frame: ICRS
Comments: <i>Object is in GSC2 catalog but coords and pm from published values by Thorstensen in Araujo-Betancor et al. 2005.</i>						

Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
	1	(2) V-V455-AND	COS/NUV, ACQ/IMAGE, PSA	MIRRORB			USE OFFSET V02S AF		60.0 Secs [==>]	[1]
	2	(2) V-V455-AND	COS/FUV, TIME-TAG, PSA	G160M 1577 A	SEGMENT=BOTH; BUFFER-TIME=24 59; FLASH=YES; FP-POS=3	USE OFFSET V02S AF			2459 Secs [==>]	[1]
	3	(2) V-V455-AND	COS/FUV, TIME-TAG, PSA	G160M 1577 A	SEGMENT=BOTH; BUFFER-TIME=30 15; FLASH=YES; FP-POS=3	USE OFFSET V02S AF			3015 Secs [==>]	[2]
	4	(2) V-V455-AND	COS/FUV, TIME-TAG, PSA	G160M 1577 A	SEGMENT=BOTH; BUFFER-TIME=30 15; FLASH=YES; FP-POS=3	USE OFFSET V02S AF			3015 Secs [==>]	[3]
	5	(2) V-V455-AND	COS/FUV, TIME-TAG, PSA	G160M 1577 A	SEGMENT=BOTH; BUFFER-TIME=30 15; FLASH=YES; FP-POS=3	USE OFFSET V02S AF			3015 Secs [==>]	[4]
	6	(2) V-V455-AND	COS/FUV, TIME-TAG, PSA	G140L 1105 A	SEGMENT=A; BUFFER-TIME=30 15; FLASH=YES; FP-POS=3	USE OFFSET V02S AF			3015 Secs [==>]	[5]



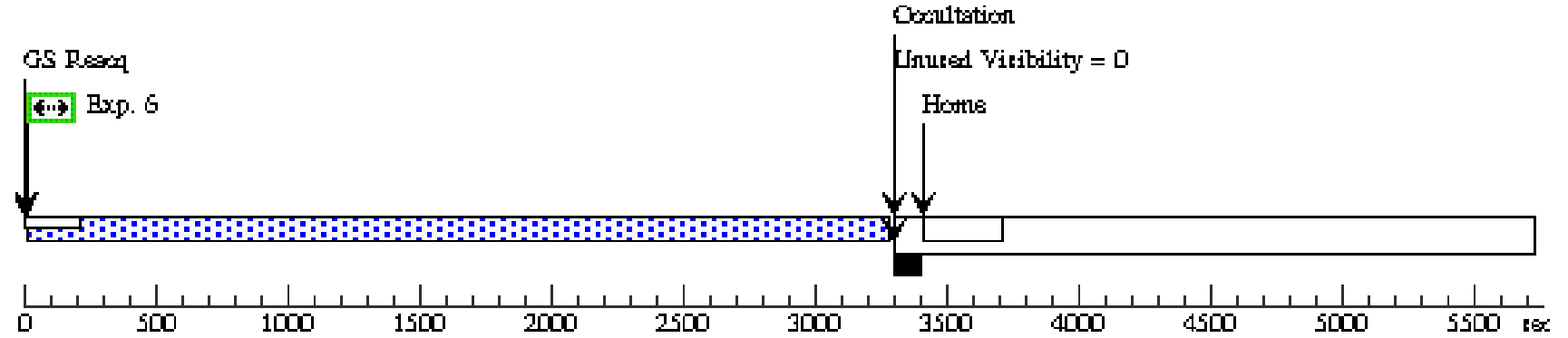
Orbit 4

Server Version: 20100505



Orbit 5

Server Version: 20100505



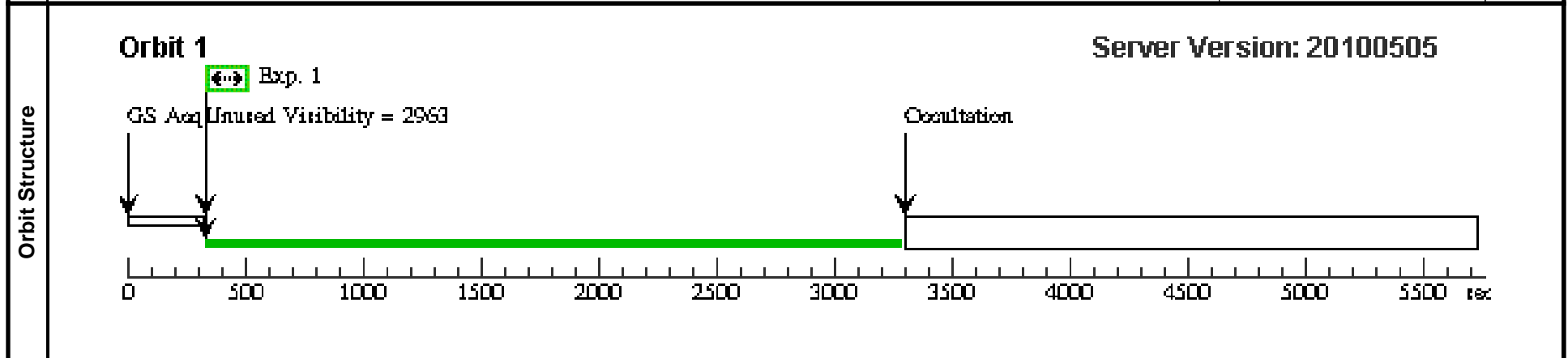
Proposal 11639 - Visit 2A - Catching Accreting WDs Moving into Their Instability Strip(s)

Tue Sep 21 01:02:44 GMT 2010

Visit	Proposal 11639, Visit 2A, completed Diagnostic Status: No Diagnostics Scientific Instruments: S/C Special Requirements: ORIENT 188.8D TO 188.9 D Comments: This visit allocates and sets up the safe position offset slot for visit 02 which will use that slot.				
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Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
	(2)	V-V455-AND Alt Name1: N08R007461	RA: 23 34 1.4210 (353.5059208d) Dec: +39 21 40.22 (39.36117d) Equinox: J2000	Proper Motion RA: -0.00490s/yr Proper Motion Dec: -0.137"/yr Epoch of Position: 2004.86	V=16.5+/-0.5 F-CONT(1700)=4.0E-15, F-LINE(1550)=1.9E-14, W-LINE(1550)=13	Reference Frame: ICRS
Comments: Object is in GSC2 catalog but coords and pm from published values by Thorstensen in Araujo-Betancor et al. 2005.						

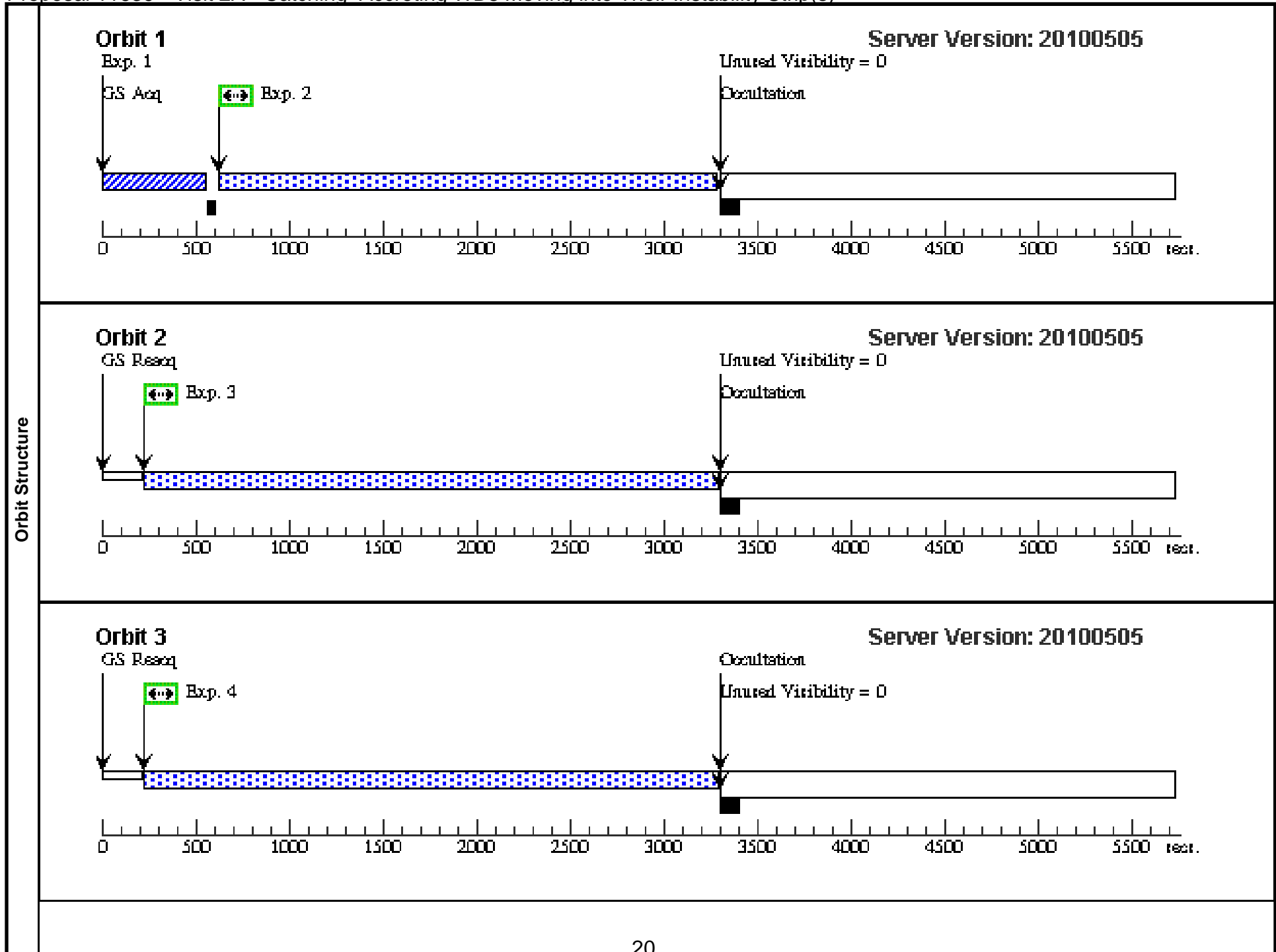
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
	1		(2) V-V455-AND	S/C, DATA, V1				POS TARG 240.466 2,-243.3289; SAVE OFFSET V02 SAF; SPEC COM INSTR ECLOTSET; GS ACQ SCENARI O BASE1B3; QESIPARM ANGL E 343.8; QESIPARM DIST 9. 8		5 Secs [==>]

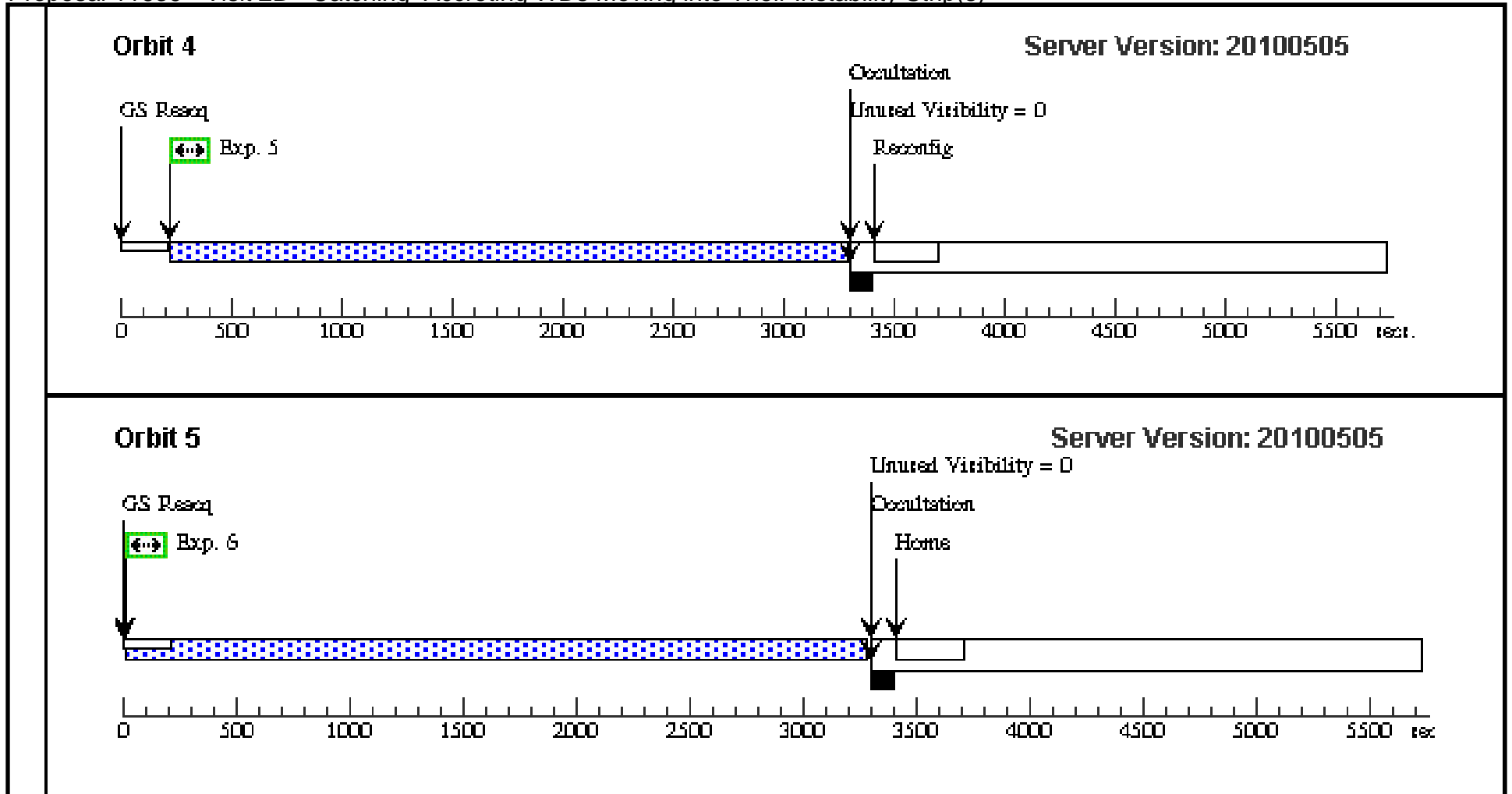


Proposal 11639 - Visit 2A - Catching Accreting WDs Moving into Their Instability Strip(s)

Tue Sep 21 01:02:44 GMT 2010

Visit	Proposal 11639, Visit 2B, implementation Diagnostic Status: No Diagnostics Scientific Instruments: COS/NUV, COS/FUV Special Requirements: ORIENT 188.8D TO 188.9 D; BETWEEN 01-AUG-2010:00:00:00 AND 30-SEP-2010:00:00:00 Comments: This visit is for BOP checking the "safe" target only and should not execute onboard HST.									
	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous				
Fixed Targets	(2)	V-V455-AND Alt Name1: N08R007461	RA: 23 34 1.4210 (353.5059208d) Dec: +39 21 40.22 (39.36117d) Equinox: J2000	Proper Motion RA: -0.00490s/yr Proper Motion Dec: -0.137"/yr Epoch of Position: 2004.86	V=16.5+/-0.5 F-CONT(1700)=4.0E-15, F-LINE(1550)=1.9E-14, W-LINE(1550)=13	Reference Frame: ICRS				
	Comments: Object is in GSC2 catalog but coords and pm from published values by Thorstensen in Araujo-Betancor et al. 2005.									
Fixed Targets	(6)	TARGET2-SAFE-TARGET	Offset from V-V455-AND by RA Offset: -0.002479 Degrees Dec Offset: 0.001917 Degrees		V=20.0+/-0.5	Offset Position (TARGET2-SAFE-TARGET) Reference Frame: ICRS				
	Comments: This target is a blank piece of sky which is the bright object safe pointing and is 9.8 arcseconds away at a PA 343.8 degrees from Target #2.									
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
	1		(6) TARGET2-SAFE-TARGET	COS/NUV, ACQ/IMAGE, PSA	MIRRORB				60.0 Secs [==>]	[1]
	2		(6) TARGET2-SAFE-TARGET	COS/FUV, TIME-TAG, PSA	G160M 1577 A	SEGMENT=BOTH; BUFFER-TIME=24 59; FLASH=YES; FP-POS=3			2459 Secs [==>]	[1]
	3		(6) TARGET2-SAFE-TARGET	COS/FUV, TIME-TAG, PSA	G160M 1577 A	SEGMENT=BOTH; BUFFER-TIME=30 15; FLASH=YES; FP-POS=3			3015 Secs [==>]	[2]
	4		(6) TARGET2-SAFE-TARGET	COS/FUV, TIME-TAG, PSA	G160M 1577 A	SEGMENT=BOTH; BUFFER-TIME=30 15; FLASH=YES; FP-POS=3			3015 Secs [==>]	[3]
	5		(6) TARGET2-SAFE-TARGET	COS/FUV, TIME-TAG, PSA	G160M 1577 A	SEGMENT=BOTH; BUFFER-TIME=30 15; FLASH=YES; FP-POS=3			3015 Secs [==>]	[4]
	6		(6) TARGET2-SAFE-TARGET	COS/FUV, TIME-TAG, PSA	G140L 1105 A	SEGMENT=A; BUFFER-TIME=30 15; FLASH=YES; FP-POS=3			3015 Secs [==>]	[5]

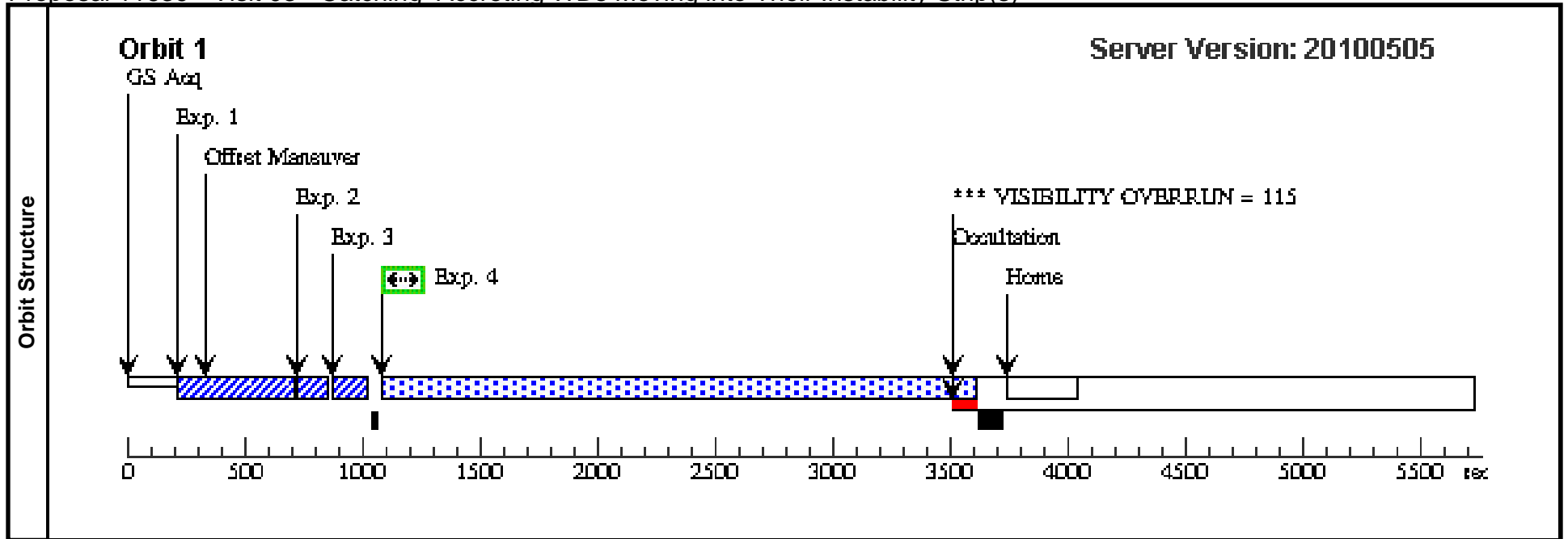




Proposal 11639 - Visit 2B - Catching Accreting WDs Moving into Their Instability Strip(s)

Tue Sep 21 01:02:45 GMT 2010

Visit	Proposal 11639, Visit 03, completed Diagnostic Status: Warning Scientific Instruments: COS/FUV Special Requirements: ORIENT 314.8D TO 314.8 D; BETWEEN 01-MAR-2010:00:00:00 AND 30-APR-2010:00:00:00									
Diagnostics	(Visit 03) Warning (Orbit Planner): VISIBILITY OVERRUN									
Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous				
	(3)	V-V842-CEN Alt Name1: S7M1013716	RA: 14 35 52.5800 (218.9690833d) Dec: -57 37 35.25 (-57.62646d) Equinox: J2000	Proper Motion RA: -0.0018s/yr Proper Motion Dec: -0.0167"/yr Epoch of Position: 1993.54	V=16.5+/-0.5 E(B-V)=0.55	Reference Frame: ICRS				
	<i>Comments: GSC2 coords and pm but distance of nova is near 1 kpc</i>									
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
	1		(3) V-V842-CEN	COS/FUV, ACQ/SEARCH, PSA	G160M 1577 A	SEGMENT=A; SCAN-SIZE=3; STEP-SIZE=1.767; CENTER=FLUX-W T	USE OFFSET V03S AF; GS ACQ SCENARI O BASE1B3		7.0 Secs [==>]	[1]
	2		(3) V-V842-CEN	COS/FUV, ACQ/PEAKXD, PSA	G160M 1577 A	SEGMENT=A	USE OFFSET V03S AF		7.0 Secs [==>]	[1]
	3		(3) V-V842-CEN	COS/FUV, ACQ/PEAKD, PSA	G160M 1577 A	SEGMENT=A; NUM-POS=3; STEP-SIZE=1.2; CENTER=FLUX-W T	USE OFFSET V03S AF		7.0 Secs [==>]	[1]
	4		(3) V-V842-CEN	COS/FUV, TIME-TAG, PSA	G140L 1105 A	SEGMENT=A; BUFFER-TIME=22 74; FLASH=YES; FP-POS=3	USE OFFSET V03S AF		2274 Secs [==>]	[1]



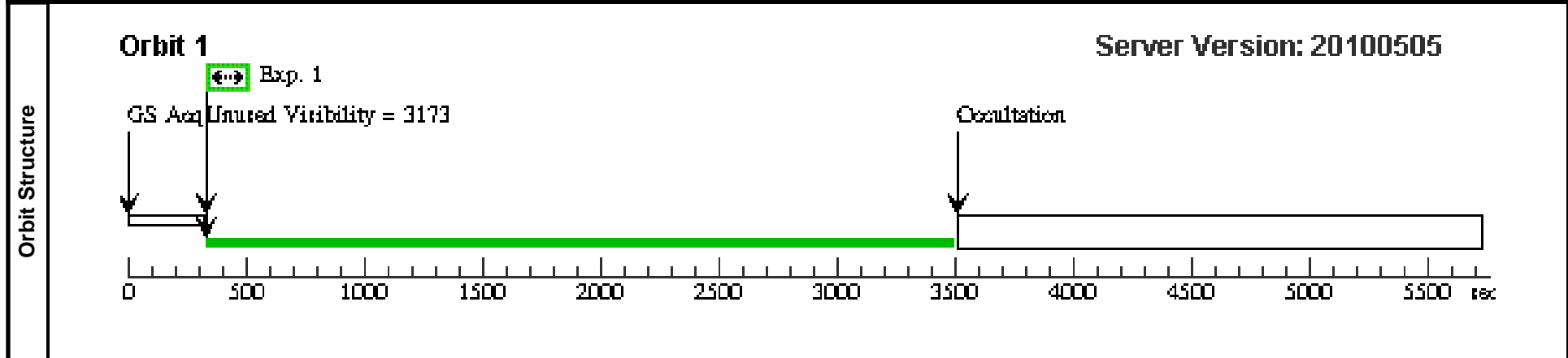
Proposal 11639 - Visit 3A - Catching Accreting WDs Moving into Their Instability Strip(s)

Tue Sep 21 01:02:46 GMT 2010

Visit	Proposal 11639, Visit 3A, completed Diagnostic Status: No Diagnostics Scientific Instruments: S/C Special Requirements: ORIENT 314.8D TO 314.8 D Comments: This visit allocates and sets up the safe position offset slot for visit 03 which will use that slot.				

Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
	(3)	V-V842-CEN Alt Name1: S7M1013716	RA: 14 35 52.5800 (218.9690833d) Dec: -57 37 35.25 (-57.62646d) Equinox: J2000	Proper Motion RA: -0.0018s/yr Proper Motion Dec: -0.0167"/yr Epoch of Position: 1993.54	V=16.5+/-0.5 E(B-V)=0.55	Reference Frame: ICRS
	Comments: GSC2 coords and pm but distance of nova is near 1 kpc					

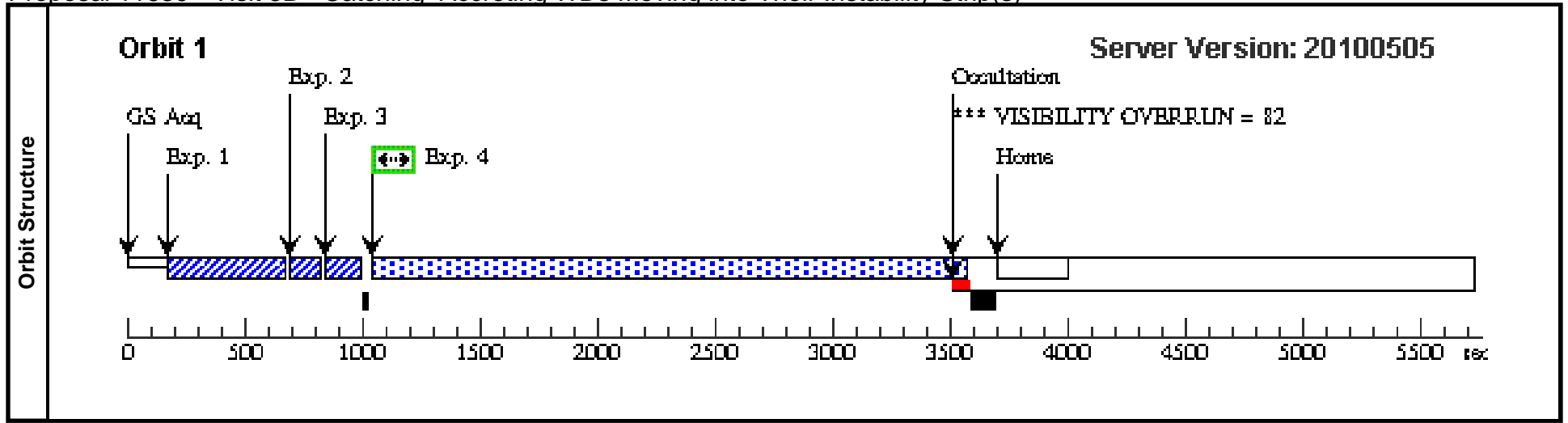
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
	1		(3) V-V842-CEN	S/C, DATA, V1			POS TARG 232.772, -237.511; SAVE OFFSET V03 SAF; SPEC COM INSTR ECSLOTSET; GS ACQ SCENARI O BASE1B3; QESIPARM ANGL E 44.8; QESIPARM DIST 9. 0; QESIPARM SLOT X		5 Secs [==>]	[1]



Proposal 11639 - Visit 3A - Catching Accreting WDs Moving into Their Instability Strip(s)

Tue Sep 21 01:02:46 GMT 2010

Visit	Proposal 11639, Visit 3B, withdrawn Diagnostic Status: Warning Scientific Instruments: COS/FUV Special Requirements: ORIENT 314.8D TO 314.8 D; BETWEEN 01-MAR-2010:00:00:00 AND 30-APR-2010:00:00:00 <i>Comments: This visit is for BOP checking the "safe" target only and should not execute onboard HST.</i>																																																						
	Diagnosics (Visit 3B) Warning (Orbit Planner): VISIBILITY OVERRUN																																																						
Fixed Targets	# Name Target Coordinates Targ. Coord. Corrections Fluxes Miscellaneous	(3) V-V842-CEN RA: 14 35 52.5800 (218.9690833d) Proper Motion RA: -0.0018s/yr V=16.5+/-0.5 Reference Frame: ICRS Alt Name1: S7M1013716 Dec: -57 37 35.25 (-57.62646d) Proper Motion Dec: -0.0167"/yr E(B-V)=0.55 Equinox: J2000 Epoch of Position: 1993.54 <i>Comments: GSC2 coords and pm but distance of nova is near 1 kpc</i>	(5) TARGET3-SAFE-TARGET Offset from V-V842-CEN by V=20.0 Offset Position (TARGET3-SAFE-TARGET) RA Offset: 0.00329 Degrees Reference Frame: ICRS Dec Offset: 0.001774 Degrees <i>Comments: This target is a blank piece of sky which is the bright object safe pointing and is 9.0 arcseconds away at a PA 44.8 degrees from Target #3.</i>																																																				
	<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>(5) TARGET3-SAFE-TARGET</td> <td>COS/FUV, ACQ/SEARCH, PSA</td> <td>G160M 1577 A</td> <td>SEGMENT=A; SCAN-SIZE=3; STEP-SIZE=1.767; CENTER=FLUX-W T</td> <td>GS ACQ SCENARI O BASE1B3</td> <td></td> <td>7.0 Secs [==>]</td> <td>[1]</td> </tr> <tr> <td>2</td> <td></td> <td>(5) TARGET3-SAFE-TARGET</td> <td>COS/FUV, ACQ/PEAKXD, PSA</td> <td>G160M 1577 A</td> <td>SEGMENT=A</td> <td></td> <td></td> <td>7.0 Secs [==>]</td> <td>[1]</td> </tr> <tr> <td>3</td> <td></td> <td>(5) TARGET3-SAFE-TARGET</td> <td>COS/FUV, ACQ/PEAKD, PSA</td> <td>G160M 1577 A</td> <td>SEGMENT=A; NUM-POS=3; STEP-SIZE=1.2; CENTER=FLUX-W T</td> <td></td> <td></td> <td>7.0 Secs [==>]</td> <td>[1]</td> </tr> <tr> <td>4</td> <td></td> <td>(5) TARGET3-SAFE-TARGET</td> <td>COS/FUV, TIME-TAG, PSA</td> <td>G140L 1105 A</td> <td>SEGMENT=A; BUFFER-TIME=22 74; FLASH=YES; FP-POS=3</td> <td></td> <td></td> <td>2274 Secs [==>]</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		(5) TARGET3-SAFE-TARGET	COS/FUV, ACQ/SEARCH, PSA	G160M 1577 A	SEGMENT=A; SCAN-SIZE=3; STEP-SIZE=1.767; CENTER=FLUX-W T	GS ACQ SCENARI O BASE1B3		7.0 Secs [==>]	[1]	2		(5) TARGET3-SAFE-TARGET	COS/FUV, ACQ/PEAKXD, PSA	G160M 1577 A	SEGMENT=A			7.0 Secs [==>]	[1]	3		(5) TARGET3-SAFE-TARGET	COS/FUV, ACQ/PEAKD, PSA	G160M 1577 A	SEGMENT=A; NUM-POS=3; STEP-SIZE=1.2; CENTER=FLUX-W T			7.0 Secs [==>]	[1]	4		(5) TARGET3-SAFE-TARGET	COS/FUV, TIME-TAG, PSA	G140L 1105 A	SEGMENT=A; BUFFER-TIME=22 74; FLASH=YES; FP-POS=3			2274 Secs [==>]
#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit																																														
1		(5) TARGET3-SAFE-TARGET	COS/FUV, ACQ/SEARCH, PSA	G160M 1577 A	SEGMENT=A; SCAN-SIZE=3; STEP-SIZE=1.767; CENTER=FLUX-W T	GS ACQ SCENARI O BASE1B3		7.0 Secs [==>]	[1]																																														
2		(5) TARGET3-SAFE-TARGET	COS/FUV, ACQ/PEAKXD, PSA	G160M 1577 A	SEGMENT=A			7.0 Secs [==>]	[1]																																														
3		(5) TARGET3-SAFE-TARGET	COS/FUV, ACQ/PEAKD, PSA	G160M 1577 A	SEGMENT=A; NUM-POS=3; STEP-SIZE=1.2; CENTER=FLUX-W T			7.0 Secs [==>]	[1]																																														
4		(5) TARGET3-SAFE-TARGET	COS/FUV, TIME-TAG, PSA	G140L 1105 A	SEGMENT=A; BUFFER-TIME=22 74; FLASH=YES; FP-POS=3			2274 Secs [==>]	[1]																																														



Proposal 11639 - Visit 5A - Catching Accreting WDs Moving into Their Instability Strip(s)

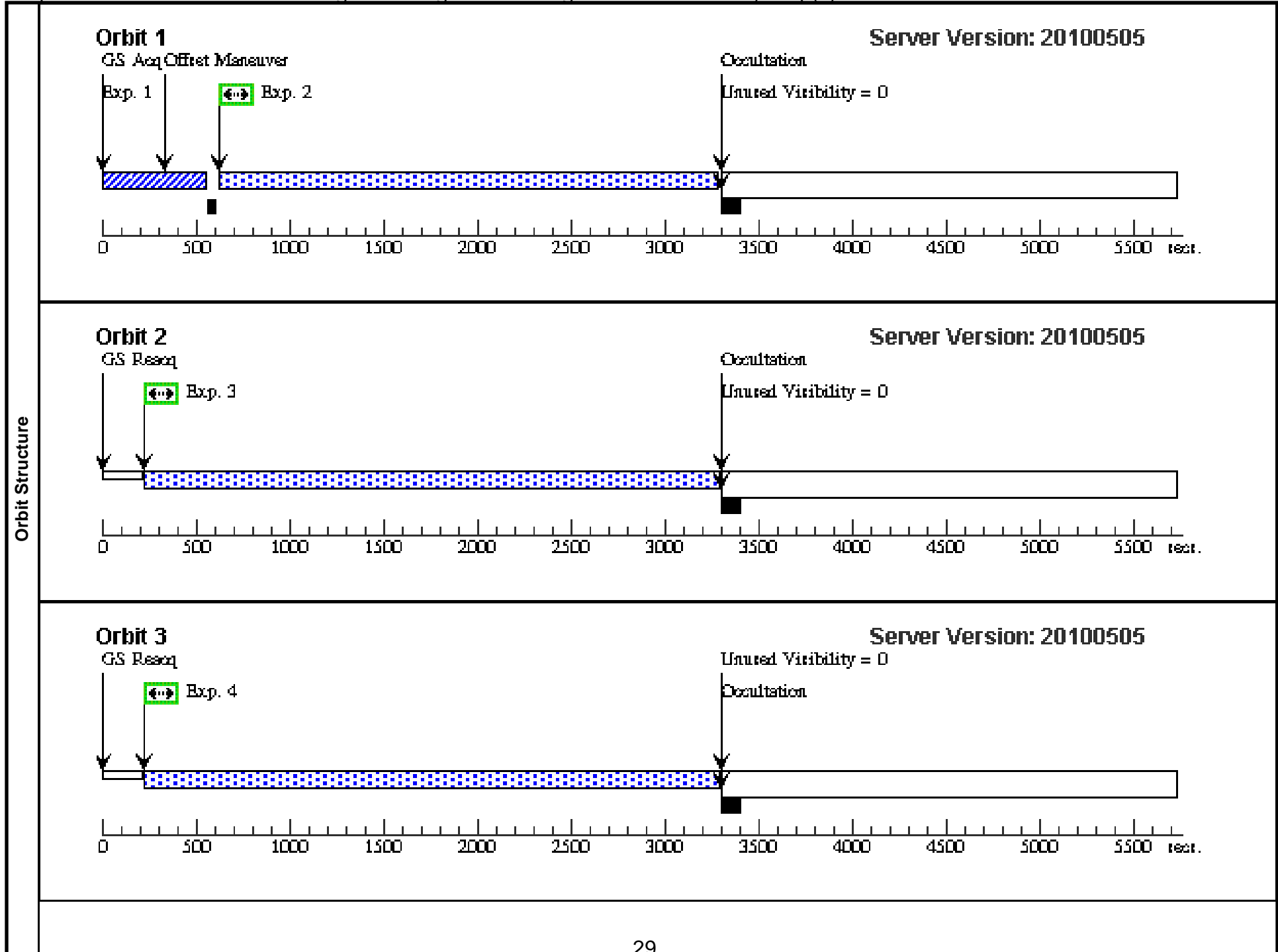
Tue Sep 21 01:02:46 GMT 2010

Visit	Proposal 11639, Visit 5A, implementation Diagnostic Status: No Diagnostics Scientific Instruments: S/C Special Requirements: ORIENT 130D TO 130 D <i>Comments: This visit allocates and sets up the safe position offset slot for visit 05 which will use that slot.</i>									
	Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous			
(2)		V-V455-AND Alt Name1: N08R007461	RA: 23 34 1.4210 (353.5059208d) Dec: +39 21 40.22 (39.36117d) Equinox: J2000	Proper Motion RA: -0.00490s/yr Proper Motion Dec: -0.137"/yr Epoch of Position: 2004.86	V=16.5+/-0.5 F-CONT(1700)=4.0E-15, F-LINE(1550)=1.9E-14, W-LINE(1550)=13	Reference Frame: ICRS				
<i>Comments: Object is in GSC2 catalog but coords and pm from published values by Thorstensen in Araujo-Betancor et al. 2005.</i>										
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
	1	(2) V-V455-AND	S/C, DATA, V1				POS TARG 240.466 2,-243.3289; SAVE OFFSET V05 SAF; SPEC COM INSTR ECLOTSET; GS ACQ SCENARI O BASE1B3; QESIPARM ANGL E 343.8; QESIPARM DIST 9. 8		5 Secs [==>]	[1]
Orbit Structure	Orbit 1 Server Version: 20100505									
	<p>The diagram shows a horizontal axis representing time in seconds, ranging from 0 to 5500 with major ticks every 500 seconds. A green horizontal bar indicates the 'GS Acq Unured Visibility' period, starting at approximately 300 seconds and ending at approximately 3250 seconds. A label 'Exp. 1' with a green box and arrows points to the start of this bar. A vertical line at approximately 3250 seconds marks the beginning of the 'Occultation' period, which is represented by a white horizontal bar extending to the end of the axis at 5500 seconds.</p>									

Proposal 11639 - Visit 5A - Catching Accreting WDs Moving into Their Instability Strip(s)

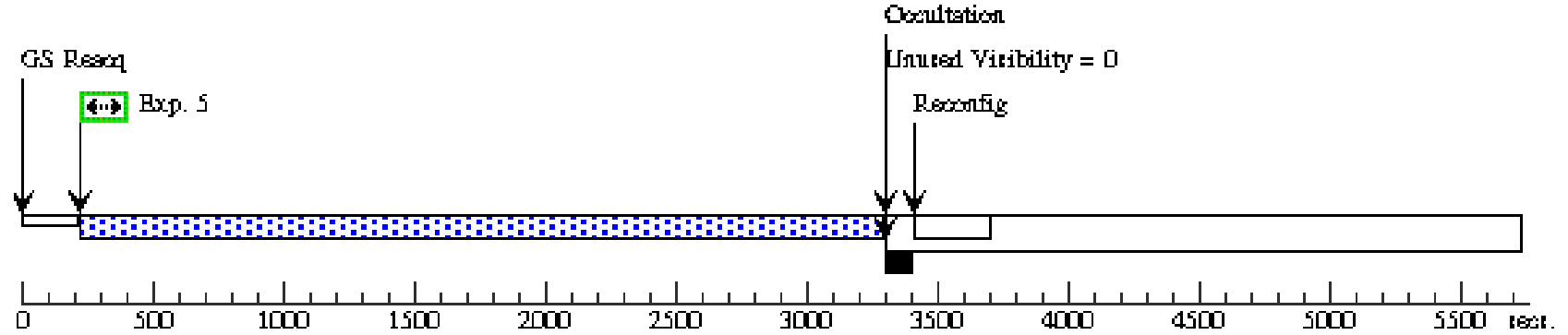
Tue Sep 21 01:02:46 GMT 2010

Visit	Proposal 11639, Visit 05, implementation Diagnostic Status: No Diagnostics Scientific Instruments: COS/NUV, COS/FUV Special Requirements: ORIENT 130D TO 130 D Comments: <i>Ground-based observations will be used to ensure object is at quiescence. This visit is a repeat of failed visit 02.</i>									
	Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous			
		(2)	V-V455-AND Alt Name1: N08R007461	RA: 23 34 1.4210 (353.5059208d) Dec: +39 21 40.22 (39.36117d) Equinox: J2000	Proper Motion RA: -0.00490s/yr Proper Motion Dec: -0.137"/yr Epoch of Position: 2004.86	V=16.5+/-0.5 F-CONT(1700)=4.0E-15, F-LINE(1550)=1.9E-14, W-LINE(1550)=13	Reference Frame: ICRS			
	Comments: <i>Object is in GSC2 catalog but coords and pm from published values by Thorstensen in Araujo-Betancor et al. 2005.</i>									
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
	1	(2) V-V455-AND	COS/NUV, ACQ/IMAGE, PSA	MIRRORB			USE OFFSET V05S AF; GS ACQ SCENARI O BASE1B3		60.0 Secs [==>]	[1]
	2	(2) V-V455-AND	COS/FUV, TIME-TAG, PSA	G160M 1577 A	SEGMENT=BOTH; BUFFER-TIME=24 59; FLASH=YES; FP-POS=3	USE OFFSET V05S AF		2459 Secs [==>]	[1]	
	3	(2) V-V455-AND	COS/FUV, TIME-TAG, PSA	G160M 1577 A	SEGMENT=BOTH; BUFFER-TIME=30 15; FLASH=YES; FP-POS=3	USE OFFSET V05S AF		3015 Secs [==>]	[2]	
	4	(2) V-V455-AND	COS/FUV, TIME-TAG, PSA	G160M 1577 A	SEGMENT=BOTH; BUFFER-TIME=30 15; FLASH=YES; FP-POS=3	USE OFFSET V05S AF		3015 Secs [==>]	[3]	
	5	(2) V-V455-AND	COS/FUV, TIME-TAG, PSA	G160M 1577 A	SEGMENT=BOTH; BUFFER-TIME=30 15; FLASH=YES; FP-POS=3	USE OFFSET V05S AF		3015 Secs [==>]	[4]	
	6	(2) V-V455-AND	COS/FUV, TIME-TAG, PSA	G140L 1105 A	SEGMENT=A; BUFFER-TIME=30 15; FLASH=YES; FP-POS=3	USE OFFSET V05S AF		3015 Secs [==>]	[5]	



Orbit 4

Server Version: 20100505



Orbit 5

Server Version: 20100505

