



## 15659 - The Missing Link in Massive Binary Star Evolution

Cycle: 26, Proposal Category: GO

(UV Initiative)

(Availability Mode: SUPPORTED)

### INVESTIGATORS

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### 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) HD-29441 WAVE	STIS/CCD STIS/FUV-MAMA	1	03-Jan-2020 19:00:22.0	yes
02	(1) HD-29441 WAVE	STIS/CCD STIS/FUV-MAMA	1	03-Jan-2020 19:00:23.0	yes
03	(1) HD-29441 WAVE	STIS/CCD STIS/FUV-MAMA	1	03-Jan-2020 19:00:24.0	yes
04	(2) HD-43544 WAVE	STIS/CCD STIS/FUV-MAMA	1	03-Jan-2020 19:00:25.0	yes
05	(2) HD-43544 WAVE	STIS/CCD STIS/FUV-MAMA	1	03-Jan-2020 19:00:26.0	yes

Proposal 15659 (STScI Edit Number: 11, Created: Friday, January 3, 2020 at 7:00:55 PM Eastern Standard Time) - Overview

<i>Visit</i>	<i>Targets used in Visit</i>	<i>Configurations used in Visit</i>	<i>Orbits Used</i>	<i>Last Orbit Planner Run</i>	<i>OP Current with Visit?</i>
06	(2) HD-43544 WAVE	STIS/CCD STIS/FUV-MAMA	1	03-Jan-2020 19:00:26.0	yes
07	(3) HD-51354 WAVE	STIS/CCD STIS/FUV-MAMA	1	03-Jan-2020 19:00:27.0	yes
08	(3) HD-51354 WAVE	STIS/CCD STIS/FUV-MAMA	1	03-Jan-2020 19:00:28.0	yes
09	(3) HD-51354 WAVE	STIS/CCD STIS/FUV-MAMA	1	03-Jan-2020 19:00:29.0	yes
10	(13) HD-55606 WAVE	STIS/CCD STIS/FUV-MAMA	1	03-Jan-2020 19:00:29.0	yes
11	(13) HD-55606 WAVE	STIS/CCD STIS/FUV-MAMA	1	03-Jan-2020 19:00:30.0	yes
12	(13) HD-55606 WAVE	STIS/CCD STIS/FUV-MAMA	1	03-Jan-2020 19:00:30.0	yes
52	(13) HD-55606 WAVE	STIS/CCD STIS/FUV-MAMA	1	03-Jan-2020 19:00:31.0	yes
13	(4) HD-60855 WAVE	STIS/CCD STIS/FUV-MAMA	1	03-Jan-2020 19:00:32.0	yes
14	(4) HD-60855 WAVE	STIS/CCD STIS/FUV-MAMA	1	03-Jan-2020 19:00:32.0	yes
15	(4) HD-60855 WAVE	STIS/CCD STIS/FUV-MAMA	1	03-Jan-2020 19:00:33.0	yes
16	(5) HD-113120 WAVE	STIS/CCD STIS/FUV-MAMA	1	03-Jan-2020 19:00:34.0	yes
17	(5) HD-113120 WAVE	STIS/CCD STIS/FUV-MAMA	1	03-Jan-2020 19:00:35.0	yes
18	(5) HD-113120 WAVE	STIS/CCD STIS/FUV-MAMA	1	03-Jan-2020 19:00:36.0	yes

Proposal 15659 (STScI Edit Number: 11, Created: Friday, January 3, 2020 at 7:00:55 PM Eastern Standard Time) - Overview

<i>Visit</i>	<i>Targets used in Visit</i>	<i>Configurations used in Visit</i>	<i>Orbits Used</i>	<i>Last Orbit Planner Run</i>	<i>OP Current with Visit?</i>
19	(6) -KAP01-APS WAVE	STIS/CCD STIS/FUV-MAMA	1	03-Jan-2020 19:00:36.0	yes
20	(6) -KAP01-APS WAVE	STIS/CCD STIS/FUV-MAMA	1	03-Jan-2020 19:00:37.0	yes
21	(6) -KAP01-APS WAVE	STIS/CCD STIS/FUV-MAMA	1	03-Jan-2020 19:00:38.0	yes
22	(7) HD-152478 WAVE	STIS/CCD STIS/FUV-MAMA	1	03-Jan-2020 19:00:38.0	yes
23	(7) HD-152478 WAVE	STIS/CCD STIS/FUV-MAMA	1	03-Jan-2020 19:00:39.0	yes
24	(7) HD-152478 WAVE	STIS/CCD STIS/FUV-MAMA	1	03-Jan-2020 19:00:40.0	yes
25	(8) -IOT-ARA WAVE	STIS/CCD STIS/FUV-MAMA	1	03-Jan-2020 19:00:41.0	yes
26	(8) -IOT-ARA WAVE	STIS/CCD STIS/FUV-MAMA	1	03-Jan-2020 19:00:41.0	yes
27	(8) -IOT-ARA WAVE	STIS/CCD STIS/FUV-MAMA	1	03-Jan-2020 19:00:42.0	yes
28	(9) HD-157832 WAVE	STIS/CCD STIS/FUV-MAMA	1	03-Jan-2020 19:00:43.0	yes
29	(9) HD-157832 WAVE	STIS/CCD STIS/FUV-MAMA	1	03-Jan-2020 19:00:44.0	yes
30	(9) HD-157832 WAVE	STIS/CCD STIS/FUV-MAMA	1	03-Jan-2020 19:00:44.0	yes
31	(10) -B02-CYG WAVE	STIS/CCD STIS/FUV-MAMA	1	03-Jan-2020 19:00:45.0	yes
32	(10) -B02-CYG WAVE	STIS/CCD STIS/FUV-MAMA	1	03-Jan-2020 19:00:46.0	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>
33	(10) -B02-CYG WAVE	STIS/CCD STIS/FUV-MAMA	1	03-Jan-2020 19:00:46.0	yes
34	(11) HD-194335 WAVE	STIS/CCD STIS/FUV-MAMA	1	03-Jan-2020 19:00:47.0	yes
35	(11) HD-194335 WAVE	STIS/CCD STIS/FUV-MAMA	1	03-Jan-2020 19:00:48.0	yes
36	(11) HD-194335 WAVE	STIS/CCD STIS/FUV-MAMA	1	03-Jan-2020 19:00:49.0	yes
37	(12) -8-LAC-A WAVE	STIS/CCD STIS/FUV-MAMA	1	03-Jan-2020 19:00:49.0	yes
38	(12) -8-LAC-A WAVE	STIS/CCD STIS/FUV-MAMA	1	03-Jan-2020 19:00:50.0	yes
39	(12) -8-LAC-A WAVE	STIS/CCD STIS/FUV-MAMA	1	03-Jan-2020 19:00:52.0	yes
54	(2) HD-43544 WAVE	STIS/CCD STIS/FUV-MAMA	1	03-Jan-2020 19:00:53.0	yes
56	(2) HD-43544 WAVE	STIS/CCD STIS/FUV-MAMA	1	03-Jan-2020 19:00:53.0	yes
60	(13) HD-55606 WAVE	STIS/CCD STIS/FUV-MAMA	1	03-Jan-2020 19:00:54.0	yes
68	(5) HD-113120 WAVE	STIS/CCD STIS/FUV-MAMA	1	03-Jan-2020 19:00:55.0	yes

44 Total Orbits Used

### **ABSTRACT**

The path to the formation of neutron stars and black holes in massive X-ray binaries involves a post-mass transfer stage that has been observed in a only few objects, but an ultraviolet survey has now detected a dozen such systems at this key stage.

Close pairs of massive stars are destined to interact and exchange mass and angular momentum in ways that transform both stars. The mass gainer star is spun up to near critical rotation, while the mass donor is stripped of its envelope to reveal the hot, He-burning core. These hot remnants are small and faint, lost in the glare of their massive companions. The best strategy to detect the hot cores is to obtain spectroscopy in the far ultraviolet where the remnants are relatively brighter and their spectra are rich in lines of highly-ionized atomic species. Five such systems are known from large sets of observations made with the International Ultraviolet Explorer Satellite, and the spectra reveal the sharp lines of the hot subdwarf together with the broad lines of a Be star, the rapidly rotating mass gainer star. A recent survey of over 3200 IUE spectra of Be stars led to the identification of 12 new Be + subdwarf binaries. We propose to obtain new HST/STIS spectroscopy of these systems and HD55606 to determine their orbital Doppler shifts, effective temperatures, and flux and mass ratios, so that subdwarf properties can be compared to evolutionary models in the H-R diagram. The comparison will test the idea that the detected systems reside in a bright, short-lived He-shell burning stage. If correct, then there must exist a large number of undetected fainter companions among the Be stars.

## **OBSERVING DESCRIPTION**

Here we propose to obtain HST/STIS MAMA, high dispersion UV spectroscopy of a sample of 12 Be stars that have hot, evolved companions detected through IUE spectroscopy. Also included is HD~55606, a Be+He system recently identified through optical and H-band spectroscopy (Chojnowski et al. 2018). The appearance of a He II 4686 photospheric line in the spectrum indicates the presence of a hot companion that is bright enough to detect in the FUV.

The spectra are a composite of flux from a Be star and a fainter He star, and the peak heights of the cross-correlation functions of IUE spectra with a model subdwarf spectrum

are approximately equal to the monochromatic flux ratio of the subdwarf to Be star in the vicinity of 1450 Angstroms. The subdwarf components in all the targets contribute at least 2% of the total far-UV flux, so our goal is to obtain a noise level of 1% in the final spectra ( $S/N = 100$ ) at a resolving power of  $R=10000$  (comparable to IUE) in order to measure deep absorption features in the subdwarf spectra (with  $S/N > 3$  per resolution element in the subdwarf spectrum alone). These goals can be accomplished through observations with HST/STIS using the E140M grating and MAMA detector which covers the far-UV region of interest (1150 - 1700 Angstroms) with a resolving power of  $R=45800$ . This grating produces spectra with sufficient resolution to measure the radial velocity variations of both stars and to record in detail the narrow lines of the subdwarf. We plan to visit each target three times and rebin the spectral dispersion down by a factor of four (for a final  $R=11450$ ). Thus, we need to obtain a signal-to-noise ratio in each spectroscopic observation of  $S/N = 29$ . All the targets are relatively bright in the UV, so we can readily achieve this  $S/N$  ratio in a single orbit per visit.

We used the STIS exposure time calculator (ETC) to estimate the time needed. We used existing IUE spectra of each target to specify the spectral energy distribution in the far-UV. Only HD 55606 has no prior FUV observations, so we used a model spectrum,  $V=9.04$ , and  $E(B-V)=0.19$  to estimate its flux. All the targets have 54 - 60 minutes of visibility in each orbit, and after subtraction of 6 minutes for guide star acquisition, 6 minutes for STIS target acquisition, 6 minutes for target peak-up, and 8 minutes for STIS science observations overhead, there remains about 29 minutes = 1740 seconds science exposure time in one orbit. Because the targets are bright in the UV, the ETC indicates that spectra of all of them will attain a signal to noise ratio  $S/N > 40$  per resolution element at 1360 Angstroms for the integration time available in one orbit. Indeed for most of the targets, we will need to use neutral density filters to avoid count rates above the STIS/MAMA bright limits.

We need to make three visits to each target in order to verify the orbital Doppler shifts

associated with the subdwarf spectra that should span a range of approximately  $\pm 100$  km/s.

This will allow us to (1) measure the orbital motion at three points in the radial velocity curve in order to confirm that the high excitation lines form in the atmosphere of the subdwarf, (2) avoid confusion with interstellar lines, and (3) reconstruct the individual spectra of the Be star and subdwarf using Doppler tomography (Bagnuolo et al. 1994).

We plan to schedule the second (third) visit to occur at 5 - 30 (35 - 100) days following the first observation (or near velocity extrema for known binary periods) in order to sample the orbital variations over a significant fraction of the orbital period. Thus, our total request is for three visits of one orbit each for all 13 targets, yielding a total request of 39 orbits.

Our science goals are to determine the He star temperature and the ratios (He to Be star) of monochromatic flux and mass, so that we can place the properties of the He star in an HRD for comparison with evolutionary tracks from He-core to He-shell burning. We will perform a cross correlation analysis with model spectra to detect the spectral signals of the Be star and hot companion in order to measure radial velocities for both. We will use a tomography algorithm to reconstruct the individual Be and He spectra to compare with model spectra to estimate  $T_{\text{eff}}$  and the projected rotational velocity  $V \sin i$ . The apparent line depths in the reconstructed spectra can be used to estimate the monochromatic flux ratio and, hence, the radius ratio of the stars. The actual stellar radii are then determined from fits of the spectral energy distribution and the distance from GAIA DR2 parallaxes. The mass ratio is set from the slope of the Be and He star radial velocity variations, and an estimate of the Be star mass from its classification then yields the He star mass. These results will enable comparative tests of subdwarf evolutionary tracks as a function of temperature and luminosity and mass. The numbers of the sample dominated by relatively bright subdwarfs in the He-shell burning phase can be used with the ratio of the predicted timescales for the prior He-core burning phase (long, faint) to the He-shell burning phase (short, bright) to estimate the numbers of faint, undetected companions around other Be stars.

Proposal 15659 - HD29441-v1 (01) - The Missing Link in Massive Binary Star Evolution

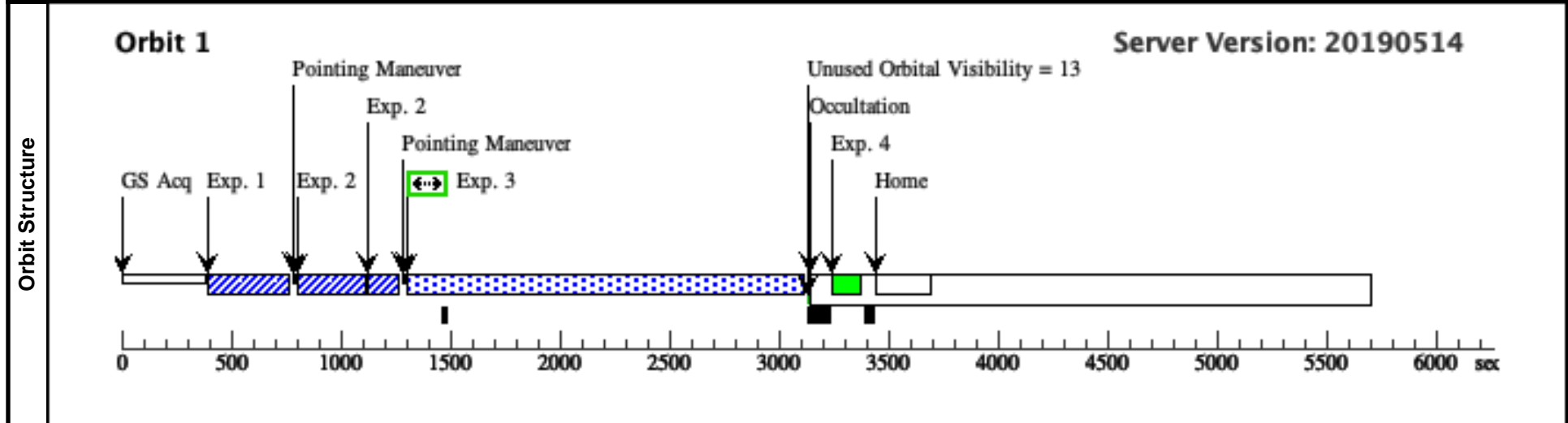
Sat Jan 04 00:00:55 GMT 2020

<b>Visit</b>	<b>Proposal 15659, HD29441-v1 (01), completed</b>				
	<b>Diagnostic Status: No Diagnostics</b>				
	Scientific Instruments: STIS/CCD, STIS/FUV-MAMA				
	Special Requirements: (none)				

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	HD-29441	RA: 04 38 36.2406 (69.6510025d) Alt Name1: V1150-TAU Dec: +08 10 30.64 (8.17518d) Alt Name2: MWC-733 Equinox: J2000	Proper Motion RA: -0.257 mas/yr Proper Motion Dec: -5.915 mas/yr Parallax: 0.00133" Epoch of Position: 2000	V=7.63+/-0.1	Reference Frame: ICRS
<i>Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.</i>					
Category=STAR Description=[B0-B2 V-IV, BE, INTERACTING BINARY] Extended=NO					

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	ACQ (STIS.ta.130 1336)	(1) HD-29441	STIS/CCD, ACQ, F25ND5	MIRROR	ACQTYPE=POINT			21.1 Secs (21.1 Secs) [==>]	[1]
2	ACQ/PEAK (STIS.ta.130 1339)	(1) HD-29441	STIS/CCD, ACQ/PEAK, 0.3X0.05ND	MIRROR				0.9 Secs (0.9 Secs) [==>]	[1]
3	ACCUM (STIS.sp.13 01343)	(1) HD-29441	STIS/FUV-MAMA, ACCUM, 31X0.05NDA	E140M 1425 A	WAVECAL=NO			1657 Secs (1657 Secs) [==>]	[1]
4	WAVECAL WAVE		STIS/FUV-MAMA, ACCUM, 0.1X0.03	E140M 1425 A				[==>]	[1]

Comments: In Earth shadow.





Proposal 15659 - HD29441-v2 (02) - The Missing Link in Massive Binary Star Evolution

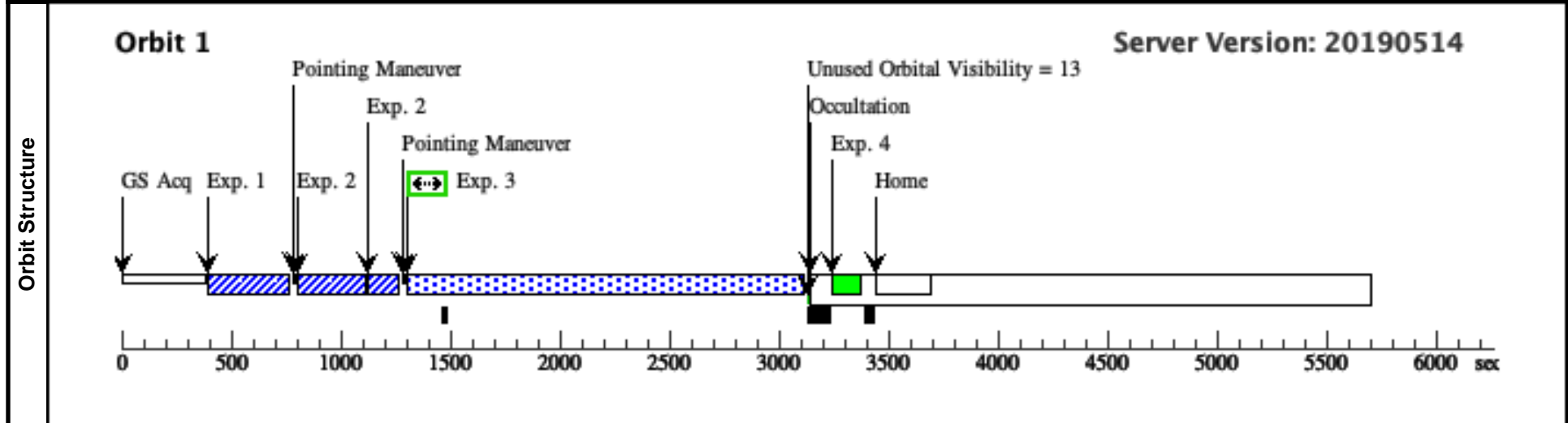
Sat Jan 04 00:00:55 GMT 2020

<b>Visit</b>	<b>Proposal 15659, HD29441-v2 (02), completed</b>				
	<b>Diagnostic Status: No Diagnostics</b>				
	Scientific Instruments: STIS/CCD, STIS/FUV-MAMA				
	Special Requirements: AFTER 01 BY 5 D TO 30 D				

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	HD-29441	RA: 04 38 36.2406 (69.6510025d) Alt Name1: V1150-TAU Dec: +08 10 30.64 (8.17518d) Alt Name2: MWC-733 Equinox: J2000	Proper Motion RA: -0.257 mas/yr Proper Motion Dec: -5.915 mas/yr Parallax: 0.00133" Epoch of Position: 2000	V=7.63+/-0.1	Reference Frame: ICRS
<i>Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.</i>					
Category=STAR Description=[B0-B2 V-IV, BE, INTERACTING BINARY] Extended=NO					

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	ACQ (STIS.ta.130 1336)	(1) HD-29441	STIS/CCD, ACQ, F25ND5	MIRROR	ACQTYPE=POINT			21.1 Secs (21.1 Secs) [==>]	[1]
2	ACQ/PEAK (STIS.ta.130 1339)	(1) HD-29441	STIS/CCD, ACQ/PEAK, 0.3X0.05ND	MIRROR				0.9 Secs (0.9 Secs) [==>]	[1]
3	ACCUM (STIS.sp.13 01343)	(1) HD-29441	STIS/FUV-MAMA, ACCUM, 31X0.05NDA	E140M 1425 A	WAVECAL=NO			1657 Secs (1657 Secs) [==>]	[1]
4	WAVECAL WAVE		STIS/FUV-MAMA, ACCUM, 0.1X0.03	E140M 1425 A				[==>]	[1]

Comments: In Earth shadow.



Proposal 15659 - HD29441-v3 (03) - The Missing Link in Massive Binary Star Evolution

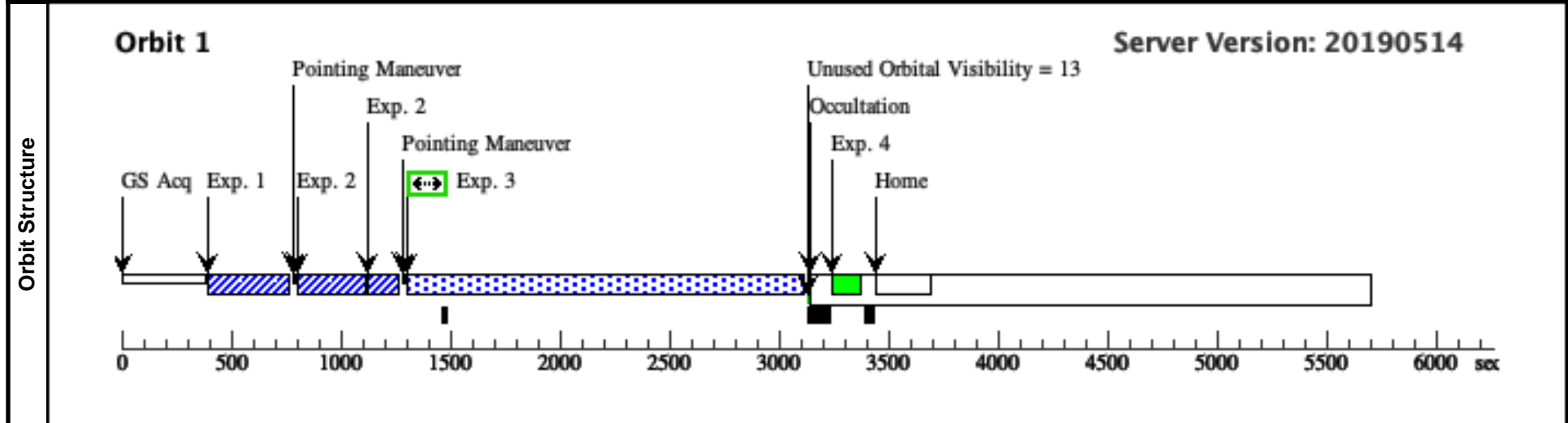
Sat Jan 04 00:00:55 GMT 2020

<b>Visit</b>	<b>Proposal 15659, HD29441-v3 (03), completed</b>				
	<b>Diagnostic Status: No Diagnostics</b>				
	Scientific Instruments: STIS/CCD, STIS/FUV-MAMA				
	Special Requirements: AFTER 01 BY 35 D TO 100 D				

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	HD-29441	RA: 04 38 36.2406 (69.6510025d) Alt Name1: V1150-TAU Dec: +08 10 30.64 (8.17518d) Alt Name2: MWC-733 Equinox: J2000	Proper Motion RA: -0.257 mas/yr Proper Motion Dec: -5.915 mas/yr Parallax: 0.00133" Epoch of Position: 2000	V=7.63+/-0.1	Reference Frame: ICRS
<i>Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.</i>					
Category=STAR Description=[B0-B2 V-IV, BE, INTERACTING BINARY] Extended=NO					

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	ACQ (STIS.ta.130 1336)	(1) HD-29441	STIS/CCD, ACQ, F25ND5	MIRROR	ACQTYPE=POINT			21.1 Secs (21.1 Secs) [==>]	[1]
2	ACQ/PEAK (STIS.ta.130 1339)	(1) HD-29441	STIS/CCD, ACQ/PEAK, 0.3X0.05ND	MIRROR				0.9 Secs (0.9 Secs) [==>]	[1]
3	ACCUM (STIS.sp.13 01343)	(1) HD-29441	STIS/FUV-MAMA, ACCUM, 31X0.05NDA	E140M 1425 A	WAVECAL=NO			1657 Secs (1657 Secs) [==>]	[1]
4	WAVECAL WAVE		STIS/FUV-MAMA, ACCUM, 0.1X0.03	E140M 1425 A				[==>]	[1]

Comments: In Earth shadow.



Proposal 15659 - HD43544-v1 (04) - The Missing Link in Massive Binary Star Evolution

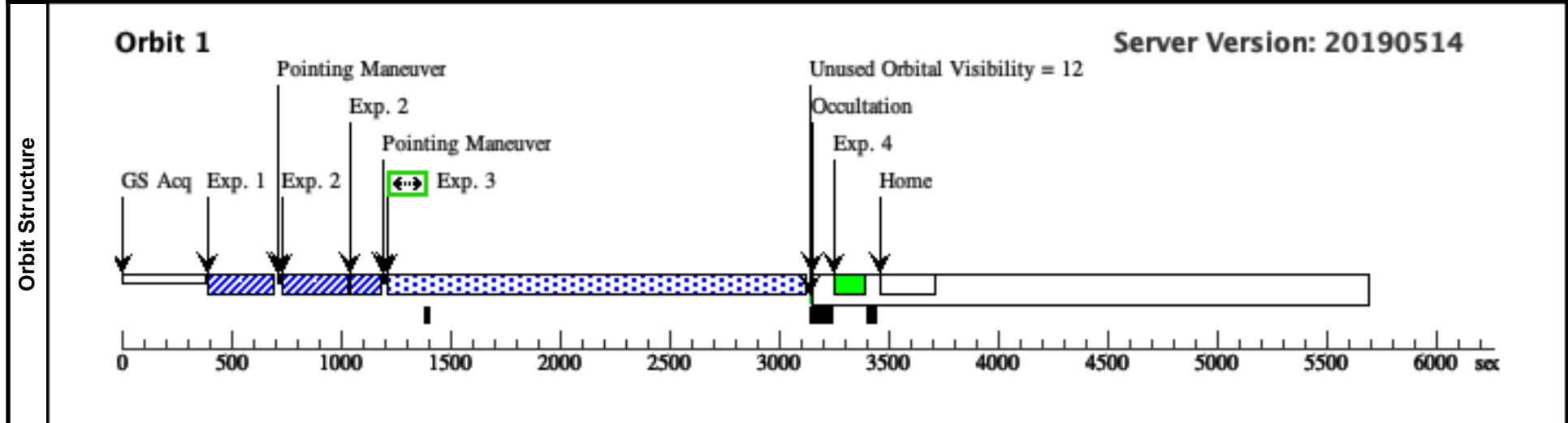
Sat Jan 04 00:00:55 GMT 2020

<b>Visit</b>	<b>Proposal 15659, HD43544-v1 (04), failed</b>				
	<b>Diagnostic Status: No Diagnostics</b>				
	Scientific Instruments: STIS/CCD, STIS/FUV-MAMA				
	Special Requirements: Period 125.12213 D AND ZERO-PHASE HJD2455122.73463				

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(2)	HD-43544	RA: 06 16 7.6915 (94.0320479d) Dec: -16 37 4.82 (-16.61801d)	Proper Motion RA: -8.442 mas/yr Proper Motion Dec: 0.740 mas/yr Parallax: 0.00316" Epoch of Position: 2000	V=5.91	Reference Frame: ICRS
<i>Alt Name1: HR-2249</i> <i>Alt Name2: HIP-29771</i> <i>Equinox: J2000</i>					
<i>Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.</i> <i>Category=STAR</i> <i>Description=[B0-B2 V-IV, BE, INTERACTING BINARY]</i> <i>Extended=NO</i>					

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	ACQ (STIS.ta.130 1349)	(2) HD-43544	STIS/CCD, ACQ, F25ND5	MIRROR	ACQTYPE=POINT	PHASE 0.05 TO 0.4 5		4.3 Secs (4.3 Secs) [==>]	[1]
2	ACQ/PEAK (STIS.ta.130 1352)	(2) HD-43544	STIS/CCD, ACQ/PEAK, 0.3X0.05ND	MIRROR				0.2 Secs (0.2 Secs) [==>]	[1]
3	ACCUM (STIS.sp.13 01360)	(2) HD-43544	STIS/FUV-MAMA, ACCUM, 31X0.05NDC	E140M 1425 A	WAVECAL=NO			1751 Secs (1751 Secs) [==>]	[1]
4	WAVECAL WAVE	(2) HD-43544	STIS/FUV-MAMA, ACCUM, 0.1X0.03	E140M 1425 A				[==>]	[1]

*Comments: In Earth shadow.*



Proposal 15659 - HD43544-v2 (05) - The Missing Link in Massive Binary Star Evolution

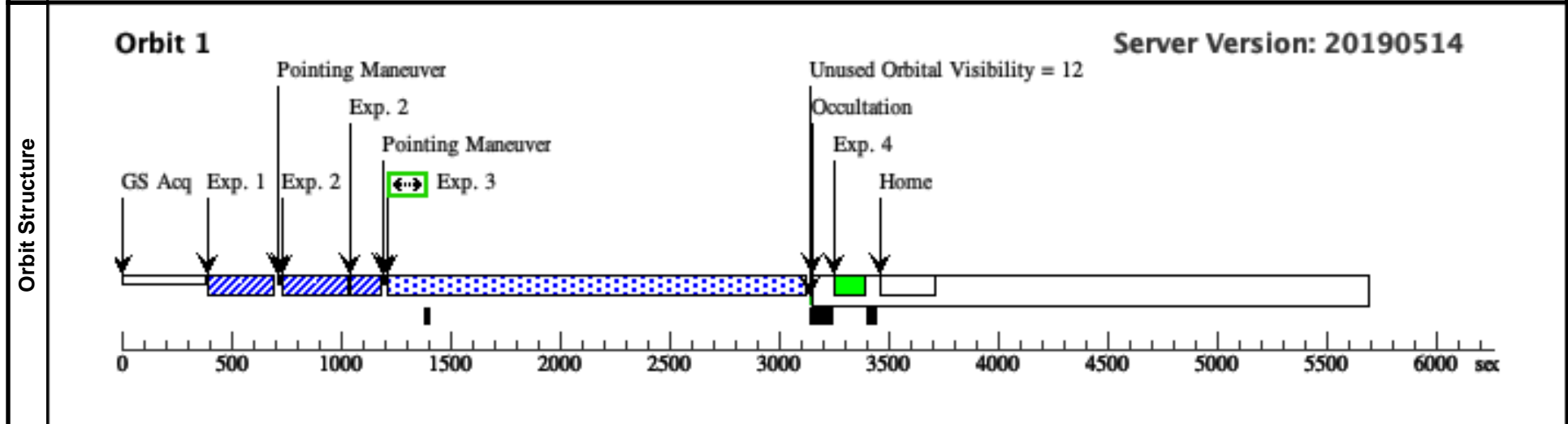
Sat Jan 04 00:00:56 GMT 2020

<b>Visit</b>	<b>Proposal 15659, HD43544-v2 (05), completed</b>				
	<b>Diagnostic Status: No Diagnostics</b>				
	Scientific Instruments: STIS/CCD, STIS/FUV-MAMA				
	Special Requirements: Period 125.12213 D AND ZERO-PHASE HJD2455122.73463				

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(2)	HD-43544	RA: 06 16 7.6915 (94.0320479d) Dec: -16 37 4.82 (-16.61801d)	Proper Motion RA: -8.442 mas/yr Proper Motion Dec: 0.740 mas/yr Parallax: 0.00316" Epoch of Position: 2000	V=5.91	Reference Frame: ICRS
<i>Alt Name1: HR-2249</i> <i>Alt Name2: HIP-29771</i> <i>Equinox: J2000</i>					
<i>Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.</i> <i>Category=STAR</i> <i>Description=[B0-B2 V-IV, BE, INTERACTING BINARY]</i> <i>Extended=NO</i>					

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	ACQ (STIS.ta.130 1349)	(2) HD-43544	STIS/CCD, ACQ, F25ND5	MIRROR	ACQTYPE=POINT	PHASE 0.55 TO 0.95		4.3 Secs (4.3 Secs) [==>]	[1]
2	ACQ/PEAK (STIS.ta.130 1352)	(2) HD-43544	STIS/CCD, ACQ/PEAK, 0.3X0.05ND	MIRROR				0.2 Secs (0.2 Secs) [==>]	[1]
3	ACCUM (STIS.sp.13 01360)	(2) HD-43544	STIS/FUV-MAMA, ACCUM, 31X0.05NDC	E140M 1425 A	WAVECAL=NO			1751 Secs (1751 Secs) [==>]	[1]
4	WAVECAL WAVE		STIS/FUV-MAMA, ACCUM, 0.1X0.03	E140M 1425 A				[==>]	[1]

*Comments: In Earth shadow.*



Proposal 15659 - HD43544-v3 (06) - The Missing Link in Massive Binary Star Evolution

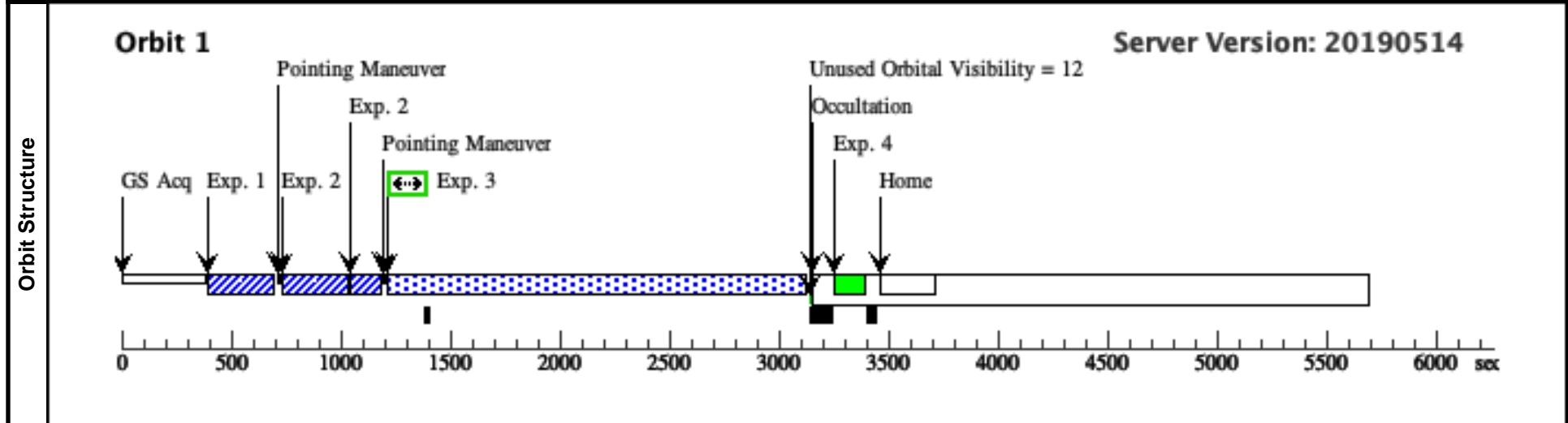
Sat Jan 04 00:00:56 GMT 2020

<b>Visit</b>	<b>Proposal 15659, HD43544-v3 (06), failed</b>				
	<b>Diagnostic Status: No Diagnostics</b>				
	Scientific Instruments: STIS/CCD, STIS/FUV-MAMA				
	Special Requirements: Period 125.12213 D AND ZERO-PHASE HJD2455122.73463				

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(2)	HD-43544	RA: 06 16 7.6915 (94.0320479d) Dec: -16 37 4.82 (-16.61801d)	Proper Motion RA: -8.442 mas/yr Proper Motion Dec: 0.740 mas/yr Parallax: 0.00316" Epoch of Position: 2000	V=5.91	Reference Frame: ICRS
<i>Alt Name1: HR-2249</i> <i>Alt Name2: HIP-29771</i> <i>Equinox: J2000</i>					
<i>Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.</i> <i>Category=STAR</i> <i>Description=[B0-B2 V-IV, BE, INTERACTING BINARY]</i> <i>Extended=NO</i>					

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	ACQ (STIS.ta.130 1349)	(2) HD-43544	STIS/CCD, ACQ, F25ND5	MIRROR	ACQTYPE=POINT	PHASE 0.75 TO 0.9999		4.3 Secs (4.3 Secs) [==>]	[1]
2	ACQ/PEAK (STIS.ta.130 1352)	(2) HD-43544	STIS/CCD, ACQ/PEAK, 0.3X0.05ND	MIRROR				0.2 Secs (0.2 Secs) [==>]	[1]
3	ACCUM (STIS.sp.13 01360)	(2) HD-43544	STIS/FUV-MAMA, ACCUM, 31X0.05NDC	E140M 1425 A	WAVECAL=NO			1751 Secs (1751 Secs) [==>]	[1]
4	WAVECAL WAVE	(2) HD-43544	STIS/FUV-MAMA, ACCUM, 0.1X0.03	E140M 1425 A				[==>]	[1]

Comments: In Earth shadow.



Proposal 15659 - HD51354-v1 (07) - The Missing Link in Massive Binary Star Evolution

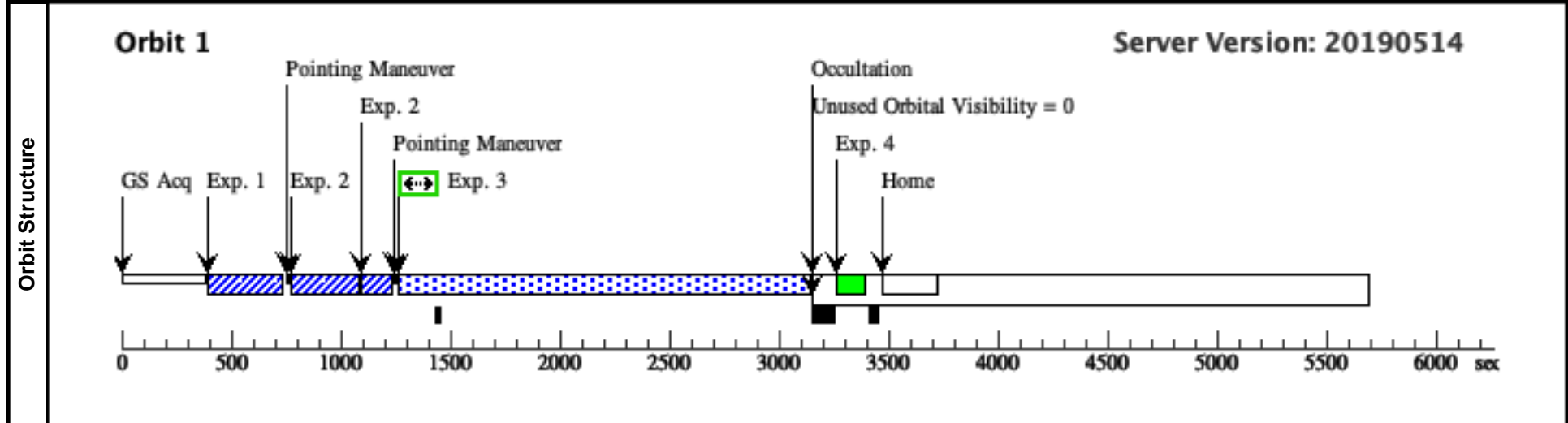
Sat Jan 04 00:00:56 GMT 2020

<b>Visit</b>	<b>Proposal 15659, HD51354-v1 (07), completed</b>				
	<b>Diagnostic Status: No Diagnostics</b>				
	Scientific Instruments: STIS/CCD, STIS/FUV-MAMA				
	Special Requirements: (none)				

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(3)	HD-51354	RA: 06 57 42.9026 (104.4287608d) Dec: +17 54 7.25 (17.90201d)	Proper Motion RA: -2.865 mas/yr Proper Motion Dec: -4.716 mas/yr Parallax: 0.00162" Epoch of Position: 2000	V=7.15	Reference Frame: ICRS
<i>Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.</i> Category=STAR Description=[B3-B5 V-IV, BE, INTERACTING BINARY] Extended=NO					

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	ACQ (STIS.ta.130 1364)	(3) HD-51354	STIS/CCD, ACQ, F25ND5	MIRROR	ACQTYPE=POINT			13.6 Secs (13.6 Secs) [==>]	[1]
2	ACQ/PEAK (STIS.ta.130 1365)	(3) HD-51354	STIS/CCD, ACQ/PEAK, 0.3X0.05ND	MIRROR				0.6 Secs (0.6 Secs) [==>]	[1]
3	ACCUM (STIS.sp.13 01368)	(3) HD-51354	STIS/FUV-MAMA, ACCUM, 31X0.05NDB	E140M 1425 A	WAVECAL=NO			1763 Secs (1715 Secs) [==>1715.0 Secs ]	[1]
4	WAVECAL WAVE		STIS/FUV-MAMA, ACCUM, 0.1X0.03	E140M 1425 A				[==>]	[1]

Comments: In Earth shadow.



Proposal 15659 - HD51354-v2 (08) - The Missing Link in Massive Binary Star Evolution

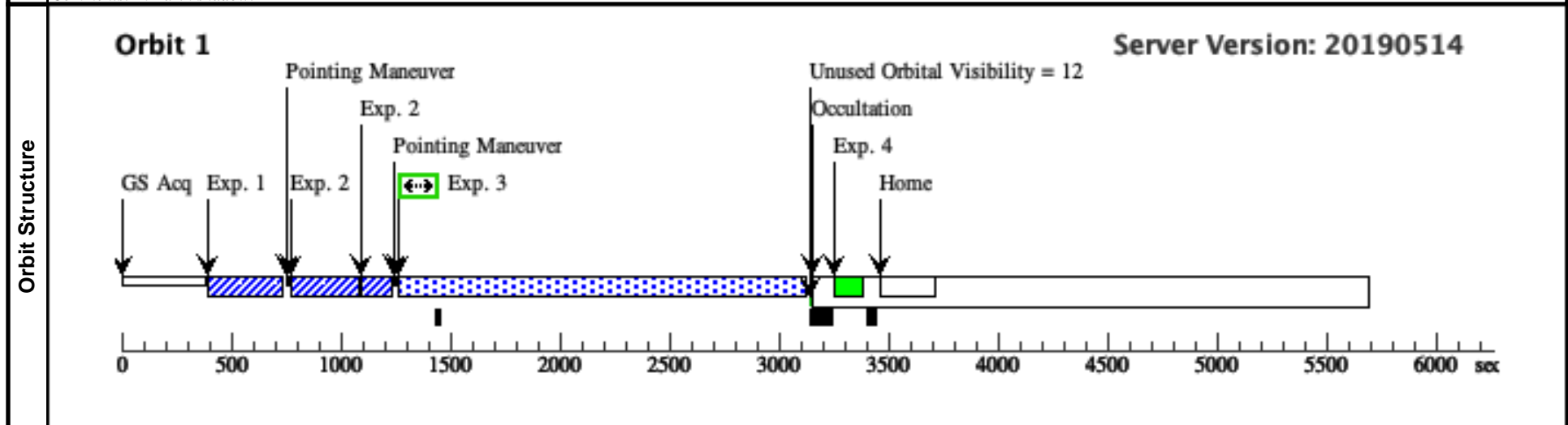
Sat Jan 04 00:00:56 GMT 2020

<b>Visit</b>	<b>Proposal 15659, HD51354-v2 (08), completed</b>				
	<b>Diagnostic Status: No Diagnostics</b>				
	Scientific Instruments: STIS/CCD, STIS/FUV-MAMA				
	Special Requirements: AFTER 07 BY 5 D TO 30 D				

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(3)	HD-51354	RA: 06 57 42.9026 (104.4287608d) Dec: +17 54 7.25 (17.90201d)	Proper Motion RA: -2.865 mas/yr Proper Motion Dec: -4.716 mas/yr Parallax: 0.00162" Epoch of Position: 2000	V=7.15	Reference Frame: ICRS
<i>Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.</i> Category=STAR Description=[B3-B5 V-IV, BE, INTERACTING BINARY] Extended=NO					

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	ACQ (STIS.ta.130 1364)	(3) HD-51354	STIS/CCD, ACQ, F25ND5	MIRROR	ACQTYPE=POINT			13.6 Secs (13.6 Secs) [==>]	[1]
2	ACQ/PEAK (STIS.ta.130 1365)	(3) HD-51354	STIS/CCD, ACQ/PEAK, 0.3X0.05ND	MIRROR				0.6 Secs (0.6 Secs) [==>]	[1]
3	ACCUM (STIS.sp.13 01368)	(3) HD-51354	STIS/FUV-MAMA, ACCUM, 31X0.05NDB	E140M 1425 A	WAVECAL=NO			1703 Secs (1703 Secs) [==>]	[1]
4	WAVECAL WAVE		STIS/FUV-MAMA, ACCUM, 0.1X0.03	E140M 1425 A				[==>]	[1]

Comments: In Earth shadow.



Proposal 15659 - HD51354-v3 (09) - The Missing Link in Massive Binary Star Evolution

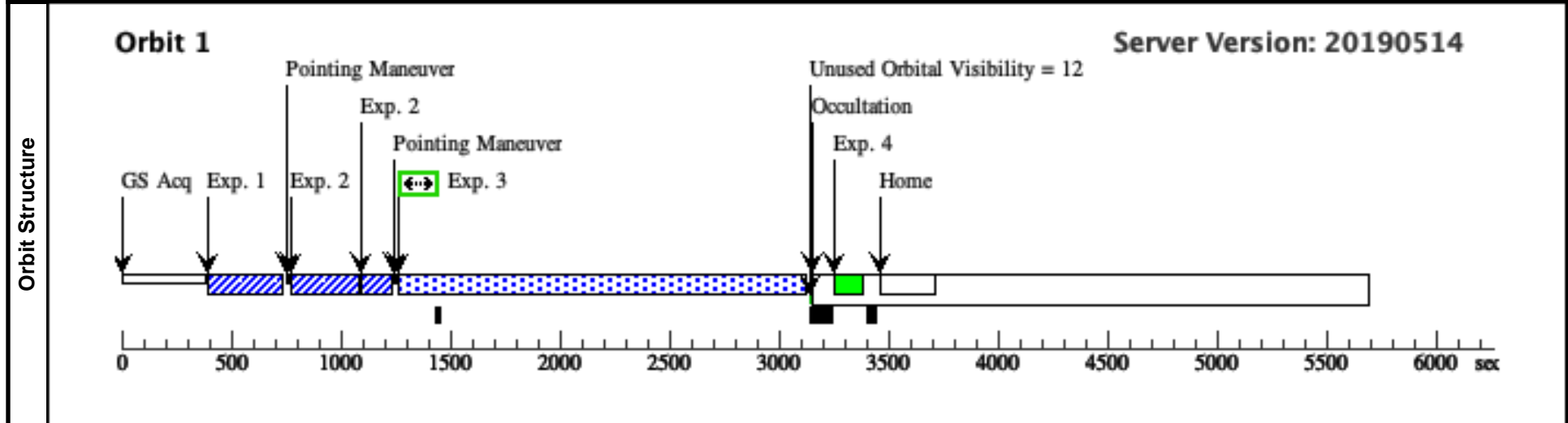
Sat Jan 04 00:00:56 GMT 2020

<b>Visit</b>	<b>Proposal 15659, HD51354-v3 (09), completed</b>				
	<b>Diagnostic Status: No Diagnostics</b>				
	Scientific Instruments: STIS/CCD, STIS/FUV-MAMA				
	Special Requirements: AFTER 07 BY 35 D TO 100 D				

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(3)	HD-51354	RA: 06 57 42.9026 (104.4287608d) Dec: +17 54 7.25 (17.90201d) Equinox: J2000	Proper Motion RA: -2.865 mas/yr Proper Motion Dec: -4.716 mas/yr Parallax: 0.00162" Epoch of Position: 2000	V=7.15	Reference Frame: ICRS
<i>Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.</i>					
Category=STAR Description=[B3-B5 V-IV, BE, INTERACTING BINARY] Extended=NO					

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	ACQ (STIS.ta.130 1364)	(3) HD-51354	STIS/CCD, ACQ, F25ND5	MIRROR	ACQTYPE=POINT			13.6 Secs (13.6 Secs) [==>]	[1]
2	ACQ/PEAK (STIS.ta.130 1365)	(3) HD-51354	STIS/CCD, ACQ/PEAK, 0.3X0.05ND	MIRROR				0.6 Secs (0.6 Secs) [==>]	[1]
3	ACCUM (STIS.sp.13 01368)	(3) HD-51354	STIS/FUV-MAMA, ACCUM, 31X0.05NDB	E140M 1425 A	WAVECAL=NO			1703 Secs (1703 Secs) [==>]	[1]
4	WAVECAL WAVE		STIS/FUV-MAMA, ACCUM, 0.1X0.03	E140M 1425 A				[==>]	[1]

Comments: In Earth shadow.





Proposal 15659 - HD55606-v1 (10) - The Missing Link in Massive Binary Star Evolution

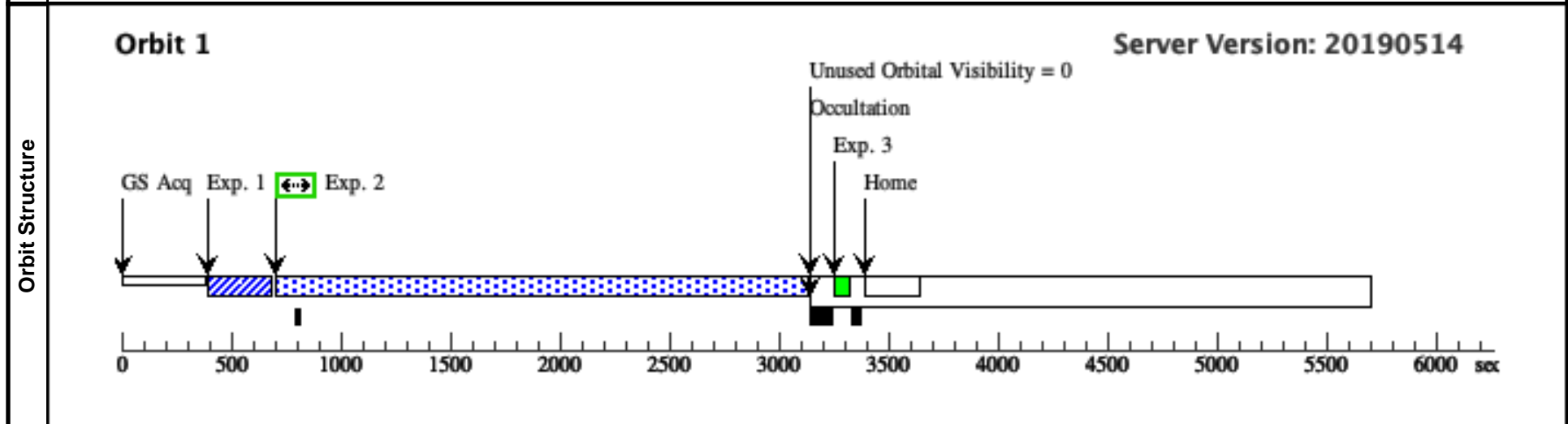
Sat Jan 04 00:00:56 GMT 2020

<b>Visit</b>	<b>Proposal 15659, HD55606-v1 (10), failed</b> <b>Diagnostic Status: No Diagnostics</b> Scientific Instruments: STIS/CCD, STIS/FUV-MAMA Special Requirements: Period 93.76 D AND ZERO-PHASE HJD2456641.66 <i>Comments: Orbital phase from Chojnowski et al. 2018, ApJ, 865, 76.</i>				

<b>Fixed Targets</b>	<b>#</b>	<b>Name</b>	<b>Target Coordinates</b>	<b>Targ. Coord. Corrections</b>	<b>Fluxes</b>	<b>Miscellaneous</b>
	(13)	HD-55606 Alt Name1: MWC-549	RA: 07 13 34.1003 (108.3920846d) Dec: -02 04 39.10 (-2.07753d) Equinox: J2000	Proper Motion RA: -1.611 mas/yr Proper Motion Dec: -1.655 mas/yr Parallax: 0.00089" Epoch of Position: 2000	V=9.04	Reference Frame: ICRS
<i>Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.</i> Category=STAR Description=[B0-B2 V-IV, BE, INTERACTING BINARY] Extended=NO						

<b>Exposures</b>	#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1	ACQ (STIS.ta.130 1370)	(13) HD-55606	STIS/CCD, ACQ, F25ND3	MIRROR	ACQTYPE=POINT	PHASE 0.05 TO 0.5	2		0.3 Secs (0.3 Secs) [==>]
2	ACCUM (STIS.sp.13 67348)	(13) HD-55606	STIS/FUV-MAMA, ACCUM, 0.2X0.2	E140M 1425 A	WAVECAL=NO				1807 Secs (2341 Secs) [==>2341.0 Secs]	[1]
3	WAVECAL WAVE		STIS/FUV-MAMA, ACCUM, 0.2X0.2	E140M 1425 A					[==>]	[1]

*Comments: In Earth shadow.*



Proposal 15659 - HD55606-v2 (11) - The Missing Link in Massive Binary Star Evolution

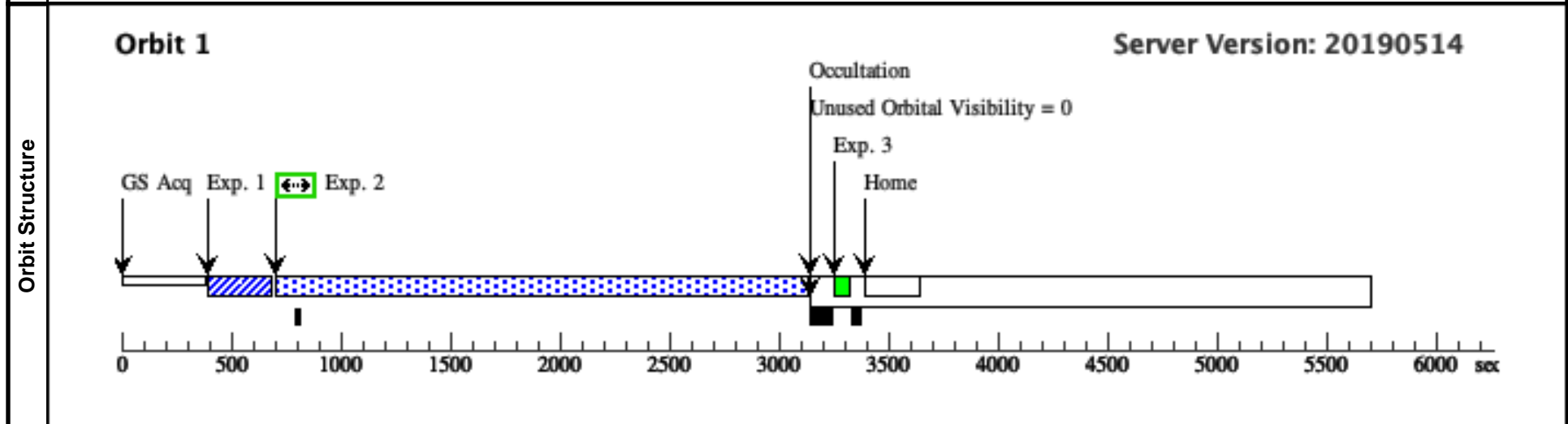
Sat Jan 04 00:00:56 GMT 2020

<b>Visit</b>	<b>Proposal 15659, HD55606-v2 (11), completed</b> <b>Diagnostic Status: No Diagnostics</b> Scientific Instruments: STIS/CCD, STIS/FUV-MAMA Special Requirements: Period 93.76 D AND ZERO-PHASE HJD2456641.66 <i>Comments: Orbital phase from Chojnowski et al. 2018, ApJ, 865, 76.</i>				

<b>Fixed Targets</b>	<b>#</b>	<b>Name</b>	<b>Target Coordinates</b>	<b>Targ. Coord. Corrections</b>	<b>Fluxes</b>	<b>Miscellaneous</b>
	(13)	HD-55606 Alt Name1: MWC-549	RA: 07 13 34.1003 (108.3920846d) Dec: -02 04 39.10 (-2.07753d) Equinox: J2000	Proper Motion RA: -1.611 mas/yr Proper Motion Dec: -1.655 mas/yr Parallax: 0.00089" Epoch of Position: 2000	V=9.04	Reference Frame: ICRS
<i>Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.</i> Category=STAR Description=[B0-B2 V-IV, BE, INTERACTING BINARY] Extended=NO						

<b>Exposures</b>	#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1	ACQ (STIS.ta.130 1370)	(13) HD-55606	STIS/CCD, ACQ, F25ND3	MIRROR	ACQTYPE=POINT	PHASE 0.55 TO 0.9	5		0.3 Secs (0.3 Secs) [==>]
2	ACCUM (STIS.sp.13 67348)	(13) HD-55606	STIS/FUV-MAMA, ACCUM, 0.2X0.2	E140M 1425 A	WAVECAL=NO				1807 Secs (2341 Secs) [==>2341.0 Secs]	[1]
3	WAVECAL WAVE		STIS/FUV-MAMA, ACCUM, 0.2X0.2	E140M 1425 A					[==>]	[1]

*Comments: In Earth shadow.*



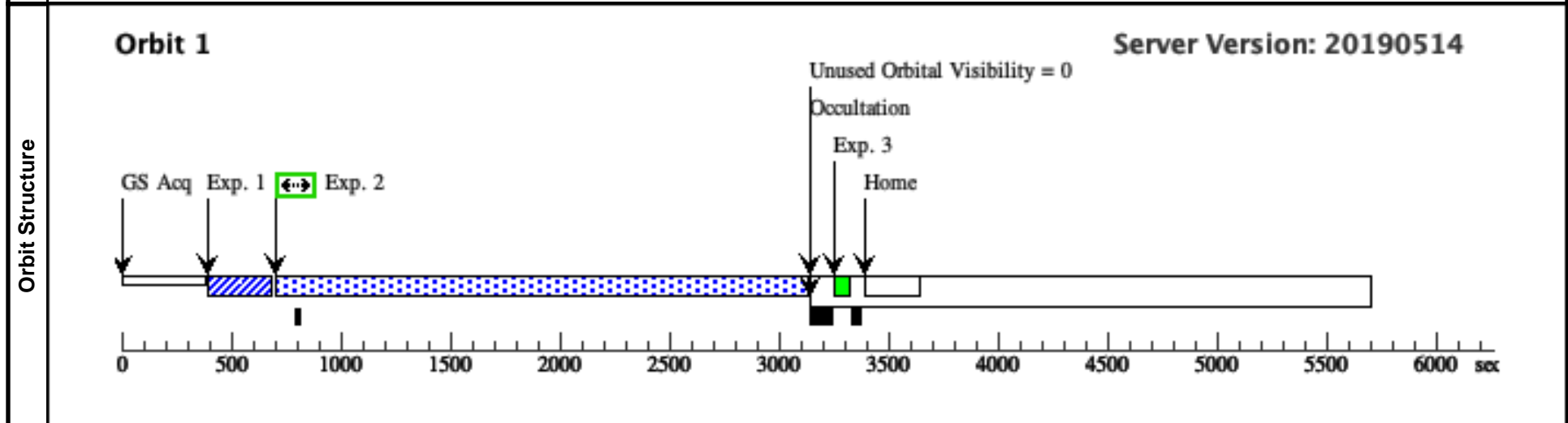
Proposal 15659 - HD55606-v3 (12) - The Missing Link in Massive Binary Star Evolution

Sat Jan 04 00:00:56 GMT 2020

<b>Visit</b>	<b>Proposal 15659, HD55606-v3 (12), failed</b> <b>Diagnostic Status: No Diagnostics</b> Scientific Instruments: STIS/CCD, STIS/FUV-MAMA Special Requirements: Period 93.76 D AND ZERO-PHASE HJD2456641.66 <i>Comments: Orbital phase from Chojnowski et al. 2018, ApJ, 865, 76.</i>				

<b>Fixed Targets</b>	<b>#</b>	<b>Name</b>	<b>Target Coordinates</b>	<b>Targ. Coord. Corrections</b>	<b>Fluxes</b>	<b>Miscellaneous</b>
	(13)	HD-55606 Alt Name1: MWC-549	RA: 07 13 34.1003 (108.3920846d) Dec: -02 04 39.10 (-2.07753d) Equinox: J2000	Proper Motion RA: -1.611 mas/yr Proper Motion Dec: -1.655 mas/yr Parallax: 0.00089" Epoch of Position: 2000	V=9.04	Reference Frame: ICRS
<i>Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.</i> Category=STAR Description=[B0-B2 V-IV, BE, INTERACTING BINARY] Extended=NO						

<b>Exposures</b>	#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit	
	1	ACQ (STIS.ta.130 1370)	(13) HD-55606	STIS/CCD, ACQ, F25ND3	MIRROR	ACQTYPE=POINT	PHASE 0.75 TO 0.9 99999			0.3 Secs (0.3 Secs) [==>]	[1]
	2	ACCUM (STIS.sp.13 67348)	(13) HD-55606	STIS/FUV-MAMA, ACCUM, 0.2X0.2	E140M 1425 A	WAVECAL=NO				1807 Secs (2341 Secs) [==>2341.0 Secs]	[1]
	3	WAVECAL WAVE		STIS/FUV-MAMA, ACCUM, 0.2X0.2	E140M 1425 A					[==>]	[1]
<i>Comments: In Earth shadow.</i>											



Proposal 15659 - HD55606-v3 (52) - The Missing Link in Massive Binary Star Evolution

Sat Jan 04 00:00:56 GMT 2020

<b>Visit</b>	<b>Proposal 15659, HD55606-v3 (52), scheduling</b>				
	<b>Diagnostic Status: No Diagnostics</b>				
	Scientific Instruments: STIS/CCD, STIS/FUV-MAMA				
	Special Requirements: BEFORE 01-JUN-2020:00:00:00; Period 93.76 D AND ZERO-PHASE HJD2456641.66				

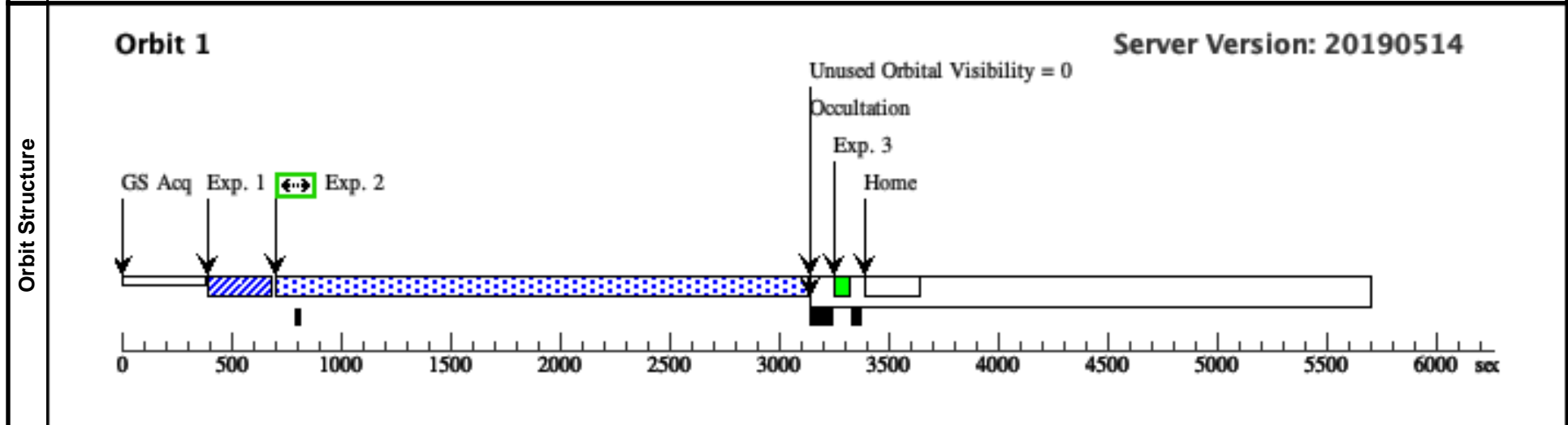
*Comments: Orbital phase from Chojnowski et al. 2018, ApJ, 865, 76.  
Repeat of failed visit 12.*

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(13)	HD-55606	RA: 07 13 34.1003 (108.3920846d)	Proper Motion RA: -1.611 mas/yr	V=9.04	Reference Frame: ICRS
	Alt Name1: MWC-549	Dec: -02 04 39.10 (-2.07753d)	Proper Motion Dec: -1.655 mas/yr		
		Equinox: J2000	Parallax: 0.00089"		
			Epoch of Position: 2000		

*Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.  
Category=STAR  
Description=[B0-B2 V-IV, BE, INTERACTING BINARY]  
Extended=NO*

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	ACQ (STIS.ta.130 1370)	(13) HD-55606	STIS/CCD, ACQ, F25ND3	MIRROR	ACQTYPE=POINT	PHASE 0.60 TO 0.9 999		0.3 Secs (0.3 Secs) [==>]	[1]
2	ACCUM (STIS.sp.13 67348)	(13) HD-55606	STIS/FUV-MAMA, ACCUM, 0.2X0.2	E140M 1425 A	WAVECAL=NO			1807 Secs (2341 Secs) [==>2341.0 Secs]	[1]
3	WAVECAL WAVE		STIS/FUV-MAMA, ACCUM, 0.2X0.2	E140M 1425 A				[==>]	[1]

*Comments: In Earth shadow.*



Proposal 15659 - HD60855-v1 (13) - The Missing Link in Massive Binary Star Evolution

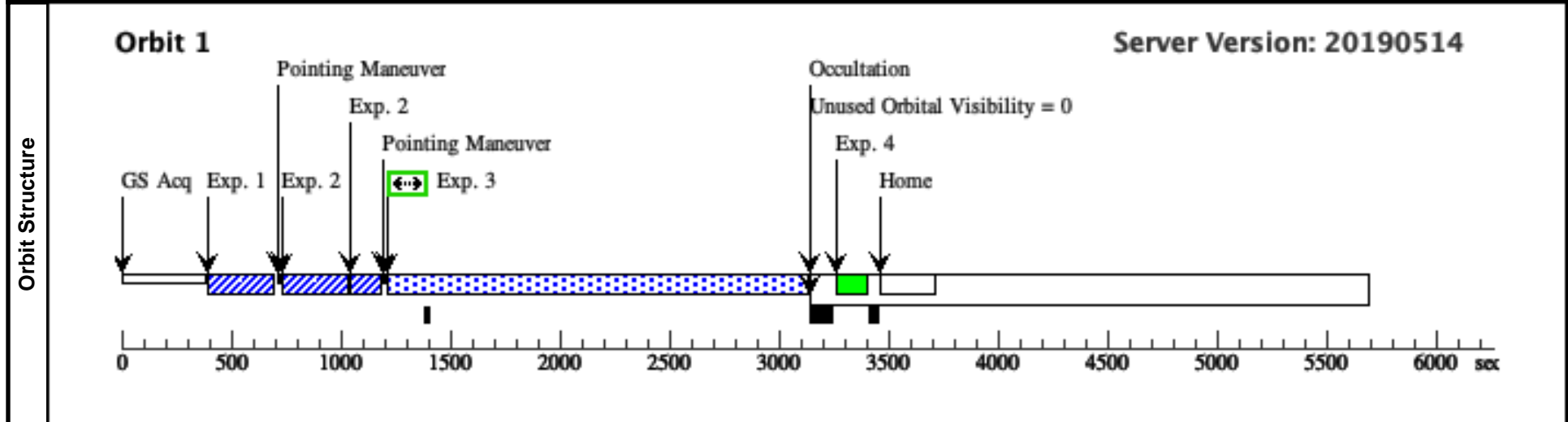
Sat Jan 04 00:00:56 GMT 2020

<b>Visit</b>	<b>Proposal 15659, HD60855-v1 (13), completed</b>				
	<b>Diagnostic Status: No Diagnostics</b>				
	Scientific Instruments: STIS/CCD, STIS/FUV-MAMA				
	Special Requirements: (none)				

<b>Fixed Targets</b>	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
	(4)	HD-60855	RA: 07 36 3.8931 (114.0162213d)	Proper Motion RA: -7.109 mas/yr	V=5.7	Reference Frame: ICRS
		Alt Name1: HR-2021	Dec: -14 29 33.98 (-14.49277d)	Proper Motion Dec: 0.780 mas/yr		
		Alt Name2: V378-PUP	Equinox: J2000	Parallax: 0.00205"		
				Epoch of Position: 2000		
<i>Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.                  There is a faint companion with V=12.2 at PA=175 deg and sep=5.0 arcsec.                  Category=STAR                  Description=[B0-B2 V-IV, BE, INTERACTING BINARY]                  Extended=NO</i>						

<b>Exposures</b>	#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1	ACQ (STIS.ta.130 1399)	(4) HD-60855	STIS/CCD, ACQ, F25ND5	MIRROR	ACQTYPE=POINT			3.5 Secs (3.5 Secs) [==>]	[1]
	2	ACQ/PEAK (STIS.ta.130 1402)	(4) HD-60855	STIS/CCD, ACQ/PEAK, 0.3X0.05ND	MIRROR				0.2 Secs (0.2 Secs) [==>]	[1]
	3	ACCUM (STIS.sp.13 01409)	(4) HD-60855	STIS/FUV-MAMA, ACCUM, 31X0.05NDC	E140M 1425 A	WAVECAL=NO			1806 Secs (1758 Secs) [==>1758.0 Secs ]	[1]
	4	WAVECAL WAVE		STIS/FUV-MAMA, ACCUM, 0.1X0.03	E140M 1425 A				[==>]	[1]

Comments: In Earth shadow.



Proposal 15659 - HD60855-v2 (14) - The Missing Link in Massive Binary Star Evolution

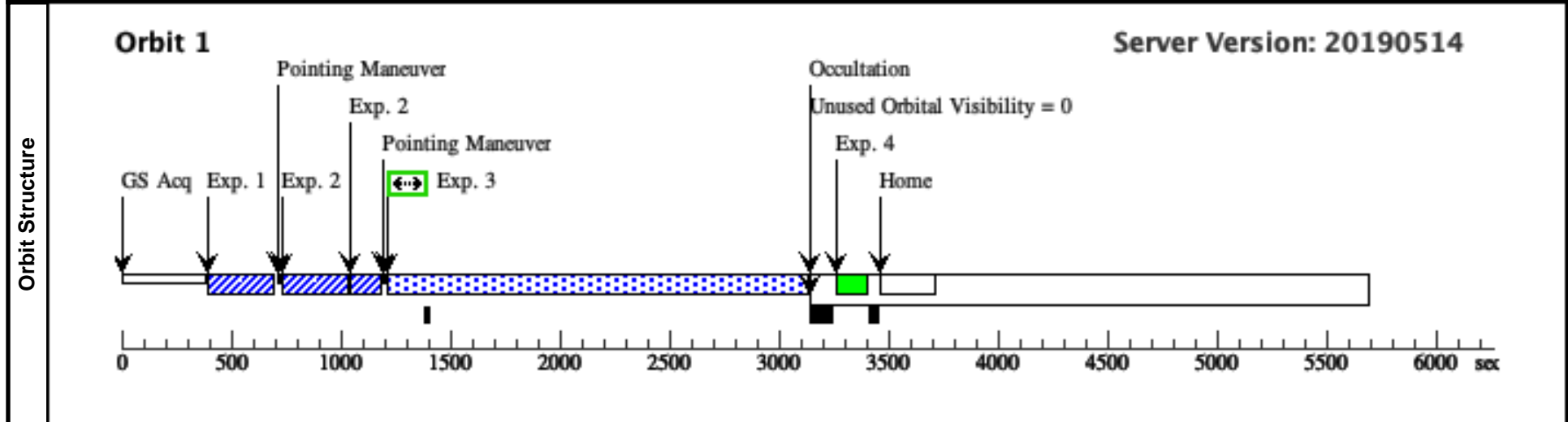
Sat Jan 04 00:00:56 GMT 2020

<b>Visit</b>	<b>Proposal 15659, HD60855-v2 (14), completed</b>				
	<b>Diagnostic Status: No Diagnostics</b>				
	Scientific Instruments: STIS/CCD, STIS/FUV-MAMA				
	Special Requirements: AFTER 13 BY 5 D TO 30 D				

<b>Fixed Targets</b>	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
	(4)	HD-60855	RA: 07 36 3.8931 (114.0162213d)	Proper Motion RA: -7.109 mas/yr	V=5.7	Reference Frame: ICRS
		Alt Name1: HR-2021	Dec: -14 29 33.98 (-14.49277d)	Proper Motion Dec: 0.780 mas/yr		
		Alt Name2: V378-PUP	Equinox: J2000	Parallax: 0.00205"		
			Epoch of Position: 2000			
<i>Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.                  There is a faint companion with V=12.2 at PA=175 deg and sep=5.0 arcsec.                  Category=STAR                  Description=[B0-B2 V-IV, BE, INTERACTING BINARY]                  Extended=NO</i>						

<b>Exposures</b>	#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1	ACQ (STIS.ta.130 1399)	(4) HD-60855	STIS/CCD, ACQ, F25ND5	MIRROR	ACQTYPE=POINT			3.5 Secs (3.5 Secs) [==>]	[1]
	2	ACQ/PEAK (STIS.ta.130 1402)	(4) HD-60855	STIS/CCD, ACQ/PEAK, 0.3X0.05ND	MIRROR				0.2 Secs (0.2 Secs) [==>]	[1]
	3	ACCUM (STIS.sp.13 01409)	(4) HD-60855	STIS/FUV-MAMA, ACCUM, 31X0.05NDC	E140M 1425 A	WAVECAL=NO			1806 Secs (1758 Secs) [==>1758.0 Secs ]	[1]
	4	WAVECAL WAVE		STIS/FUV-MAMA, ACCUM, 0.1X0.03	E140M 1425 A				[==>]	[1]

Comments: In Earth shadow.



Proposal 15659 - HD60855-v3 (15) - The Missing Link in Massive Binary Star Evolution

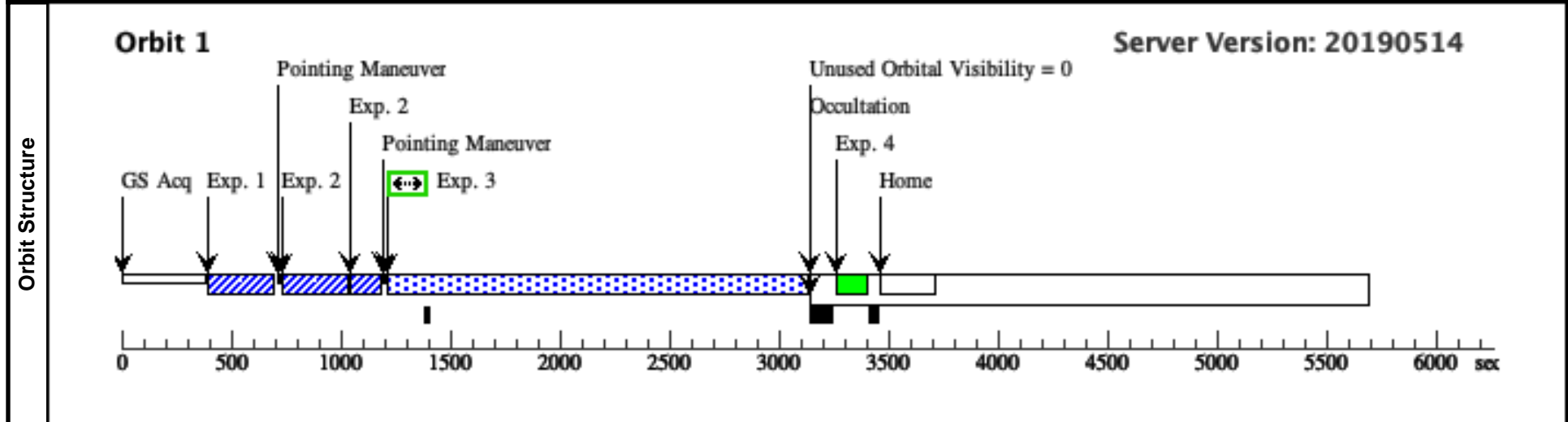
Sat Jan 04 00:00:56 GMT 2020

<b>Visit</b>	<b>Proposal 15659, HD60855-v3 (15), scheduled</b>				
	<b>Diagnostic Status: No Diagnostics</b>				
	Scientific Instruments: STIS/CCD, STIS/FUV-MAMA				
	Special Requirements: AFTER 13 BY 35 D TO 100 D				

<b>Fixed Targets</b>	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
	(4)	HD-60855	RA: 07 36 3.8931 (114.0162213d)	Proper Motion RA: -7.109 mas/yr	V=5.7	Reference Frame: ICRS
		Alt Name1: HR-2021	Dec: -14 29 33.98 (-14.49277d)	Proper Motion Dec: 0.780 mas/yr		
		Alt Name2: V378-PUP	Equinox: J2000	Parallax: 0.00205"		
			Epoch of Position: 2000			
<i>Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.                  There is a faint companion with V=12.2 at PA=175 deg and sep=5.0 arcsec.                  Category=STAR                  Description=[B0-B2 V-IV, BE, INTERACTING BINARY]                  Extended=NO</i>						

<b>Exposures</b>	#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1	ACQ (STIS.ta.130 1399)	(4) HD-60855	STIS/CCD, ACQ, F25ND5	MIRROR	ACQTYPE=POINT			3.5 Secs (3.5 Secs) [==>]	[1]
	2	ACQ/PEAK (STIS.ta.130 1402)	(4) HD-60855	STIS/CCD, ACQ/PEAK, 0.3X0.05ND	MIRROR				0.2 Secs (0.2 Secs) [==>]	[1]
	3	ACCUM (STIS.sp.13 01409)	(4) HD-60855	STIS/FUV-MAMA, ACCUM, 31X0.05NDC	E140M 1425 A	WAVECAL=NO			1806 Secs (1758 Secs) [==>1758.0 Secs ]	[1]
	4	WAVECAL WAVE		STIS/FUV-MAMA, ACCUM, 0.1X0.03	E140M 1425 A				[==>]	[1]

Comments: In Earth shadow.

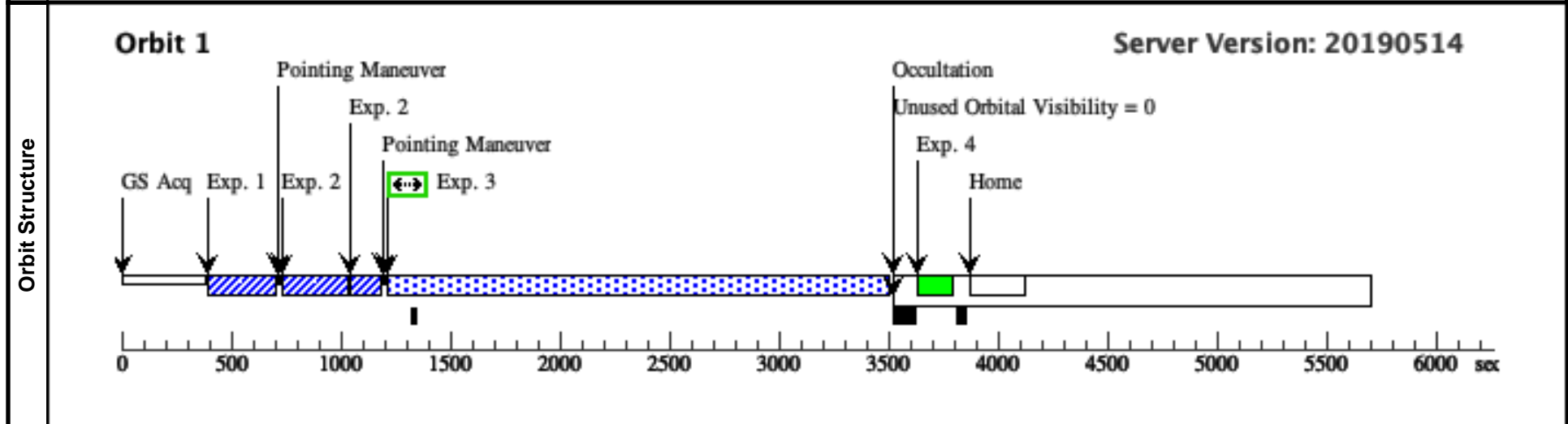


<b>Visit</b>	<b>Proposal 15659, HD113120-v1 (16), completed</b>				
	<b>Diagnostic Status: No Diagnostics</b>				
	Scientific Instruments: STIS/CCD, STIS/FUV-MAMA				
	Special Requirements: (none)				

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(5)	HD-113120	RA: 13 03 5.3394 (195.7722475d) Dec: -71 28 32.63 (-71.47573d)	Proper Motion RA: -11.51 mas/yr Proper Motion Dec: -2.86 mas/yr Parallax: 0.00326" Epoch of Position: 2000	V=6.03	Reference Frame: ICRS
Alt Name1: HR-4930					
Alt Name2: LS-MUS Equinox: J2000					
<i>Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.</i>					
Category=STAR					
Description=[B0-B2 V-IV, BE, INTERACTING BINARY]					
Extended=NO					

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	ACQ (STIS.ta.130 1414)	(5) HD-113120	STIS/CCD, ACQ, F25ND5	MIRROR	ACQTYPE=POINT			4.7 Secs (4.7 Secs) [==>]	[1]
2	ACQ/PEAK (STIS.ta.130 1415)	(5) HD-113120	STIS/CCD, ACQ/PEAK, 0.3X0.05ND	MIRROR				0.2 Secs (0.2 Secs) [==>]	[1]
3	ACCUM (STIS.sp.13 01425)	(5) HD-113120	STIS/FUV-MAMA, ACCUM, 0.2X0.05ND	E140M 1425 A	WAVECAL=NO			2197 Secs (2192 Secs) [==>2192.0 Secs ]	[1]
4	WAVECAL WAVE		STIS/FUV-MAMA, ACCUM, 0.1X0.03	E140M 1425 A				[==>]	[1]

*Comments: In Earth shadow.*



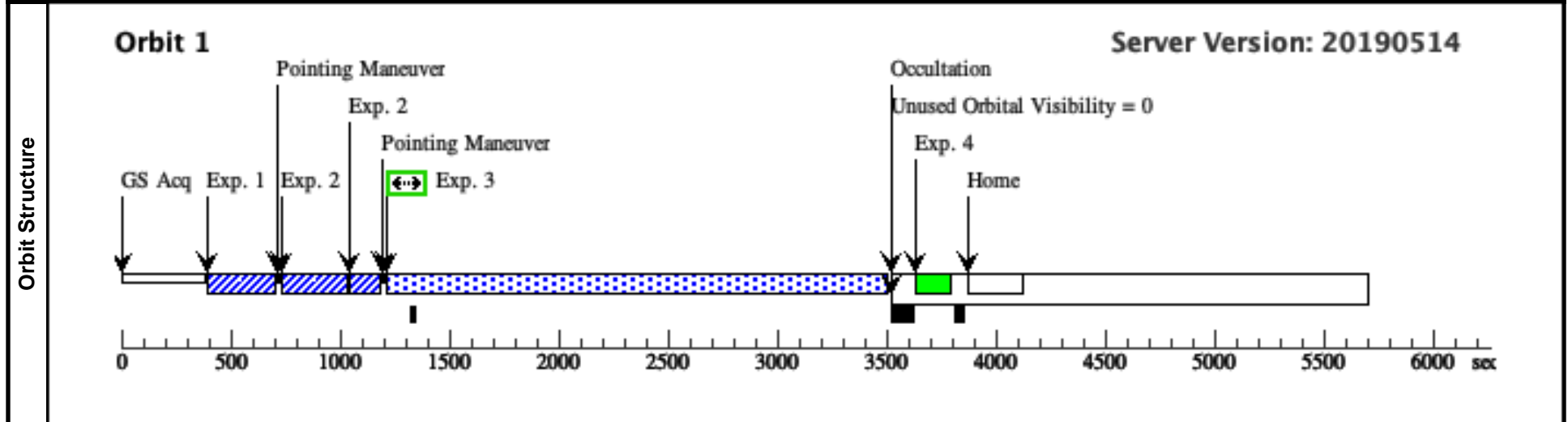


<b>Visit</b>	<b>Proposal 15659, HD113120-v2 (17), completed</b>				
	<b>Diagnostic Status: No Diagnostics</b>				
	Scientific Instruments: STIS/CCD, STIS/FUV-MAMA				
	Special Requirements: AFTER 16 BY 5 D TO 30 D				

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(5)	HD-113120	RA: 13 03 5.3394 (195.7722475d)	Proper Motion RA: -11.51 mas/yr	V=6.03	Reference Frame: ICRS
	Alt Name1: HR-4930	Dec: -71 28 32.63 (-71.47573d)	Proper Motion Dec: -2.86 mas/yr		
	Alt Name2: LS-MUS	Equinox: J2000	Parallax: 0.00326"		
			Epoch of Position: 2000		
<i>Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.</i>					
<i>Category=STAR</i>					
<i>Description=[B0-B2 V-IV, BE, INTERACTING BINARY]</i>					
<i>Extended=NO</i>					

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	ACQ (STIS.ta.130 1414)	(5) HD-113120	STIS/CCD, ACQ, F25ND5	MIRROR	ACQTYPE=POINT			4.7 Secs (4.7 Secs)	
								[==>]	[1]
2	ACQ/PEAK (STIS.ta.130 1415)	(5) HD-113120	STIS/CCD, ACQ/PEAK, 0.3X0.05ND	MIRROR				0.2 Secs (0.2 Secs)	
								[==>]	[1]
3	ACCUM (STIS.sp.13 01425)	(5) HD-113120	STIS/FUV-MAMA, ACCUM, 0.2X0.05ND	E140M	WAVECAL=NO			2197 Secs (2192 Secs)	
				1425 A				[==>2192.0 Secs ]	[1]
4	WAVECAL WAVE		STIS/FUV-MAMA, ACCUM, 0.1X0.03	E140M					
				1425 A				[==>]	[1]

*Comments: In Earth shadow.*

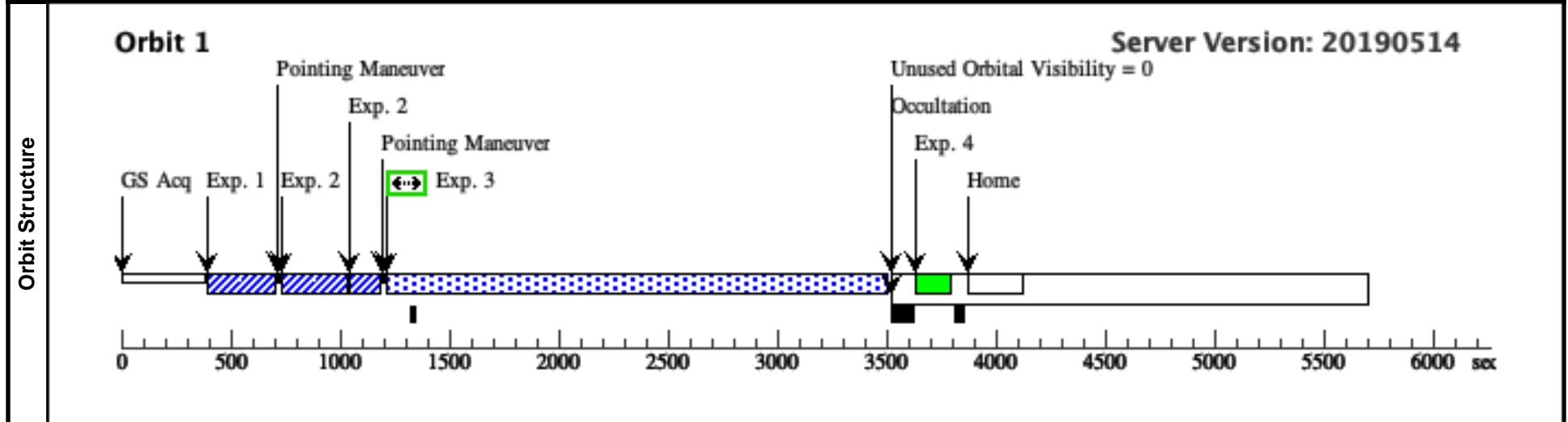


<b>Visit</b>	<b>Proposal 15659, HD113120-v3 (18), failed</b>				
	<b>Diagnostic Status: No Diagnostics</b>				
	Scientific Instruments: STIS/CCD, STIS/FUV-MAMA				
	Special Requirements: AFTER 16 BY 35 D TO 100 D				

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(5)	HD-113120	RA: 13 03 5.3394 (195.7722475d)	Proper Motion RA: -11.51 mas/yr	V=6.03	Reference Frame: ICRS
	Alt Name1: HR-4930	Dec: -71 28 32.63 (-71.47573d)	Proper Motion Dec: -2.86 mas/yr		
	Alt Name2: LS-MUS	Equinox: J2000	Parallax: 0.00326"		
			Epoch of Position: 2000		
<i>Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.</i>					
<i>Category=STAR</i>					
<i>Description=[B0-B2 V-IV, BE, INTERACTING BINARY]</i>					
<i>Extended=NO</i>					

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	ACQ (STIS.ta.130 1414)	(5) HD-113120	STIS/CCD, ACQ, F25ND5	MIRROR	ACQTYPE=POINT			4.7 Secs (4.7 Secs)	
								[==>]	[1]
2	ACQ/PEAK (STIS.ta.130 1415)	(5) HD-113120	STIS/CCD, ACQ/PEAK, 0.3X0.05ND	MIRROR				0.2 Secs (0.2 Secs)	
								[==>]	[1]
3	ACCUM (STIS.sp.13 01425)	(5) HD-113120	STIS/FUV-MAMA, ACCUM, 0.2X0.05ND	E140M	WAVECAL=NO			2197 Secs (2192 Secs)	
				1425 A				[==>2192.0 Secs ]	[1]
4	WAVECAL WAVE		STIS/FUV-MAMA, ACCUM, 0.1X0.03	E140M					
				1425 A				[==>]	[1]

*Comments: In Earth shadow.*



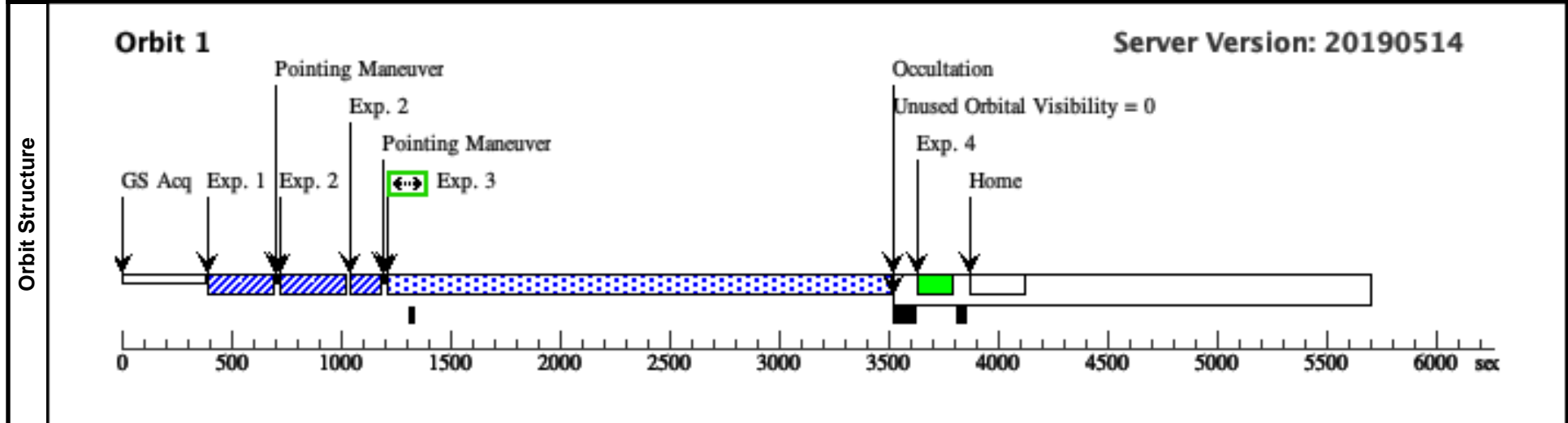
<b>Visit</b>	<b>Proposal 15659, HD137387-v1 (19), completed</b>				
	<b>Diagnostic Status: No Diagnostics</b>				
	Scientific Instruments: STIS/CCD, STIS/FUV-MAMA				
	Special Requirements: (none)				

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(6)	-KAP01-APS	RA: 15 31 30.8205 (232.8784188d)	Proper Motion RA: 1.446 mas/yr	V=5.49	Reference Frame: ICRS
	Alt Name1: HD-137387	Dec: -73 23 22.53 (-73.38959d)	Proper Motion Dec: -18.038 mas/yr		
	Alt Name2: HR-5730	Equinox: J2000	Parallax: 0"		
			Epoch of Position: 2000		

*Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.  
There is a faint companion with V=11.27 at PA=255 deg and sep=27.3 arcsec.  
Category=STAR  
Description=[B0-B2 V-IV, BE, INTERACTING BINARY]*

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	ACQ (STIS.ta.130 1858)	(6) -KAP01-APS	STIS/CCD, ACQ, F25ND5	MIRROR	ACQTYPE=POINT			2.9 Secs (2.9 Secs) [==>]	[1]
2	ACQ/PEAK (STIS.ta.130 1863)	(6) -KAP01-APS	STIS/CCD, ACQ/PEAK, 0.3X0.05ND	MIRROR				0.2 Secs (0.2 Secs) [==>]	[1]
3	ACCUM (STIS.sp.13 67355)	(6) -KAP01-APS	STIS/FUV-MAMA, ACCUM, 0.2X0.05ND	E140M 1425 A	WAVECAL=NO			2205 Secs (2200 Secs) [==>2200.0 Secs ]	[1]
4	WAVECAL WAVE		STIS/FUV-MAMA, ACCUM, 0.1X0.03	E140M 1425 A				[==>]	[1]

*Comments: In Earth shadow.*



Proposal 15659 - HD137387-v2 (20) - The Missing Link in Massive Binary Star Evolution

Sat Jan 04 00:00:56 GMT 2020

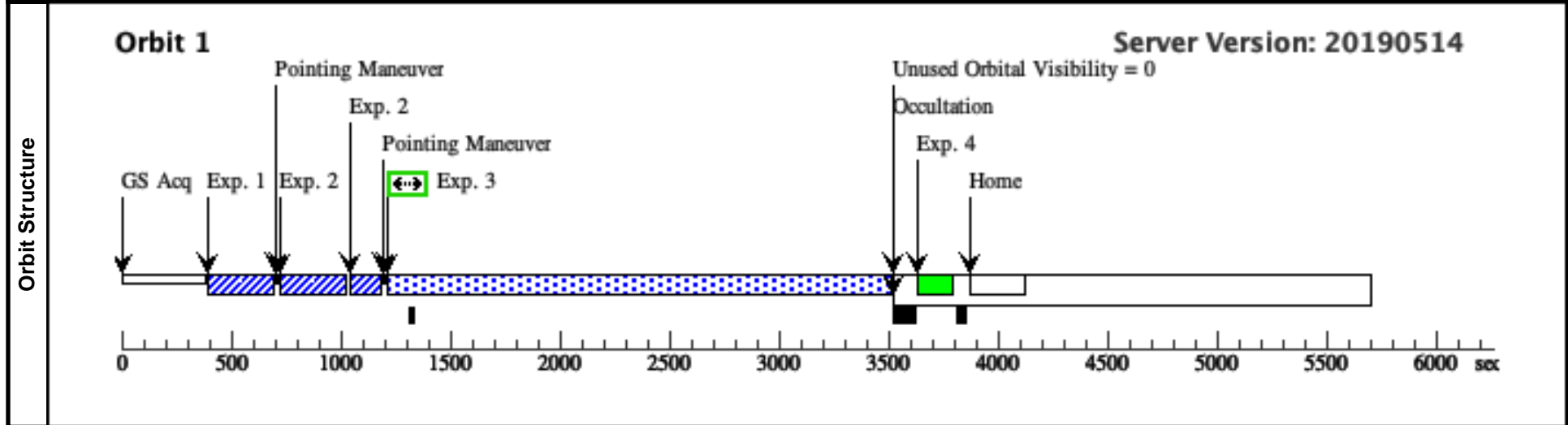
<b>Visit</b>	<b>Proposal 15659, HD137387-v2 (20), completed</b>				
	<b>Diagnostic Status: No Diagnostics</b>				
	Scientific Instruments: STIS/CCD, STIS/FUV-MAMA				
	Special Requirements: AFTER 19 BY 5 D TO 30 D				

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(6)	-KAP01-APS	RA: 15 31 30.8205 (232.8784188d)	Proper Motion RA: 1.446 mas/yr	V=5.49	Reference Frame: ICRS
	Alt Name1: HD-137387	Dec: -73 23 22.53 (-73.38959d)	Proper Motion Dec: -18.038 mas/yr		
	Alt Name2: HR-5730	Equinox: J2000	Parallax: 0"		
			Epoch of Position: 2000		

*Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.  
There is a faint companion with V=11.27 at PA=255 deg and sep=27.3 arcsec.  
Category=STAR  
Description=[B0-B2 V-IV, BE, INTERACTING BINARY]*

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	ACQ (STIS.ta.130 1858)	(6) -KAP01-APS	STIS/CCD, ACQ, F25ND5	MIRROR	ACQTYPE=POINT			2.9 Secs (2.9 Secs) [==>]	[1]
2	ACQ/PEAK (STIS.ta.130 1863)	(6) -KAP01-APS	STIS/CCD, ACQ/PEAK, 0.3X0.05ND	MIRROR				0.2 Secs (0.2 Secs) [==>]	[1]
3	ACCUM (STIS.sp.13 67355)	(6) -KAP01-APS	STIS/FUV-MAMA, ACCUM, 0.2X0.05ND	E140M 1425 A	WAVECAL=NO			2205 Secs (2200 Secs) [==>2200.0 Secs ]	[1]
4	WAVECAL WAVE		STIS/FUV-MAMA, ACCUM, 0.1X0.03	E140M 1425 A				[==>]	[1]

*Comments: In Earth shadow.*



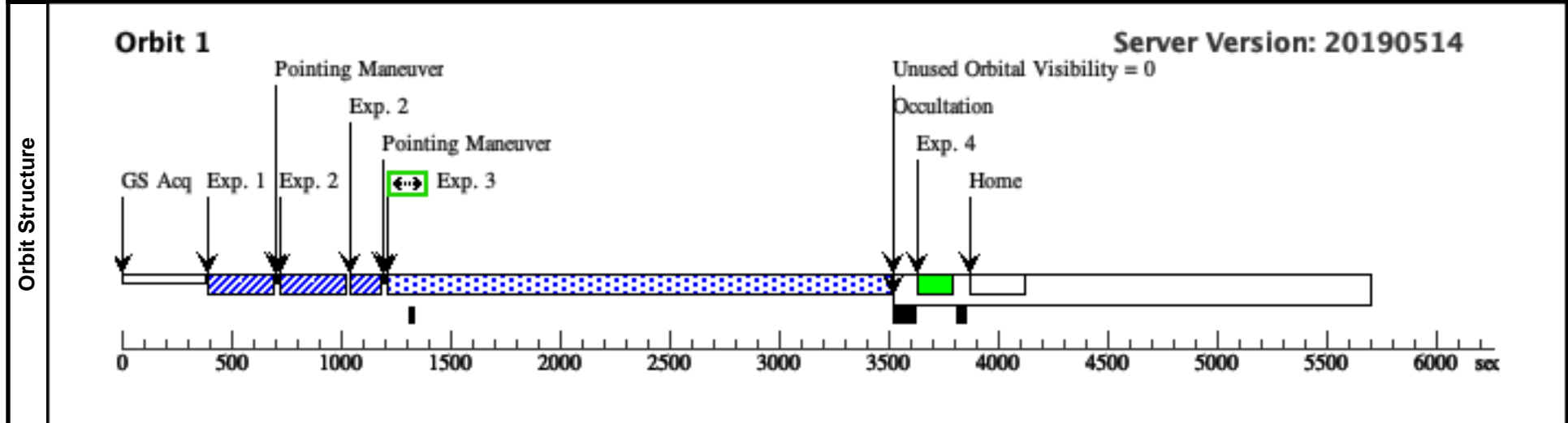
<b>Visit</b>	<b>Proposal 15659, HD137387-v3 (21), scheduling</b>				
	<b>Diagnostic Status: No Diagnostics</b>				
	Scientific Instruments: STIS/CCD, STIS/FUV-MAMA				
	Special Requirements: AFTER 19 BY 35 D TO 100 D				

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(6)	-KAP01-APS	RA: 15 31 30.8205 (232.8784188d)	Proper Motion RA: 1.446 mas/yr	V=5.49	Reference Frame: ICRS
	Alt Name1: HD-137387	Dec: -73 23 22.53 (-73.38959d)	Proper Motion Dec: -18.038 mas/yr		
	Alt Name2: HR-5730	Equinox: J2000	Parallax: 0"		
			Epoch of Position: 2000		

*Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.  
There is a faint companion with V=11.27 at PA=255 deg and sep=27.3 arcsec.  
Category=STAR  
Description=[B0-B2 V-IV, BE, INTERACTING BINARY]*

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	ACQ (STIS.ta.130 1858)	(6) -KAP01-APS	STIS/CCD, ACQ, F25ND5	MIRROR	ACQTYPE=POINT			2.9 Secs (2.9 Secs) [==>]	[1]
2	ACQ/PEAK (STIS.ta.130 1863)	(6) -KAP01-APS	STIS/CCD, ACQ/PEAK, 0.3X0.05ND	MIRROR				0.2 Secs (0.2 Secs) [==>]	[1]
3	ACCUM (STIS.sp.13 67355)	(6) -KAP01-APS	STIS/FUV-MAMA, ACCUM, 0.2X0.05ND	E140M 1425 A	WAVECAL=NO			2205 Secs (2200 Secs) [==>2200.0 Secs ]	[1]
4	WAVECAL WAVE		STIS/FUV-MAMA, ACCUM, 0.1X0.03	E140M 1425 A				[==>]	[1]

*Comments: In Earth shadow.*



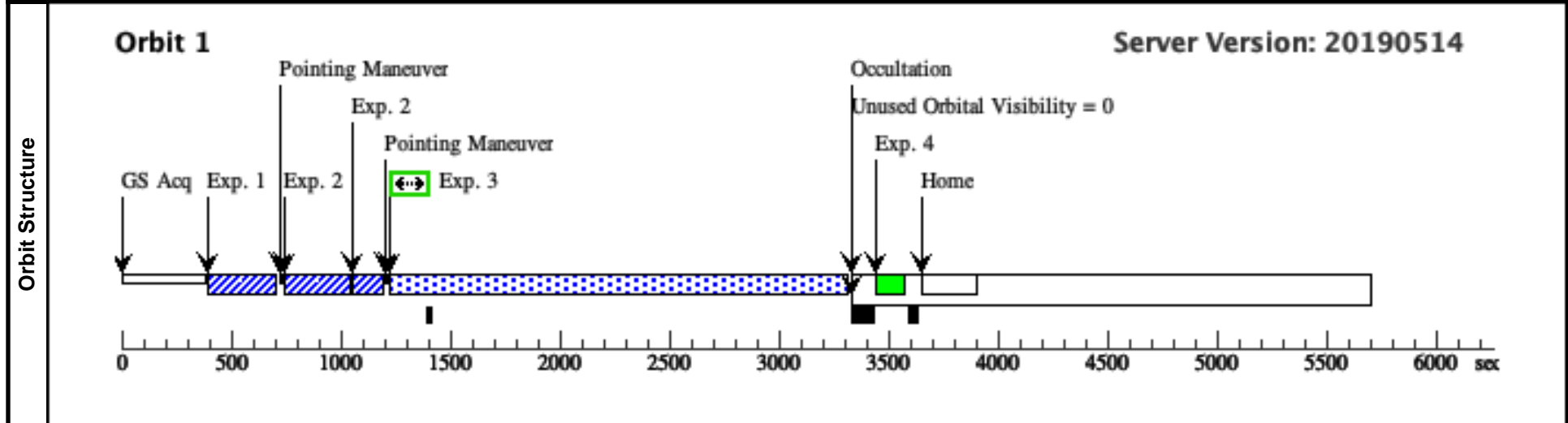
<b>Visit</b>	<b>Proposal 15659, HD152478-v1 (22), completed</b>				
	<b>Diagnostic Status: No Diagnostics</b>				
	Scientific Instruments: STIS/CCD, STIS/FUV-MAMA				
	Special Requirements: (none)				

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(7)	HD-152478	RA: 16 56 8.8398 (254.0368325d)	Proper Motion RA: -8.078 mas/yr	V=6.33+/-0.05	Reference Frame: ICRS
	Alt Name1: HR-6274	Dec: -50 40 29.25 (-50.67479d)	Proper Motion Dec: -9.074 mas/yr		
	Alt Name2: V846-ARA	Equinox: J2000	Parallax: 0.00322"		
			Epoch of Position: 2000		

*Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.*  
 Category=STAR  
 Description=[B3-B5 V-IV, BE, INTERACTING BINARY]  
 Extended=NO

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	ACQ (STIS.ta.130 1876)	(7) HD-152478	STIS/CCD, ACQ, F25ND5	MIRROR	ACQTYPE=POINT			6.4 Secs (6.4 Secs) [==>]	[1]
2	ACQ/PEAK (STIS.ta.130 1877)	(7) HD-152478	STIS/CCD, ACQ/PEAK, 0.3X0.05ND	MIRROR				0.3 Secs (0.3 Secs) [==>]	[1]
3	ACCUM (STIS.sp.13 01886)	(7) HD-152478	STIS/FUV-MAMA, ACCUM, 31X0.05NDB	E140M 1425 A	WAVECAL=NO			1978 Secs (1930 Secs) [==>1930.0 Secs ]	[1]
4	WAVECAL WAVE		STIS/FUV-MAMA, ACCUM, 0.1X0.03	E140M 1425 A				[==>]	[1]

*Comments: In Earth shadow.*

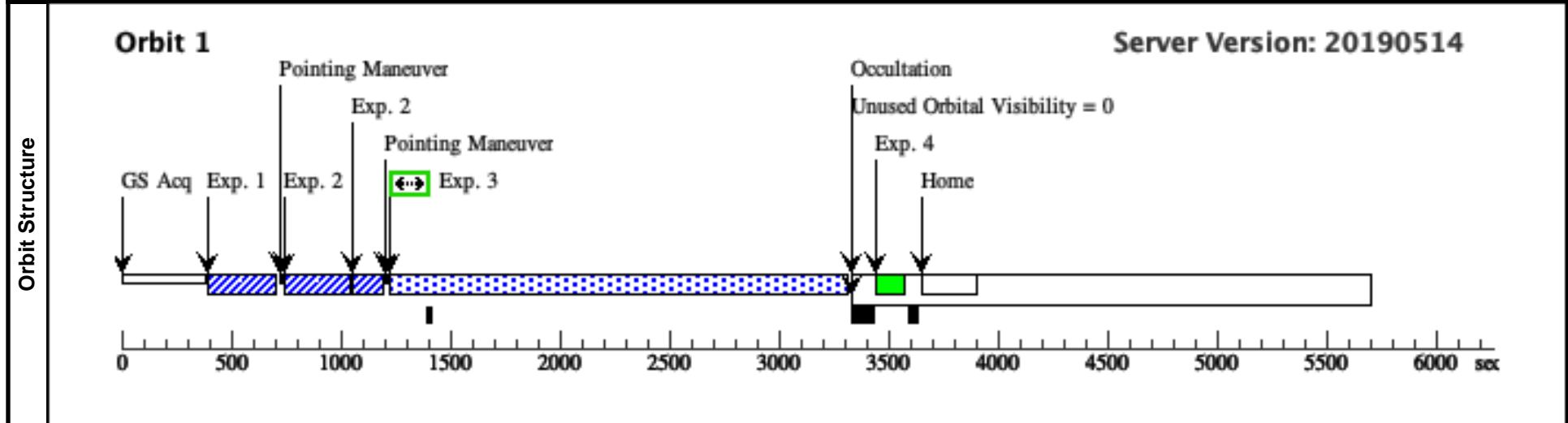


<b>Visit</b>	<b>Proposal 15659, HD152478-v2 (23), completed</b>				
	<b>Diagnostic Status: No Diagnostics</b>				
	Scientific Instruments: STIS/CCD, STIS/FUV-MAMA				
	Special Requirements: AFTER 22 BY 5 D TO 30 D				

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(7)	HD-152478	RA: 16 56 8.8398 (254.0368325d)	Proper Motion RA: -8.078 mas/yr	V=6.33+/-0.05	Reference Frame: ICRS
	Alt Name1: HR-6274	Dec: -50 40 29.25 (-50.67479d)	Proper Motion Dec: -9.074 mas/yr		
	Alt Name2: V846-ARA	Equinox: J2000	Parallax: 0.00322"		
			Epoch of Position: 2000		
<i>Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.</i>					
<i>Category=STAR</i>					
<i>Description=[B3-B5 V-IV, BE, INTERACTING BINARY]</i>					
<i>Extended=NO</i>					

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	ACQ (STIS.ta.130 1876)	(7) HD-152478	STIS/CCD, ACQ, F25ND5	MIRROR	ACQTYPE=POINT			6.4 Secs (6.4 Secs)	
								[==>]	[1]
2	ACQ/PEAK (STIS.ta.130 1877)	(7) HD-152478	STIS/CCD, ACQ/PEAK, 0.3X0.05ND	MIRROR				0.3 Secs (0.3 Secs)	
								[==>]	[1]
3	ACCUM (STIS.sp.13 01886)	(7) HD-152478	STIS/FUV-MAMA, ACCUM, 31X0.05NDB	E140M	WAVECAL=NO			1978 Secs (1930 Secs)	
				1425 A				[==>1930.0 Secs ]	[1]
4	WAVECAL WAVE		STIS/FUV-MAMA, ACCUM, 0.1X0.03	E140M				[==>]	[1]
				1425 A					

*Comments: In Earth shadow.*

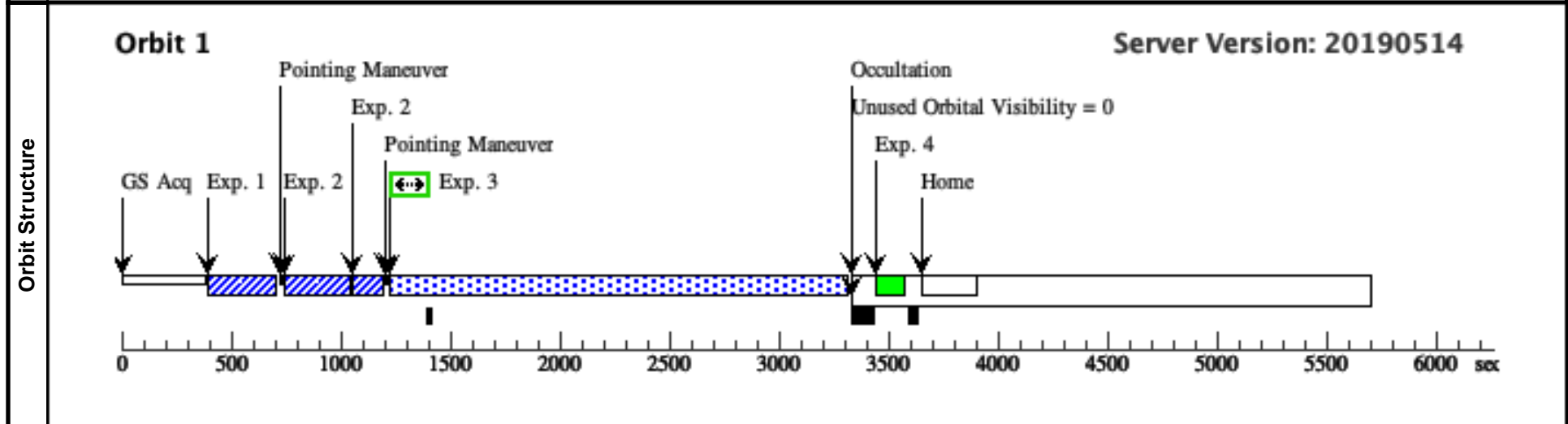


<b>Visit</b>	<b>Proposal 15659, HD152478-v3 (24), completed</b>				
	<b>Diagnostic Status: No Diagnostics</b>				
	Scientific Instruments: STIS/CCD, STIS/FUV-MAMA				
	Special Requirements: AFTER 22 BY 35 D TO 100 D				

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(7)	HD-152478	RA: 16 56 8.8398 (254.0368325d)	Proper Motion RA: -8.078 mas/yr	V=6.33+/-0.05	Reference Frame: ICRS
	Alt Name1: HR-6274	Dec: -50 40 29.25 (-50.67479d)	Proper Motion Dec: -9.074 mas/yr		
	Alt Name2: V846-ARA	Equinox: J2000	Parallax: 0.00322"		
			Epoch of Position: 2000		
<i>Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.</i>					
<i>Category=STAR</i>					
<i>Description=[B3-B5 V-IV, BE, INTERACTING BINARY]</i>					
<i>Extended=NO</i>					

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	ACQ (STIS.ta.130 1876)	(7) HD-152478	STIS/CCD, ACQ, F25ND5	MIRROR	ACQTYPE=POINT			6.4 Secs (6.4 Secs)	
								[==>]	[1]
2	ACQ/PEAK (STIS.ta.130 1877)	(7) HD-152478	STIS/CCD, ACQ/PEAK, 0.3X0.05ND	MIRROR				0.3 Secs (0.3 Secs)	
								[==>]	[1]
3	ACCUM (STIS.sp.13 01886)	(7) HD-152478	STIS/FUV-MAMA, ACCUM, 31X0.05NDB	E140M 1425 A	WAVECAL=NO			1978 Secs (1930 Secs)	
								[==>1930.0 Secs ]	[1]
4	WAVECAL WAVE		STIS/FUV-MAMA, ACCUM, 0.1X0.03	E140M 1425 A				[==>]	[1]

*Comments: In Earth shadow.*



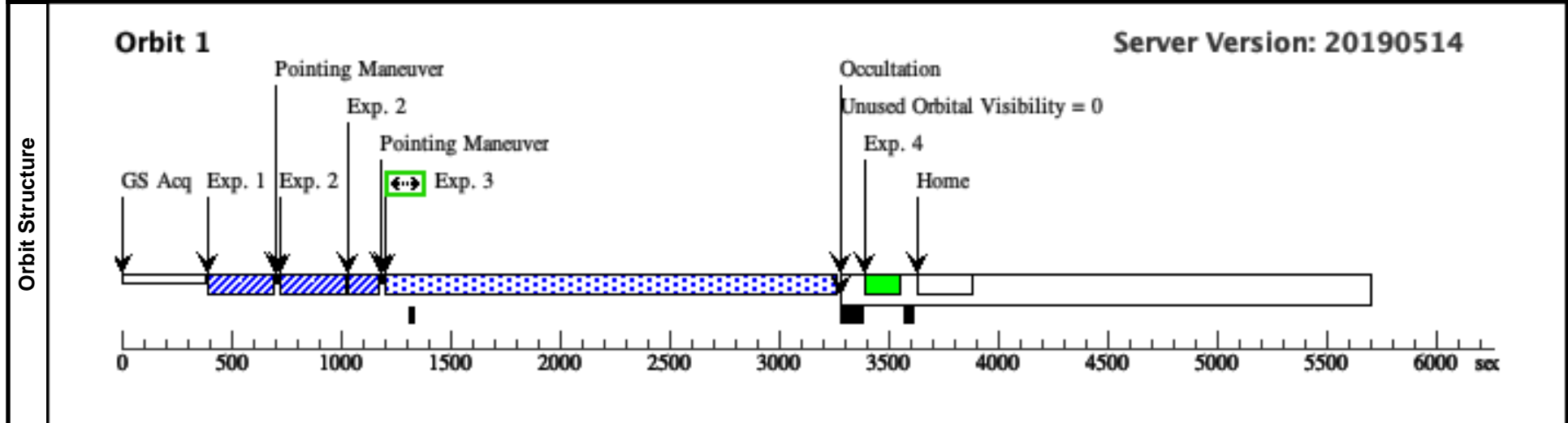


<b>Visit</b>	<b>Proposal 15659, HD157042-v1 (25), completed</b>				
	<b>Diagnostic Status: No Diagnostics</b>				
	Scientific Instruments: STIS/CCD, STIS/FUV-MAMA				
	Special Requirements: (none)				

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(8)	-IOT-ARA	RA: 17 23 16.0749 (260.8169787d)	Proper Motion RA: -5.367 mas/yr	V=5.25+/-0.05	Reference Frame: ICRS
	Alt Name1: HD-157042	Dec: -47 28 5.51 (-47.46820d)	Proper Motion Dec: -17.126 mas/yr		
	Alt Name2: HR-6451	Equinox: J2000	Parallax: 0.00342"		
			Epoch of Position: 2000		
<i>Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.</i>					
Category=STAR					
Description=[B0-B2 V-IV, BE, INTERACTING BINARY]					
Extended=NO					

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	ACQ (STIS.ta.130 1896)	(8) -IOT-ARA	STIS/CCD, ACQ, F25ND5	MIRROR	ACQTYPE=POINT			2.4 Secs (2.4 Secs)	
								[==>]	[1]
2	ACQ/PEAK (STIS.ta.130 1898)	(8) -IOT-ARA	STIS/CCD, ACQ/PEAK, 0.3X0.05ND	MIRROR				0.2 Secs (0.2 Secs)	
								[==>]	[1]
3	ACCUM (STIS.sp.13 01906)	(8) -IOT-ARA	STIS/FUV-MAMA, ACCUM, 0.2X0.05ND	E140M	WAVECAL=NO			1967 Secs (1962 Secs)	
				1425 A				[==>1962.0 Secs ]	[1]
4	WAVECAL WAVE		STIS/FUV-MAMA, ACCUM, 0.1X0.03	E140M					
				1425 A				[==>]	[1]

Comments: In Earth shadow.

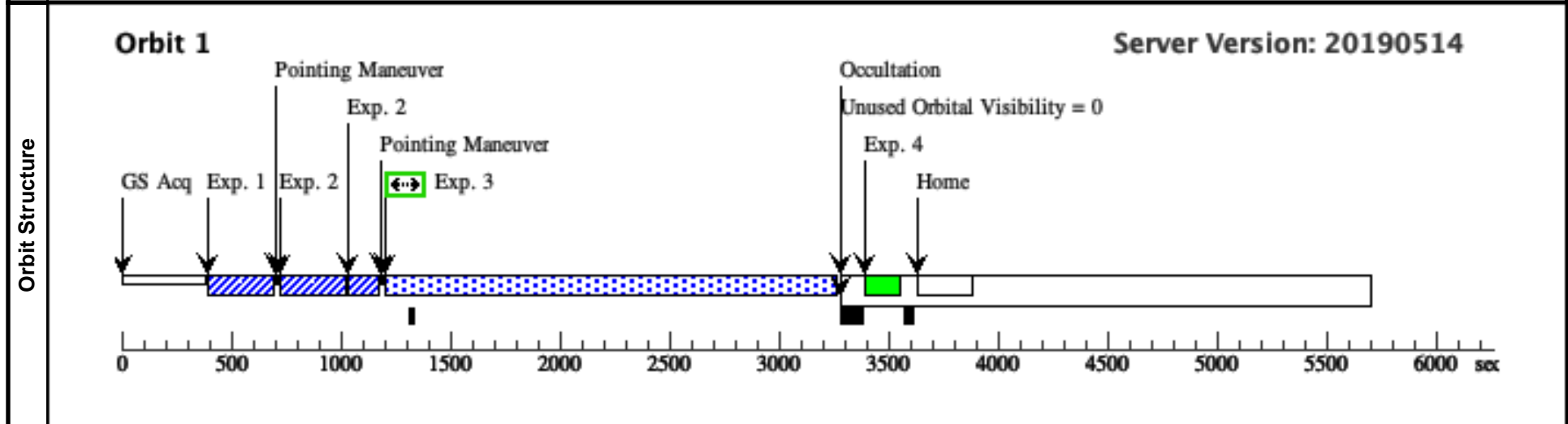


<b>Visit</b>	Proposal 15659, HD157042-v2 (26), completed				
	Diagnostic Status: No Diagnostics				
	Scientific Instruments: STIS/CCD, STIS/FUV-MAMA				
	Special Requirements: AFTER 25 BY 5 D TO 30 D				

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(8)	-IOT-ARA	RA: 17 23 16.0749 (260.8169787d) Dec: -47 28 5.51 (-47.46820d)	Proper Motion RA: -5.367 mas/yr Proper Motion Dec: -17.126 mas/yr Parallax: 0.00342" Epoch of Position: 2000	V=5.25+/-0.05	Reference Frame: ICRS
Alt Name1: HD-157042					
Alt Name2: HR-6451 Equinox: J2000					
Comments: This object was generated by the targetselector and retrieved from the SIMBAD database. Category=STAR Description=[B0-B2 V-IV, BE, INTERACTING BINARY] Extended=NO					

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	ACQ (STIS.ta.130 1896)	(8) -IOT-ARA	STIS/CCD, ACQ, F25ND5	MIRROR	ACQTYPE=POINT			2.4 Secs (2.4 Secs) [==>]	[1]
2	ACQ/PEAK (STIS.ta.130 1898)	(8) -IOT-ARA	STIS/CCD, ACQ/PEAK, 0.3X0.05ND	MIRROR				0.2 Secs (0.2 Secs) [==>]	[1]
3	ACCUM (STIS.sp.13 01906)	(8) -IOT-ARA	STIS/FUV-MAMA, ACCUM, 0.2X0.05ND	E140M 1425 A	WAVECAL=NO			1967 Secs (1962 Secs) [==>1962.0 Secs ]	[1]
4	WAVECAL WAVE		STIS/FUV-MAMA, ACCUM, 0.1X0.03	E140M 1425 A				[==>]	[1]

Comments: In Earth shadow.

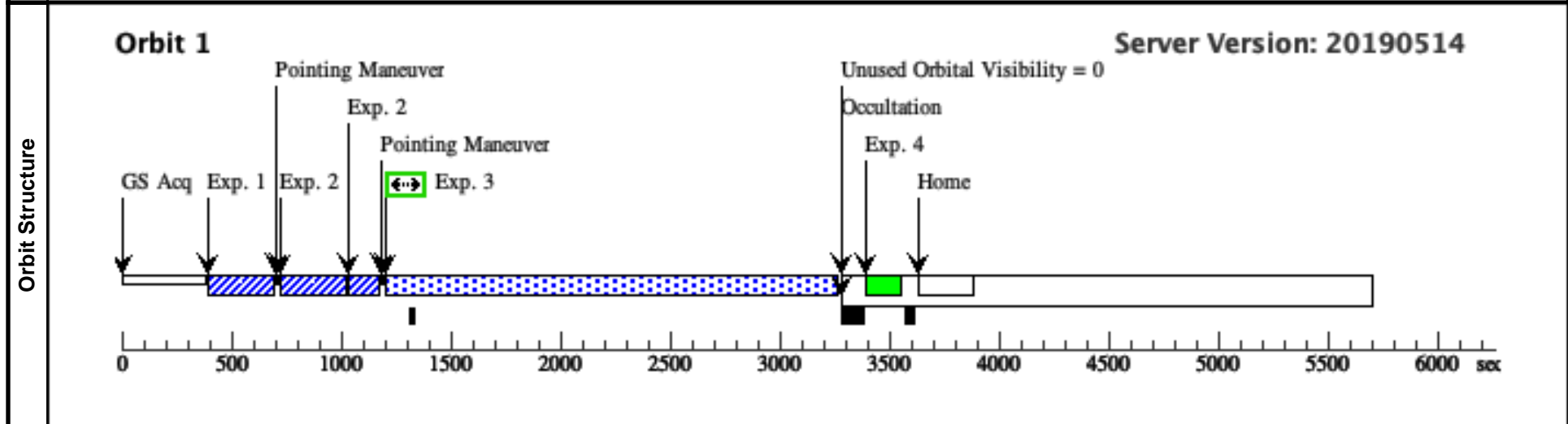


<b>Visit</b>	<b>Proposal 15659, HD157042-v3 (27), completed</b>				
	<b>Diagnostic Status: No Diagnostics</b>				
	Scientific Instruments: STIS/CCD, STIS/FUV-MAMA				
	Special Requirements: AFTER 25 BY 35 D TO 100 D				

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(8)	-IOT-ARA	RA: 17 23 16.0749 (260.8169787d)	Proper Motion RA: -5.367 mas/yr	V=5.25+/-0.05	Reference Frame: ICRS
	Alt Name1: HD-157042	Dec: -47 28 5.51 (-47.46820d)	Proper Motion Dec: -17.126 mas/yr		
	Alt Name2: HR-6451	Equinox: J2000	Parallax: 0.00342"		
			Epoch of Position: 2000		
<i>Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.</i>					
<i>Category=STAR</i>					
<i>Description=[B0-B2 V-IV, BE, INTERACTING BINARY]</i>					
<i>Extended=NO</i>					

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	ACQ (STIS.ta.130 1896)	(8) -IOT-ARA	STIS/CCD, ACQ, F25ND5	MIRROR	ACQTYPE=POINT			2.4 Secs (2.4 Secs)	
								[==>]	[1]
2	ACQ/PEAK (STIS.ta.130 1898)	(8) -IOT-ARA	STIS/CCD, ACQ/PEAK, 0.3X0.05ND	MIRROR				0.2 Secs (0.2 Secs)	
								[==>]	[1]
3	ACCUM (STIS.sp.13 01906)	(8) -IOT-ARA	STIS/FUV-MAMA, ACCUM, 0.2X0.05ND	E140M	WAVECAL=NO			1967 Secs (1962 Secs)	
				1425 A				[==>1962.0 Secs ]	[1]
4	WAVECAL WAVE		STIS/FUV-MAMA, ACCUM, 0.1X0.03	E140M				[==>]	[1]
				1425 A					

*Comments: In Earth shadow.*



Proposal 15659 - HD157832-v1 (28) - The Missing Link in Massive Binary Star Evolution

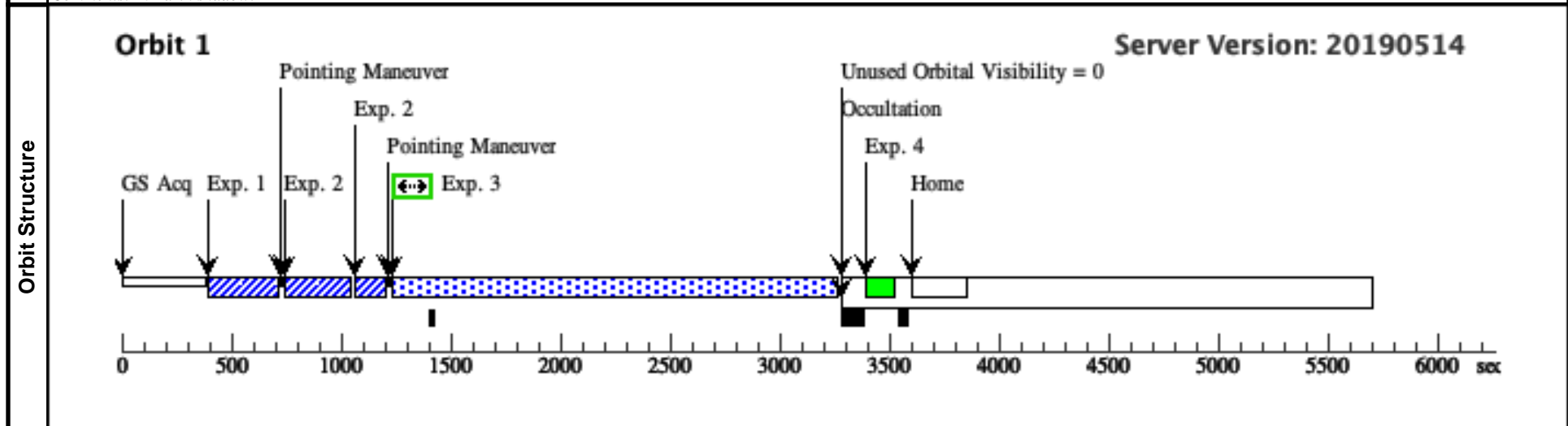
Sat Jan 04 00:00:56 GMT 2020

<b>Visit</b>	Proposal 15659, HD157832-v1 (28), completed				
	Diagnostic Status: No Diagnostics				
	Scientific Instruments: STIS/CCD, STIS/FUV-MAMA				
	Special Requirements: (none)				

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(9)	HD-157832	RA: 17 27 54.8113 (261.9783804d) Dec: -47 01 34.40 (-47.02622d)	Proper Motion RA: -0.937 mas/yr Proper Motion Dec: -1.486 mas/yr Parallax: 0.00091" Epoch of Position: 2000	V=6.663+/-0.05	Reference Frame: ICRS
Alt Name1: V750-ARA Alt Name2: MWC-259 Equinox: J2000					
Comments: This object was generated by the targetselector and retrieved from the SIMBAD database. There is a companion with V=13.0 at PA=357 deg and sep=1.90 arcsec. Category=STAR Description=[B0-B2 V-IV, BE, INTERACTING BINARY] Extended=NO					

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	ACQ (STIS.ta.130 1926)	(9) HD-157832	STIS/CCD, ACQ, F25ND5	MIRROR	ACQTYPE=POINT			8.4 Secs (8.4 Secs) [==>]	[1]
2	ACQ/PEAK (STIS.ta.130 1932)	(9) HD-157832	STIS/CCD, ACQ/PEAK, 0.3X0.05ND	MIRROR				0.4 Secs (0.4 Secs) [==>]	[1]
3	ACCUM (STIS.sp.13 01941)	(9) HD-157832	STIS/FUV-MAMA, ACCUM, 31X0.05NDB	E140M 1425 A	WAVECAL=NO			1919 Secs (1871 Secs) [==>1871.0 Secs]	[1]
4	WAVECAL WAVE		STIS/FUV-MAMA, ACCUM, 0.1X0.03	E140M 1425 A				[==>]	[1]

Comments: In Earth shadow.

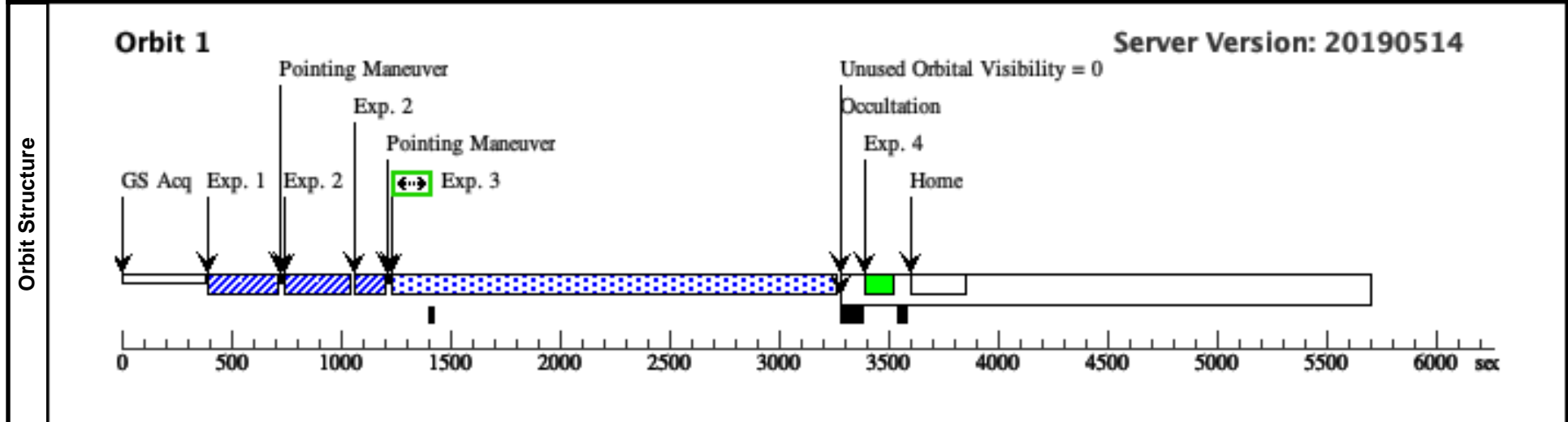


<b>Visit</b>	<b>Proposal 15659, HD157832-v2 (29), completed</b>				
	<b>Diagnostic Status: No Diagnostics</b>				
	Scientific Instruments: STIS/CCD, STIS/FUV-MAMA				
	Special Requirements: AFTER 28 BY 5 D TO 30 D				

<b>Fixed Targets</b>	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
	(9)	HD-157832	RA: 17 27 54.8113 (261.9783804d)	Proper Motion RA: -0.937 mas/yr	V=6.663+/-0.05	Reference Frame: ICRS
		Alt Name1: V750-ARA	Dec: -47 01 34.40 (-47.02622d)	Proper Motion Dec: -1.486 mas/yr		
		Alt Name2: MWC-259	Equinox: J2000	Parallax: 0.00091"		
				Epoch of Position: 2000		
	<i>Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.</i> <i>There is a companion with V=13.0 at PA=357 deg and sep=1.90 arcsec.</i> Category=STAR Description=[B0-B2 V-IV, BE, INTERACTING BINARY] Extended=NO					

<b>Exposures</b>	#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1	ACQ (STIS.ta.130 1926)	(9) HD-157832	STIS/CCD, ACQ, F25ND5	MIRROR		ACQTYPE=POINT		8.4 Secs (8.4 Secs) [==>]	[1]
	2	ACQ/PEAK (STIS.ta.130 1932)	(9) HD-157832	STIS/CCD, ACQ/PEAK, 0.3X0.05ND	MIRROR				0.4 Secs (0.4 Secs) [==>]	[1]
	3	ACCUM (STIS.sp.13 01941)	(9) HD-157832	STIS/FUV-MAMA, ACCUM, 31X0.05NDB	E140M 1425 A		WAVECAL=NO		1919 Secs (1871 Secs) [==>1871.0 Secs]	[1]
	4	WAVECAL WAVE		STIS/FUV-MAMA, ACCUM, 0.1X0.03	E140M 1425 A				[==>]	[1]

Comments: In Earth shadow.



Proposal 15659 - HD157832-v3 (30) - The Missing Link in Massive Binary Star Evolution

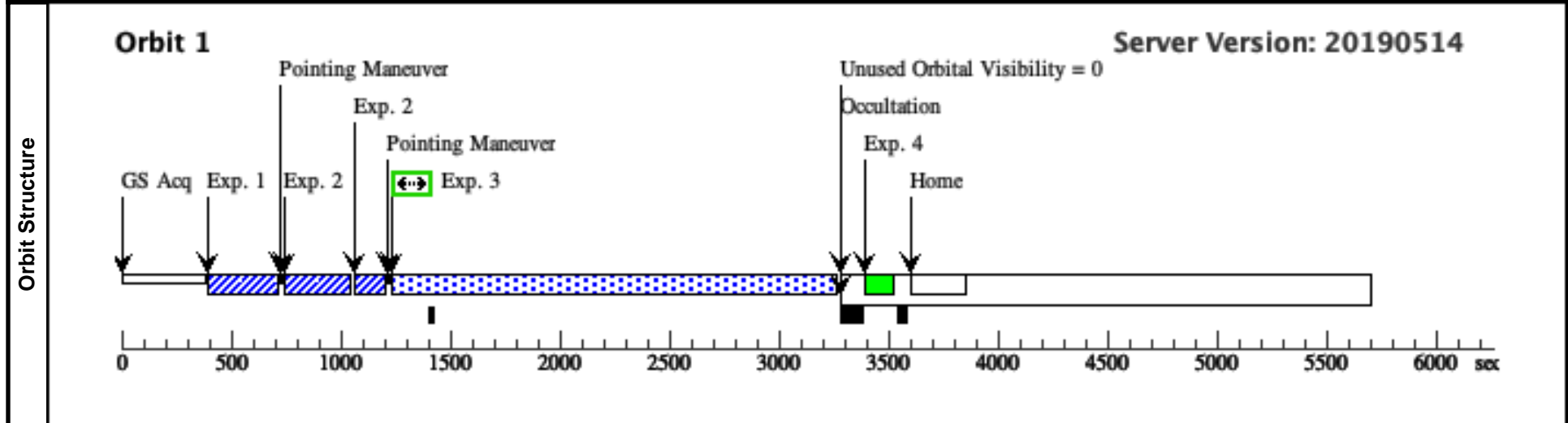
Sat Jan 04 00:00:57 GMT 2020

<b>Visit</b>	Proposal 15659, HD157832-v3 (30), completed				
	Diagnostic Status: No Diagnostics				
	Scientific Instruments: STIS/CCD, STIS/FUV-MAMA				
	Special Requirements: AFTER 28 BY 35 D TO 100 D				

<b>Fixed Targets</b>	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
	(9)	HD-157832	RA: 17 27 54.8113 (261.9783804d)	Proper Motion RA: -0.937 mas/yr	V=6.663+/-0.05	Reference Frame: ICRS
		Alt Name1: V750-ARA	Dec: -47 01 34.40 (-47.02622d)	Proper Motion Dec: -1.486 mas/yr		
		Alt Name2: MWC-259	Equinox: J2000	Parallax: 0.00091"		
				Epoch of Position: 2000		
<i>Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.</i> <i>There is a companion with V=13.0 at PA=357 deg and sep=1.90 arcsec.</i> Category=STAR Description=[B0-B2 V-IV, BE, INTERACTING BINARY] Extended=NO						

<b>Exposures</b>	#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1	ACQ (STIS.ta.130 1926)	(9) HD-157832	STIS/CCD, ACQ, F25ND5	MIRROR	ACQTYPE=POINT			8.4 Secs (8.4 Secs) [==>]	[1]
	2	ACQ/PEAK (STIS.ta.130 1932)	(9) HD-157832	STIS/CCD, ACQ/PEAK, 0.3X0.05ND	MIRROR				0.4 Secs (0.4 Secs) [==>]	[1]
	3	ACCUM (STIS.sp.13 01941)	(9) HD-157832	STIS/FUV-MAMA, ACCUM, 31X0.05NDB	E140M 1425 A	WAVECAL=NO			1919 Secs (1871 Secs) [==>1871.0 Secs ]	[1]
	4	WAVECAL WAVE		STIS/FUV-MAMA, ACCUM, 0.1X0.03	E140M 1425 A				[==>]	[1]

Comments: In Earth shadow.



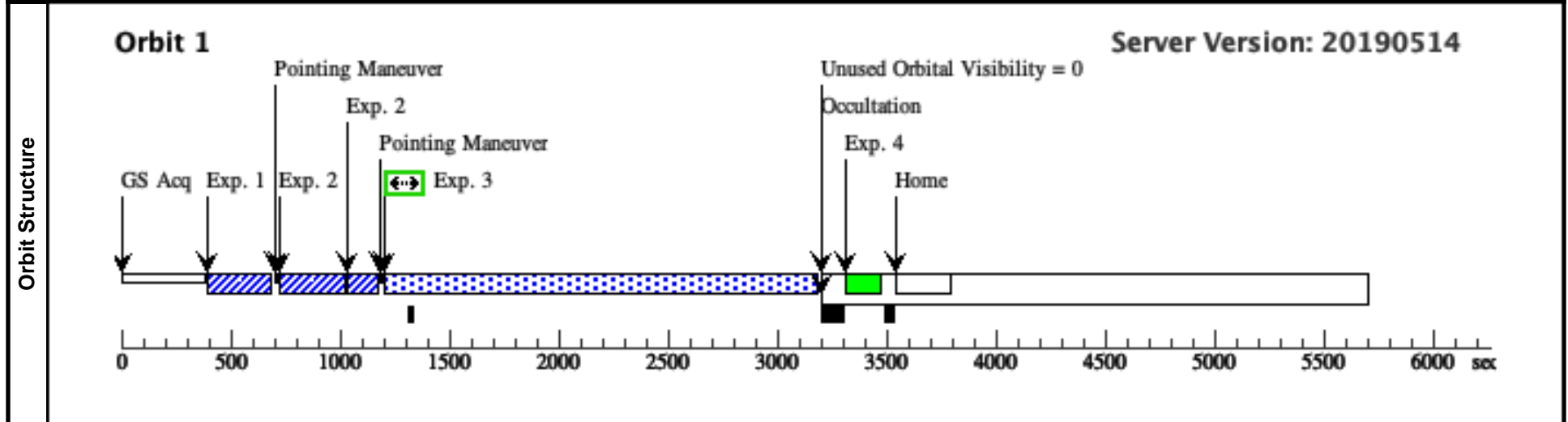
<b>Visit</b>	<b>Proposal 15659, HD191610-v1 (31), completed</b>				
	<b>Diagnostic Status: No Diagnostics</b>				
	Scientific Instruments: STIS/CCD, STIS/FUV-MAMA				
	Special Requirements: (none)				

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(10)	-B02-CYG	RA: 20 09 25.6191 (302.3567462d)	Proper Motion RA: 2.728 mas/yr	V=4.93+/-0.05	Reference Frame: ICRS
	Alt Name1: -28-CYG	Dec: +36 50 22.60 (36.83961d)	Proper Motion Dec: 15.562 mas/yr		
	Alt Name2: HD-191610	Equinox: J2000	Parallax: 0.00529"		
			Epoch of Position: 2000		

*Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.*  
 Category=STAR  
 Description=[B0-B2 V-IV, BE, INTERACTING BINARY]  
 Extended=NO

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	ACQ (STIS.ta.130 1957)	(10) -B02-CYG	STIS/CCD, ACQ, F25ND5	MIRROR	ACQTYPE=POINT			1.8 Secs (1.8 Secs) [==>]	[1]
2	ACQ/PEAK (STIS.ta.130 1962)	(10) -B02-CYG	STIS/CCD, ACQ/PEAK, 0.3X0.05ND	MIRROR				0.2 Secs (0.2 Secs) [==>]	[1]
3	ACCUM (STIS.sp.13 01978)	(10) -B02-CYG	STIS/FUV-MAMA, ACCUM, 0.2X0.05ND	E140M 1425 A	WAVECAL=NO			1884 Secs (1879 Secs) [==>1879.0 Secs ]	[1]
4	WAVECAL WAVE		STIS/FUV-MAMA, ACCUM, 0.1X0.03	E140M 1425 A				[==>]	[1]

*Comments: In Earth shadow.*



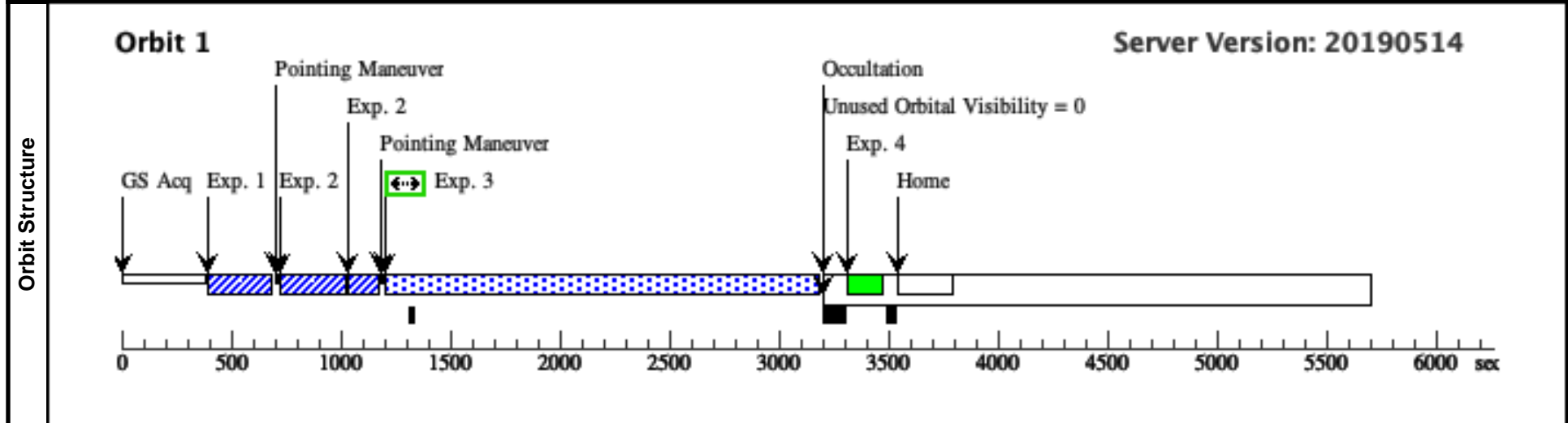
<b>Visit</b>	<b>Proposal 15659, HD191610-v2 (32), completed</b>				
	<b>Diagnostic Status: No Diagnostics</b>				
	Scientific Instruments: STIS/CCD, STIS/FUV-MAMA				
	Special Requirements: AFTER 31 BY 5 D TO 30 D				

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(10)	-B02-CYG	RA: 20 09 25.6191 (302.3567462d)	Proper Motion RA: 2.728 mas/yr	V=4.93+/-0.05	Reference Frame: ICRS
	Alt Name1: -28-CYG	Dec: +36 50 22.60 (36.83961d)	Proper Motion Dec: 15.562 mas/yr		
	Alt Name2: HD-191610	Equinox: J2000	Parallax: 0.00529"		
			Epoch of Position: 2000		

*Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.*  
 Category=STAR  
 Description=[B0-B2 V-IV, BE, INTERACTING BINARY]  
 Extended=NO

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	ACQ (STIS.ta.130 1957)	(10) -B02-CYG	STIS/CCD, ACQ, F25ND5	MIRROR	ACQTYPE=POINT			1.8 Secs (1.8 Secs) [==>]	[1]
2	ACQ/PEAK (STIS.ta.130 1962)	(10) -B02-CYG	STIS/CCD, ACQ/PEAK, 0.3X0.05ND	MIRROR				0.2 Secs (0.2 Secs) [==>]	[1]
3	ACCUM (STIS.sp.13 01978)	(10) -B02-CYG	STIS/FUV-MAMA, ACCUM, 0.2X0.05ND	E140M 1425 A	WAVECAL=NO			1884 Secs (1879 Secs) [==>1879.0 Secs ]	[1]
4	WAVECAL WAVE		STIS/FUV-MAMA, ACCUM, 0.1X0.03	E140M 1425 A				[==>]	[1]

*Comments: In Earth shadow.*





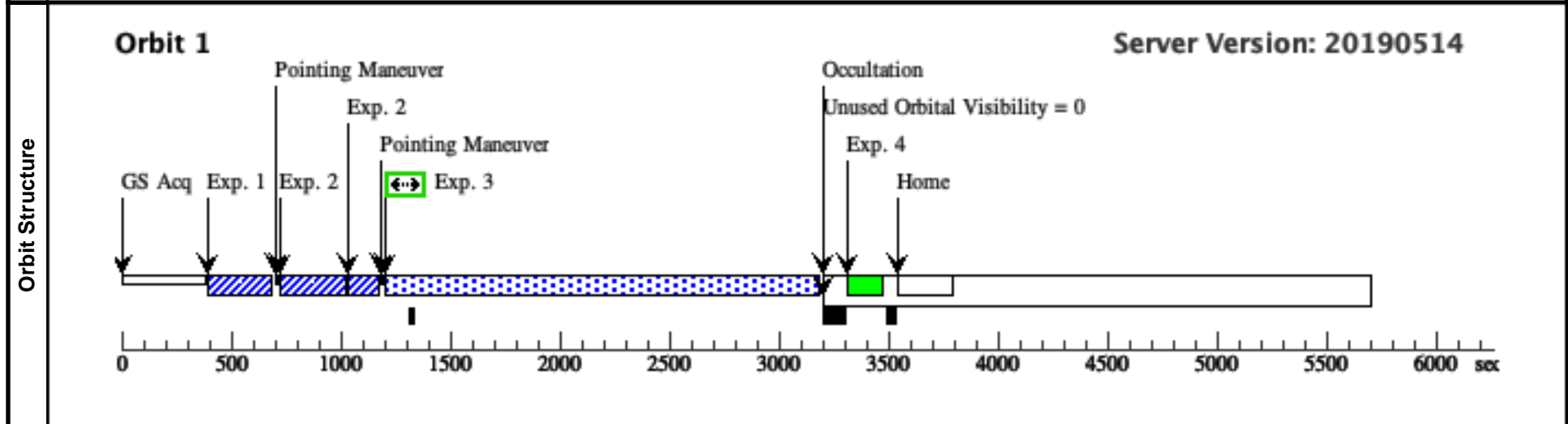
<b>Visit</b>	<b>Proposal 15659, HD191610-v3 (33), completed</b>				
	<b>Diagnostic Status: No Diagnostics</b>				
	Scientific Instruments: STIS/CCD, STIS/FUV-MAMA				
	Special Requirements: AFTER 31 BY 35 D TO 100 D				

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(10)	-B02-CYG	RA: 20 09 25.6191 (302.3567462d)	Proper Motion RA: 2.728 mas/yr	V=4.93+/-0.05	Reference Frame: ICRS
	Alt Name1: -28-CYG	Dec: +36 50 22.60 (36.83961d)	Proper Motion Dec: 15.562 mas/yr		
	Alt Name2: HD-191610	Equinox: J2000	Parallax: 0.00529"		
			Epoch of Position: 2000		

*Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.*  
 Category=STAR  
 Description=[B0-B2 V-IV, BE, INTERACTING BINARY]  
 Extended=NO

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	ACQ (STIS.ta.130 1957)	(10) -B02-CYG	STIS/CCD, ACQ, F25ND5	MIRROR	ACQTYPE=POINT			1.8 Secs (1.8 Secs) [==>]	[1]
2	ACQ/PEAK (STIS.ta.130 1962)	(10) -B02-CYG	STIS/CCD, ACQ/PEAK, 0.3X0.05ND	MIRROR				0.2 Secs (0.2 Secs) [==>]	[1]
3	ACCUM (STIS.sp.13 01978)	(10) -B02-CYG	STIS/FUV-MAMA, ACCUM, 0.2X0.05ND	E140M 1425 A	WAVECAL=NO			1884 Secs (1879 Secs) [==>1879.0 Secs ]	[1]
4	WAVECAL WAVE		STIS/FUV-MAMA, ACCUM, 0.1X0.03	E140M 1425 A				[==>]	[1]

*Comments: In Earth shadow.*

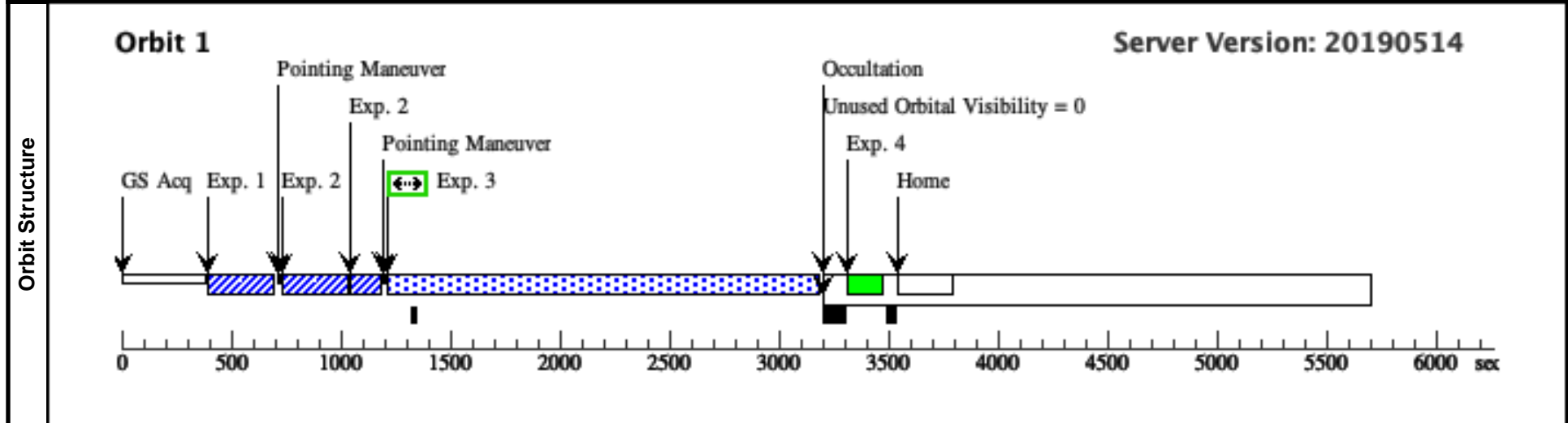


<b>Visit</b>	<b>Proposal 15659, HD194335-v1 (34), completed</b>				
	<b>Diagnostic Status: No Diagnostics</b>				
	Scientific Instruments: STIS/CCD, STIS/FUV-MAMA				
	Special Requirements: (none)				

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(11)	HD-194335	RA: 20 23 44.3692 (305.9348717d)	Proper Motion RA: 5.277 mas/yr	V=5.90+/-0.10	Reference Frame: ICRS
	Alt Name1: HR-7807	Dec: +37 28 35.21 (37.47645d)	Proper Motion Dec: 0.362 mas/yr		
	Alt Name2: V2119-CYG	Equinox: J2000	Parallax: 0.00266"		
			Epoch of Position: 2000		
<i>Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.</i>					
Category=STAR					
Description=[B0-B2 III-I, BE, INTERACTING BINARY]					
Extended=NO					

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	ACQ (STIS.ta.130 1983)	(11) HD-194335	STIS/CCD, ACQ, F25ND5	MIRROR	ACQTYPE=POINT			4.3 Secs (4.3 Secs)	
								[==>]	[1]
2	ACQ/PEAK (STIS.ta.130 1984)	(11) HD-194335	STIS/CCD, ACQ/PEAK, 0.3X0.05ND	MIRROR				0.2 Secs (0.2 Secs)	
								[==>]	[1]
3	ACCUM (STIS.sp.13 02001)	(11) HD-194335	STIS/FUV-MAMA, ACCUM, 0.2X0.05ND	E140M 1425 A	WAVECAL=NO			1874 Secs (1869 Secs)	
								[==>1869.0 Secs ]	[1]
4	WAVECAL WAVE		STIS/FUV-MAMA, ACCUM, 0.1X0.03	E140M 1425 A				[==>]	[1]

Comments: In Earth shadow.



Proposal 15659 - HD194335-v2 (35) - The Missing Link in Massive Binary Star Evolution

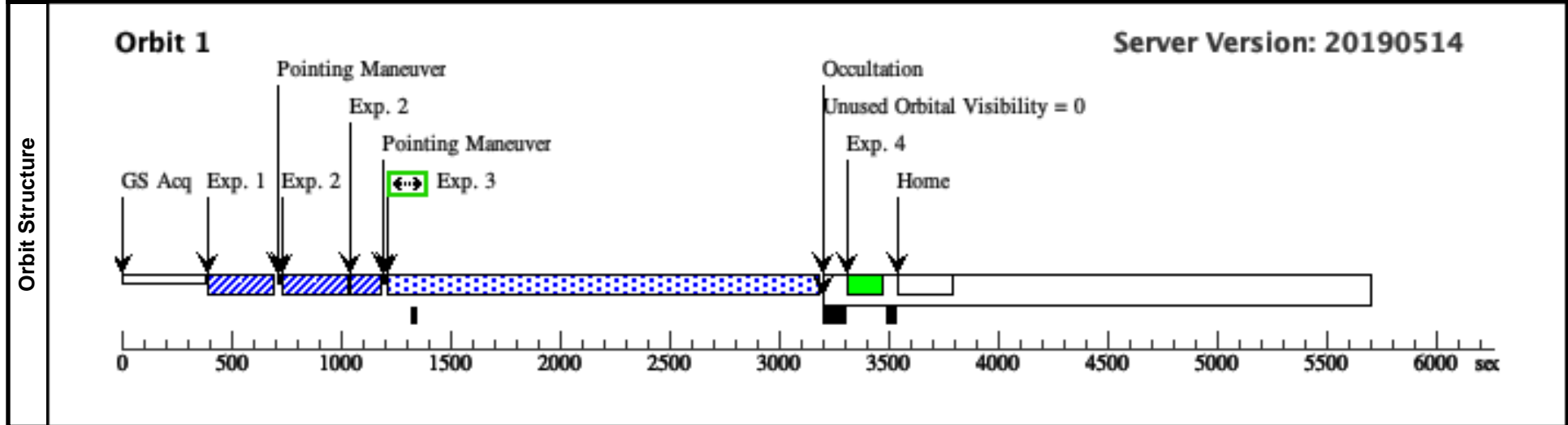
Sat Jan 04 00:00:57 GMT 2020

<b>Visit</b>	<b>Proposal 15659, HD194335-v2 (35), completed</b>				
	<b>Diagnostic Status: No Diagnostics</b>				
	Scientific Instruments: STIS/CCD, STIS/FUV-MAMA				
	Special Requirements: AFTER 34 BY 5 D TO 30 D				

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(11)	HD-194335	RA: 20 23 44.3692 (305.9348717d)	Proper Motion RA: 5.277 mas/yr	V=5.90+/-0.10	Reference Frame: ICRS
	Alt Name1: HR-7807	Dec: +37 28 35.21 (37.47645d)	Proper Motion Dec: 0.362 mas/yr		
	Alt Name2: V2119-CYG	Equinox: J2000	Parallax: 0.00266"		
			Epoch of Position: 2000		
<i>Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.</i>					
<i>Category=STAR</i>					
<i>Description=[B0-B2 III-I, BE, INTERACTING BINARY]</i>					
<i>Extended=NO</i>					

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	ACQ (STIS.ta.130 1983)	(11) HD-194335	STIS/CCD, ACQ, F25ND5	MIRROR	ACQTYPE=POINT			4.3 Secs (4.3 Secs)	
								[==>]	[1]
2	ACQ/PEAK (STIS.ta.130 1984)	(11) HD-194335	STIS/CCD, ACQ/PEAK, 0.3X0.05ND	MIRROR				0.2 Secs (0.2 Secs)	
								[==>]	[1]
3	ACCUM (STIS.sp.13 02001)	(11) HD-194335	STIS/FUV-MAMA, ACCUM, 0.2X0.05ND	E140M 1425 A	WAVECAL=NO			1874 Secs (1869 Secs)	
								[==>1869.0 Secs ]	[1]
4	WAVECAL WAVE		STIS/FUV-MAMA, ACCUM, 0.1X0.03	E140M 1425 A				[==>]	[1]

*Comments: In Earth shadow.*

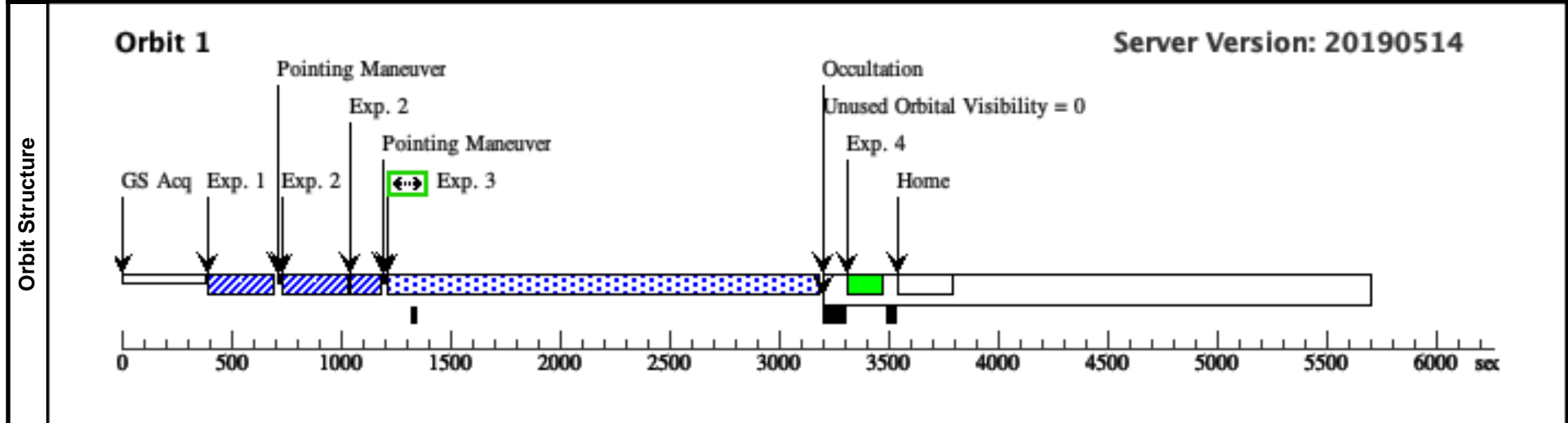


<b>Visit</b>	<b>Proposal 15659, HD194335-v3 (36), completed</b>				
	<b>Diagnostic Status: No Diagnostics</b>				
	Scientific Instruments: STIS/CCD, STIS/FUV-MAMA				
	Special Requirements: AFTER 34 BY 35 D TO 100 D				

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(11)	HD-194335	RA: 20 23 44.3692 (305.9348717d)	Proper Motion RA: 5.277 mas/yr	V=5.90+/-0.10	Reference Frame: ICRS
	Alt Name1: HR-7807	Dec: +37 28 35.21 (37.47645d)	Proper Motion Dec: 0.362 mas/yr		
	Alt Name2: V2119-CYG	Equinox: J2000	Parallax: 0.00266"		
			Epoch of Position: 2000		
<i>Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.</i>					
Category=STAR					
Description=[B0-B2 III-I, BE, INTERACTING BINARY]					
Extended=NO					

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	ACQ (STIS.ta.130 1983)	(11) HD-194335	STIS/CCD, ACQ, F25ND5	MIRROR	ACQTYPE=POINT			4.3 Secs (4.3 Secs)	
								[==>]	[1]
2	ACQ/PEAK (STIS.ta.130 1984)	(11) HD-194335	STIS/CCD, ACQ/PEAK, 0.3X0.05ND	MIRROR				0.2 Secs (0.2 Secs)	
								[==>]	[1]
3	ACCUM (STIS.sp.13 02001)	(11) HD-194335	STIS/FUV-MAMA, ACCUM, 0.2X0.05ND	E140M 1425 A	WAVECAL=NO			1874 Secs (1869 Secs)	
								[==>1869.0 Secs ]	[1]
4	WAVECAL WAVE		STIS/FUV-MAMA, ACCUM, 0.1X0.03	E140M 1425 A				[==>]	[1]

*Comments: In Earth shadow.*

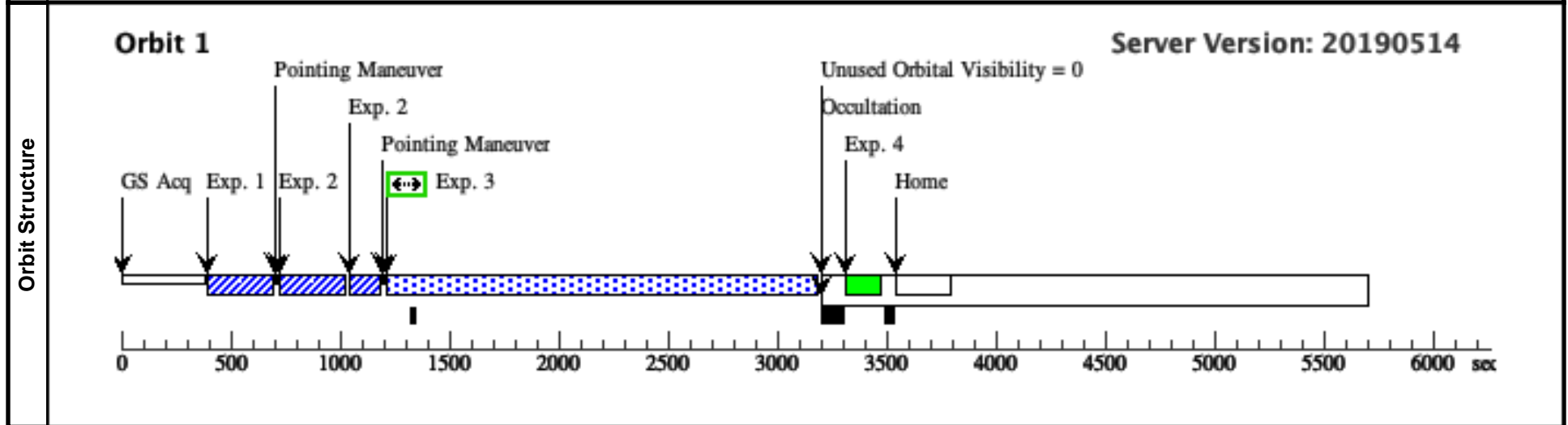


<b>Visit</b>	<b>Proposal 15659, HD214168-v1 (37), completed</b>				
	<b>Diagnostic Status: No Diagnostics</b>				
	Scientific Instruments: STIS/CCD, STIS/FUV-MAMA				
	Special Requirements: (none)				

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(12)	-8-LAC-A	RA: 22 35 52.2827 (338.9678446d) Dec: +39 38 3.58 (39.63433d)	Proper Motion RA: -1.993 mas/yr Proper Motion Dec: -4.967 mas/yr Parallax: 0.00182" Epoch of Position: 2000	V=5.66+/-0.05	Reference Frame: ICRS
<p>Alt Name1: HD-214168</p> <p>Alt Name2: HIP-111546</p> <p>Equinox: J2000</p>					
<p><i>Comments: This target is the northern A component of a visual binary. The B component is located at a PA=186 deg and Sep=22.30 arcsec and has a magnitude of V=6.29 according to the Washington Double Star Catalog.</i></p> <p><i>There is a confusion about the number in the Henry Draper Catalog. The Bright Star Catalog and all published papers refer to the A component target as HD-214168, but it is listed incorrectly in SIMBAD as HD-214167 (with the southerly B component as HD-214168). We use the established notation here.</i></p> <p>Category=STAR Description=[B0-B2 V-IV, BE, INTERACTING BINARY] Extended=NO</p>					

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	ACQ (STIS.ta.130 2017)	(12) -8-LAC-A	STIS/CCD, ACQ, F25ND5	MIRROR	ACQTYPE=POINT			3.4 Secs (3.4 Secs) [==>]	[1]
2	ACQ/PEAK (STIS.ta.130 2019)	(12) -8-LAC-A	STIS/CCD, ACQ/PEAK, 0.3X0.05ND	MIRROR				0.2 Secs (0.2 Secs) [==>]	[1]
3	ACCUM (STIS.sp.13 02030)	(12) -8-LAC-A	STIS/FUV-MAMA, ACCUM, 0.2X0.05ND	E140M 1425 A	WAVECAL=NO			1878 Secs (1873 Secs) [==>1873.0 Secs ]	[1]
4	WAVECAL WAVE		STIS/FUV-MAMA, ACCUM, 0.1X0.03	E140M 1425 A				[==>]	[1]

Comments: In Earth shadow.

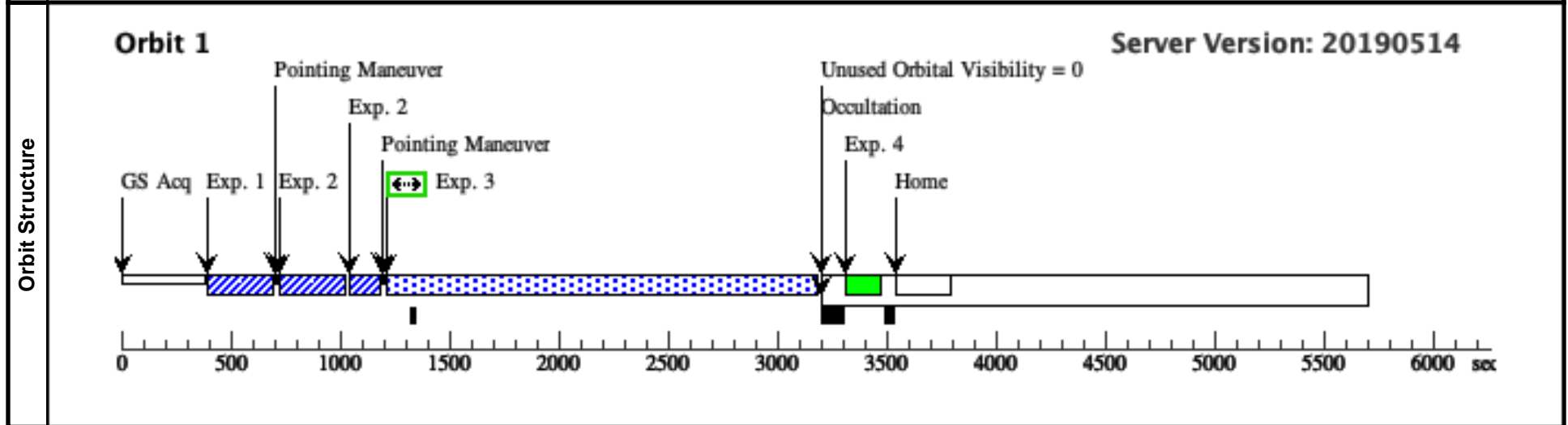


<b>Visit</b>	<b>Proposal 15659, HD214168-v2 (38), completed</b>				
	<b>Diagnostic Status: No Diagnostics</b>				
	Scientific Instruments: STIS/CCD, STIS/FUV-MAMA				
	Special Requirements: AFTER 37 BY 5 D TO 30 D				

<b>Fixed Targets</b>	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
	(12)	-8-LAC-A	RA: 22 35 52.2827 (338.9678446d)	Proper Motion RA: -1.993 mas/yr	V=5.66+/-0.05	Reference Frame: ICRS
		Alt Name1: HD-214168	Dec: +39 38 3.58 (39.63433d)	Proper Motion Dec: -4.967 mas/yr		
		Alt Name2: HIP-111546	Equinox: J2000	Parallax: 0.00182"		
				Epoch of Position: 2000		
<p><i>Comments: This target is the northern A component of a visual binary. The B component is located at a PA=186 deg and Sep=22.30 arcsec and has a magnitude of V=6.29 according to the Washington Double Star Catalog.</i></p> <p><i>There is a confusion about the number in the Henry Draper Catalog. The Bright Star Catalog and all published papers refer to the A component target as HD-214168, but it is listed incorrectly in SIMBAD as HD-214167 (with the southerly B component as HD-214168). We use the established notation here.</i></p> <p>Category=STAR Description=[B0-B2 V-IV, BE, INTERACTING BINARY] Extended=NO</p>						

<b>Exposures</b>	#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1	ACQ (STIS.ta.130 2017)	(12) -8-LAC-A	STIS/CCD, ACQ, F25ND5	MIRROR	ACQTYPE=POINT			3.4 Secs (3.4 Secs)	
									[==>]	[1]
	2	ACQ/PEAK (STIS.ta.130 2019)	(12) -8-LAC-A	STIS/CCD, ACQ/PEAK, 0.3X0.05ND	MIRROR				0.2 Secs (0.2 Secs)	
									[==>]	[1]
	3	ACCUM (STIS.sp.13 02030)	(12) -8-LAC-A	STIS/FUV-MAMA, ACCUM, 0.2X0.05ND	E140M 1425 A	WAVECAL=NO			1878 Secs (1873 Secs)	
									[==>1873.0 Secs ]	[1]
	4	WAVECAL WAVE		STIS/FUV-MAMA, ACCUM, 0.1X0.03	E140M 1425 A					
									[==>]	[1]

*Comments: In Earth shadow.*

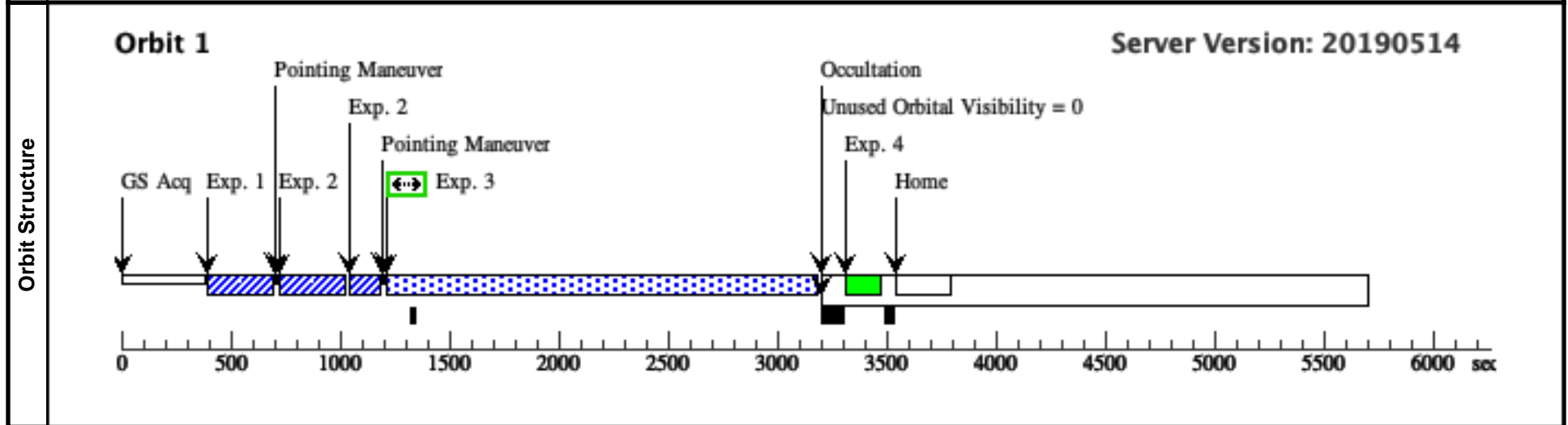


<b>Visit</b>	<b>Proposal 15659, HD214168-v3 (39), completed</b>				
	<b>Diagnostic Status: No Diagnostics</b>				
	Scientific Instruments: STIS/CCD, STIS/FUV-MAMA				
	Special Requirements: AFTER 37 BY 35 D TO 100 D				

<b>Fixed Targets</b>	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
	(12)	-8-LAC-A	RA: 22 35 52.2827 (338.9678446d)	Proper Motion RA: -1.993 mas/yr	V=5.66+/-0.05	Reference Frame: ICRS
		Alt Name1: HD-214168	Dec: +39 38 3.58 (39.63433d)	Proper Motion Dec: -4.967 mas/yr		
		Alt Name2: HIP-111546	Equinox: J2000	Parallax: 0.00182"		
				Epoch of Position: 2000		
	<p><i>Comments: This target is the northern A component of a visual binary. The B component is located at a PA=186 deg and Sep=22.30 arcsec and has a magnitude of V=6.29 according to the Washington Double Star Catalog.</i></p> <p><i>There is a confusion about the number in the Henry Draper Catalog. The Bright Star Catalog and all published papers refer to the A component target as HD-214168, but it is listed incorrectly in SIMBAD as HD-214167 (with the southerly B component as HD-214168). We use the established notation here.</i></p> <p>Category=STAR Description=[B0-B2 V-IV, BE, INTERACTING BINARY] Extended=NO</p>					

<b>Exposures</b>	#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1	ACQ (STIS.ta.130 2017)	(12) -8-LAC-A	STIS/CCD, ACQ, F25ND5	MIRROR	ACQTYPE=POINT			3.4 Secs (3.4 Secs) [==>]	[1]
	2	ACQ/PEAK (STIS.ta.130 2019)	(12) -8-LAC-A	STIS/CCD, ACQ/PEAK, 0.3X0.05ND	MIRROR				0.2 Secs (0.2 Secs) [==>]	[1]
	3	ACCUM (STIS.sp.13 02030)	(12) -8-LAC-A	STIS/FUV-MAMA, ACCUM, 0.2X0.05ND	E140M 1425 A	WAVECAL=NO			1878 Secs (1873 Secs) [==>1873.0 Secs ]	[1]
	4	WAVECAL WAVE		STIS/FUV-MAMA, ACCUM, 0.1X0.03	E140M 1425 A				[==>]	[1]

Comments: In Earth shadow.



Proposal 15659 - HD43544-v1 (54) - The Missing Link in Massive Binary Star Evolution

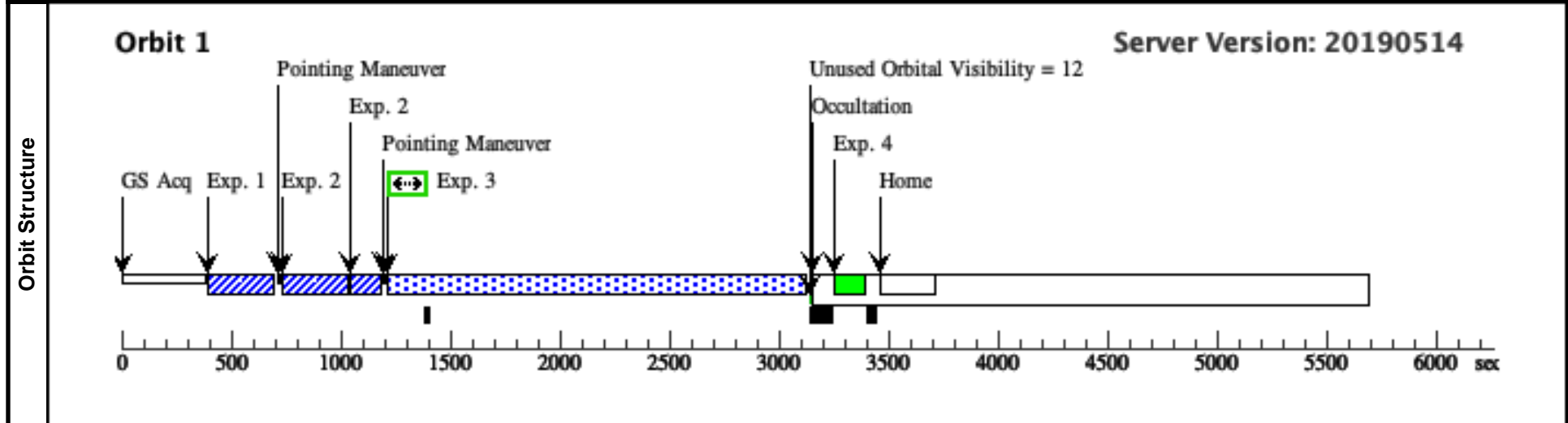
Sat Jan 04 00:00:57 GMT 2020

<b>Visit</b>	<b>Proposal 15659, HD43544-v1 (54), completed</b>				
	<b>Diagnostic Status: No Diagnostics</b>				
	Scientific Instruments: STIS/CCD, STIS/FUV-MAMA				
	Special Requirements: Period 125.12213 D AND ZERO-PHASE HJD2455122.73463				

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(2)	HD-43544	RA: 06 16 7.6915 (94.0320479d) Dec: -16 37 4.82 (-16.61801d)	Proper Motion RA: -8.442 mas/yr Proper Motion Dec: 0.740 mas/yr Parallax: 0.00316" Epoch of Position: 2000	V=5.91	Reference Frame: ICRS
<i>Alt Name1: HR-2249</i> <i>Alt Name2: HIP-29771</i> <i>Equinox: J2000</i>					
<i>Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.</i> <i>Category=STAR</i> <i>Description=[B0-B2 V-IV, BE, INTERACTING BINARY]</i> <i>Extended=NO</i>					

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	ACQ (STIS.ta.130 1349)	(2) HD-43544	STIS/CCD, ACQ, F25ND5	MIRROR	ACQTYPE=POINT	PHASE 0.05 TO 0.4 5		4.3 Secs (4.3 Secs) [==>]	[1]
2	ACQ/PEAK (STIS.ta.130 1352)	(2) HD-43544	STIS/CCD, ACQ/PEAK, 0.3X0.05ND	MIRROR				0.2 Secs (0.2 Secs) [==>]	[1]
3	ACCUM (STIS.sp.13 01360)	(2) HD-43544	STIS/FUV-MAMA, ACCUM, 31X0.05NDC	E140M 1425 A	WAVECAL=NO			1751 Secs (1751 Secs) [==>]	[1]
4	WAVECAL WAVE	(2) HD-43544	STIS/FUV-MAMA, ACCUM, 0.1X0.03	E140M 1425 A				[==>]	[1]

*Comments: In Earth shadow.*





Proposal 15659 - HD43544-v3 (56) - The Missing Link in Massive Binary Star Evolution

Sat Jan 04 00:00:57 GMT 2020

<b>Visit</b>	<b>Proposal 15659, HD43544-v3 (56), completed</b>				
	<b>Diagnostic Status: No Diagnostics</b>				
	Scientific Instruments: STIS/CCD, STIS/FUV-MAMA				
	Special Requirements: BETWEEN 14-OCT-2019:00:00:00 AND 31-DEC-2019:00:00:00				

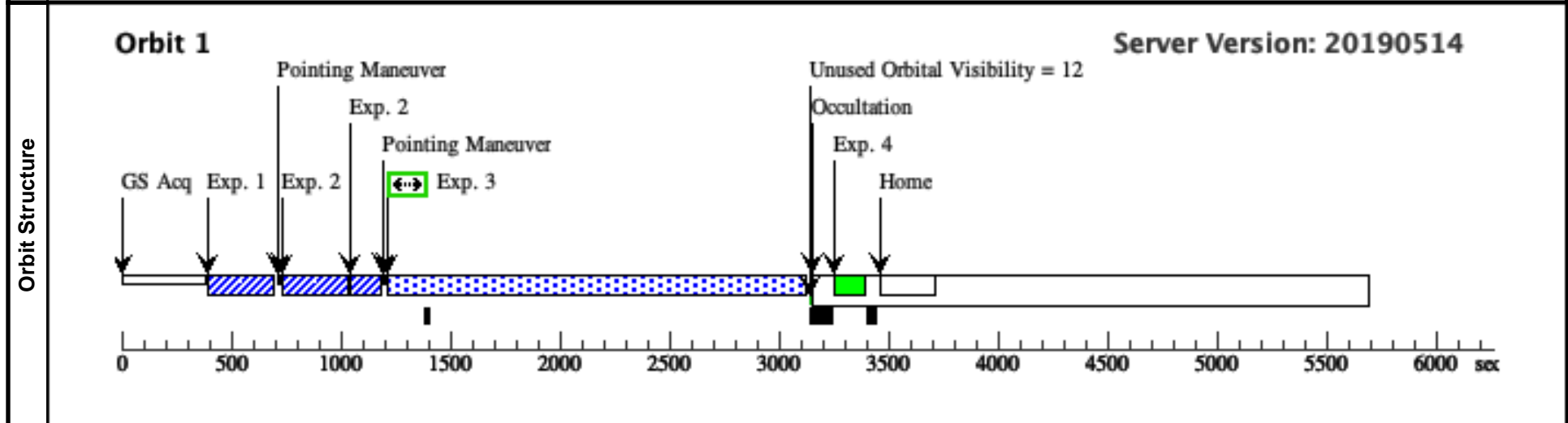
Comments: Repeat of failed visit 06.

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(2)	HD-43544	RA: 06 16 7.6915 (94.0320479d) Dec: -16 37 4.82 (-16.61801d)	Proper Motion RA: -8.442 mas/yr Proper Motion Dec: 0.740 mas/yr Parallax: 0.00316" Epoch of Position: 2000	V=5.91	Reference Frame: ICRS

Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.  
Category=STAR  
Description=[B0-B2 V-IV, BE, INTERACTING BINARY]  
Extended=NO

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	ACQ (STIS.ta.130 1349)	(2) HD-43544	STIS/CCD, ACQ, F25ND5	MIRROR	ACQTYPE=POINT			4.3 Secs (4.3 Secs) [==>]	[1]
2	ACQ/PEAK (STIS.ta.130 1352)	(2) HD-43544	STIS/CCD, ACQ/PEAK, 0.3X0.05ND	MIRROR				0.2 Secs (0.2 Secs) [==>]	[1]
3	ACCUM (STIS.sp.13 01360)	(2) HD-43544	STIS/FUV-MAMA, ACCUM, 31X0.05NDC	E140M 1425 A	WAVECAL=NO			1751 Secs (1751 Secs) [==>]	[1]
4	WAVECAL WAVE		STIS/FUV-MAMA, ACCUM, 0.1X0.03	E140M 1425 A				[==>]	[1]

Comments: In Earth shadow.



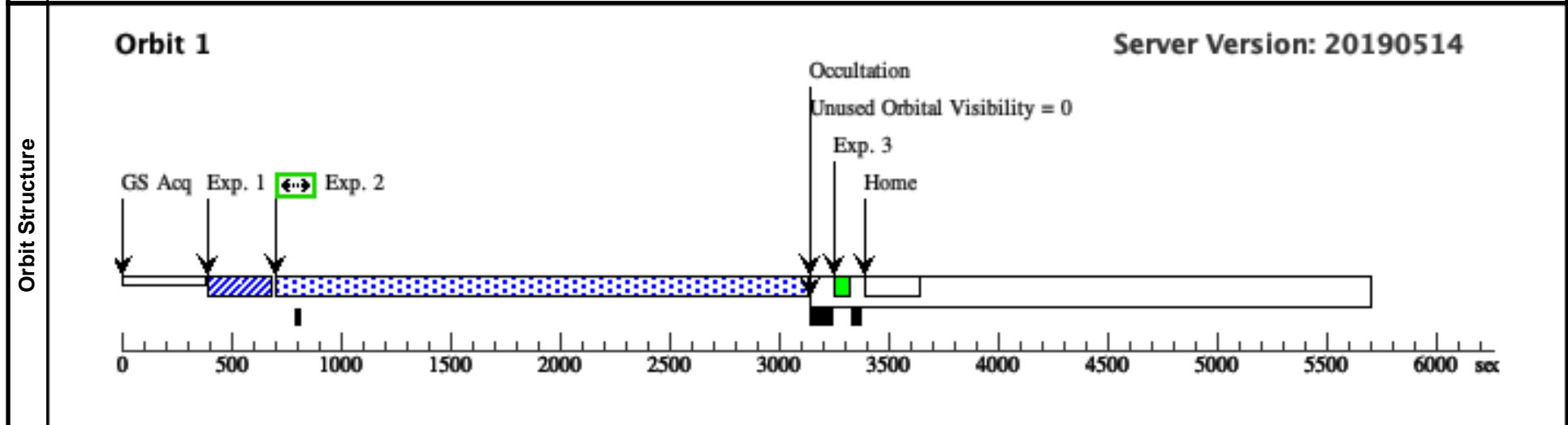
Proposal 15659 - HD55606-v1 (60) - The Missing Link in Massive Binary Star Evolution

Sat Jan 04 00:00:57 GMT 2020

<b>Visit</b>	<b>Proposal 15659, HD55606-v1 (60), scheduling</b> <b>Diagnostic Status: No Diagnostics</b> Scientific Instruments: STIS/CCD, STIS/FUV-MAMA Special Requirements: Period 93.76 D AND ZERO-PHASE HJD2456641.66 <i>Comments: Orbital phase from Chojnowski et al. 2018, ApJ, 865, 76.</i> <i>Copy of failed visit 10.</i>				

<b>Fixed Targets</b>	<b>#</b>	<b>Name</b>	<b>Target Coordinates</b>	<b>Targ. Coord. Corrections</b>	<b>Fluxes</b>	<b>Miscellaneous</b>
	(13)	HD-55606 Alt Name1: MWC-549	RA: 07 13 34.1003 (108.3920846d) Dec: -02 04 39.10 (-2.07753d) Equinox: J2000	Proper Motion RA: -1.611 mas/yr Proper Motion Dec: -1.655 mas/yr Parallax: 0.00089" Epoch of Position: 2000	V=9.04	Reference Frame: ICRS
<i>Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.</i> Category=STAR Description=[B0-B2 V-IV, BE, INTERACTING BINARY] Extended=NO						

<b>Exposures</b>	#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit	
	1	ACQ (STIS.ta.130 1370)	(13) HD-55606	STIS/CCD, ACQ, F25ND3	MIRROR		ACQTYPE=POINT	PHASE 0.05 TO 0.5 2		0.3 Secs (0.3 Secs) [==>]	[1]
	2	ACCUM (STIS.sp.13 67348)	(13) HD-55606	STIS/FUV-MAMA, ACCUM, 0.2X0.2	E140M 1425 A		WAVECAL=NO			1807 Secs (2341 Secs) [==>2341.0 Secs]	[1]
	3	WAVECAL WAVE		STIS/FUV-MAMA, ACCUM, 0.2X0.2	E140M 1425 A					[==>]	[1]
<i>Comments: In Earth shadow.</i>											



<b>Visit</b>	<b>Proposal 15659, HD113120-v3 (68)</b>				
	<b>Diagnostic Status: No Diagnostics</b>				
	Scientific Instruments: STIS/CCD, STIS/FUV-MAMA				
	Special Requirements: AFTER 16 BY 35 D TO 120 D				

*Comments: Repeat of visit 18 that was lost in the HST safing of Dec. 16, 2019.*

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(5)	HD-113120	RA: 13 03 5.3394 (195.7722475d)	Proper Motion RA: -11.51 mas/yr	V=6.03	Reference Frame: ICRS
	Alt Name1: HR-4930	Dec: -71 28 32.63 (-71.47573d)	Proper Motion Dec: -2.86 mas/yr		
	Alt Name2: LS-MUS	Equinox: J2000	Parallax: 0.00326"		
			Epoch of Position: 2000		

*Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.*  
 Category=STAR  
 Description=[B0-B2 V-IV, BE, INTERACTING BINARY]  
 Extended=NO

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	ACQ (STIS.ta.130 1414)	(5) HD-113120	STIS/CCD, ACQ, F25ND5	MIRROR	ACQTYPE=POINT			4.7 Secs (4.7 Secs) [==>]	[1]
2	ACQ/PEAK (STIS.ta.130 1415)	(5) HD-113120	STIS/CCD, ACQ/PEAK, 0.3X0.05ND	MIRROR				0.2 Secs (0.2 Secs) [==>]	[1]
3	ACCUM (STIS.sp.13 01425)	(5) HD-113120	STIS/FUV-MAMA, ACCUM, 0.2X0.05ND	E140M 1425 A	WAVECAL=NO			2197 Secs (2192 Secs) [==>2192.0 Secs ]	[1]
4	WAVECAL WAVE		STIS/FUV-MAMA, ACCUM, 0.1X0.03	E140M 1425 A				[==>]	[1]

*Comments: In Earth shadow.*

