15335 - What is the metallicity of the cool ISM in our own Galaxy?

Cycle: 25, Proposal Category: GO

(UV Initiative)

(Availability Mode: SUPPORTED)

INVESTIGATORS

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VISITS

Visit	*Targets used in Visit*	*Configurations used in Visit*	*Orbits Used*	*Last Orbit Planner Run*	*OP Current with Visit?*
01	(1) -OMI-PER WAVE	STIS/CCD STIS/NUV-MAMA	1	28-May-2019 09:00:15.0	yes
02	(2) X-PER WAVE	STIS/CCD STIS/NUV-MAMA	1	28-May-2019 09:00:17.0	yes
03	(3) -EPS-PER WAVE	STIS/CCD STIS/NUV-MAMA	1	28-May-2019 09:00:17.0	yes
04	(4) -62-TAU WAVE	STIS/CCD STIS/NUV-MAMA	1	28-May-2019 09:00:18.0	yes

Visit	*Targets used in Visit*	*Configurations used in Visit*	*Orbits Used*	*Last Orbit Planner Run*	*OP Current with Visit?*
05	(5) -TET01-ORI-C WAVE	STIS/CCD STIS/NUV-MAMA	1	28-May-2019 09:00:19.0	yes
06	(6) -IOT-ORI WAVE	STIS/CCD STIS/NUV-MAMA	1	28-May-2019 09:00:20.0	yes
07	(7) -ZET-ORI-A WAVE	STIS/CCD STIS/NUV-MAMA	1	28-May-2019 09:00:21.0	yes
08	(8) HD-62542 WAVE	STIS/CCD STIS/NUV-MAMA	1	28-May-2019 09:00:21.0	yes
09	(9) HD-73882 WAVE	STIS/CCD STIS/NUV-MAMA	1	28-May-2019 09:00:22.0	yes
10	(10) HD-110432 WAVE	STIS/CCD STIS/NUV-MAMA	1	28-May-2019 09:00:23.0	yes
50	(10) HD-110432 WAVE	STIS/CCD STIS/NUV-MAMA	1	28-May-2019 09:00:23.0	yes
11	(11) HR-4908 WAVE	STIS/CCD STIS/NUV-MAMA	1	28-May-2019 09:00:24.0	yes
12	(12) -TET-MUS-A WAVE	STIS/CCD STIS/NUV-MAMA	1	28-May-2019 09:00:25.0	yes
13	(13) -RHO-OPH-A WAVE	STIS/CCD STIS/NUV-MAMA	1	28-May-2019 09:00:25.0	yes
14	(14) -CHI-OPH WAVE	STIS/CCD STIS/NUV-MAMA	1	28-May-2019 09:00:26.0	yes
15	(15) HD-149404 WAVE	STIS/CCD STIS/NUV-MAMA	1	28-May-2019 09:00:27.0	yes
16	(16) -ZET01-SCO WAVE	STIS/CCD STIS/NUV-MAMA	1	28-May-2019 09:00:27.0	yes
17	(17) HD-154368 WAVE	STIS/CCD STIS/NUV-MAMA	1	28-May-2019 09:00:28.0	yes

Visit	*Targets used in Visit*	*Configurations used in Visit*	*Orbits Used*	*Last Orbit Planner Run*	*OP Current with Visit?*
18	(18) HD-164402 WAVE	STIS/CCD STIS/NUV-MAMA	1	28-May-2019 09:00:29.0	yes
19	(19) -15-SGR WAVE	STIS/CCD STIS/NUV-MAMA	1	28-May-2019 09:00:30.0	yes
20	(20) -KAP-AQL WAVE	STIS/CCD STIS/NUV-MAMA	1	28-May-2019 09:00:30.0	yes
21	(21) HD-188439 WAVE	STIS/CCD STIS/NUV-MAMA	1	28-May-2019 09:00:32.0	yes
22	(22) HD-199579 WAVE	STIS/CCD STIS/NUV-MAMA	1	28-May-2019 09:00:32.0	yes
23	(23) HD-206267A WAVE	STIS/CCD STIS/NUV-MAMA	1	28-May-2019 09:00:33.0	yes
24	(24) HD-207198 WAVE	STIS/CCD STIS/NUV-MAMA	1	28-May-2019 09:00:34.0	yes
25	(25) HD-167971 WAVE	STIS/CCD STIS/NUV-MAMA	2	28-May-2019 09:00:34.0	yes

27 Total Orbits Used

ABSTRACT

The Interstellar Medium (ISM) has a fundamental role for star and planet formation, and the exchange of metals within the baryon cycle. Remarkably, the cool ISM metallicity in our own Galaxy is not known to date, and it is typically assumed to be solar. ISM abundances can and have been measured with UV spectroscopy, but are heavily affected by the presence of dust. Refractory metals are missing from the gas-phase because they are locked into dust grains (dust depletion). The degeneracy between metallicity and dust depletion limited past studies to assume solar metallicity for the Galactic ISM, and assign any deviation from it to dust depletion. In De Cia et al. 2016 we have developed a method to characterize dust depletion without assumptions on the metallicity. We can now measure the dust-corrected metallicity in the ISM, as long as H, Zn, Fe, and a third metal are constrained, which we collected for only 12 lines of sight so far. We propose to expand and improve this sample of ISM metallicities by observing 25 hot stars (with known H and at different Galactic latitudes and E(B-V)) deploying a STIS NUV echelle setting that will allow us to constrain Zn, Fe, and Cr abundances along these lines of sight. We will learn 1) whether the cool ISM metallicity toward a total of 37 lines of sight is

really solar, or deviates from it; 2) whether there are radial gradients of metallicity in the Galaxy ISM; and 3) whether lines of sight with higher dust content have also higher metallicity.

OBSERVING DESCRIPTION

We aim at detecting ZnII lambda 2026,2062, FeII lambda 2260, and CrII lambda 2056,2062 absorption lines from the ISM. High spectral resolution (R = lambda/Delta lambda >= 30000) and high signal-to-noise ratio (S/N ~ 50 per resolution element, at 2026 A) are needed to ensure detection and deblending of spectral components of the line profiles, specially when weak. This can be achieved with the STIS MAMA E230M grating, centered at 1978 A. The targets are very bright, ranging 2 <= V <= 8 mag, and the STIS MAMA detectors are sensitive to bright targets. For this reason, we will use narrow slits and neutral density filters to ensure that the bright limit for STIS MAMA is not reached. Depending on the brightness, spectral type, and foreground extinction towards the targeted stars, we will use one of the following slit setting: 6 x 0.2, 0.2 x 0.06, 31 x 0.05NDA, 31 x 0.05NDB, 31 x 0.05NDC, 0.2 x 0.05ND, and up to the heaviest filter 0.3 x 0.05ND.

We ran the HST STIS ETC on every target and for each case found a good compromise between avoiding the STIS bright limit and achieving the required S/N within 1 orbit/target. A somewhat lower S/N of 43 is expected for the bright Target 3, because of the heavy filter chosen to protect the MAMA detector. There is one exception to the observational strategy of 1 target/orbit at S/N~50 described above, which is the last (25th) target star HD-167971. This is the faintest (V = 7.45) target in our sample and has a high foreground extinction (E(B - V) ~ 1.08). For this target we will achieve a S/N = 31 within 2 orbits.

The acquisition was set with ACQ and ACQ/PEAK for science slit widths >=0.1", always with ACQ/PEAK in dispersed light (except in one case) because of the target high brightness. The same slit was used for the ACQ/PEAK and science in most cases, except 4 cases for which the required ACQ/PEAK would have been too long and thererfore unfeasible. When 31" long slits are used, the slit orientation is specified to avoid the contribution from nearby sources.

The current finding chart produced in APT for Target 5, theta1 Ori C, is affected by nebulosity. However, the ACQ and ACQ/PEAK procedures should be straightforward. Other HST programs have observed the nearby star theta1 Ori B and the ACQ images show no significant contamination by nebulosity.

We selected the WAVECAL=NO option in all spectra and added a GO WAVECAL exposure in the occultation of each orbit to save overhead time.

Visit

Proposal 15335, Target 1 OMI-PER (01), completed Tue May 28 13:00:35 GMT 2019

Diagnostic Status: Warning

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

Special Requirements: (none)

Diagnostics

(Target 1 OMI-PER (01)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN

Fixed Targets

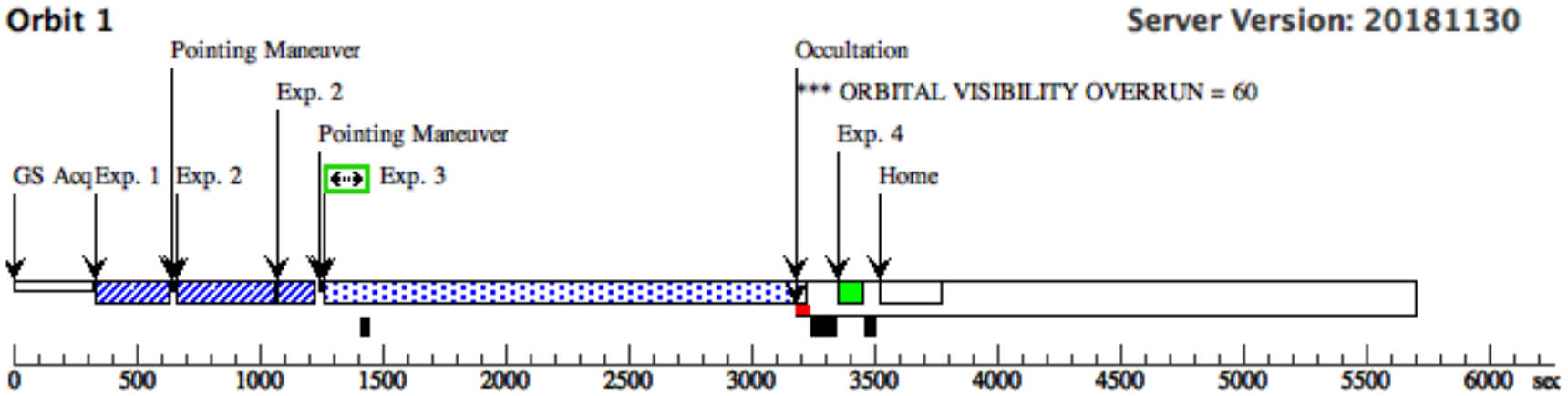
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	-OMI-PER	RA: 03 44 19.1320 (56.0797167d)	Proper Motion RA: 8.18 mas/yr	V=3.83	Reference Frame: ICRS
	Alt Name1: HD23180	Dec: +32 17 17.69 (32.28825d)	Proper Motion Dec: -10.43 mas/yr		
		Equinox: J2000	Epoch of Position: 2000		
			Radial Velocity: 12.20 km/sec		

Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.
ICRS coordinates and proper motions updated.
Category=ISM
Description=[ABSORPTION LINE SYSTEM - GALACTIC]

Exposures

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	ACQ_T1 (STIS.ta.1005193)	(1) -OMI-PER	STIS/CCD, ACQ, F25ND5	MIRROR				1 Secs (1 Secs) *[==>]*	*[1]*
2	ACQ_PEAK_T1 (STIS.sp.1038316)	(1) -OMI-PER	STIS/CCD, ACQ/PEAK, 0.2X0.05ND	G430L 4300 A				3.0 Secs (3 Secs) *[==>]*	*[1]*
3	SPEC_T1 (STIS.sp.1012025)	(1) -OMI-PER	STIS/NUV-MAMA, ACCUM, 0.2X0.05ND	E230M 1978 A	WAVECAL=NO			1815 Secs (1815 Secs) *[==>]*	*[1]*
Comments: ET 1515s minimum									
4	WAVECAL	WAVE	STIS/NUV-MAMA, ACCUM, 0.2X0.06	E230M 1978 A				*[==>]*	*[1]*

Orbit Structure



Visit

Proposal 15335, Target 2 X-PER (02), completed Tue May 28 13:00:35 GMT 2019

Diagnostic Status: Warning

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

Special Requirements: (none)

Diagnostics

(Target 2 X-PER (02)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN

Fixed Targets

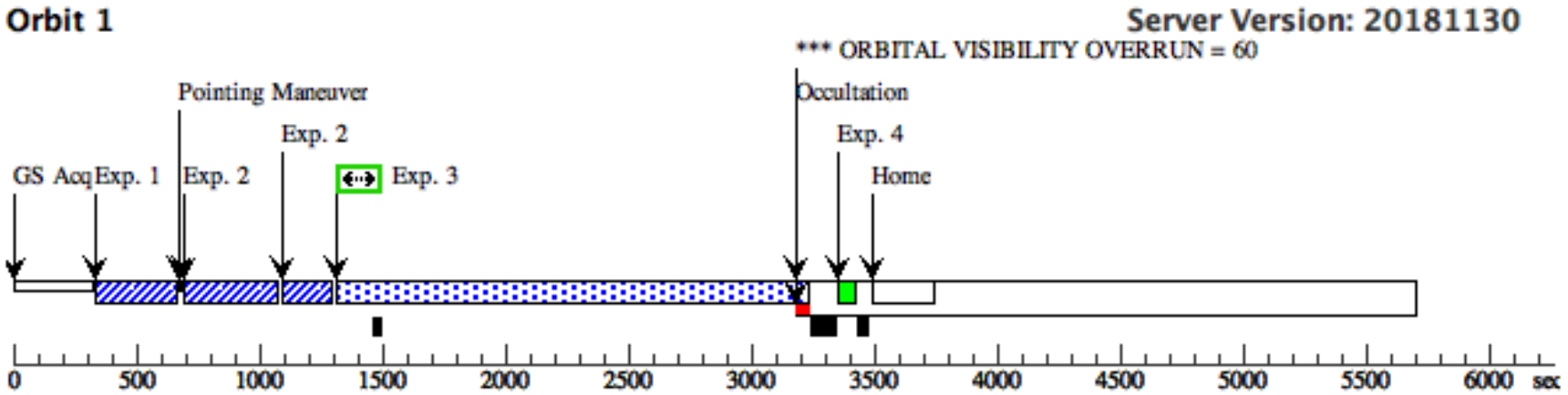
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(2)	X-PER	RA: 03 55 23.0778 (58.8461575d)	Proper Motion RA: -2.28 mas/yr	V=6.72+/-0.009	Reference Frame: ICRS
	Alt Name1: HD24534	Dec: +31 02 45.04 (31.04584d)	Proper Motion Dec: -5.42 mas/yr		
		Equinox: J2000	Epoch of Position: 2000		
			Radial Velocity: -50.00 km/sec		

Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.
Name, ICRS coordinates and proper motions updated.
Category=ISM
Description=[ABSORPTION LINE SYSTEM - GALACTIC]

Exposures

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	ACQ_T2 (STIS.ta.1038328)	(2) X-PER	STIS/CCD, ACQ, F25ND5	MIRROR				10 Secs (10 Secs) *[==>]*	***[1]***
2	ACQ_PEAK_T2 (STIS.sp.1048611)	(2) X-PER	STIS/CCD, ACQ/PEAK, 0.2X0.06	G230LB 2375 A				9 Secs (9 Secs) *[==>]*	***[1]***
	Comments: Source on faint phase (V~6.7). If it rebrightens (V~6.0) time to saturation is 13s (STIS.sp.1038345)								
3	SPEC_T2 (STIS.sp.1038339)	(2) X-PER	STIS/NUV-MAMA, ACCUM, 0.2X0.06	E230M 1978 A	WAVECAL=NO			1769 Secs (1769 Secs) *[==>]*	***[1]***
	Comments: Source in its fainter phase (V~6.7). In case of rebrightening (V~6.0) 141,000 counts/s, STIS.sp.1038348								
4	WAVECAL	WAVE	STIS/NUV-MAMA, ACCUM, 0.2X0.06	E230M 1978 A				*[==>]*	***[1]***

Orbit Structure



Visit

Proposal 15335, Target 3 EPS-PER (03), completed Tue May 28 13:00:35 GMT 2019

Diagnostic Status: Warning

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

Special Requirements: (none)

Diagnostics

(Target 3 EPS-PER (03)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN

Fixed Targets

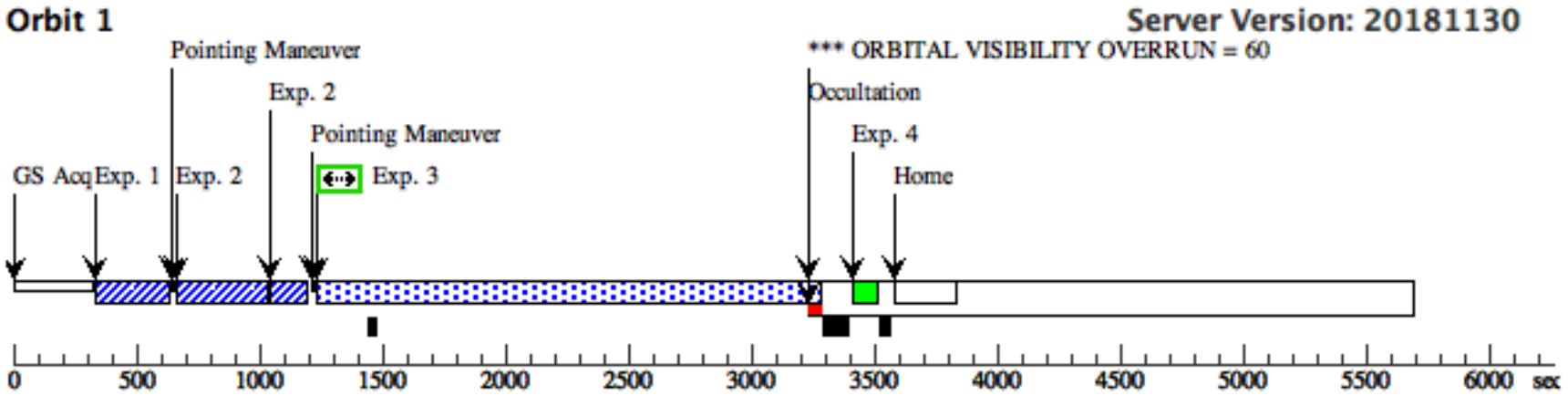
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(3)	-EPS-PER	RA: 03 57 51.2320 (59.4634667d)	Proper Motion RA: 14.06 mas/yr	V=2.89	Reference Frame: ICRS
	Alt Name1: HD24760	Dec: +40 00 36.78 (40.01022d)	Proper Motion Dec: -23.78 mas/yr		
		Equinox: J2000	Epoch of Position: 2000		
			Radial Velocity: -1.00 km/sec		

Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.
ICRS coordinates and proper motions updated.
Category=ISM
Description=[ABSORPTION LINE SYSTEM - GALACTIC]

Exposures

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	ACQ_T3 (STIS.ta.1009792)	(3) -EPS-PER	STIS/CCD, ACQ, F25ND5	MIRROR				1 Secs (1 Secs) *[==>]*	 ***[1]***
2	ACQ_PEAK_T3 (STIS.sp.1009796)	(3) -EPS-PER	STIS/CCD, ACQ/PEAK, 0.2X0.06	G230MB 1995 A				3 Secs (3 Secs) *[==>]*	 ***[1]***
3	SPEC_T3 (STIS.sp.1014235)	(3) -EPS-PER	STIS/NUV-MAMA, ACCUM, 0.3X0.05ND	E230M 1978 A	WAVECAL=NO			1849 Secs (1849 Secs) *[==>]*	 ***[1]***
	Comments: 0.3x0.05ND aperture necessary to filter the bright target. Exposure times reduced to 1849s to fit the observation in 1 orbit, S/N=43. *Old setting STIS.sp.930577, S/N=50 for 2540s exp.*								
4	WAVECAL	WAVE	STIS/NUV-MAMA, ACCUM, 0.2X0.06	E230M 1978 A				*[==>]*	***[1]***

Orbit Structure



Visit

Proposal 15335, Target 4 62-TAU (04), completed Tue May 28 13:00:35 GMT 2019

Diagnostic Status: Warning

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

Special Requirements: (none)

Diagnostics

(Target 4 62-TAU (04)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN

Fixed Targets

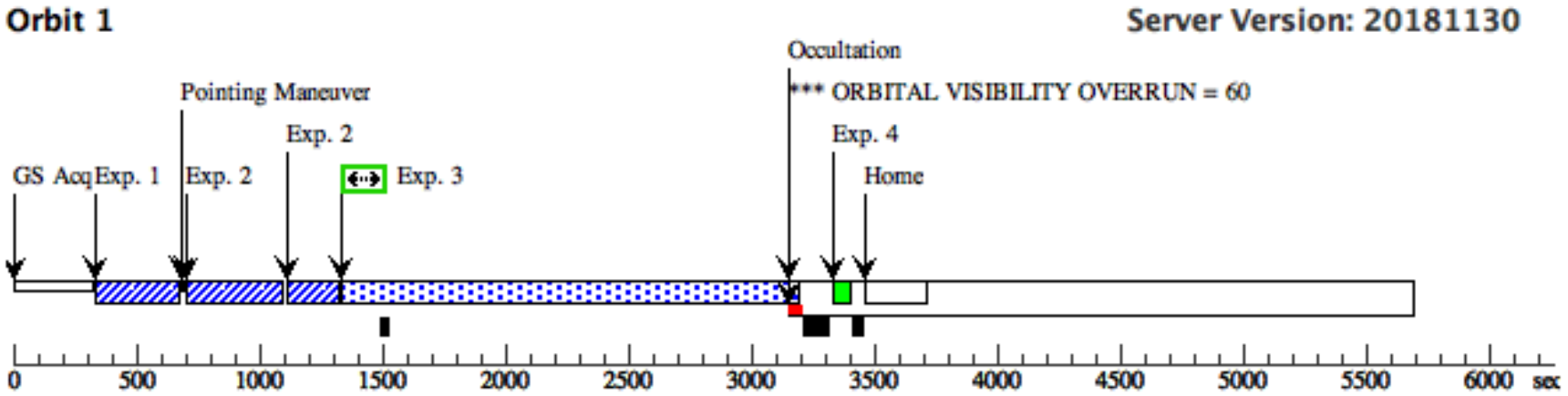
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(4)	-62-TAU	RA: 04 23 59.7625 (65.9990104d)	Proper Motion RA: 5.61 mas/yr	V=6.337+/-0.010	Reference Frame: ICRS
	Alt Name1: HD27778	Dec: +24 18 3.56 (24.30099d)	Proper Motion Dec: -13.78 mas/yr		
		Equinox: J2000	Epoch of Position: 2000		
			Radial Velocity: 7.20 km/sec		

Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.
ICRS coordinates and proper motions updated.
Category=ISM
Description=[ABSORPTION LINE SYSTEM - GALACTIC]

Exposures

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	ACQ_T4 (STIS.ta.1010032)	(4) -62-TAU	STIS/CCD, ACQ, F25ND5	MIRROR				12 Secs (12 Secs)	
								[==>]	***[1]***
2	ACQ_PEAK_T4 (STIS.sp.1038350)	(4) -62-TAU	STIS/CCD, ACQ/PEAK, 0.2X0.06	G230LB 2375 A				10 Secs (10 Secs)	
								[==>]	***[1]***
3	SPEC_T4 (STIS.sp.1038349)	(4) -62-TAU	STIS/NUV-MAMA, ACCUM, 0.2X0.06	E230M 1978 A	WAVECAL=NO			1718 Secs (1718 Secs)	
								[==>]	***[1]***
Comments: ET 340s minimum. 122,000 c/s with current setting, but source not variable.									
4	WAVECL	WAVE	STIS/NUV-MAMA, ACCUM, 0.2X0.06	E230M 1978 A				*[==>]*	***[1]***

Orbit Structure



Visit

Proposal 15335, Target 5 TET01-ORI-C (05), completed Tue May 28 13:00:35 GMT 2019

Diagnostic Status: Warning

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

Special Requirements: ORIENT 10D TO 17 D; ORIENT 37D TO 90 D; ORIENT 112D TO 126 D; ORIENT 190D TO 197 D; ORIENT 217D TO 270 D; ORIENT 292D TO 306 D

Comments: No short slits possible, given the brightness of the target (and 0.2x0.05ND filter already too thick). Orient constraints to avoid nearby bright stars (with mag < 11 mag and within 17", namely Tet Ori01 A, B, D, F, and H)

Diagnostics

(Target 5 TET01-ORI-C (05)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN

Fixed Targets

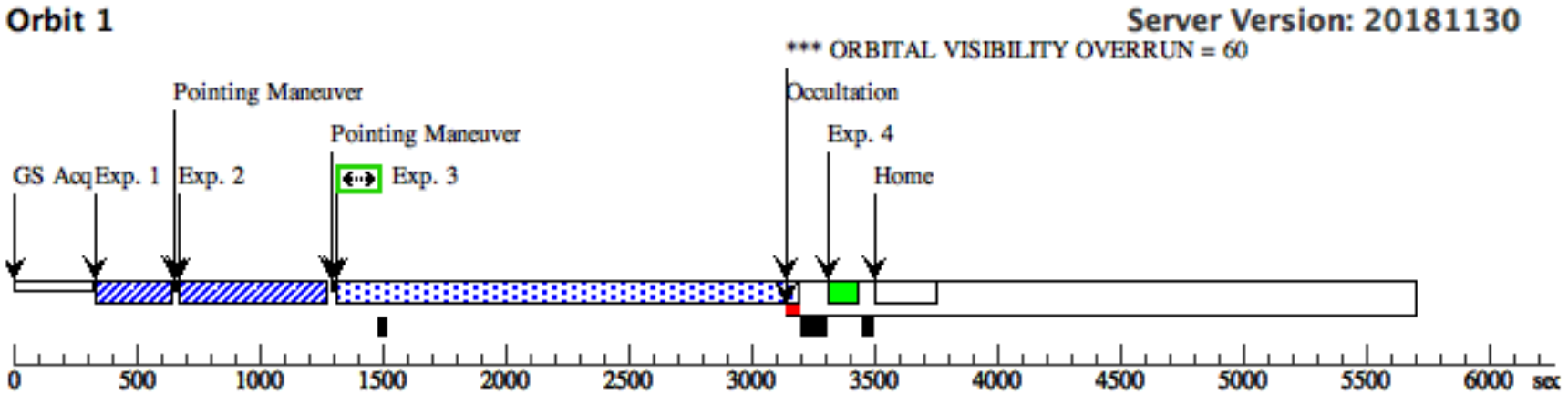
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(5)	-TET01-ORI-C	RA: 05 35 16.4637 (83.8185987d)	Proper Motion RA: -4.13 mas/yr	V=5.13	Reference Frame: ICRS
	Alt Name1: HD37022	Dec: -05 23 22.85 (-5.38968d)	Proper Motion Dec: 6.82 mas/yr		
		Equinox: J2000	Epoch of Position: 2000		
			Radial Velocity: 23.6 km/sec		

Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.
ICRS coordinates and proper motions updated.
Category=ISM
Description=[ABSORPTION LINE SYSTEM - GALACTIC]

Exposures

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	ACQ_T5 (STIS.ta.1010042)	(5) -TET01-ORI-C	STIS/CCD, ACQ, F25ND5	MIRROR				4 Secs (4 Secs)	
								[==>]	***[1]***
2	ACQ_PEAK_T5 (STIS.sp.1012115)	(5) -TET01-ORI-C	STIS/CCD, ACQ/PEAK, 31X0.05NDC	G230MB 1995 A				10 Secs (10 Secs)	
								[==>]	***[1]***
	Comments: Old: STIS.sp.1010045 6s 0.2x0.06								
3	SPEC_T5 (STIS.sp.1014236)	(5) -TET01-ORI-C	STIS/NUV-MAMA, ACCUM, 31X0.05NDC	E230M 1978 A	WAVECAL=NO			1714 Secs (1714 Secs)	
								[==>]	***[1]***
	Comments: ET 670s minimum (STIS.sp.930660)								
4	WAVECAL	WAVE	STIS/NUV-MAMA, ACCUM, 0.2X0.06	E230M 1978 A				*[==>]*	***[1]***

Orbit Structure



Visit

Proposal 15335, Target 6 IOT-ORI (06), completed Tue May 28 13:00:36 GMT 2019

Diagnostic Status: Warning

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

Special Requirements: (none)

Diagnostics

(Target 6 IOT-ORI (06)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN

Fixed Targets

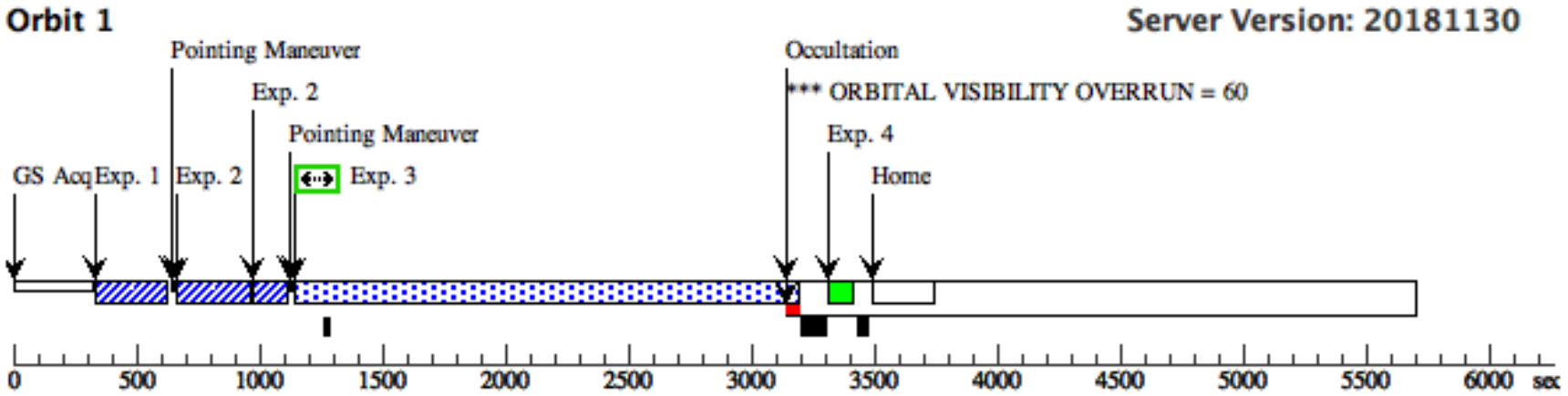
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(6)	-IOT-ORI	RA: 05 35 25.9819 (83.8582579d)	Proper Motion RA: 1.42 mas/yr	V=2.77	Reference Frame: ICRS
	Alt Name1: HD37043	Dec: -05 54 35.64 (-5.90990d)	Proper Motion Dec: -0.46 mas/yr		
		Equinox: J2000	Epoch of Position: 2000		
			Radial Velocity: 21.5 km/sec		

Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.
ICRS coordinates and proper motions updated.
Category=ISM
Description=[ABSORPTION LINE SYSTEM - GALACTIC]

Exposures

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	ACQ_T6 (STIS.ta.1010182)	(6) -IOT-ORI	STIS/CCD, ACQ, F25ND5	MIRROR				1 Secs (1 Secs) *[==>]*	 ***[1]***
2	ACQ_PEAK_T6 (STIS.ta.1048625)	(6) -IOT-ORI	STIS/CCD, ACQ/PEAK, 0.3X0.05ND	MIRROR				0.1 Secs (0.1 Secs) *[==>]*	 ***[1]***
3	SPEC_T6 (STIS.sp.1014237)	(6) -IOT-ORI	STIS/NUV-MAMA, ACCUM, 0.3X0.05ND	E230M 1978 A	WAVECAL=NO			1930 Secs (1930 Secs) *[==>]*	 ***[1]***
Comments: S/N=48. Old expectation S/N=50 for a 2025s exposure (STIS.sp.930562), but does not fit in one orbit.									
4	WAVECAL	WAVE	STIS/NUV-MAMA, ACCUM, 0.2X0.06	E230M 1978 A				*[==>]*	***[1]***

Orbit Structure



Visit

Proposal 15335, Target 7 ZET-ORI-A (07), completed Tue May 28 13:00:36 GMT 2019

Diagnostic Status: Warning

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

Special Requirements: (none)

Diagnostics

(Target 7 ZET-ORI-A (07)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN

Fixed Targets

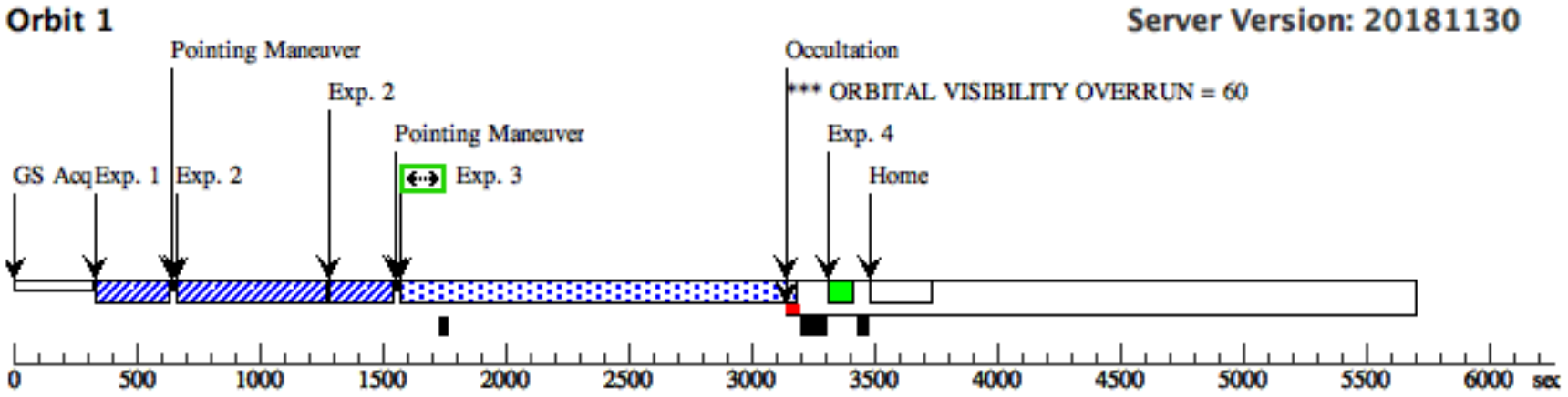
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(7)	-ZET-ORI-A	RA: 05 40 45.5270 (85.1896958d)	Proper Motion RA: 4.0 mas/yr	V=1.88+/-0.01	Reference Frame: ICRS
	Alt Name1: HD37742	Dec: -01 56 33.26 (-1.94257d)	Proper Motion Dec: 2.5 mas/yr		
		Equinox: J2000	Epoch of Position: 2000		
			Radial Velocity: 18.1 km/sec		

Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.
ICRS coordinates and proper motions updated.
Category=ISM
Description=[ABSORPTION LINE SYSTEM - GALACTIC]

Exposures

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	ACQ_T7 (STIS.ta.1010253)	(7) -ZET-ORI-A	STIS/CCD, ACQ, F25ND5	MIRROR				1 Secs (1 Secs) *[==>]*	 ***[1]***
2	ACQ_PEAK_T7	(7) -ZET-ORI-A	STIS/CCD, ACQ/PEAK, 0.3X0.05ND	G230LB 2375 A				16 Secs (16 Secs) *[==>]*	 ***[1]***
	Comments: Old setting G230MB 0.2x0.06 1s STIS.sp.1010262								
3	SPEC_T7 (STIS.sp.1038367)	(7) -ZET-ORI-A	STIS/NUV-MAMA, ACCUM, 0.3X0.05ND	E230M 1978 A	WAVECAL=NO			1464 Secs (1464 Secs) *[==>]*	 ***[1]***
	Comments: ET 940s min								
4	WAVECAL	WAVE	STIS/NUV-MAMA, ACCUM, 0.2X0.06	E230M 1978 A				*[==>]*	***[1]***

Orbit Structure



Visit

Proposal 15335, Target 8 HD62542 (08), completed Tue May 28 13:00:36 GMT 2019

Diagnostic Status: Warning

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

Special Requirements: (none)

Diagnostics

(Target 8 HD62542 (08)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN

Fixed Targets

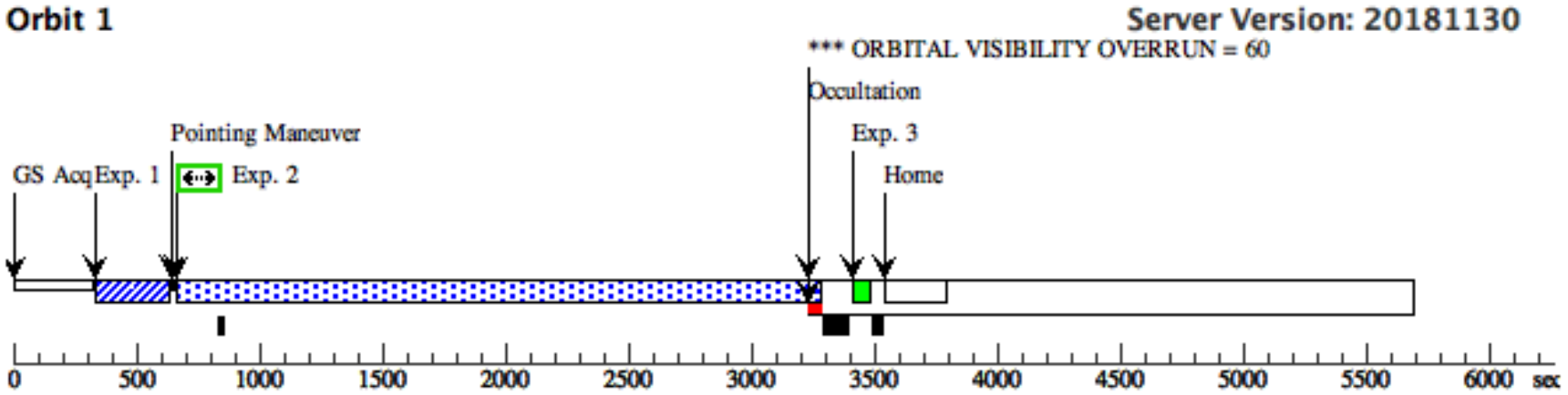
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(8)	HD-62542	RA: 07 42 37.2148 (115.6550617d) Dec: -42 13 47.83 (-42.22995d) Equinox: J2000	Proper Motion RA: -8.23 mas/yr Proper Motion Dec: 4.84 mas/yr Epoch of Position: 2000 Radial Velocity: 18.00 km/sec	V=8.03	Reference Frame: ICRS

Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.
ICRS coordinates and proper motions updated.
Category=ISM
Description=[ABSORPTION LINE SYSTEM - GALACTIC]

Exposures

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	ACQ_T8 (STIS.ta.1010273)	(8) HD-62542	STIS/CCD, ACQ, F25ND3	MIRROR				1 Secs (1 Secs) *[==>]*	*[1]*
2	SPEC_T8 (STIS.sp.1014241)	(8) HD-62542	STIS/NUV-MAMA, ACCUM, 6X0.2	E230M 1978 A	WAVECAL=NO			2455 Secs (2455 Secs) *[==>]*	*[1]*
	Comments: ET 1600s minimum (STIS.sp.1010272).								
3	WAVECAL	WAVE	STIS/NUV-MAMA, ACCUM, 6X0.2	E230M 1978 A				*[==>]*	*[1]*

Orbit Structure



Visit

Proposal 15335, Target 9 HD73882 (09), completed Tue May 28 13:00:36 GMT 2019

Diagnostic Status: Warning

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

Special Requirements: (none)

Diagnostics

(Target 9 HD73882 (09)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN

Fixed Targets

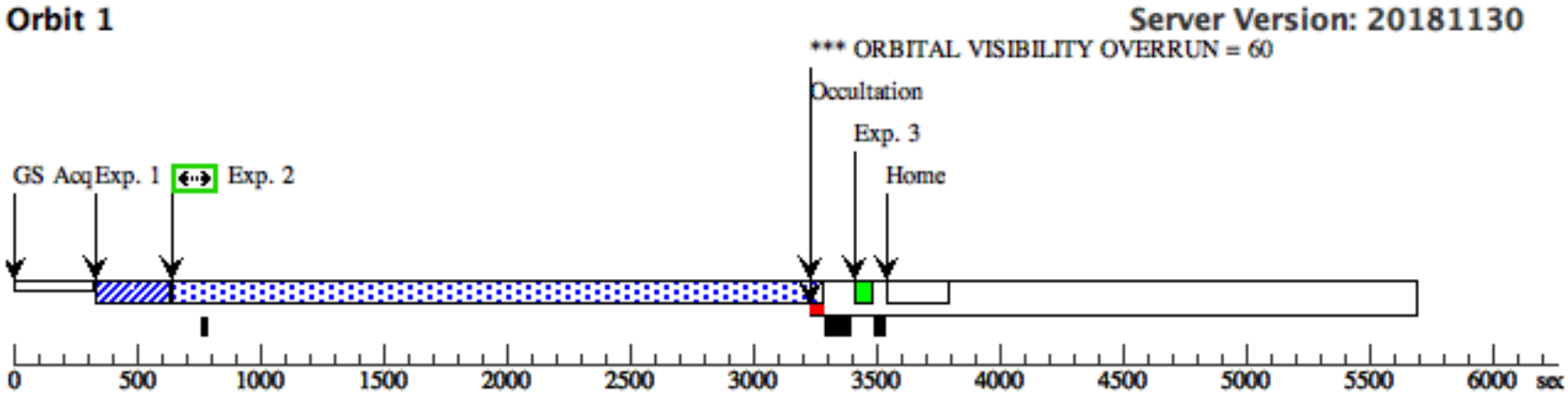
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(9)	HD-73882	RA: 08 39 9.5341 (129.7897254d) Dec: -40 25 9.26 (-40.41924d) Equinox: J2000	Proper Motion RA: -3.77 mas/yr Proper Motion Dec: 3.83 mas/yr Epoch of Position: 2000 Radial Velocity: 21.00 km/sec	V=7.19	Reference Frame: ICRS

Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.
ICRS coordinates and proper motions updated.
Category=ISM
Description=[ABSORPTION LINE SYSTEM - GALACTIC]

Exposures

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	ACQ_T9 (STIS.ta.1038373)	(9) HD-73882	STIS/CCD, ACQ, F25ND3	MIRROR				1 Secs (1 Secs) *[==>]*	*[1]*
2	SPEC_T9 (STIS.sp.1038374)	(9) HD-73882	STIS/NUV-MAMA, ACCUM, 0.2X0.2	E230M 1978 A	WAVECAL=NO			2523 Secs (2523 Secs) *[==>]*	*[1]*
	Comments: ET 1380s minimum (STIS.sp.1038371)								
3	WAVECAL	WAVE	STIS/NUV-MAMA, ACCUM, 0.2X0.2	E230M 1978 A				*[==>]*	*[1]*

Orbit Structure



Visit

Proposal 15335, Target 10 HD110432 (10), failed Tue May 28 13:00:36 GMT 2019

Diagnostic Status: Warning

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

Special Requirements: (none)

Diagnostics

(Target 10 HD110432 (10)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN

Fixed Targets

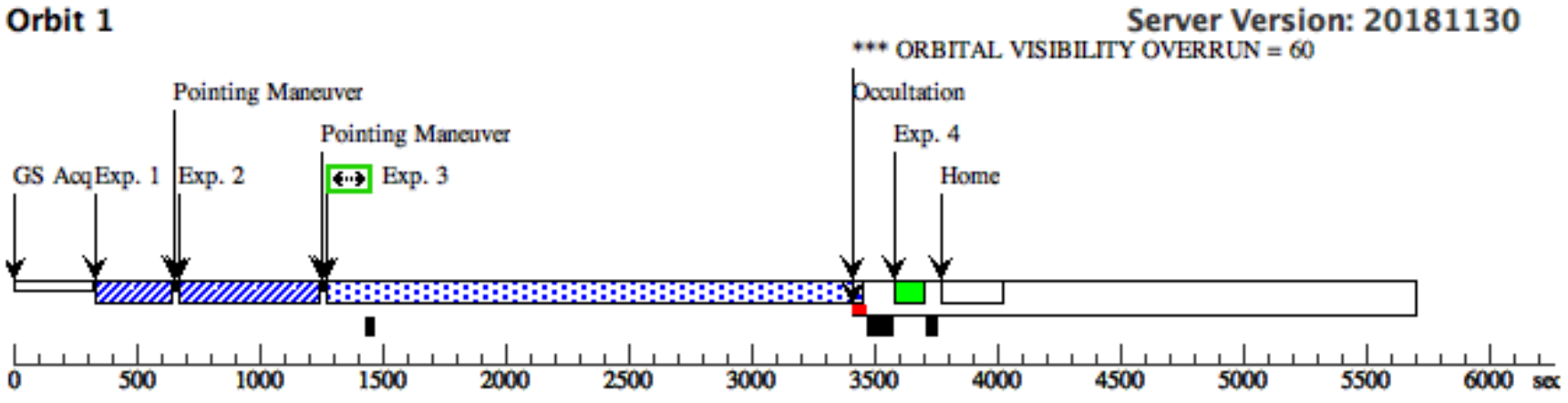
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(10)	HD-110432	RA: 12 42 50.2662 (190.7094425d) Dec: -63 03 31.05 (-63.05863d) Equinox: J2000	Proper Motion RA: -12.88 mas/yr Proper Motion Dec: -3.82 mas/yr Epoch of Position: 2000 Radial Velocity: 22.00 km/sec	V=5.31	Reference Frame: ICRS

Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.
ICRS coordinates and proper motions updated.
Category=ISM
Description=[ABSORPTION LINE SYSTEM - GALACTIC]

Exposures

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	ACQ_T10 (STIS.ta.1038376)	(10) HD-110432	STIS/CCD, ACQ, F25ND5	MIRROR				4 Secs (4 Secs) *[==>]*	***[1]***
2	ACQ_PEAK_T10 (STIS.sp.1012147)	(10) HD-110432	STIS/CCD, ACQ/PEAK, 31X0.05NDA	G230LB 2375 A				12 Secs (12 Secs) *[==>]*	***[1]***
	Comments: Old setting STIS.sp.1010311 4s 0.2x0.06								
3	SPEC_T10 (STIS.sp.1014247)	(10) HD-110432	STIS/NUV-MAMA, ACCUM, 31X0.05NDA	E230M 1978 A	WAVECAL=NO			2031 Secs (2031 Secs) *[==>]*	***[1]***
	Comments: ET 790s minimum (STIS.sp.1010301)								
4	WAVECAL	WAVE	STIS/NUV-MAMA, ACCUM, 0.2X0.06	E230M 1978 A				*[==>]*	***[1]***

Orbit Structure



Visit

Proposal 15335, Target 10 HD110432 (50) Tue May 28 13:00:36 GMT 2019

Diagnostic Status: Warning

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

Special Requirements: (none)

Comments: HOPR repeat of visit 10

Diagnostics

(Target 10 HD110432 (50)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN

Fixed Targets

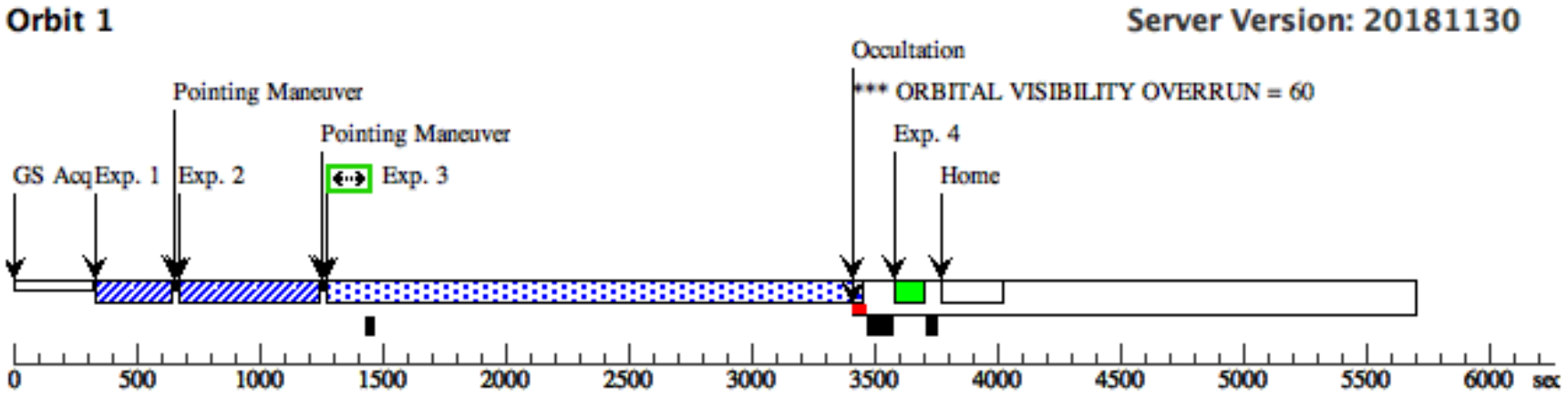
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(10)	HD-110432	RA: 12 42 50.2662 (190.7094425d) Dec: -63 03 31.05 (-63.05863d) Equinox: J2000	Proper Motion RA: -12.88 mas/yr Proper Motion Dec: -3.82 mas/yr Epoch of Position: 2000 Radial Velocity: 22.00 km/sec	V=5.31	Reference Frame: ICRS

Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.
ICRS coordinates and proper motions updated.
Category=ISM
Description=[ABSORPTION LINE SYSTEM - GALACTIC]

Exposures

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	ACQ_T10 (STIS.ta.1038376)	(10) HD-110432	STIS/CCD, ACQ, F25ND5	MIRROR				4 Secs (4 Secs) *[==>]*	***[1]***
2	ACQ_PEAK_T10 (STIS.sp.1012147)	(10) HD-110432	STIS/CCD, ACQ/PEAK, 31X0.05NDA	G230LB 2375 A				12 Secs (12 Secs) *[==>]*	***[1]***
	Comments: Old setting STIS.sp.1010311 4s 0.2x0.06								
3	SPEC_T10 (STIS.sp.1014247)	(10) HD-110432	STIS/NUV-MAMA, ACCUM, 31X0.05NDA	E230M 1978 A	WAVECAL=NO			2031 Secs (2031 Secs) *[==>]*	***[1]***
	Comments: ET 790s minimum (STIS.sp.1010301)								
4	WAVECAL	WAVE	STIS/NUV-MAMA, ACCUM, 0.2X0.06	E230M 1978 A				*[==>]*	***[1]***

Orbit Structure



Visit

Proposal 15335, Target 11 HR-4908 (11), completed Tue May 28 13:00:36 GMT 2019

Diagnostic Status: Warning

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

Special Requirements: (none)

Diagnostics

(Target 11 HR-4908 (11)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN

Fixed Targets

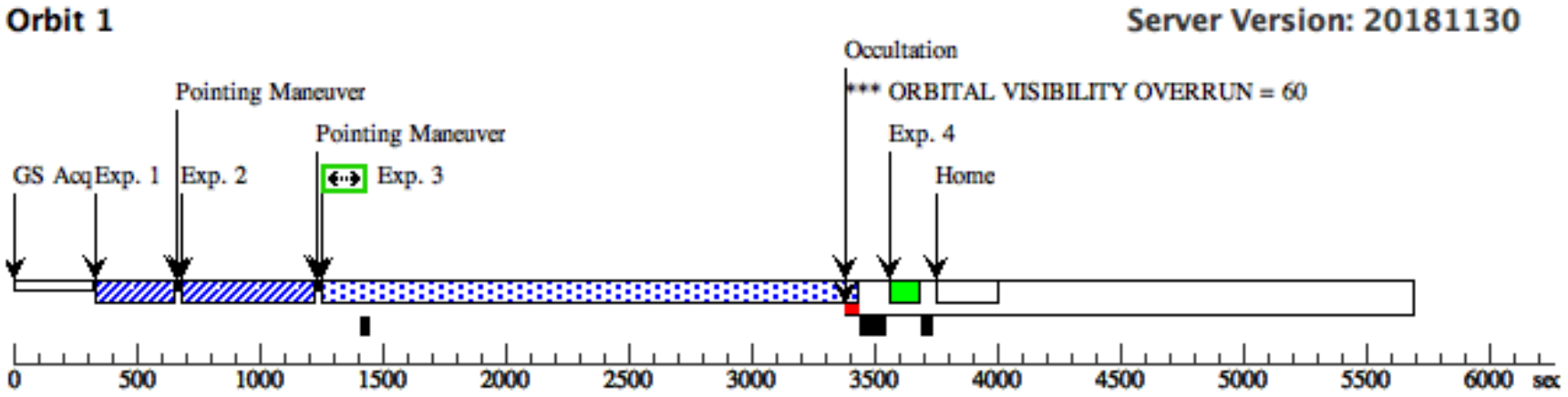
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(11)	HR-4908	RA: 12 55 57.1343 (193.9880596d)	Proper Motion RA: -5.10 mas/yr	V=5.32	Reference Frame: ICRS
	Alt Name1: HD112244	Dec: -56 50 8.90 (-56.83581d)	Proper Motion Dec: -0.56 mas/yr		
		Equinox: J2000	Epoch of Position: 2000		
			Radial Velocity: 18.50 km/sec		

Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.
ICRS coordinates and proper motions updated.
Category=ISM
Description=[ABSORPTION LINE SYSTEM - GALACTIC]

Exposures

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	ACQ_T11 (STIS.ta.1038383)	(11) HR-4908	STIS/CCD, ACQ, F25ND5	MIRROR				6 Secs (6 Secs) *[==>]*	 ***[1]***
2	ACQ_PEAK_T11 (STIS.sp.1038386)	(11) HR-4908	STIS/CCD, ACQ/PEAK, 31X0.05NDB	G230LB 2375 A				10 Secs (10 Secs) *[==>]*	 ***[1]***
3	SPEC_T11 (STIS.sp.1038387)	(11) HR-4908	STIS/NUV-MAMA, ACCUM, 31X0.05NDB	E230M 1978 A	WAVECAL=NO			2031 Secs (2031 Secs) *[==>]*	 ***[1]***
Comments: ET 387s minimum (STIS.sp.1038385, 107,000 c/s) - within MAMA bright limit (hotter star O9V positively tested, STIS.sp.1038389, 144,000 c/s).									
4	WAVECAL	WAVE	STIS/NUV-MAMA, ACCUM, 0.2X0.06	E230M 1978 A				*[==>]*	***[1]***

Orbit Structure



Visit

Proposal 15335, Target 12 TET-MUS-A (12), completed Tue May 28 13:00:36 GMT 2019

Diagnostic Status: Warning

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

Special Requirements: ORIENT 119D TO 175 D; ORIENT 299D TO 355 D

Comments: The Orient constraints exclude Tet Mus B, and also roughly align the slit with PA=102 (corresponding to Rotation Angle = 147), which is the inclination of the binary that compose Tet Mus A (separation 25-41 mas).

Diagnostics

(Target 12 TET-MUS-A (12)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(12)	-TET-MUS-A	RA: 13 08 7.1550 (197.0298125d)	Proper Motion RA: -1.9 mas/yr	V=5.662+/-0.009	Reference Frame: ICRS
	Alt Name1: HD113904A	Dec: -65 18 21.51 (-65.30597d)	Proper Motion Dec: 19.0 mas/yr		
		Equinox: J2000	Epoch of Position: 2000		

Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.
Category=ISM
Description=[ABSORPTION LINE SYSTEM - GALACTIC]

Exposures

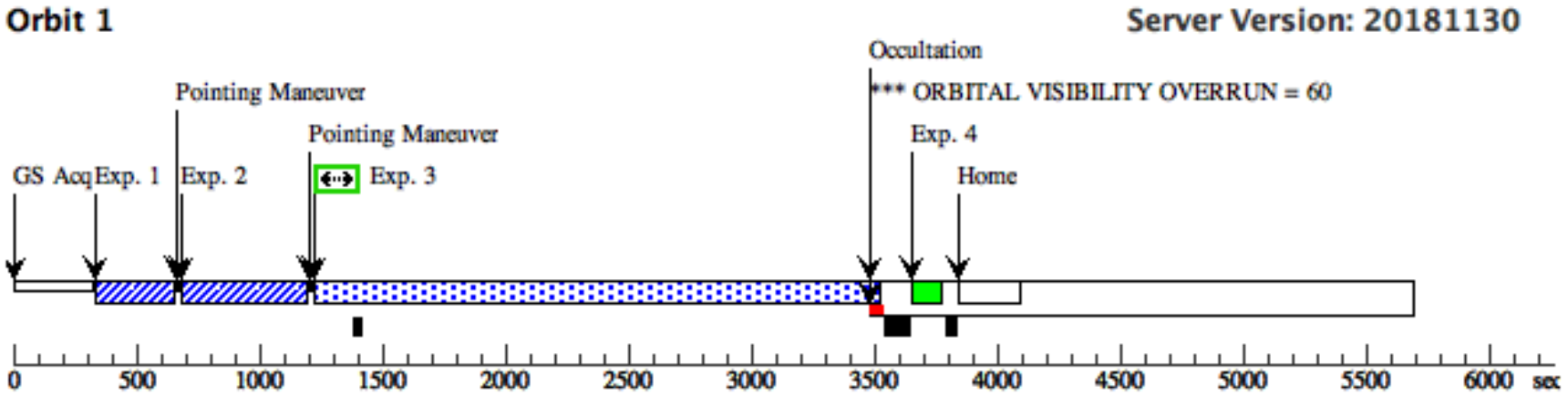
#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	ACQ_T12 (STIS.ta.1038400)	(12) -TET-MUS-A	STIS/CCD, ACQ, F25ND5	MIRROR				7 Secs (7 Secs) *[==>]*	*[1]*
2	ACQ_PEAK_T12 (STIS.sp.1038403)	(12) -TET-MUS-A	STIS/CCD, ACQ/PEAK, 31X0.05NDB	G230LB 2375 A				8 Secs (8 Secs) *[==>]*	*[1]*
3	SPEC_T12 (STIS.sp.1038404)	(12) -TET-MUS-A	STIS/NUV-MAMA, ACCUM, 31X0.05NDB	E230M 1978 A	WAVECAL=NO			2156 Secs (2156 Secs) *[==>]*	*[1]*

Comments: Binary composed by:
1) WC5 + B0III, V=5.68, U-B=-0.87
2) 09IV, V=7.66, U-B=-0.90
---> Assuming a B0III spectrum, normalized at V=5.51. Min ET 300s (STIS.sp.1038394, 136,000 c/s, non-variable source)

[Conservatively assuming a O7V star: 175,000 c/s, STIS.sp.1038395]

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
4	WAVECAL	WAVE	STIS/NUV-MAMA, ACCUM, 0.2X0.06	E230M 1978 A				*[==>]*	*[1]*

Orbit Structure



Visit

Proposal 15335, Target 13 RHO-OPH-A (13), completed Tue May 28 13:00:36 GMT 2019

Diagnostic Status: Warning

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

Special Requirements: ORIENT 40D TO 170 D; ORIENT 220D TO 350 D

Comments: Orient Constraints to avoid rho Oph B and also the nearby companion rho Oph (0.37" away)

Diagnostics

(Target 13 RHO-OPH-A (13)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(13)	-RHO-OPH-A	RA: 16 25 35.1420 (246.3964250d)	Proper Motion RA: 35.1 mas/yr	V=5.05	Reference Frame: ICRS
	Alt Name1: HD147933	Dec: -23 26 49.90 (-23.44719d)	Proper Motion Dec: -31.9 mas/yr		
		Equinox: J2000	Epoch of Position: 2000		
			Radial Velocity: -10 km/sec		

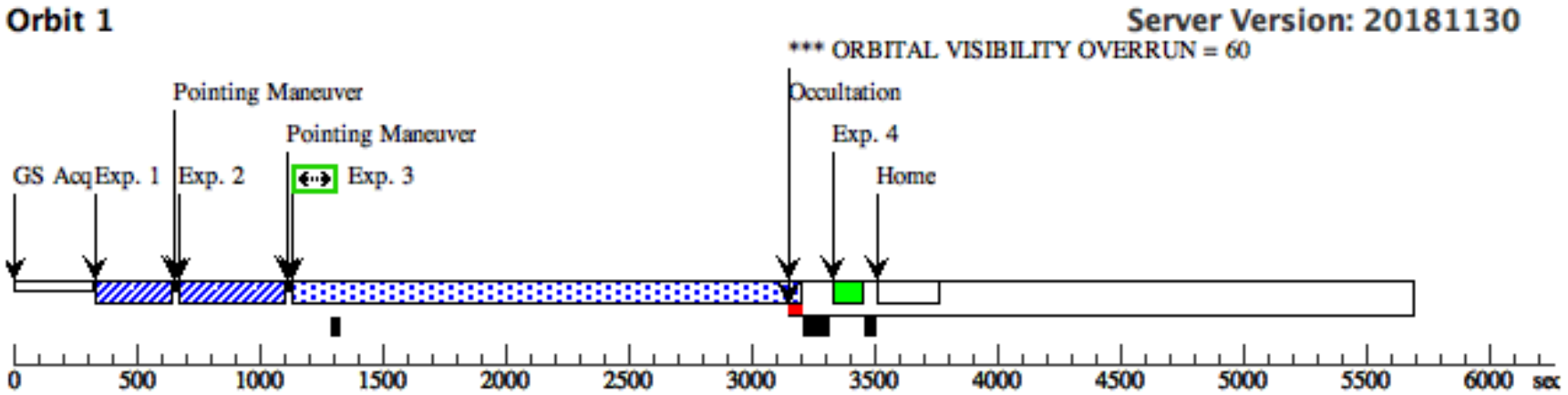
Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.
ICRS coordinates and proper motions updated (Feb 6 2018).

Old coordinates: RA 16 25 35.1010 Dec -23 26 48.70 PM -9.6 -19.0 mas/yr
Category=ISM
Description=[ABSORPTION LINE SYSTEM - GALACTIC]

Exposures

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	ACQ_T13 (STIS.ta.1038510)	(13) -RHO-OPH-A	STIS/CCD, ACQ, F25ND5	MIRROR				4 Secs (4 Secs)	
								[==>]	***[1]***
2	ACQ_PEAK_T13 (STIS.sp.1038520)	(13) -RHO-OPH-A	STIS/CCD, ACQ/PEAK, 31X0.05NDB	G430L 4300 A				3 Secs (3 Secs)	
								[==>]	***[1]***
	Comments: Similar for classical MW extinction law (STIS.sp.1038519)								
3	SPEC_T13 (STIS.sp.1038521)	(13) -RHO-OPH-A	STIS/NUV-MAMA, ACCUM, 31X0.05NDB	E230M 1978 A	WAVECAL=NO			1919 Secs (1919 Secs)	
								[==>]	***[1]***
	Comments: Assuming a Rv=5 dense MW extinction. ET 580s minimum (STIS.sp.1038515). ET 1420s minimum for classic MW extinction (STIS.sp.1010979)								
4	WAVECAL	WAVE	STIS/NUV-MAMA, ACCUM, 0.2X0.06	E230M 1978 A				*[==>]*	***[1]***

Orbit Structure



Visit

Proposal 15335, Target 14 CHI-OPH (14), completed Tue May 28 13:00:36 GMT 2019

Diagnostic Status: Warning

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

Special Requirements: (none)

Diagnostics

(Target 14 CHI-OPH (14)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN

Fixed Targets

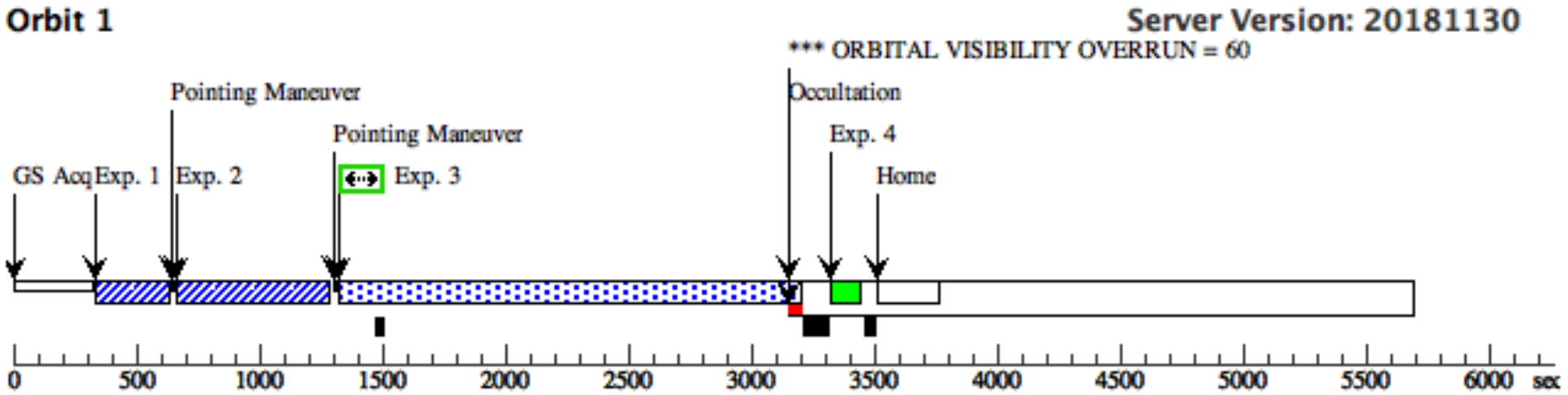
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(14)	-CHI-OPH	RA: 16 27 1.4350 (246.7559792d)	Proper Motion RA: -5.41 mas/yr	V=4.43	Reference Frame: ICRS
	Alt Name1: HD148184	Dec: -18 27 22.49 (-18.45625d)	Proper Motion Dec: -21.12 mas/yr		
		Equinox: J2000	Epoch of Position: 2000		
			Radial Velocity: -19.00 km/sec		

Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.
ICRS coordinates and proper motions updated.
Category=ISM
Description=[ABSORPTION LINE SYSTEM - GALACTIC]

Exposures

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	ACQ_T14 (STIS.ta.1038524)	(14) -CHI-OPH	STIS/CCD, ACQ, F25ND5	MIRROR				2 Secs (2 Secs) *[==>]*	*[1]*
2	ACQ_PEAK_T14 (STIS.sp.1012191)	(14) -CHI-OPH	STIS/CCD, ACQ/PEAK, 31X0.05NDB	G230LB 2375 A				15 Secs (15 Secs) *[==>]*	*[1]*
	Comments: Old setting STIS.sp.1011012 2s 0.2x0.06								
3	SPEC_T14 (STIS.sp.1038532)	(14) -CHI-OPH	STIS/NUV-MAMA, ACCUM, 31X0.05NDB	E230M 1978 A	WAVECAL=NO			1734 Secs (1734 Secs) *[==>]*	*[1]*
	Comments: Assuming Rv=5 dense MW extinction. ET 390s minimum, 108,197 counts/s (STIS.sp.1038526; 45,000 for normal Rv, STIS.sp.1011008). *The star VIS mag varies between 4.8 and 4.0 mag (AAVSO). If V=4.0 then 160,000 count/s (STIS.sp.1038530; 65,299 for normal Rv, STIS.sp.1038529)*								
4	WAVECAL	WAVE	STIS/NUV-MAMA, ACCUM, 0.2X0.06	E230M 1978 A				*[==>]*	*[1]*

Orbit Structure



Visit

Proposal 15335, Target 15 HD149404 (15), completed Tue May 28 13:00:36 GMT 2019

Diagnostic Status: Warning

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

Special Requirements: (none)

Diagnostics

(Target 15 HD149404 (15)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN

Fixed Targets

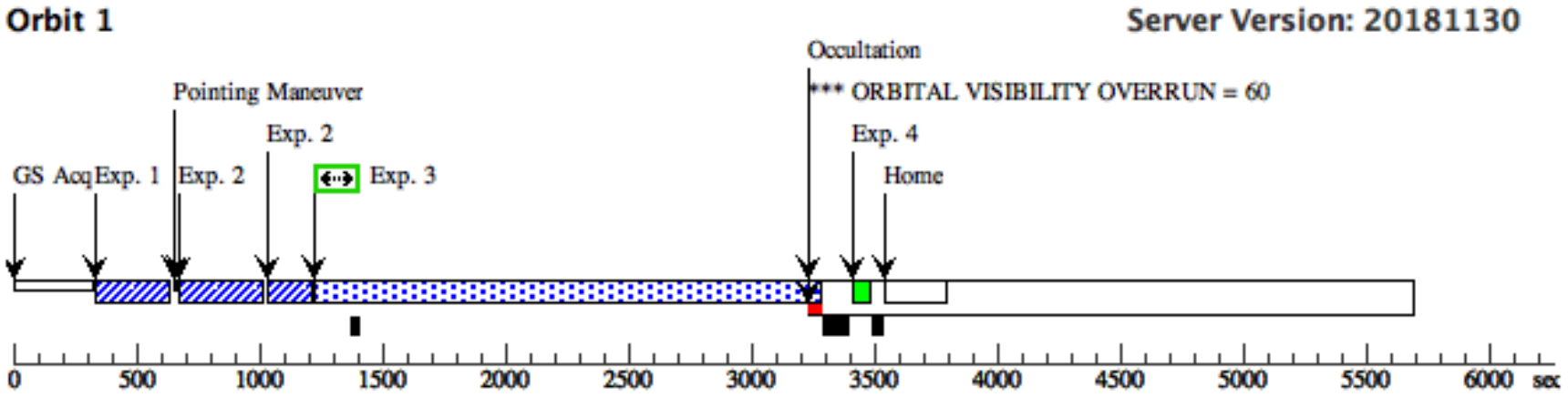
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(15)	HD-149404	RA: 16 36 22.5617 (249.0940071d) Dec: -42 51 31.90 (-42.85886d) Equinox: J2000	Proper Motion RA: -5.39 mas/yr Proper Motion Dec: -2.25 mas/yr Epoch of Position: 2000 Radial Velocity: -52.50 km/sec	V=5.47	Reference Frame: ICRS

Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.
ICRS coordinates and proper motions updated.
Category=ISM
Description=[ABSORPTION LINE SYSTEM - GALACTIC]

Exposures

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	ACQ_T15 (STIS.ta.1011081)	(15) HD-149404	STIS/CCD, ACQ, F25ND5	MIRROR				3 Secs (3 Secs) *[==>]*	***[1]***
2	ACQ_PEAK_T15 (STIS.sp.1038540)	(15) HD-149404	STIS/CCD, ACQ/PEAK, 0.2X0.06	G230LB 2375 A				6 Secs (6 Secs) *[==>]*	***[1]***
3	SPEC_T15 (STIS.sp.1038541)	(15) HD-149404	STIS/NUV-MAMA, ACCUM, 0.2X0.06	E230M 1978 A	WAVECAL=NO			1915 Secs (1915 Secs) *[==>]*	***[1]***
Comments: Assuming O9V star, 146,000 counts/s. The source does not vary significantly. Minimum ET 319s (STIS.sp.1038537)									
4	WAVECAL	WAVE	STIS/NUV-MAMA, ACCUM, 0.2X0.06	E230M 1978 A				*[==>]*	***[1]***

Orbit Structure



Visit

Proposal 15335, Target 16 ZET01-SCO (16), completed Tue May 28 13:00:36 GMT 2019

Diagnostic Status: Warning

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

Special Requirements: (none)

Diagnostics

(Target 16 ZET01-SCO (16)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN

Fixed Targets

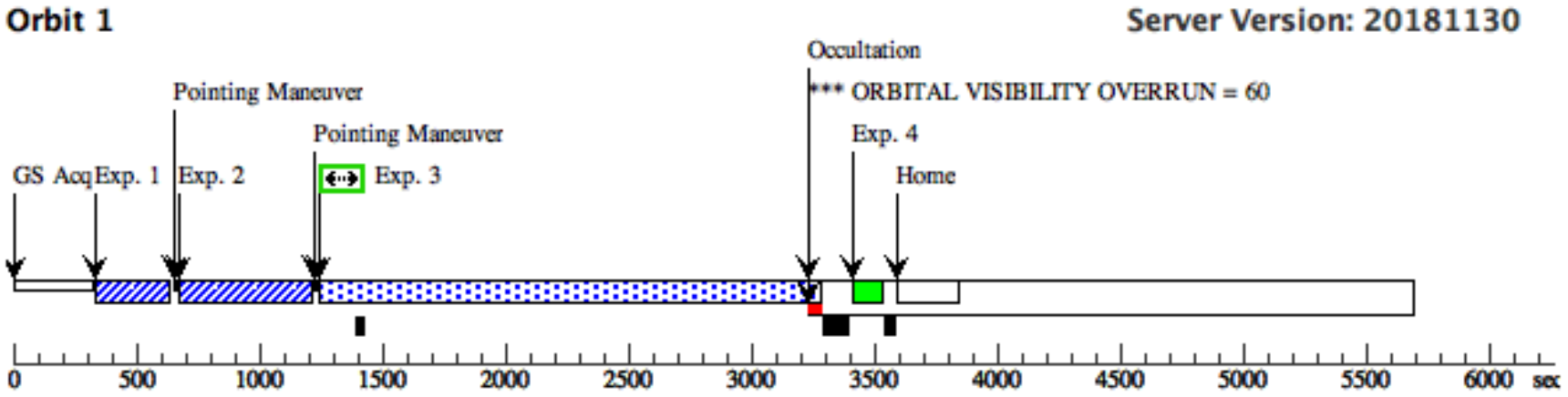
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(16)	-ZET01-SCO	RA: 16 53 59.7265 (253.4988604d)	Proper Motion RA: -1.01 mas/yr	V=4.79	Reference Frame: ICRS
	Alt Name1: HD152236	Dec: -42 21 43.31 (-42.36203d)	Proper Motion Dec: -4.01 mas/yr		
		Equinox: J2000	Epoch of Position: 2000		
			Radial Velocity: -26.00 km/sec		

Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.
ICRS coordinates and proper motions updated.
Category=ISM
Description=[ABSORPTION LINE SYSTEM - GALACTIC]

Exposures

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	ACQ_T16 (STIS.ta.1011164)	(16) -ZET01-SCO	STIS/CCD, ACQ, F25ND5	MIRROR				3 Secs (3 Secs)	
								[==>]	***[1]***
2	ACQ_PEAK_T16 (STIS.sp.1012203)	(16) -ZET01-SCO	STIS/CCD, ACQ/PEAK, 31X0.05NDA	G230LB 2375 A				10 Secs (10 Secs)	
								[==>]	***[1]***
3	SPEC_T16 (STIS.sp.1038545)	(16) -ZET01-SCO	STIS/NUV-MAMA, ACCUM, 31X0.05NDA	E230M 1978 A	WAVECAL=NO			1894 Secs (1894 Secs)	
								[==>]	***[1]***
Comments: ET 650s minimum for S/N=50 (STIS.sp.1011142), 74000 counts/s assuming spectral type B0I. The star is in fact classified as B1Ia, so it should be a bit colder, i.e. we expect less counts/s (for a B5I type, S/N = 44, so we excpect a better S/N than this, STIS.sp.1038546). The 0.2x0.06 setting exceeds MAMA Bright limits for a B0I star.									
4	WAVECAL	WAVE	STIS/NUV-MAMA, ACCUM, 0.2X0.06	E230M 1978 A				*[==>]*	***[1]***

Orbit Structure



Visit

Proposal 15335, Target 17 HD154368 (17), completed Tue May 28 13:00:36 GMT 2019

Diagnostic Status: Warning

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

Special Requirements: (none)

Diagnostics

(Target 17 HD154368 (17)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN

Fixed Targets

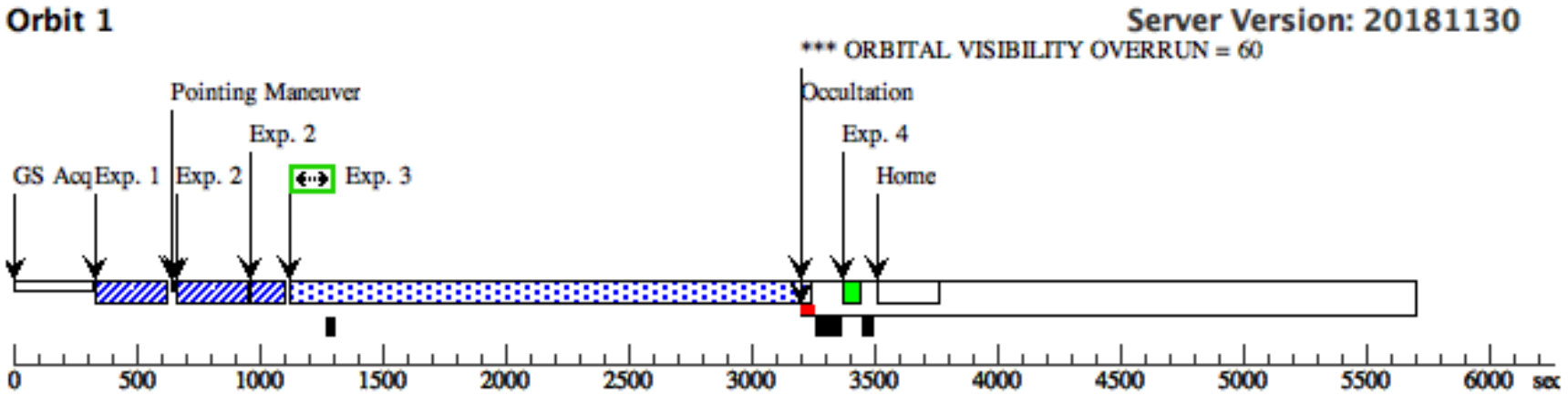
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(17)	HD-154368	RA: 17 06 28.3696 (256.6182067d) Dec: -35 27 3.77 (-35.45105d) Equinox: J2000	Proper Motion RA: 2.25 mas/yr Proper Motion Dec: -3.37 mas/yr Epoch of Position: 2000 Radial Velocity: 3.50 km/sec	V=6.13	Reference Frame: ICRS

Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.
ICRS coordinates and proper motions updated.
Category=ISM
Description=[ABSORPTION LINE SYSTEM - GALACTIC]

Exposures

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	ACQ_T17 (STIS.ta.1038557)	(17) HD-154368	STIS/CCD, ACQ, F25ND3	MIRROR				0.1 Secs (0.1 Secs) *[==>]*	*[1]*
2	ACQ_PEAK_T17 (STIS.sp.1038563)	(17) HD-154368	STIS/CCD, ACQ/PEAK, 0.2X0.06	G430L 4300 A				1.5 Secs (1.5 Secs) *[==>]*	*[1]*
3	SPEC_T17 (STIS.sp.1038566)	(17) HD-154368	STIS/NUV-MAMA, ACCUM, 0.2X0.06	E230M 1978 A	WAVECAL=NO			1978 Secs (1978 Secs) *[==>]*	*[1]*
Comments: ET 1400s minimum									
4	WAVECAL	WAVE	STIS/NUV-MAMA, ACCUM, 0.2X0.06	E230M 1978 A				*[==>]*	*[1]*

Orbit Structure



Visit

Proposal 15335, Target 18 HD164402 (18), completed Tue May 28 13:00:36 GMT 2019

Diagnostic Status: Warning

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

Special Requirements: ORIENT 135D TO 295 D; ORIENT 315D TO 115 D

Comments: Orient constraints to avoid BD-22 4503B (V~12.8mag, ~10"away)

Diagnostics

(Target 18 HD164402 (18)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN

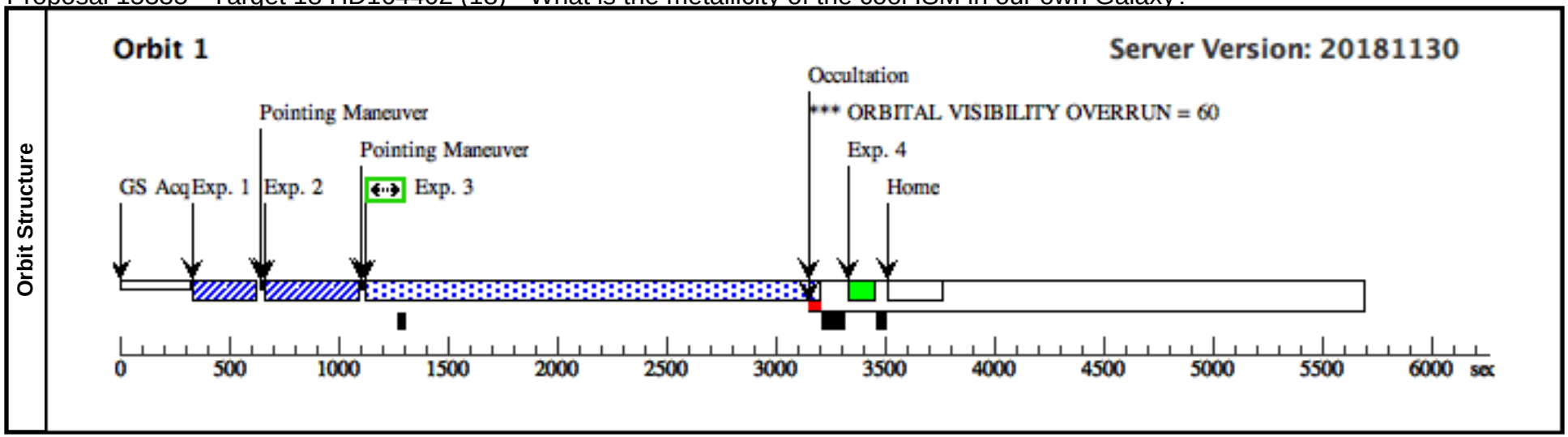
Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(18)	HD-164402	RA: 18 01 54.3813 (270.4765887d) Dec: -22 46 49.06 (-22.78029d) Equinox: J2000	Proper Motion RA: 0.61 mas/yr Proper Motion Dec: -1.63 mas/yr Epoch of Position: 2000 Radial Velocity: 4.20 km/sec	V=5.77	Reference Frame: ICRS

Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.
ICRS coordinates and proper motions updated.
Category=ISM
Description=[ABSORPTION LINE SYSTEM - GALACTIC]

Exposures

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	ACQ_T18 (STIS.ta.1038585)	(18) HD-164402	STIS/CCD, ACQ, F25ND3	MIRROR				0.1 Secs (0.1 Secs) *[==>]*	***[1]***
2	ACQ_PEAK_T18 (STIS.sp.1038591)	(18) HD-164402	STIS/CCD, ACQ/PEAK, 31X0.05NDB	G430L 4300 A				3 Secs (3 Secs) *[==>]*	***[1]***
	Comments: Old setting STIS.sp.1011256 1s 0.2x0.06								
3	SPEC_T18 (STIS.sp.1038588)	(18) HD-164402	STIS/NUV-MAMA, ACCUM, 31X0.05NDB	E230M 1978 A	WAVECAL=NO			1934 Secs (1934 Secs) *[==>]*	***[1]***
	Comments: 79,000 counts/s. IUE spectrum brighter by 50% @2000A, still within the MAMA bright limit. Not a variable star. ET 526s minimum (STIS.sp.1038588).								
4	WAVECAL	WAVE	STIS/NUV-MAMA, ACCUM, 0.2X0.06	E230M 1978 A				*[==>]*	***[1]***


Orbit Structure
Orbit 1
Server Version: 20181130
Occultation
*** ORBITAL VISIBILITY OVERRUN = 60
Pointing Maneuver
Pointing Maneuver
Exp. 4
GS Acq
Exp. 1
Exp. 2
Exp. 3
Home
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
6000
sec

Visit

Proposal 15335, Target 19 15-SGR (19), completed Tue May 28 13:00:36 GMT 2019

Diagnostic Status: Warning

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

Special Requirements: (none)

Diagnostics

(Target 19 15-SGR (19)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN

Fixed Targets

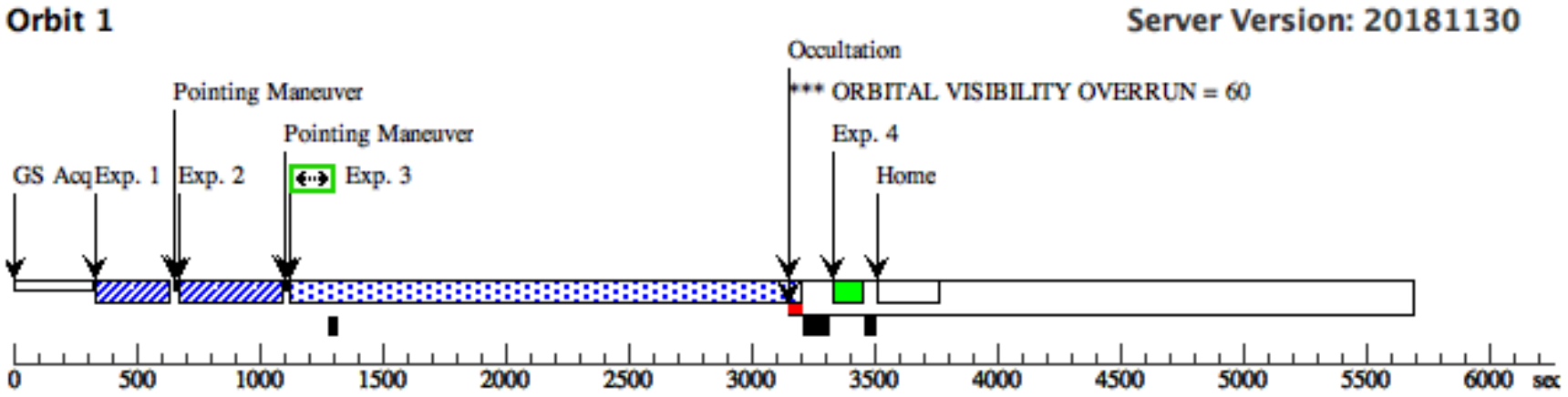
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(19)	-15-SGR	RA: 18 15 12.9064 (273.8037767d)	Proper Motion RA: 1.60 mas/yr	V=5.37	Reference Frame: ICRS
	Alt Name1: HD167264	Dec: -20 43 41.77 (-20.72827d)	Proper Motion Dec: -1.51 mas/yr		
		Equinox: J2000	Epoch of Position: 2000		
			Radial Velocity: -6.3 km/sec		

Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.
ICRS coordinates and proper motions updated.
Category=ISM
Description=[ABSORPTION LINE SYSTEM - GALACTIC]

Exposures

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	ACQ_T19 (STIS.ta.1011289)	(19) -15-SGR	STIS/CCD, ACQ, F25ND5	MIRROR				3 Secs (3 Secs)	
								[==>]	***[1]***
2	ACQ_PEAK_T19 (STIS.sp.1038598)	(19) -15-SGR	STIS/CCD, ACQ/PEAK, 31X0.05NDB	G430L 4300 A				2.5 Secs (2.5 Secs)	
								[==>]	***[1]***
3	SPEC_T19 (STIS.sp.1038599)	(19) -15-SGR	STIS/NUV-MAMA, ACCUM, 31X0.05NDB	E230M 1978 A	WAVECAL=NO			1931 Secs (1931 Secs)	
								[==>]	***[1]***
Comments: 84,000 counts/s. IUE flux brighter by 50% at 2000A, still below the MAMA bright limit. Not a variable star. ET 505s minimum (STIS.sp.1038593)									
4	WAVECAL	WAVE	STIS/NUV-MAMA, ACCUM, 0.2X0.06	E230M 1978 A				*[==>]*	***[1]***

Orbit Structure



Visit

Proposal 15335, Target 20 KAP-AQL (20), completed Tue May 28 13:00:36 GMT 2019

Diagnostic Status: Warning

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

Special Requirements: (none)

Diagnostics

(Target 20 KAP-AQL (20)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(20)	-KAP-AQL	RA: 19 36 53.4495 (294.2227062d)	Proper Motion RA: 1.63 mas/yr	V=4.96+/-0.009	Reference Frame: ICRS
	Alt Name1: HD184915	Dec: -07 01 38.92 (-7.02748d)	Proper Motion Dec: -2.65 mas/yr		
		Equinox: J2000	Epoch of Position: 2000		
			Radial Velocity: -19.40 km/sec		

Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.
ICRS coordinates and proper motions updated.
Category=ISM
Description=[ABSORPTION LINE SYSTEM - GALACTIC]

Exposures

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	ACQ_T20 (STIS.ta.1038602)	(20) -KAP-AQL	STIS/CCD, ACQ, F25ND3	MIRROR				0.1 Secs (0.1 Secs) *[==>]*	***[1]***
2	ACQ_PEAK_T20 (STIS.sp.1012240)	(20) -KAP-AQL	STIS/CCD, ACQ/PEAK, 31X0.05NDC	G230LB 2375 A				7 Secs (7 Secs) *[==>]*	***[1]***
3	SPEC_T20 (STIS.sp.1014254)	(20) -KAP-AQL	STIS/NUV-MAMA, ACCUM, 31X0.05NDC	E230M 1978 A	WAVECAL=NO			1857 Secs (1857 Secs) *[==>]*	***[1]***

Comments: MAMA bright limit warning, above the threshold for variable targets.
The target is a Type B0.5III star. Refining ETC by using the observed IUE spectrum, or by normalizing the model spectrum with the observed IUE flux (1.7e-10 flam at 2560 AA), and assessing variability of the source.

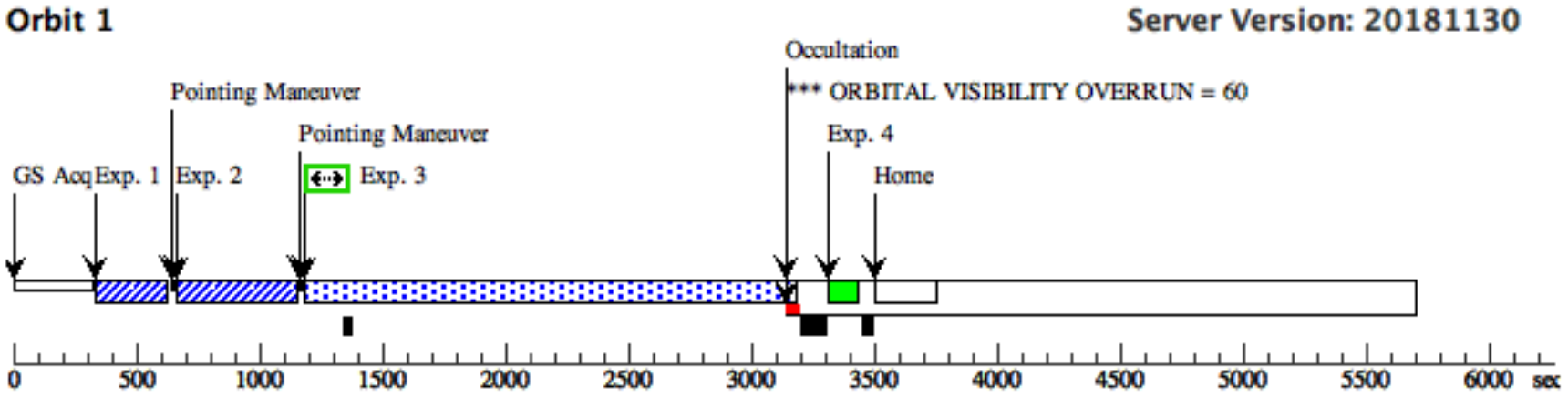
Direct IUE spectrum (lr11090): 50,000 counts/s STIS.sp.1012915
Castelli-Kurucz Models B0III + normalization by Vmag: 100,000 counts/s STIS.sp.1011305
Castelli-Kurucz Models B0III + normalization by IUE flux: 90,000 counts/s STIS.sp.1012035
Kurucz Models B0V + normalization by IUE flux: 92000 counts/s STIS.sp.1012036

The source does not seem to vary:
- in general: the fraction of variables in thei s class seems to be 6-15%, with variability amplitudes of 6-8mmag (see https://www.cosmos.esa.int/documents/532822/546798/oral05_01.pdf).
- for kap Aql: the scatter in both the measured V magnitude and B-V is 0.03 mag since 1954 (see simbad, http://simbad.u-strasbg.fr/simbad/sim-id?mescat.iue=on&mescat.ubv=on&mescat.uvby1=on&Ident=@2617798&Name=+kap+Aql&submit=display+selected+measurements#lab_meas)*

Conservative alternative: 0.2X0.05ND aperture, 2x758s give S/N=34 (STIS.sp.1011320)

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
4	WAVECAL	WAVE	STIS/NUV-MAMA, ACCUM, 0.2X0.06	E230M 1978 A				*[==>]*	***[1]***

Orbit Structure



Visit

Proposal 15335, Target 21 HD188439 (21), completed Tue May 28 13:00:36 GMT 2019

Diagnostic Status: Warning

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

Special Requirements: ORIENT 45D TO 198 D; ORIENT 225D TO 18 D

Comments: Orient Constraints to avoid N2HG088828 source in the GSC.

Diagnostics

(Target 21 HD188439 (21)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN

Fixed Targets

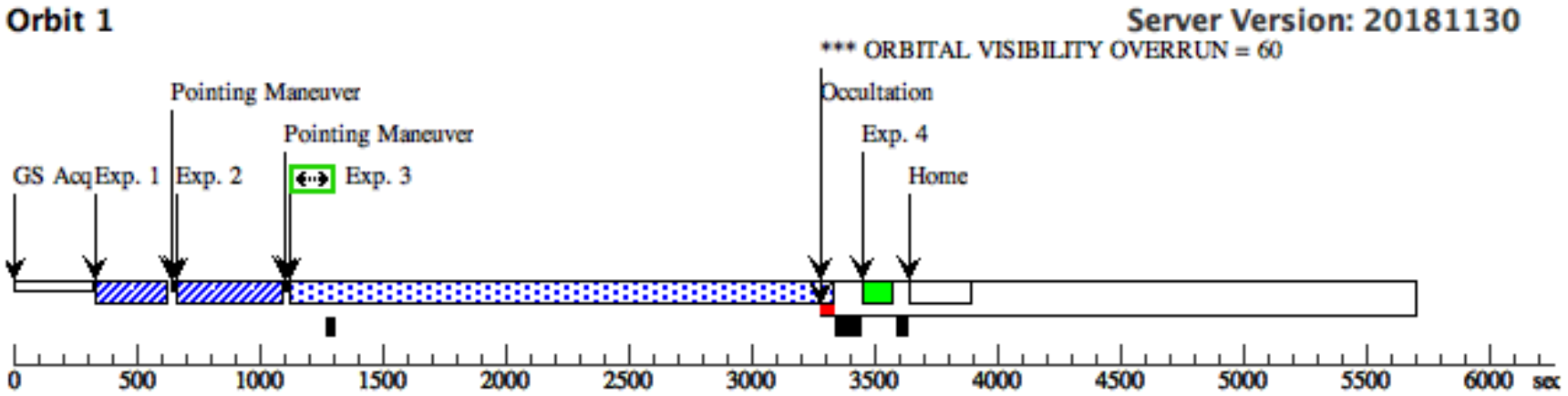
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(21)	HD-188439	RA: 19 53 1.2462 (298.2551925d) Dec: +47 48 27.79 (47.80772d) Equinox: J2000	Proper Motion RA: -7.01 mas/yr Proper Motion Dec: -7.49 mas/yr Epoch of Position: 2000 Radial Velocity: -69.30 km/sec	V=6.279+/-0.010	Reference Frame: ICRS

Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.
ICRS coordinates and proper motions updated.
Category=ISM
Description=[ABSORPTION LINE SYSTEM - GALACTIC]

Exposures

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	ACQ_T21 (STIS.ta.1038610)	(21) HD-188439	STIS/CCD, ACQ, F25ND3	MIRROR				0.2 Secs (0.2 Secs) *[==>]*	***[1]***
2	ACQ_PEAK_T21 (STIS.sp.1038617)	(21) HD-188439	STIS/CCD, ACQ/PEAK, 31X0.05NDB	G430L 4300 A				3 Secs (3 Secs) *[==>]*	***[1]***
	Comments: Pld setting STIS.sp.1011375 1s 0.2x0.06								
3	SPEC_T21 (STIS.sp.1038619)	(21) HD-188439	STIS/NUV-MAMA, ACCUM, 31X0.05NDB	E230M 1978 A	WAVECAL=NO			2062 Secs (2062 Secs) *[==>]*	***[1]***
	Comments: 120,000 counts/s. Not a variable star. ET 335s minimum (STIS.sp.1038612)								
4	WAVECAL	WAVE	STIS/NUV-MAMA, ACCUM, 0.2X0.06	E230M 1978 A				*[==>]*	***[1]***

Orbit Structure



Visit

Proposal 15335, Target 22 HD199579 (22), completed Tue May 28 13:00:36 GMT 2019

Diagnostic Status: Warning

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

Special Requirements: (none)

Diagnostics

(Target 22 HD199579 (22)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN

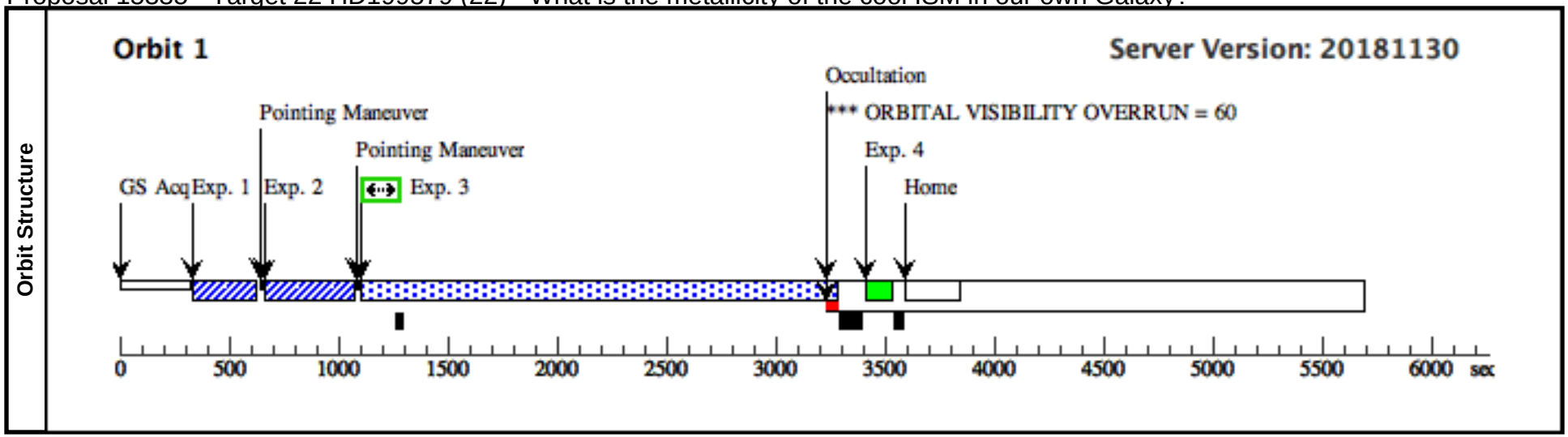
Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(22)	HD-199579	RA: 20 56 34.7783 (314.1449096d) Dec: +44 55 29.00 (44.92472d) Equinox: J2000	Proper Motion RA: 0.38 mas/yr Proper Motion Dec: -1.55 mas/yr Epoch of Position: 2000 Radial Velocity: 6.40 km/sec	V=5.96	Reference Frame: ICRS

Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.
ICRS coordinates and proper motions updated.
Category=ISM
Description=[ABSORPTION LINE SYSTEM - GALACTIC]

Exposures

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	ACQ_T22 (STIS.ta.1038633)	(22) HD-199579	STIS/CCD, ACQ, F25ND3	MIRROR				0.5 Secs (0.5 Secs) *[==>]*	*[1]*
2	ACQ_PEAK_T22 (STIS.sp.1038637)	(22) HD-199579	STIS/CCD, ACQ/PEAK, 31X0.05NDA	G430L 4300 A				2 Secs (2 Secs) *[==>]*	*[1]*
3	SPEC_T22 (STIS.sp.1038638)	(22) HD-199579	STIS/NUV-MAMA, ACCUM, 31X0.05NDA	E230M 1978 A	WAVECAL=NO			2031 Secs (2031 Secs) *[==>]*	*[1]*
Comments: 189,000 counts/s. Source not variable. ET 226s minimum (STIS.sp.1038634)									
4	WAVECAL	WAVE	STIS/NUV-MAMA, ACCUM, 0.2X0.06	E230M 1978 A				*[==>]*	*[1]*


Orbit Structure
Orbit 1
Server Version: 20181130
Occultation
*** ORBITAL VISIBILITY OVERRUN = 60
Pointing Maneuver
Pointing Maneuver
Exp. 4
GS Acq
Exp. 1
Exp. 2
Exp. 3
Home
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
6000
sec

Visit

Proposal 15335, Target 23 HD206267A (23), completed Tue May 28 13:00:36 GMT 2019

Diagnostic Status: Warning

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

Special Requirements: ORIENT 273D TO 313 D; ORIENT 93D TO 133 D

Comments: Orient constraints to avoid HD 206267 B (V~13.3, 1.8" away), LS III +57 14 / TYC 3975-1823-1, and narrowed down to align the slit along PA = 248, which is the orientation of the binary composing our target HD 206267.

Diagnostics

(Target 23 HD206267A (23)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN

Fixed Targets

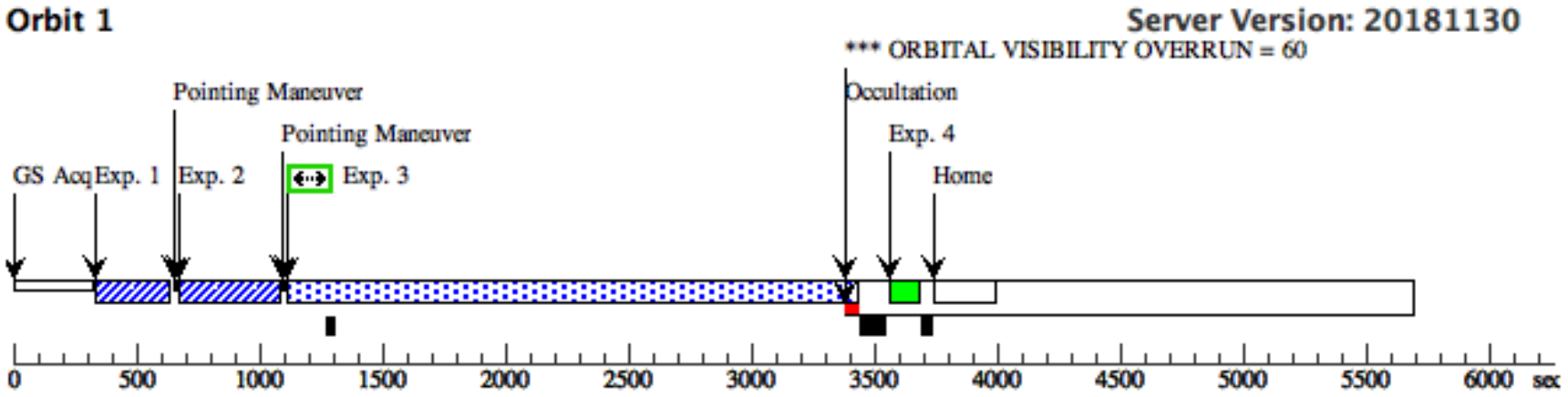
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(23)	HD-206267A	RA: 21 38 57.6100 (324.7400417d) Dec: +57 29 20.50 (57.48903d) Equinox: J2000	Proper Motion RA: -2.526 mas/yr Proper Motion Dec: -4.587 mas/yr Epoch of Position: 2000	V=5.62	Reference Frame: ICRS

Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.
Category=ISM
Description=[ABSORPTION LINE SYSTEM - GALACTIC]

Exposures

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	ACQ_T23 (STIS.ta.1011987)	(23) HD-206267A	STIS/CCD, ACQ, F25ND5	MIRROR				3 Secs (3 Secs) *[==>]*	 ***[1]***
2	ACQ_PEAK_T23 (STIS.sp.1038644)	(23) HD-206267A	STIS/CCD, ACQ/PEAK, 31X0.05NDA	G430L 4300 A				2 Secs (2 Secs) *[==>]*	 ***[1]***
3	SPEC_T23 (STIS.sp.1038645)	(23) HD-206267A	STIS/NUV-MAMA, ACCUM, 31X0.05NDA	E230M 1978 A	WAVECAL=NO			2173 Secs (2173 Secs) *[==>]*	 ***[1]***
Comments: 116,000 counts/s. Source not variable. ET 400 minimum (STIS.sp.1038639)									
4	WAVECAL	WAVE	STIS/NUV-MAMA, ACCUM, 0.2X0.06	E230M 1978 A				*[==>]*	***[1]***

Orbit Structure



Visit

Proposal 15335, Target 24 HD207198 (24), completed Tue May 28 13:00:36 GMT 2019

Diagnostic Status: Warning

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

Special Requirements: (none)

Diagnostics

(Target 24 HD207198 (24)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN

Fixed Targets

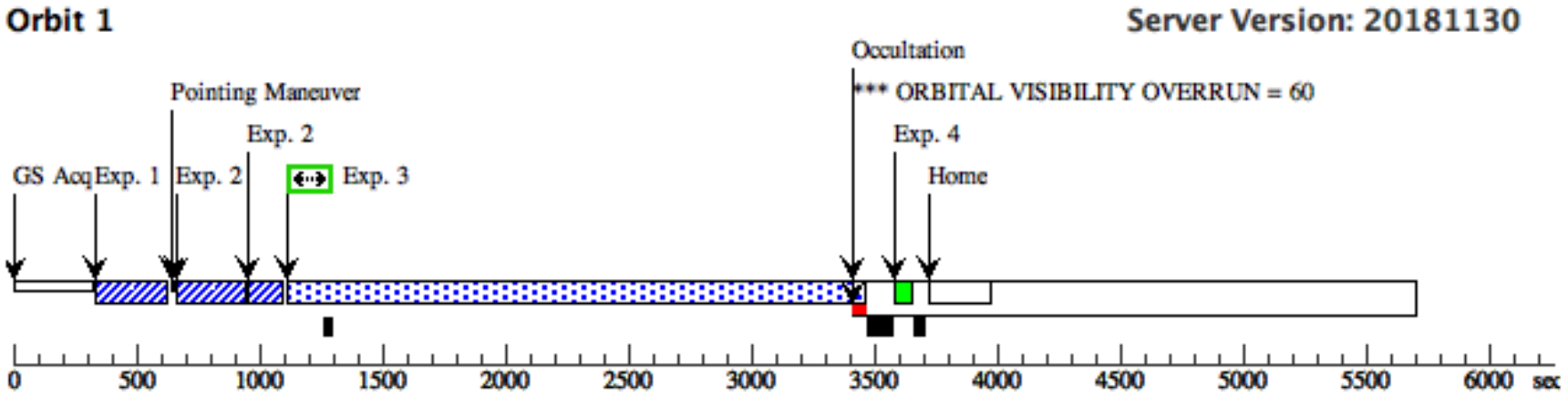
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(24)	HD-207198	RA: 21 44 53.2792 (326.2219967d) Dec: +62 27 38.05 (62.46057d) Equinox: J2000	Proper Motion RA: -3.24 mas/yr Proper Motion Dec: -2.29 mas/yr Epoch of Position: 2000 Radial Velocity: -17.60 km/sec	V=5.94	Reference Frame: ICRS

Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.
ICRS coordinates and proper motions updated.
Category=ISM
Description=[ABSORPTION LINE SYSTEM - GALACTIC]

Exposures

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	ACQ_T24 (STIS.ta.1038654)	(24) HD-207198	STIS/CCD, ACQ, F25ND3	MIRROR				0.4 Secs (0.4 Secs) *[==>]*	***[1]***
2	ACQ_PEAK_T24 (STIS.sp.1038652)	(24) HD-207198	STIS/CCD, ACQ/PEAK, 0.2X0.06	G430L 4300 A				1 Secs (1 Secs) *[==>]*	***[1]***
3	SPEC_T24 (STIS.sp.1038655)	(24) HD-207198	STIS/NUV-MAMA, ACCUM, 0.2X0.06	E230M 1978 A	WAVECAL=NO			2199 Secs (2199 Secs) *[==>]*	***[1]***
Comments: Assuming O9V spectral type. 127,000 counts/s. Source not variable ET 400s minimum (STIS.sp.1038648)									
4	WAVECAL	WAVE	STIS/NUV-MAMA, ACCUM, 0.2X0.06	E230M 1978 A				*[==>]*	***[1]***

Orbit Structure



Visit

Proposal 15335, Target 25 HD167971 (25), completed Tue May 28 13:00:36 GMT 2019

Diagnostic Status: No Diagnostics

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

Special Requirements: (none)

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(25)	HD-167971	RA: 18 18 5.8945 (274.5245604d)	Proper Motion RA: -1.75 mas/yr	V=7.5	Reference Frame: ICRS
	Alt Name1: MY-SER	Dec: -12 14 33.29 (-12.24258d)	Proper Motion Dec: -1.10 mas/yr		
		Equinox: J2000	Epoch of Position: 2000		
			Radial Velocity: 1 km/sec		

Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.
ICRS coordinates and proper motions updated.
Category=ISM
Description=[ABSORPTION LINE SYSTEM - GALACTIC]

Exposures

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	ACQ_T25 (STIS.ta.1038660)	(25) HD-167971	STIS/CCD, ACQ, F25ND3	MIRROR				1 Secs (1 Secs) *[==>]*	*[1]*
2	SPEC1_T25 (STIS.sp.1038663)	(25) HD-167971	STIS/NUV-MAMA, ACCUM, 6X0.2	E230M 1978 A	WAVECAL=NO			2306 Secs (2306 Secs) *[==>]*	*[1]*
	Comments: First spectral series *Total ET 5323s between the two spectral series (total S/N~31)*								
3	WAVECAL 1	WAVE	STIS/NUV-MAMA, ACCUM, 6X0.2	E230M 1978 A				*[==>]*	*[1]*
4	SPEC2_T25 (STIS.sp.1038663)	(25) HD-167971	STIS/NUV-MAMA, ACCUM, 6X0.2	E230M 1978 A	WAVECAL=NO			2817 Secs (2817 Secs) *[==>]*	*[2]*
	Comments: Second spectral series *Total ET 5323s between the two spectral series* *The exposure time of 2957s is above the recommended 2300s interval for wavecal calibration. However, we note that the thermal drifts are small, of the order of 0.1 pix/hr (IHB 11.2.1). In addition, the slit used for the spectra and the wavecal are identical here, and therefore there is no additional small uncertainty due to the wheel movement (up to 0.1 high resolution MAMA pixels). Thus, we consider the wavecal interval acceptable.*								
5	WAVECAL 2	WAVE	STIS/NUV-MAMA, ACCUM, 6X0.2	E230M 1978 A				*[==>]*	*[2]*

Orbit Structure