15326 - Characterizing the Winds of M Dwarf Stars

Cycle: 25, Proposal Category: GO

(UV Initiative)

(Availability Mode: SUPPORTED)

INVESTIGATORS

Name	*Institution*	*E-Mail*
Dr. Brian Erland Wood (PI) (Contact)	**Naval Research Laboratory**	**brian.wood@nrl.navy.mil**
Dr. Jeffrey L. Linsky (CoI)	University of Colorado at Boulder	jlinsky@jila.colorado.edu
Dr. Seth Redfield (CoI)	Wesleyan University	sredfield@wesleyan.edu
Dr. Aline Vidotto (CoI) (ESA Member)	University of Dublin, Trinity College	aline.vidotto@tcd.ie
Dr. Moira Jardine (CoI) (ESA Member)	University of St. Andrews	mmj@st-and.ac.uk
Dr. Jeremy J. Drake (CoI)	Smithsonian Institution Astrophysical Observatory	jdrake@cfa.harvard.edu
Dr. Cecilia Garraffo (CoI)	Smithsonian Institution Astrophysical Observatory	cgarraffo@cfa.harvard.edu
Dr. Ofer Cohen (CoI)	University of Massachusetts - Lowell	ocohen@cfa.harvard.edu
Dr. Julian David Alvarado Gomez (CoI)	Smithsonian Institution Astrophysical Observatory	julian.alvarado-gomez@cfa.harvard.edu
Dr. Hans-Reinhard Mueller (CoI)	Dartmouth College	hans.mueller@dartmouth.edu

VISITS

Visit	*Targets used in Visit*	*Configurations used in Visit*	*Orbits Used*	*Last Orbit Planner Run*	*OP Current with Visit?*
01	(2) GJ887	STIS/CCD STIS/FUV-MAMA STIS/NUV-MAMA	2	02-Jan-2019 14:00:37.0	yes
Z1	(2) GJ887	STIS/CCD STIS/FUV-MAMA STIS/NUV-MAMA	2	02-Jan-2019 14:00:39.0	yes

Visit	*Targets used in Visit*	*Configurations used in Visit*	*Orbits Used*	*Last Orbit Planner Run*	*OP Current with Visit?*
10	(2) GJ887	STIS/CCD STIS/FUV-MAMA	2	02-Jan-2019 14:00:40.0	yes
02	(3) GJ15A	STIS/CCD STIS/FUV-MAMA STIS/NUV-MAMA	2	02-Jan-2019 14:00:41.0	yes
11	(3) GJ15A	STIS/CCD STIS/FUV-MAMA	2	02-Jan-2019 14:00:43.0	yes
03	(4) GJ273	STIS/CCD STIS/FUV-MAMA STIS/NUV-MAMA	2	02-Jan-2019 14:00:44.0	yes
12	(4) GJ273	STIS/CCD STIS/FUV-MAMA	2	02-Jan-2019 14:00:45.0	yes
05	(6) GJ205	STIS/CCD STIS/FUV-MAMA STIS/NUV-MAMA	2	02-Jan-2019 14:00:46.0	yes
04	(5) GJ860A	STIS/CCD STIS/FUV-MAMA STIS/NUV-MAMA	2	02-Jan-2019 14:00:48.0	yes
13	(5) GJ860A	STIS/CCD STIS/FUV-MAMA	2	02-Jan-2019 14:00:49.0	yes
14	(6) GJ205	STIS/CCD STIS/FUV-MAMA	2	02-Jan-2019 14:00:50.0	yes
06	(7) GJ588	STIS/CCD STIS/FUV-MAMA STIS/NUV-MAMA	2	02-Jan-2019 14:00:52.0	yes
15	(7) GJ588	STIS/CCD STIS/FUV-MAMA	2	02-Jan-2019 14:00:53.0	yes

Visit	*Targets used in Visit*	*Configurations used in Visit*	*Orbits Used*	*Last Orbit Planner Run*	*OP Current with Visit?*
07	(9) GJ338A	STIS/CCD STIS/FUV-MAMA STIS/NUV-MAMA	2	02-Jan-2019 14:00:54.0	yes
16	(9) GJ338A	STIS/CCD STIS/FUV-MAMA	2	02-Jan-2019 14:00:55.0	yes
08	(8) GJ285	STIS/CCD STIS/FUV-MAMA STIS/NUV-MAMA	2	02-Jan-2019 14:00:57.0	yes
17	(8) GJ285	STIS/CCD STIS/FUV-MAMA	2	02-Jan-2019 14:00:58.0	yes
09	(10) GJ644A	STIS/CCD STIS/FUV-MAMA STIS/NUV-MAMA	2	02-Jan-2019 14:00:59.0	yes
18	(10) GJ644A	STIS/CCD STIS/FUV-MAMA	2	02-Jan-2019 14:01:00.0	yes

38 Total Orbits Used

ABSTRACT

We propose to use HST/STIS to study the H I Lyman-alpha spectra of nine very nearby (d<7 pc) M dwarf stars, to measure stellar mass-loss rates using the astrospheric absorption technique. The Lyman-alpha astrospheric absorption signature is currently the only means of detecting the coronal winds of cool main sequence stars, and HST is the only observatory that has ever been capable of observing it. Our goal is to use the absorption to study the winds of M dwarf stars, and for the first time characterize how these winds correlate with stellar activity, as quantified by X-ray luminosity. Astrospheric absorption has so far been observed for only one M dwarf (EV Lac), so our project will greatly increase our understanding of M dwarf winds. Our measurements will be compared with and test predictions for M dwarf wind behavior from theoretical/numerical models, and from studies of stellar angular momentum evolution. We will also investigate the implications that our measurements have for planets orbiting M dwarfs.

OBSERVING DESCRIPTION

We plan to observe 9 M dwarfs stars with STIS for 4 orbits each. Our project is focused on detecting and measuring astrospheric absorption in the H I Lyman-alpha line at 1216 Angstroms, using the E140M grating, but confidence in this analysis is significantly improved with information provided by observations of the Mg II h & k lines near 2800 Angstroms, so we also be observe the Mg II lines using the E230H grating. We acquire each of our rather bright stars with a short exposure onto the STIS/CCD with the F28X50OII filter. An accurate wavelength scale is important for our purposes so we perform a peakup into the narrow 0.2X0.05ND aperture. This neutral density aperture is required to reduce the flux for our bright targets.

After acquisition and peakup, we spend the first orbit obtaining the E230H spectrum of the 2574-2851 Angstrom wavelength range, through the 0.2x0.09 aperture. The remaining 3 orbits are spent observing the 1150-1700 Angstrom range with the E140M grating, through the 0.2x0.2 aperture. The E140M grating does not have quite the resolution of E230H, but its R= 45,800 resolution is good enough to study the H I Lyman-alpha line profile in the detail that we require. Because M dwarfs are known to be variable, we plan on obtaining our spectra in TIME-TAG mode.

Estimating expected S/N for our planned spectra requires first estimating Lyman-alpha and Mg II fluxes, which can be done roughly by extrapolating from previously observed M dwarfs, particularly EV Lac. Chromospheric line fluxes (such as Mg II and Lyman-alpha) are related to X-ray fluxes through known scaling laws (Wood et al. 2005a). Thus, Lyman-alpha or MgII fluxes for our stars can be estimated from known X-ray luminosities of our target stars. We expect our E230H spectra to attain a sufficient signal-to-noise of S/N>15 per resolution element at line center for the strong Mg II lines, and the E140M spectrum to achieve a peak S/N>10 within the H I Lyman-alpha line.

All of our targets are comfortably in compliance with STIS/MAMA bright object limits, as verified using both
Table 13.44 in the STIS Instrument Handbook and the online STIS exposure time calculator. However, there is concern with regards to using COS or STIS to observe stars that flare, as M dwarfs in particular are known to do. A particularly massive flare could in principle violate Bright Object limits, even if the quiescent emission is orders of magnitude below them. Our 7 less active stars with log Lx<28 (see Table 1), which do not show H-alpha in emission, should be considered "inactive" and thereby easily observable based on flare star brightness constraints described in STIS ISR 2017-02. However, our two most active targets, GJ285 (M4.5 Ve) and GJ 644A (M3.5 Ve), which have log Lx>28 and show H-alpha in emission, should be considered "active" and are therefore problematic, as they are in the particularly problematic M3-5 spectral range.

For evaluating the safety of the E230H observation of GJ285 and GJ644A, we model a particularly big flare spectrum following STIS ISR 2017-02, decreasing the star's U magnitude by 8 mags, and then computing the resulting spectrum assuming a T=9000 K blackbody. For both GJ285 and

GJ644A, the resulting E230H spectrum does not quite violate the Bright Object constraints, but it is very close.

For evaluating the safety of the E140M observation of GJ285 and GJ644A, it is the Lyman-alpha line that is the line likely to be the source of concern, the continuum being unimportant even for a big flare. And it is the local count rate at the peak of the Ly-alpha line that is most likely to viiolate Bright Object limits. Following STIS ISR 2017-02, we take the aforementioned flare U magnitudes and use them to estimate a C IV flux for the flare using the Hawley et al. (2003) relation, leading to f(CIV)=3.1e-10 and f(CIV)=4.1e-10 ergs/cm2/s for GJ285 and GJ644A, respectively. In order to extrapolate to a Ly-alpha peak flux (in ergs/cm2/s/A), f(Lya), we note that 3 M flare stars previously observed by STIS/E140M (AD Leo, EV Lac, AU Mic) have shown f(Lya)/f(CIV) ratios of 3.1, 6.9, and 9.2, respectively (e.g., Wood et al. 2005). We argue that assuming the maximum of these values, f(Lya)/f(CIV)=9, is a reasonably conservative assumption, noting that during a giant flare the expectation would be that f(Lya)/f(CIV) should if anything go DOWN, as high temperatures are more prevalent during a flare. With this assumption, we compute f(Lya)=2.8e-9 and f(Lya)=3.7e-9 ergs/cm2/s/A for GJ285 and GJ644A, repsectively. Using the STIS ETC, we find that this does not violate the Bright Object constraint, but as for the E230H spectrum, it is very close.

Visit

Proposal 15326, Visit 01, failed Wed Jan 02 19:01:00 GMT 2019

Diagnostic Status: Warning

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

Special Requirements: (none)

Diagnostics

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

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

Fixed Targets

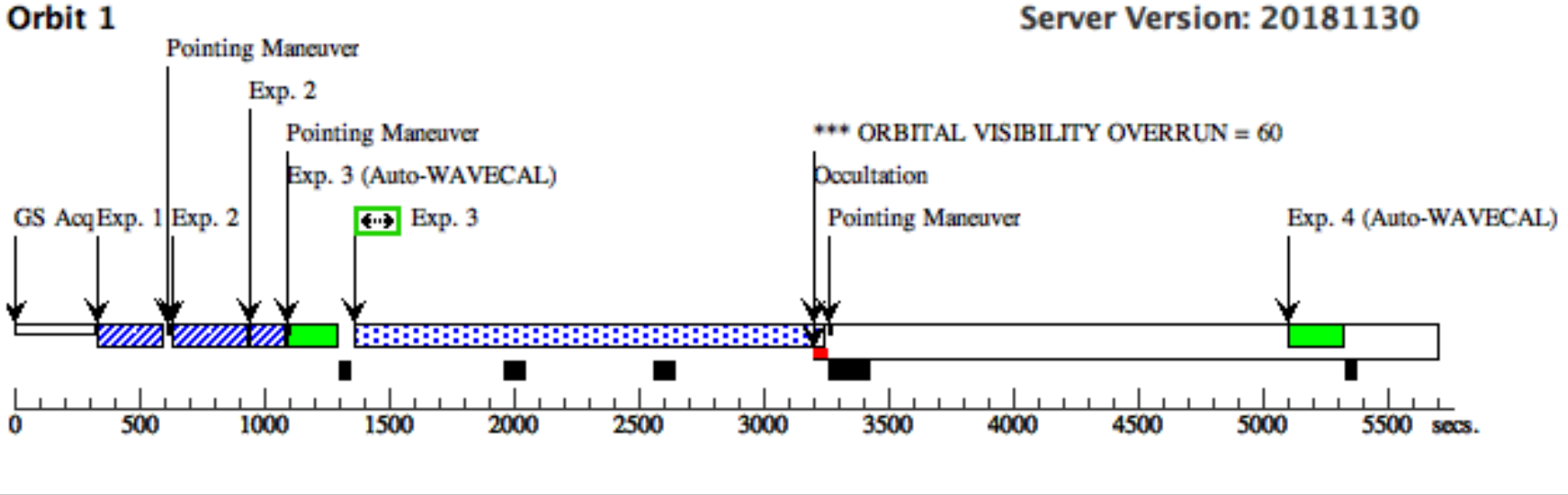
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(2)	GJ887 Alt Name1: HD217987	RA: 23 05 52.0360 (346.4668167d) Dec: -35 51 11.05 (-35.85307d) Equinox: J2000	Proper Motion RA: 6768.20 mas/yr Proper Motion Dec: 1327.52 mas/yr Parallax: 0.30526" Epoch of Position: 2000.0 Radial Velocity: +7.5 km/sec	V=7.34+/-0.05 U-MAG=10.02+/-0.05, TYPE=M2V, F-LINE(2796)=4.7+/-1.2E-13, W-LINE(2796)=0.3, F-LINE(1216)=3.7+/-0.9E-13, W-LINE(1216)=0.9	Reference Frame: ICRS

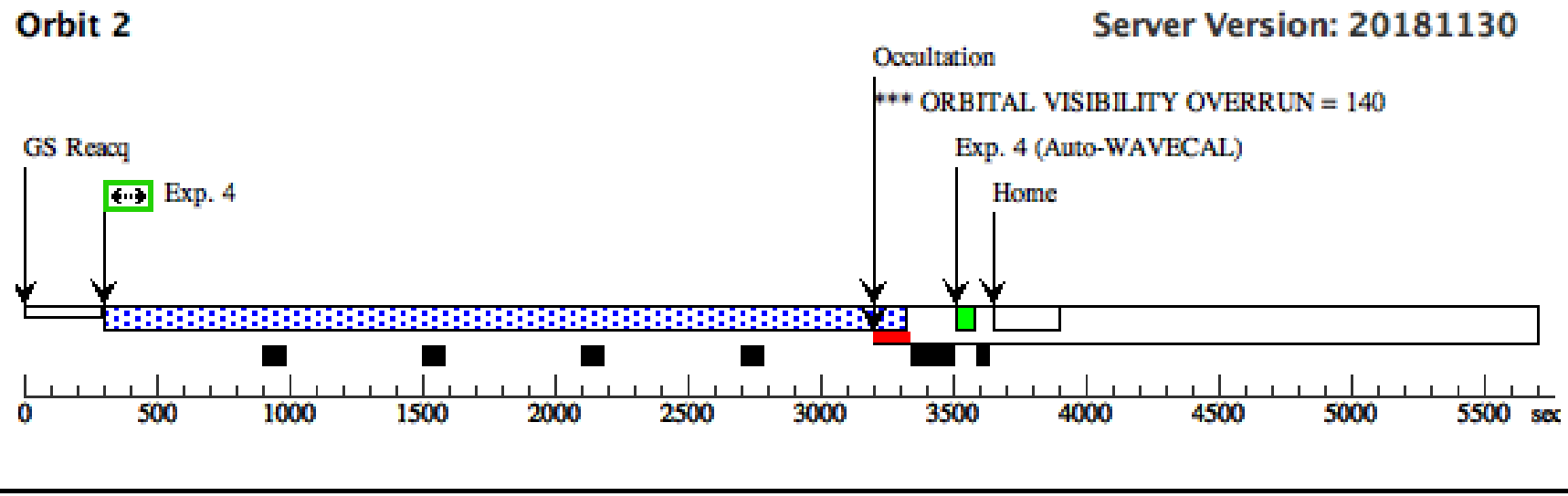
Comments: See individual measurements in SIMBAD for U-mag.
Category=STAR
Description=[M V-IV]
Extended=NO

Exposures

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	(STIS.ta.1008855)	(2) GJ887	STIS/CCD, ACQ, F28X50OII	MIRROR				2 Secs (2 Secs) *[==>]*	 ***[1]***
2	(STIS.ta.1008903)	(2) GJ887	STIS/CCD, ACQ/PEAK, 0.2X0.05ND	MIRROR				0.2 Secs (0.2 Secs) *[==>]*	 ***[1]***
3	(STIS.sp.1008933)	(2) GJ887	STIS/NUV-MAMA, TIME-TAG, 0.2X0.09	E230H 2713 A	BUFFER-TIME=600			1800 Secs (1866 Secs) *[==>1866.0 Secs]*	 ***[1]***
4	(STIS.sp.1008895)	(2) GJ887	STIS/FUV-MAMA, TIME-TAG, 0.2X0.2	E140M 1425 A	BUFFER-TIME=600			2700 Secs (3008 Secs) *[==>3008.0 Secs]*	 ***[2]***

Orbit Structure





Visit

Proposal 15326, HOPR (Z1) Wed Jan 02 19:01:01 GMT 2019

Diagnostic Status: No Diagnostics

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

Special Requirements: (none)

Fixed Targets

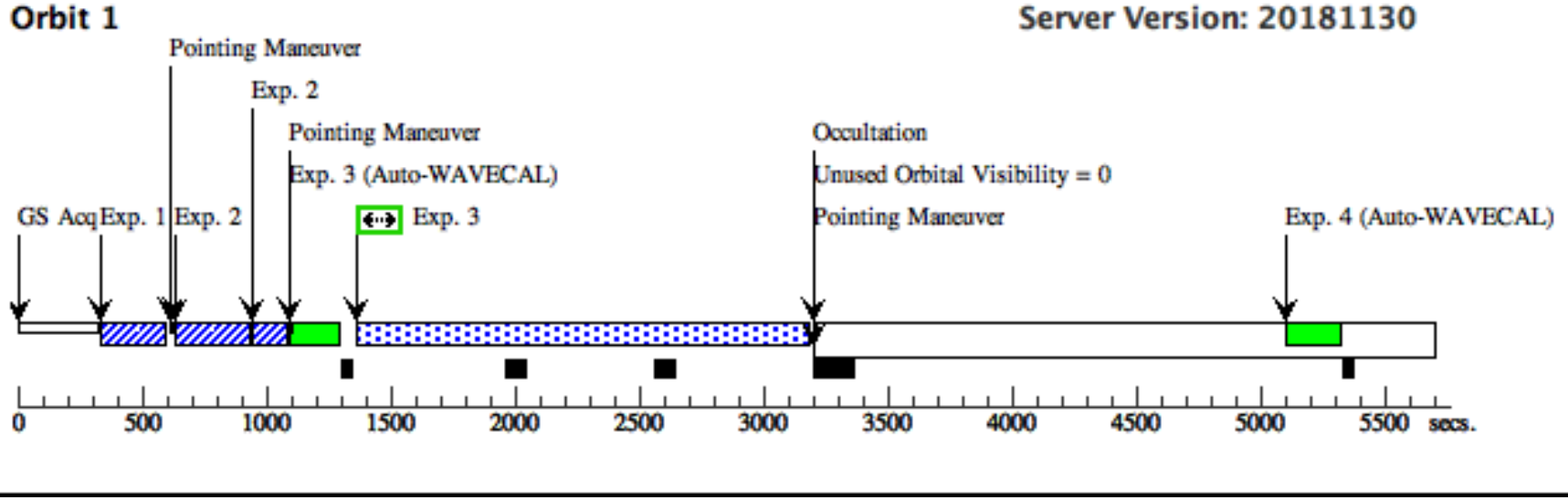
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(2)	GJ887 Alt Name1: HD217987	RA: 23 05 52.0360 (346.4668167d) Dec: -35 51 11.05 (-35.85307d) Equinox: J2000	Proper Motion RA: 6768.20 mas/yr Proper Motion Dec: 1327.52 mas/yr Parallax: 0.30526" Epoch of Position: 2000.0 Radial Velocity: +7.5 km/sec	V=7.34+/-0.05 U-MAG=10.02+/-0.05, TYPE=M2V, F-LINE(2796)=4.7+/-1.2E-13, W-LINE(2796)=0.3, F-LINE(1216)=3.7+/-0.9E-13, W-LINE(1216)=0.9	Reference Frame: ICRS

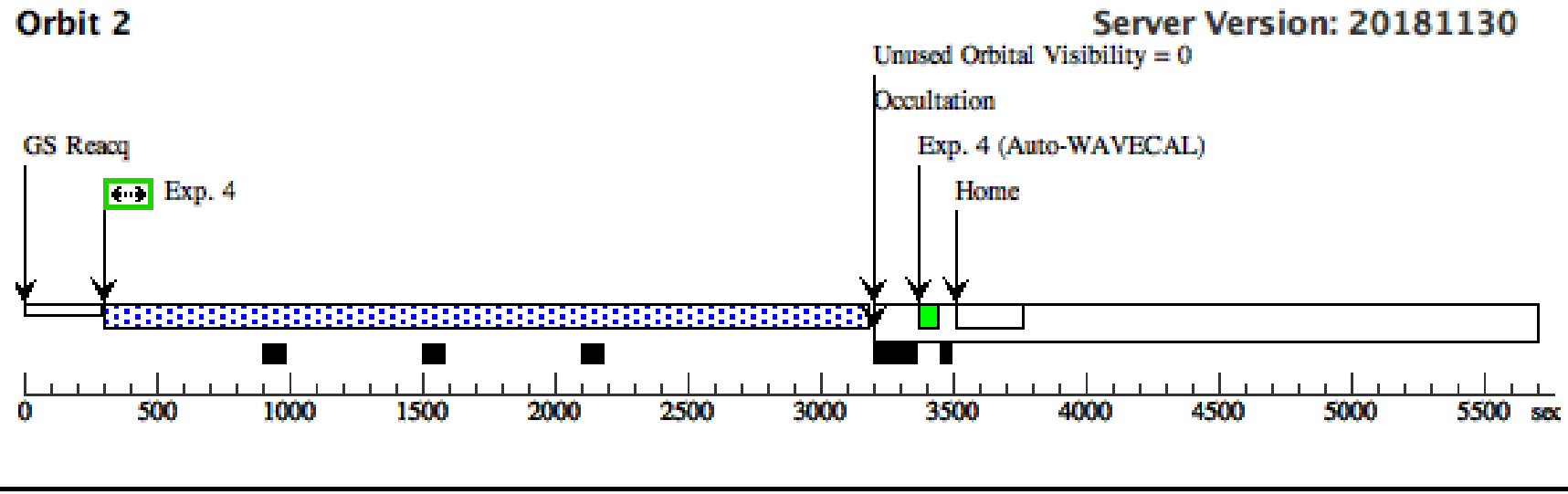
Comments: See individual measurements in SIMBAD for U-mag.
Category=STAR
Description=[M V-IV]
Extended=NO

Exposures

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	(STIS.ta.1008855)	(2) GJ887	STIS/CCD, ACQ, F28X50OII	MIRROR				2 Secs (2 Secs) *[==>]*	 ***[1]***
2	(STIS.ta.1008903)	(2) GJ887	STIS/CCD, ACQ/PEAK, 0.2X0.05ND	MIRROR				0.2 Secs (0.2 Secs) *[==>]*	 ***[1]***
3	(STIS.sp.1008933)	(2) GJ887	STIS/NUV-MAMA, TIME-TAG, 0.2X0.09	E230H 2713 A	BUFFER-TIME=600			1800 Secs (1806 Secs) *[==>1806.0 Secs]*	 ***[1]***
4	(STIS.sp.1008895)	(2) GJ887	STIS/FUV-MAMA, TIME-TAG, 0.2X0.2	E140M 1425 A	BUFFER-TIME=600			2700 Secs (2868 Secs) *[==>2868.0 Secs]*	 ***[2]***

Orbit Structure





Visit

Proposal 15326, Visit 10, implementation Wed Jan 02 19:01:01 GMT 2019

Diagnostic Status: No Diagnostics

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

Special Requirements: (none)

Fixed Targets

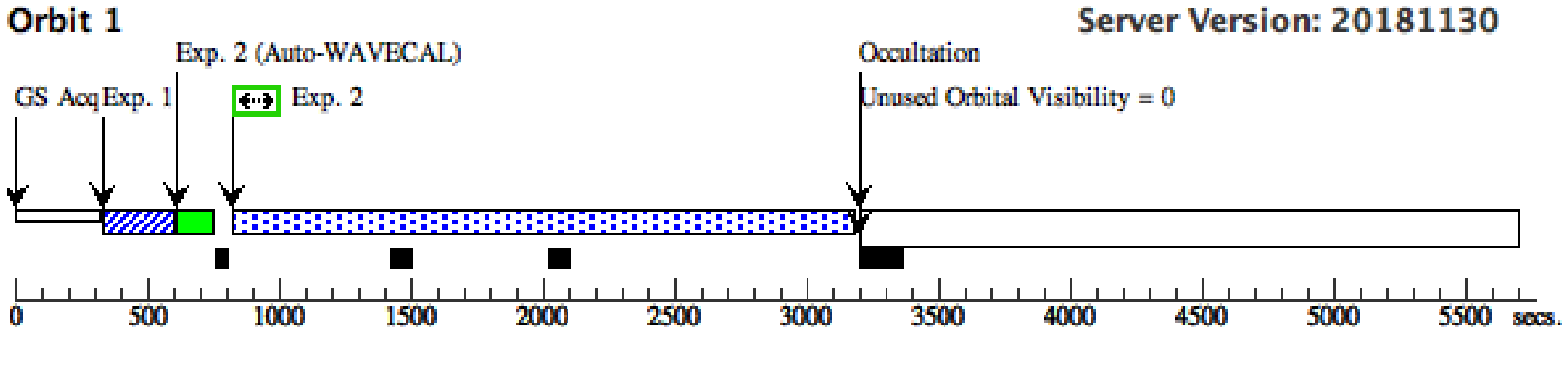
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(2)	GJ887 Alt Name1: HD217987	RA: 23 05 52.0360 (346.4668167d) Dec: -35 51 11.05 (-35.85307d) Equinox: J2000	Proper Motion RA: 6768.20 mas/yr Proper Motion Dec: 1327.52 mas/yr Parallax: 0.30526" Epoch of Position: 2000.0 Radial Velocity: +7.5 km/sec	V=7.34+/-0.05 U-MAG=10.02+/-0.05, TYPE=M2V, F-LINE(2796)=4.7+/-1.2E-13, W-LINE(2796)=0.3, F-LINE(1216)=3.7+/-0.9E-13, W-LINE(1216)=0.9	Reference Frame: ICRS

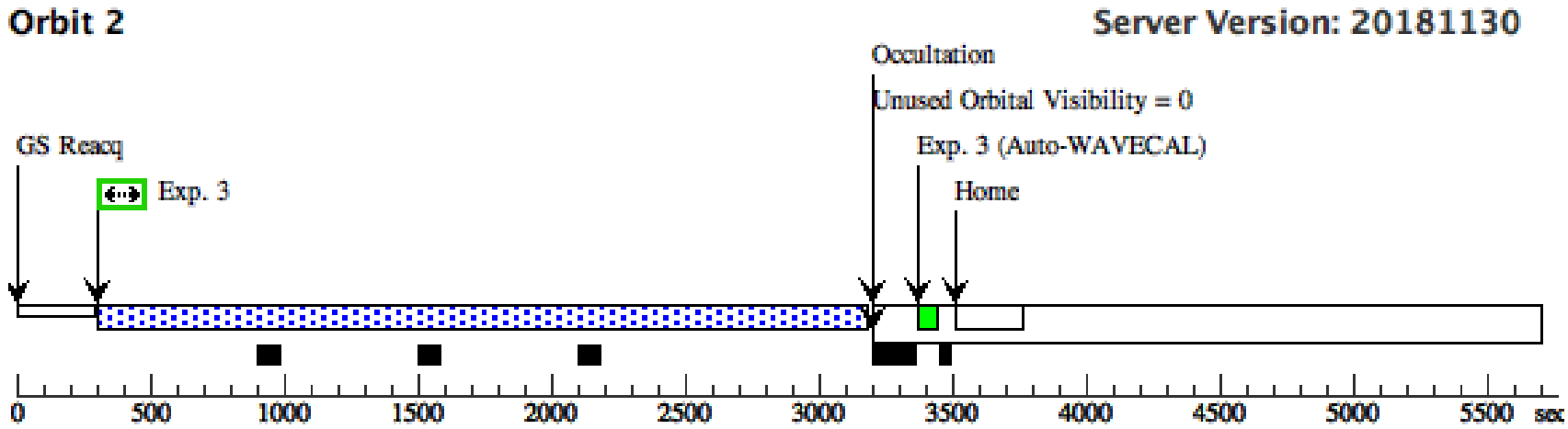
Comments: See individual measurements in SIMBAD for U-mag.
Category=STAR
Description=[M V-IV]
Extended=NO

Exposures

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	(STIS.ta.1008855)	(2) GJ887	STIS/CCD, ACQ, F28X50OII	MIRROR				2 Secs (2 Secs) *[==>]*	 ***[1]***
2	(STIS.sp.1008895)	(2) GJ887	STIS/FUV-MAMA, TIME-TAG, 0.2X0.2	E140M 1425 A	BUFFER-TIME=600			2300 Secs (2347 Secs) *[==>2347.0 Secs]*	 ***[1]***
3	(STIS.sp.1008895)	(2) GJ887	STIS/FUV-MAMA, TIME-TAG, 0.2X0.2	E140M 1425 A	BUFFER-TIME=600			2300 Secs (2868 Secs) *[==>2868.0 Secs]*	 ***[2]***

Orbit Structure





Visit

Proposal 15326, Visit 02, implementation Wed Jan 02 19:01:01 GMT 2019

Diagnostic Status: No Diagnostics

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

Special Requirements: BETWEEN 17-FEB-2017:00:00:00 AND 10-DEC-2017:00:00:00; BETWEEN 17-FEB-2018:00:00:00 AND 10-DEC-2018:00:00:00; BETWEEN 17-FEB-2019:00:00:00 AND 10-DEC-2019:00:00:00; BETWEEN 17-FEB-2020:00:00:00 AND 10-DEC-2020:00:00:00

Fixed Targets

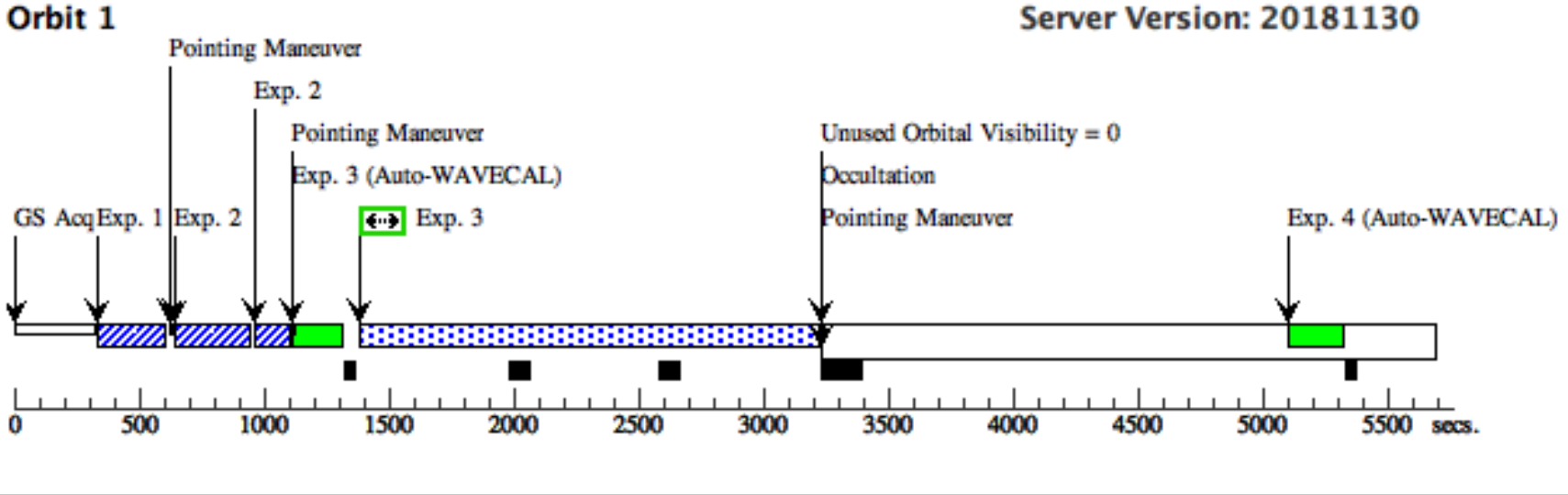
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(3)	GJ15A	RA: 00 18 22.8865 (4.5953604d)	Proper Motion RA: 2888.92 mas/yr	V=8.13+/-0.05	Reference Frame: ICRS
	Alt Name1: HD1326	Dec: +44 01 22.65 (44.02296d)	Proper Motion Dec: 410.10 mas/yr	U-MAG=10.93+/-0.05,	
	Alt Name2: GX-AND	Equinox: J2000	Parallax: 0.28074"	TYPE=M2V,	
			Epoch of Position: 2000.0	F-LINE(2796)=5.0+/-1.3E-13,	
			Radial Velocity: +11.62 km/sec	W-LINE(2796)=0.3,	
				F-LINE(1216)=4.5+/-1.1E-13,	
				W-LINE(1216)=0.9	

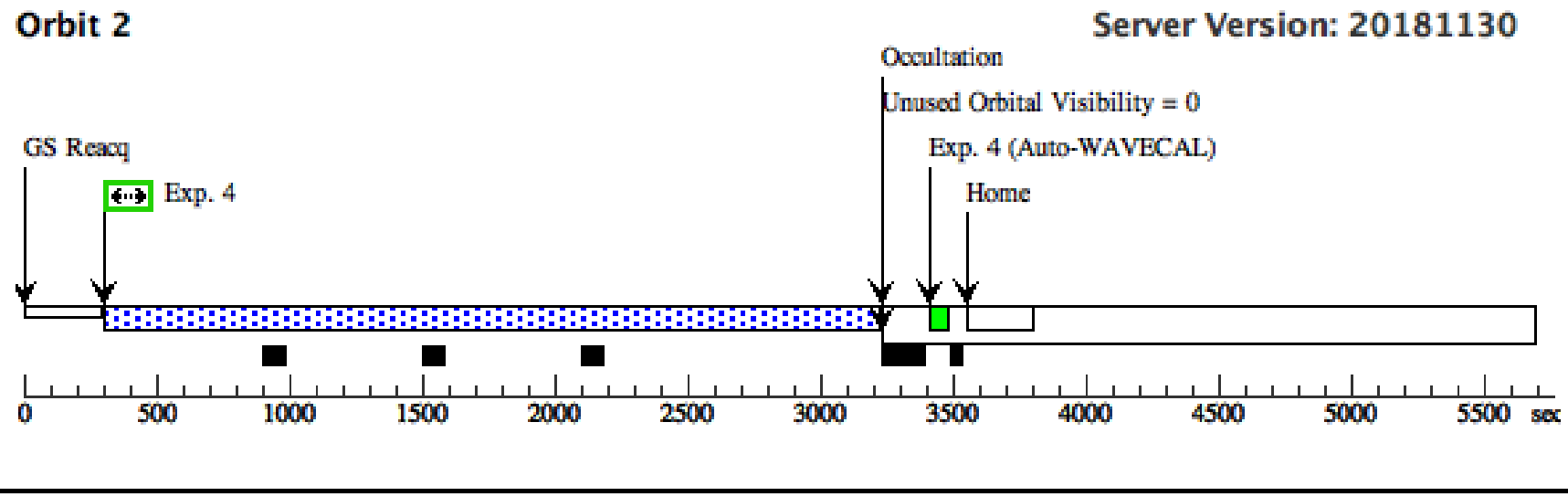
Comments: See individual measurements in SIMBAD for U-mag.
Category=STAR
Description=[M V-IV]
Extended=NO

Exposures

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	(STIS.ta.1008915)	(3) GJ15A	STIS/CCD, ACQ, F28X50OII	MIRROR				5 Secs (5 Secs)	
								[==>]	***[1]***
2	(STIS.ta.1008917)	(3) GJ15A	STIS/CCD, ACQ/PEAK, 0.2X0.05ND	MIRROR				0.4 Secs (0.4 Secs)	
								[==>]	***[1]***
3	(STIS.sp.1008927)	(3) GJ15A	STIS/NUV-MAMA, TIME-TAG, 0.2X0.09	E230H 2713 A	BUFFER-TIME=600			1800 Secs (1826 Secs)	
								[==>1826.0 Secs]	***[1]***
4	(STIS.sp.1008937)	(3) GJ15A	STIS/FUV-MAMA, TIME-TAG, 0.2X0.2	E140M 1425 A	BUFFER-TIME=600			2700 Secs (2906 Secs)	
								[==>2906.0 Secs]	***[2]***

Orbit Structure





Visit

Proposal 15326, Visit 11, implementation Wed Jan 02 19:01:01 GMT 2019

Diagnostic Status: No Diagnostics

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

Special Requirements: BETWEEN 17-FEB-2017:00:00:00 AND 10-DEC-2017:00:00:00; BETWEEN 17-FEB-2018:00:00:00 AND 10-DEC-2018:00:00:00; BETWEEN 17-FEB-2019:00:00:00 AND 10-DEC-2019:00:00:00; BETWEEN 17-FEB-2020:00:00:00 AND 10-DEC-2020:00:00:00

Fixed Targets

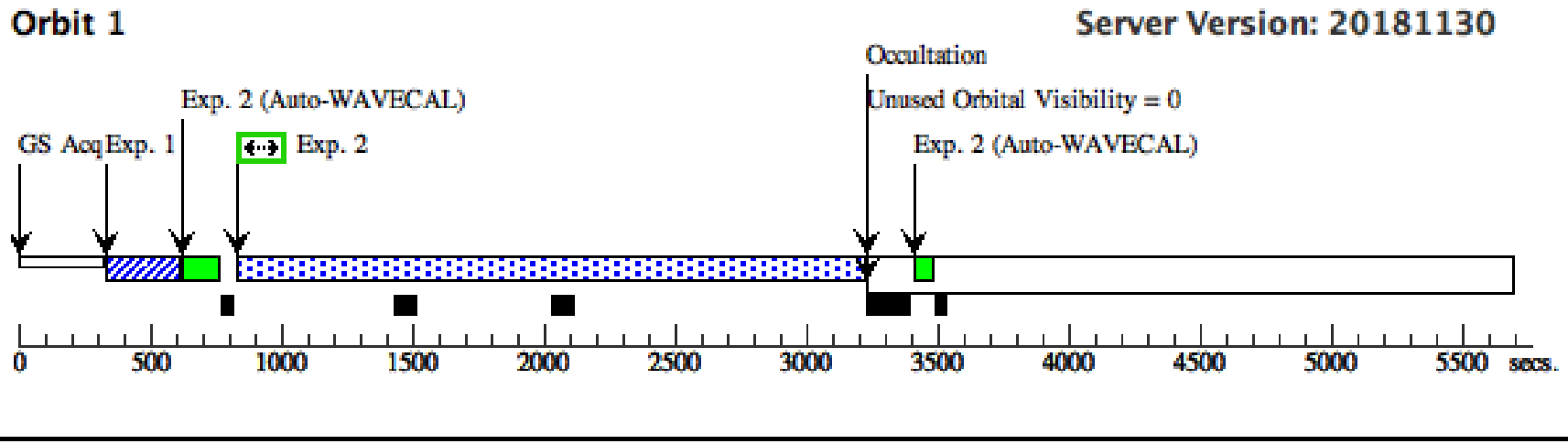
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(3)	GJ15A	RA: 00 18 22.8865 (4.5953604d)	Proper Motion RA: 2888.92 mas/yr	V=8.13+/-0.05	Reference Frame: ICRS
	Alt Name1: HD1326	Dec: +44 01 22.65 (44.02296d)	Proper Motion Dec: 410.10 mas/yr	U-MAG=10.93+/-0.05,	
	Alt Name2: GX-AND	Equinox: J2000	Parallax: 0.28074"	TYPE=M2V,	
			Epoch of Position: 2000.0	F-LINE(2796)=5.0+/-1.3E-13,	
			Radial Velocity: +11.62 km/sec	W-LINE(2796)=0.3,	
				F-LINE(1216)=4.5+/-1.1E-13,	
				W-LINE(1216)=0.9	

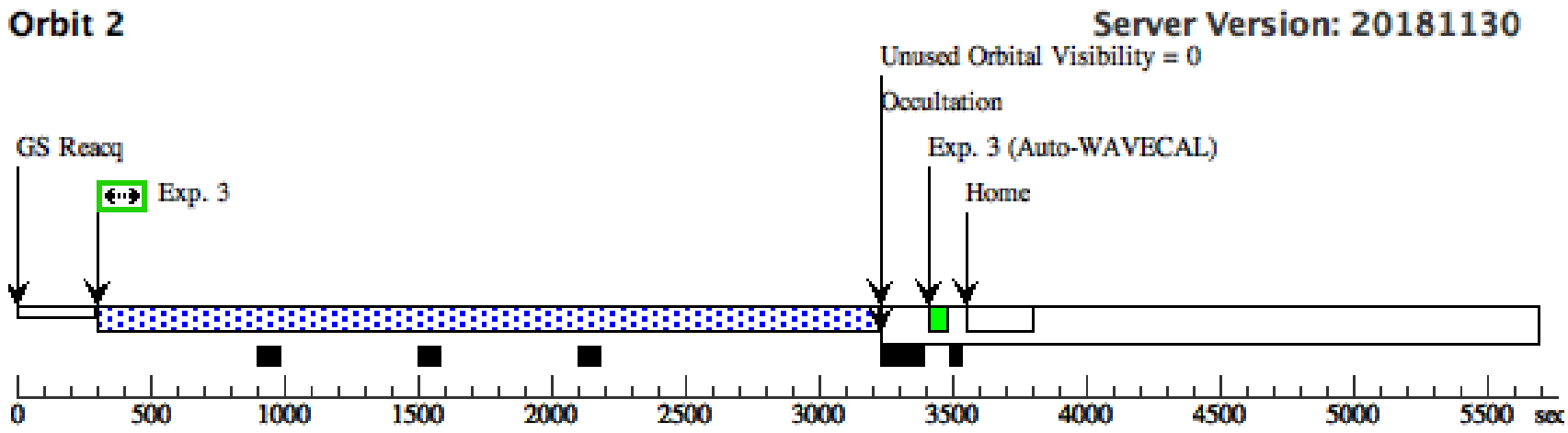
Comments: See individual measurements in SIMBAD for U-mag.
Category=STAR
Description=[M V-IV]
Extended=NO

Exposures

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	(STIS.ta.1008915)	(3) GJ15A	STIS/CCD, ACQ, F28X50OII	MIRROR				5 Secs (5 Secs)	
								[==>]	***[1]***
2	(STIS.sp.1008937)	(3) GJ15A	STIS/FUV-MAMA, TIME-TAG, 0.2X0.2	E140M 1425 A	BUFFER-TIME=600			2300 Secs (2373 Secs)	
								[==>2373.0 Secs]	***[1]***
3	(STIS.sp.1008937)	(3) GJ15A	STIS/FUV-MAMA, TIME-TAG, 0.2X0.2	E140M 1425 A	BUFFER-TIME=600			2700 Secs (2906 Secs)	
								[==>2906.0 Secs]	***[2]***

Orbit Structure





Visit

Proposal 15326, Visit 03, implementation Wed Jan 02 19:01:01 GMT 2019

Diagnostic Status: No Diagnostics

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

Special Requirements: BETWEEN 23-JUN-2017:00:00:00 AND 01-FEB-2018:00:00:00; BETWEEN 23-JUN-2018:00:00:00 AND 01-FEB-2019:00:00:00; BETWEEN 23-JUN-2019:00:00:00 AND 01-FEB-2020:00:00:00; BETWEEN 23-JUN-2020:00:00:00 AND 01-FEB-2021:00:00:00

Fixed Targets

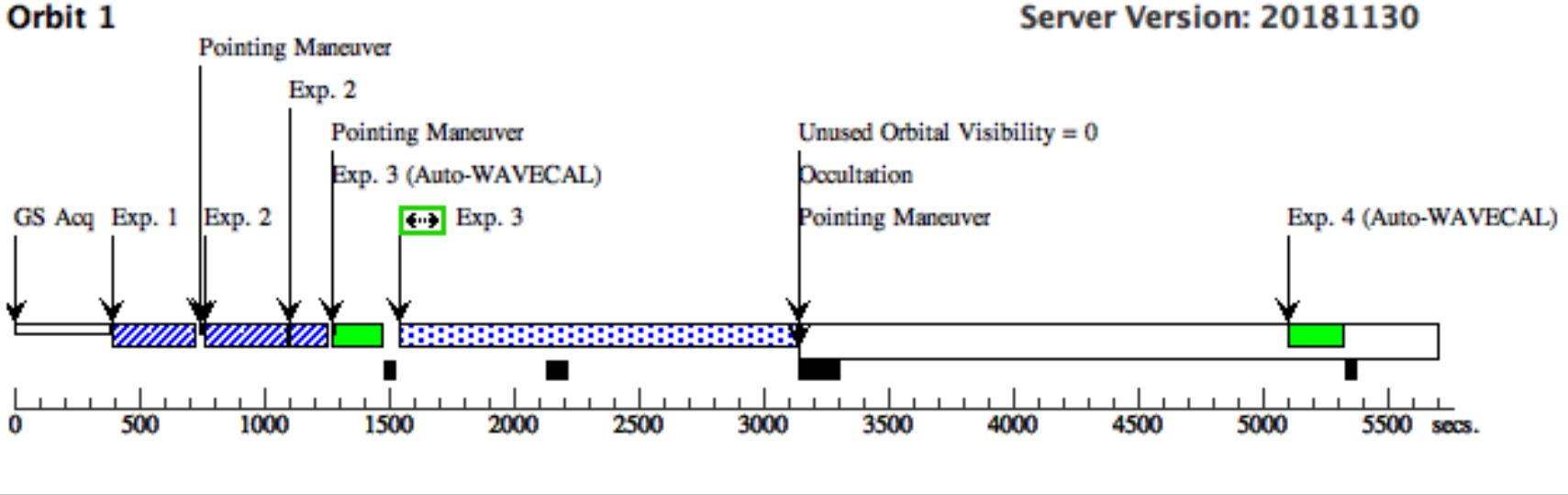
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(4)	GJ273 Alt Name1: LHS-33	RA: 07 27 24.5000 (111.8520833d) Dec: +05 13 32.83 (5.22579d) Equinox: J2000	Proper Motion RA: 572.51 mas/yr Proper Motion Dec: -3693.51 mas/yr Parallax: 0.26298" Epoch of Position: 2000.0 Radial Velocity: +18.22 km/sec	V=9.87+/-0.05 U-MAG=12.56+/-0.05, TYPE=M3.5V, F-LINE(2796)=1.5+/-0.4E-13, W-LINE(2796)=0.3, F-LINE(1216)=1.1+/-0.3E-13, W-LINE(1216)=0.9	Reference Frame: ICRS

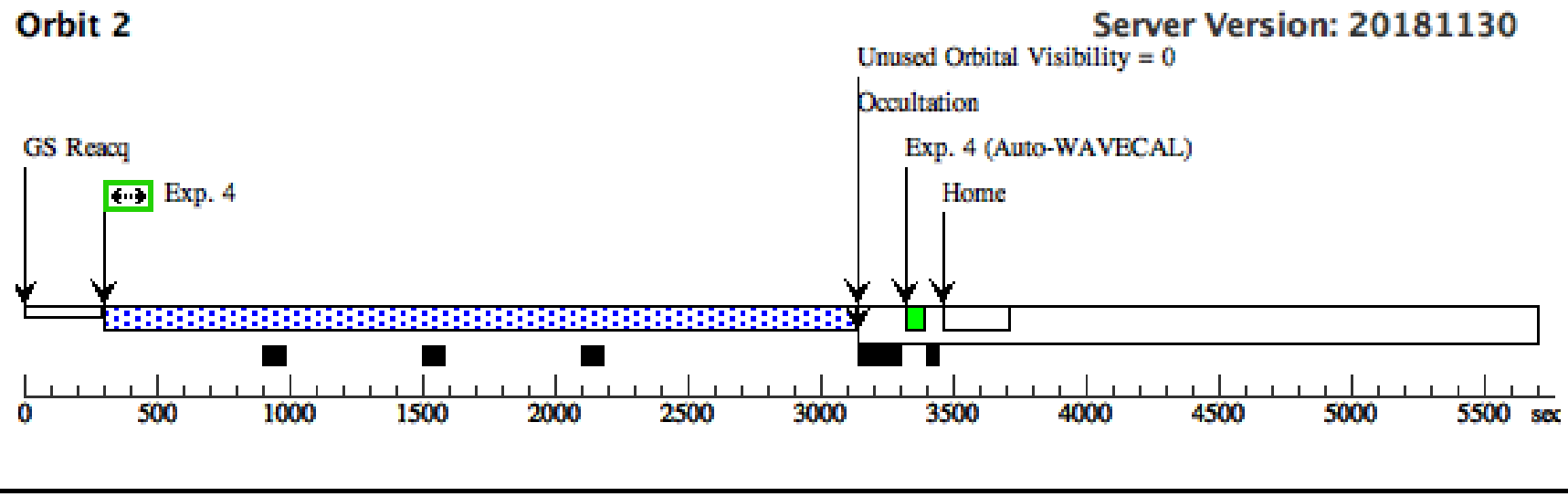
Comments:
Category=STAR
Description=[M V-IV]
Extended=NO

Exposures

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	(STIS.ta.1008966)	(4) GJ273	STIS/CCD, ACQ, F28X50OII	MIRROR		GS ACQ SCENARIO BASE1BE		20 Secs (20 Secs) *[==>]*	 ***[1]***
2	(STIS.ta.1008988)	(4) GJ273	STIS/CCD, ACQ/PEAK, 0.2X0.05ND	MIRROR				2.0 Secs (2 Secs) *[==>]*	 ***[1]***
3	(STIS.sp.1009014)	(4) GJ273	STIS/NUV-MAMA, TIME-TAG, 0.2X0.09	E230H 2713 A	BUFFER-TIME=600			1700 Secs (1575 Secs) *[==>1575.0 Secs]*	 ***[1]***
4	(STIS.sp.1009034)	(4) GJ273	STIS/FUV-MAMA, TIME-TAG, 0.2X0.2	E140M 1425 A	BUFFER-TIME=600			2700 Secs (2813 Secs) *[==>2813.0 Secs]*	 ***[2]***

Orbit Structure





Visit

Proposal 15326, Visit 12, implementation Wed Jan 02 19:01:01 GMT 2019

Diagnostic Status: No Diagnostics

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

Special Requirements: BETWEEN 23-JUN-2017:00:00:00 AND 01-FEB-2018:00:00:00; BETWEEN 23-JUN-2018:00:00:00 AND 01-FEB-2019:00:00:00; BETWEEN 23-JUN-2019:00:00:00 AND 01-FEB-2020:00:00:00; BETWEEN 23-JUN-2020:00:00:00 AND 01-FEB-2021:00:00:00

Fixed Targets

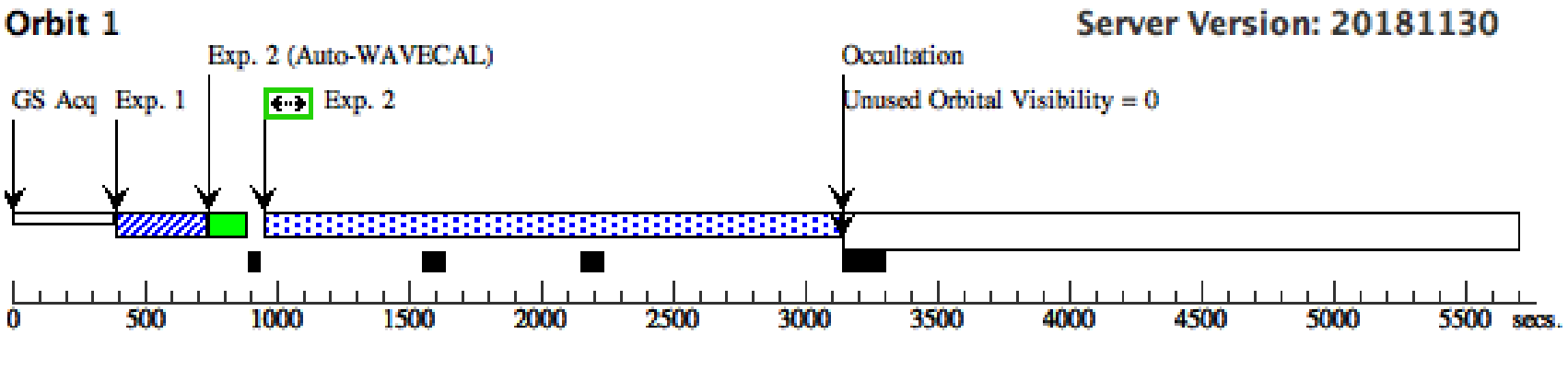
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(4)	GJ273 Alt Name1: LHS-33	RA: 07 27 24.5000 (111.8520833d) Dec: +05 13 32.83 (5.22579d) Equinox: J2000	Proper Motion RA: 572.51 mas/yr Proper Motion Dec: -3693.51 mas/yr Parallax: 0.26298" Epoch of Position: 2000.0 Radial Velocity: +18.22 km/sec	V=9.87+/-0.05 U-MAG=12.56+/-0.05, TYPE=M3.5V, F-LINE(2796)=1.5+/-0.4E-13, W-LINE(2796)=0.3, F-LINE(1216)=1.1+/-0.3E-13, W-LINE(1216)=0.9	Reference Frame: ICRS

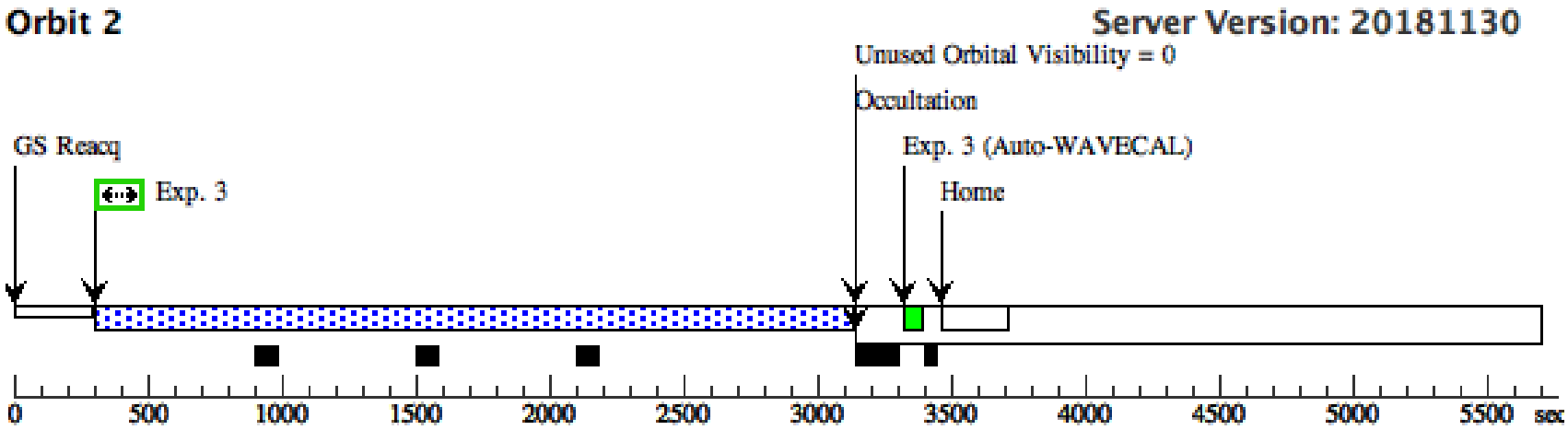
Comments:
Category=STAR
Description=[M V-IV]
Extended=NO

Exposures

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	(STIS.ta.1008966)	(4) GJ273	STIS/CCD, ACQ, F28X50OII	MIRROR		GS ACQ SCENARIO BASE1BE		20 Secs (20 Secs) *[==>]*	 ***[1]***
2	(STIS.sp.1009034)	(4) GJ273	STIS/FUV-MAMA, TIME-TAG, 0.2X0.2	E140M 1425 A	BUFFER-TIME=600			2200 Secs (2160 Secs) *[==>2160.0 Secs]*	 ***[1]***
3	(STIS.sp.1009034)	(4) GJ273	STIS/FUV-MAMA, TIME-TAG, 0.2X0.2	E140M 1425 A	BUFFER-TIME=600			2700 Secs (2813 Secs) *[==>2813.0 Secs]*	 ***[2]***

Orbit Structure





Visit

Proposal 15326, Visit 05, implementation Wed Jan 02 19:01:01 GMT 2019

Diagnostic Status: No Diagnostics

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

Special Requirements: BETWEEN 30-MAY-2017:00:00:00 AND 24-DEC-2017:00:00:00; BETWEEN 30-MAY-2018:00:00:00 AND 24-DEC-2018:00:00:00; BETWEEN 30-MAY-2019:00:00:00 AND 24-DEC-2019:00:00:00; BETWEEN 30-MAY-2020:00:00:00 AND 24-DEC-2020:00:00:00

Fixed Targets

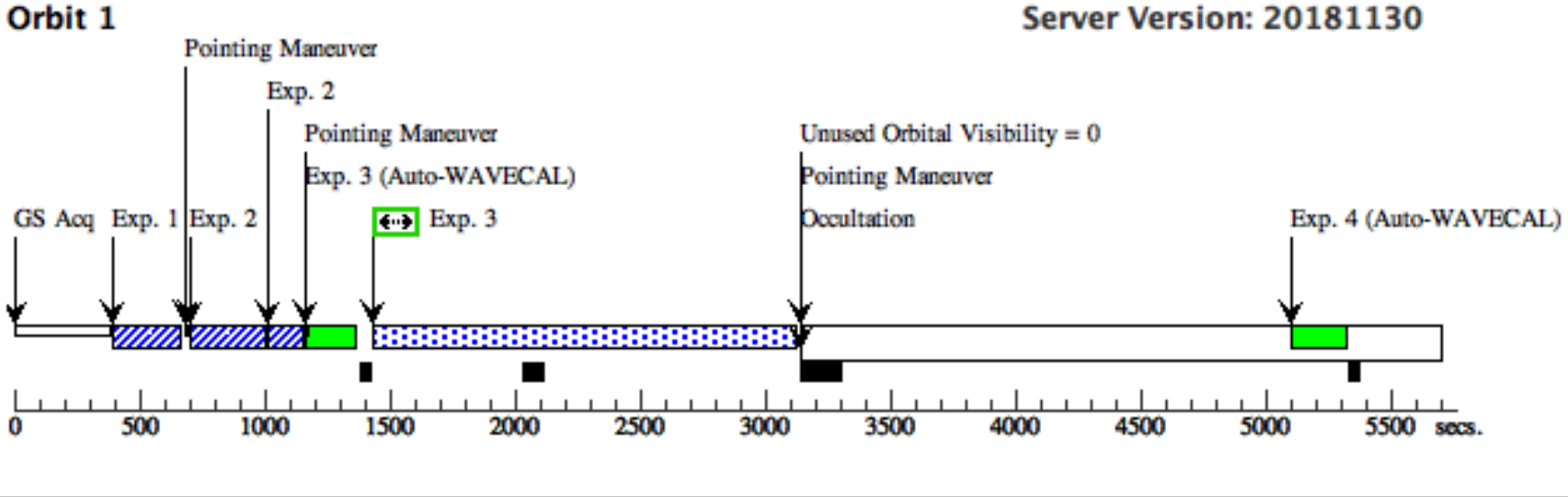
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(6)	GJ205 Alt Name1: HD36395	RA: 05 31 27.3960 (82.8641500d) Dec: -03 40 38.02 (-3.67723d) Equinox: J2000	Proper Motion RA: 761.86 mas/yr Proper Motion Dec: -2093.60 mas/yr Parallax: 0.17708" Epoch of Position: 2000.0 Radial Velocity: +8.67 km/sec	V=7.97+/-0.05 U-MAG=10.63+/-0.05, TYPE=M1.5V, F-LINE(2796)=3.0+/-0.8E-13, W-LINE(2796)=0.3, F-LINE(1216)=2.8+/-0.7E-13, W-LINE(1216)=0.9	Reference Frame: ICRS

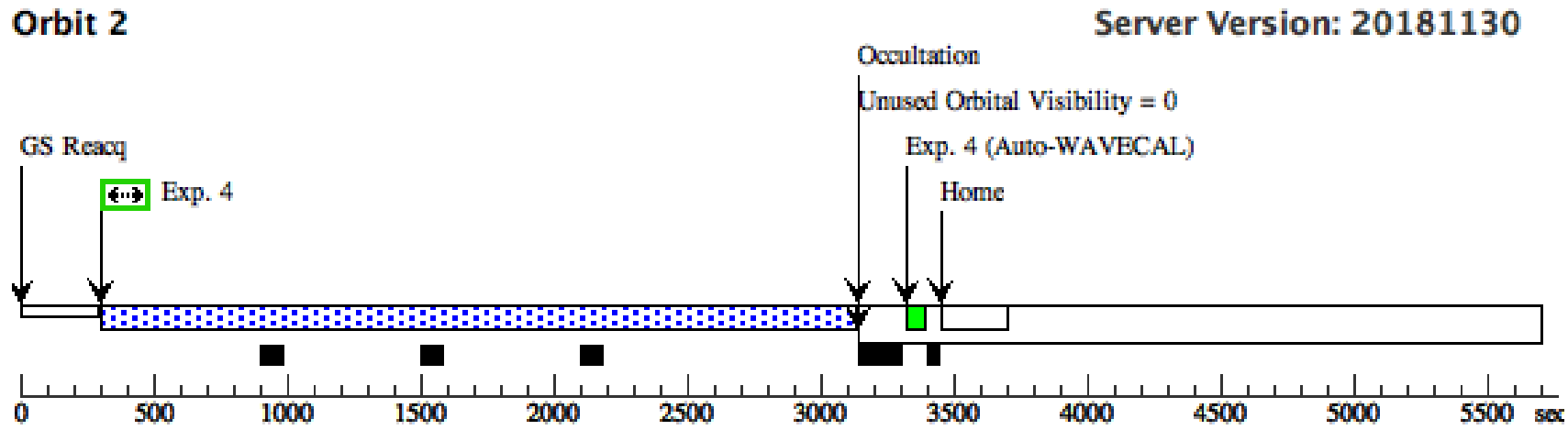
Comments:
Category=STAR
Description=[M V-IV]
Extended=NO

Exposures

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	(STIS.ta.1008973)	(6) GJ205	STIS/CCD, ACQ, F28X50OII	MIRROR		GS ACQ SCENARIO BASE1BE		5 Secs (5 Secs) *[==>]*	 ***[1]***
2	(STIS.ta.1008992)	(6) GJ205	STIS/CCD, ACQ/PEAK, 0.2X0.05ND	MIRROR				0.3 Secs (0.3 Secs) *[==>]*	 ***[1]***
3	(STIS.sp.1009016)	(6) GJ205	STIS/NUV-MAMA, TIME-TAG, 0.2X0.09	E230H 2713 A	BUFFER-TIME=600			1700 Secs (1673 Secs) *[==>1673.0 Secs]*	 ***[1]***
4	(STIS.sp.1009032)	(6) GJ205	STIS/FUV-MAMA, TIME-TAG, 0.2X0.2	E140M 1425 A	BUFFER-TIME=600			2700 Secs (2810 Secs) *[==>2810.0 Secs]*	 ***[2]***

Orbit Structure





Visit

Proposal 15326, Visit 04, implementation Wed Jan 02 19:01:01 GMT 2019

Diagnostic Status: No Diagnostics

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

Special Requirements: (none)

Fixed Targets

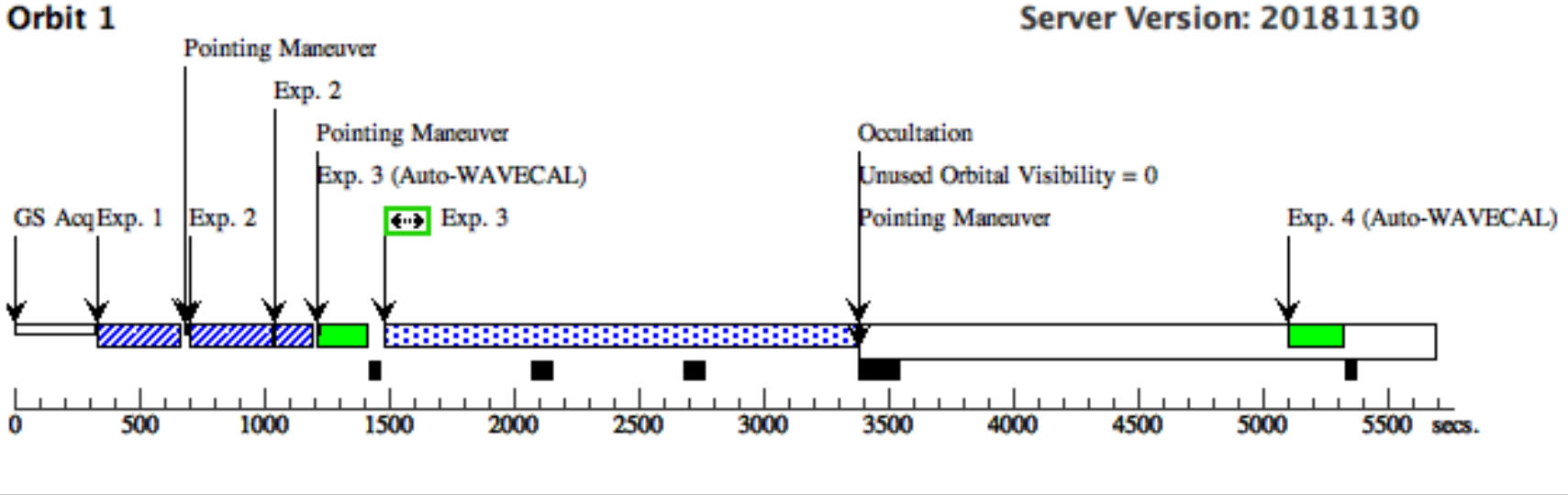
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(5)	GJ860A	RA: 22 28 0.4200 (337.0017500d)	Proper Motion RA: -870.23 mas/yr	V=9.80+/-0.10	Reference Frame: ICRS
	Alt Name1: HD239960A	Dec: +57 41 49.30 (57.69703d)	Proper Motion Dec: -471.10 mas/yr	U-MAG=12.52+/-0.10,	
	Alt Name2: KRUGER-60A	Equinox: J2000	Parallax: 0.24952"	TYPE=M3V,	
			Epoch of Position: 1991.25	F-LINE(2796)=3.4+/-0.9E-13,	
			Radial Velocity: -28 km/sec	W-LINE(2796)=0.3,	
				F-LINE(1216)=3.7+/-0.9E-13,	
				W-LINE(1216)=0.9	

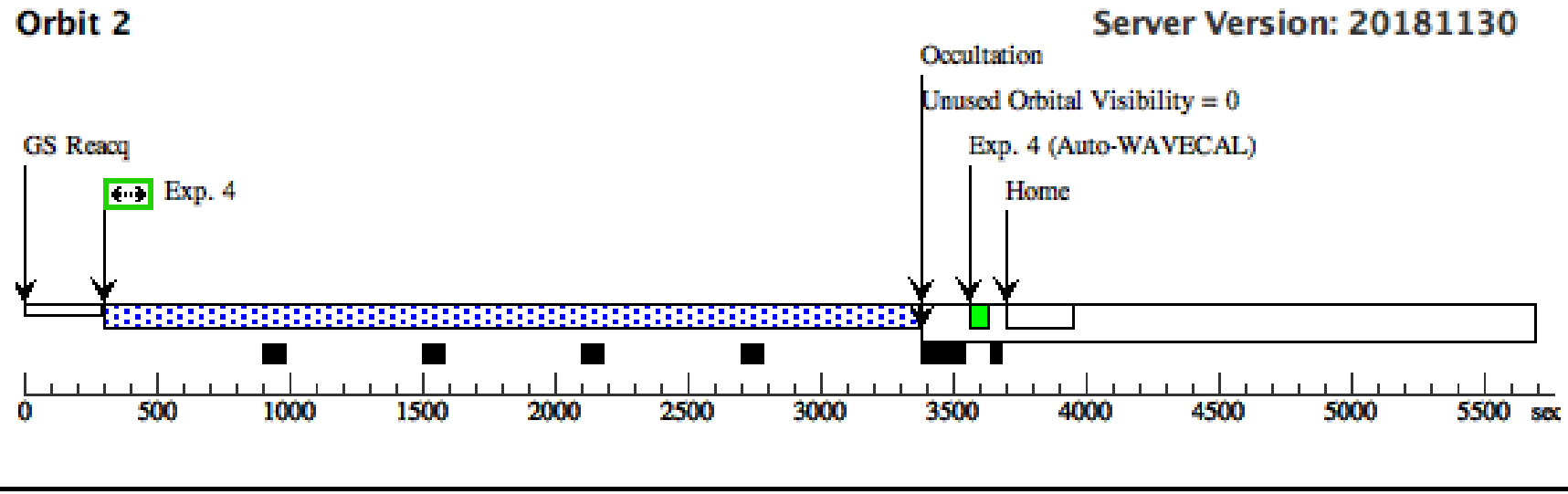
Comments: GJ 860 is a close binary (M3+M4) with an orbital period of 44.67 yr, and with the companion (GJ 860B) only ~1.6" away in 2017. Orbital motion will make the coordinates more uncertain. SIMBAD coordinates and V magnitudes are clearly wrong due to the confusion of the two stars, so numbers are taken directly from Hipparcos, which are epoch 1991.25.
Category=STAR
Description=[M V-IV]
Extended=NO

Exposures

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	(STIS.ta.1008970)	(5) GJ860A	STIS/CCD, ACQ, F28X50OII	MIRROR				20 Secs (20 Secs)	
								[==>]	***[1]***
2	(STIS.ta.1008989)	(5) GJ860A	STIS/CCD, ACQ/PEAK, 0.2X0.05ND	MIRROR				2.0 Secs (2 Secs)	
								[==>]	***[1]***
3	(STIS.sp.1009017)	(5) GJ860A	STIS/NUV-MAMA, TIME-TAG, 0.2X0.09	E230H 2713 A	BUFFER-TIME=600			1800 Secs (1879 Secs)	
								[==>1879.0 Secs]	***[1]***
4	(STIS.sp.1009033)	(5) GJ860A	STIS/FUV-MAMA, TIME-TAG, 0.2X0.2	E140M 1425 A	BUFFER-TIME=600			2700 Secs (3057 Secs)	
								[==>3057.0 Secs]	***[2]***

Orbit Structure





Visit

Proposal 15326, Visit 13, implementation Wed Jan 02 19:01:01 GMT 2019

Diagnostic Status: No Diagnostics

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

Special Requirements: (none)

Fixed Targets

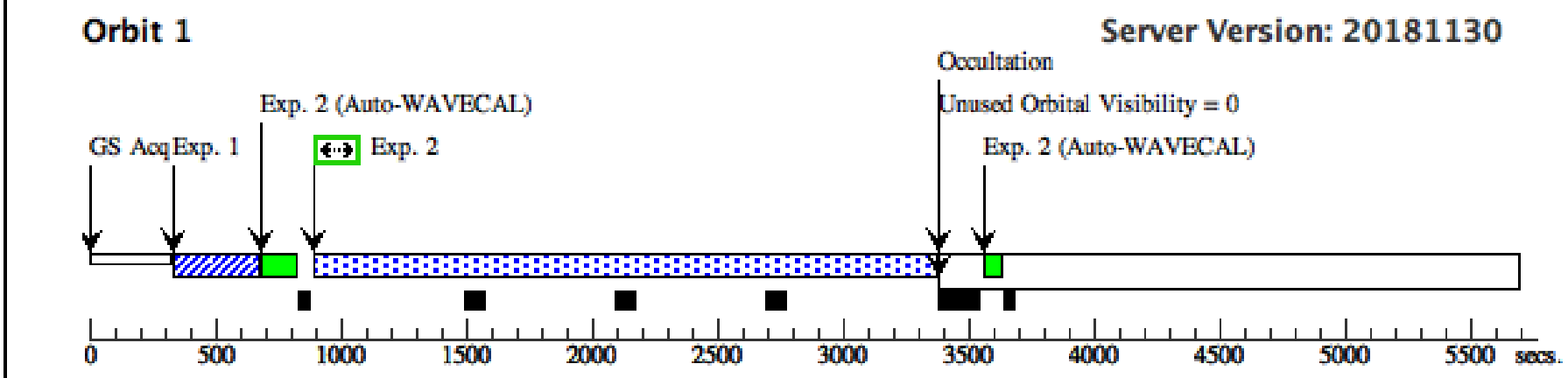
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(5)	GJ860A Alt Name1: HD239960A Alt Name2: KRUGER-60A	RA: 22 28 0.4200 (337.0017500d) Dec: +57 41 49.30 (57.69703d) Equinox: J2000	Proper Motion RA: -870.23 mas/yr Proper Motion Dec: -471.10 mas/yr Parallax: 0.24952" Epoch of Position: 1991.25 Radial Velocity: -28 km/sec	V=9.80+/-0.10 U-MAG=12.52+/-0.10, TYPE=M3V, F-LINE(2796)=3.4+/-0.9E-13, W-LINE(2796)=0.3, F-LINE(1216)=3.7+/-0.9E-13, W-LINE(1216)=0.9	Reference Frame: ICRS

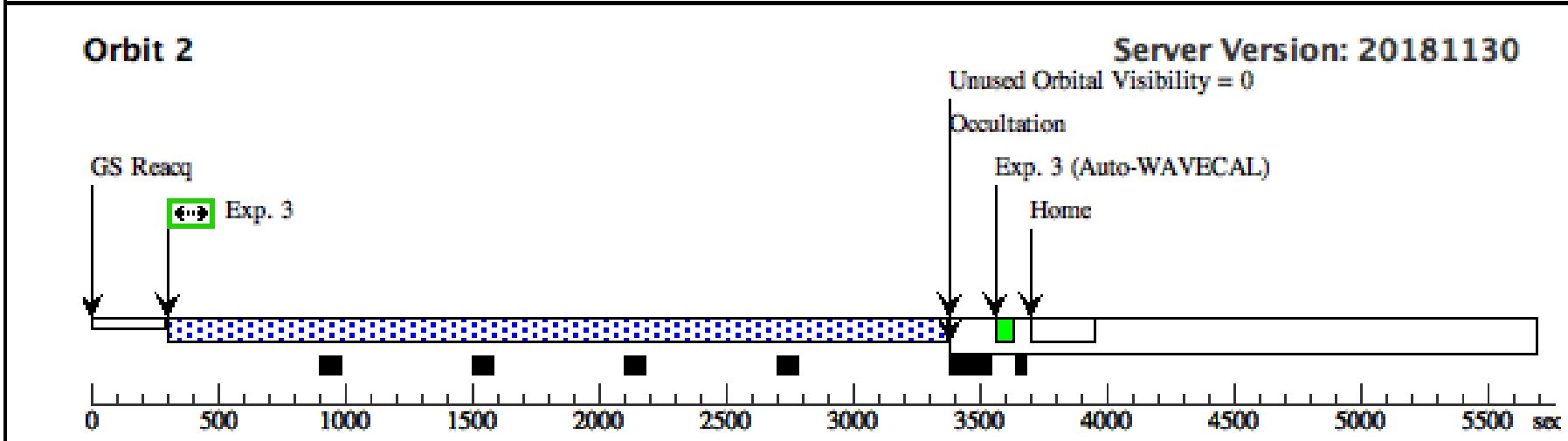
Comments: GJ 860 is a close binary (M3+M4) with an orbital period of 44.67 yr, and with the companion (GJ 860B) only ~1.6" away in 2017. Orbital motion will make the coordinates more uncertain. SIMBAD coordinates and V magnitudes are clearly wrong due to the confusion of the two stars, so numbers are taken directly from Hipparcos, which are epoch 1991.25.
Category=STAR
Description=[M V-IV]
Extended=NO

Exposures

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	(STIS.ta.1008970)	(5) GJ860A	STIS/CCD, ACQ, F28X50OII	MIRROR				20 Secs (20 Secs) *[==>]*	 ***[1]***
2	(STIS.sp.1009033)	(5) GJ860A	STIS/FUV-MAMA, TIME-TAG, 0.2X0.2	E140M 1425 A	BUFFER-TIME=600			2300 Secs (2464 Secs) *[==>2464.0 Secs]*	 ***[1]***
3	(STIS.sp.1009033)	(5) GJ860A	STIS/FUV-MAMA, TIME-TAG, 0.2X0.2	E140M 1425 A	BUFFER-TIME=600			2700 Secs (3057 Secs) *[==>3057.0 Secs]*	 ***[2]***

Orbit Structure





Visit

Proposal 15326, Visit 14, implementation Wed Jan 02 19:01:01 GMT 2019

Diagnostic Status: No Diagnostics

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

Special Requirements: BETWEEN 30-MAY-2017:00:00:00 AND 24-DEC-2017:00:00:00; BETWEEN 30-MAY-2018:00:00:00 AND 24-DEC-2018:00:00:00; BETWEEN 30-MAY-2019:00:00:00 AND 24-DEC-2019:00:00:00; BETWEEN 30-MAY-2020:00:00:00 AND 24-DEC-2020:00:00:00

Fixed Targets

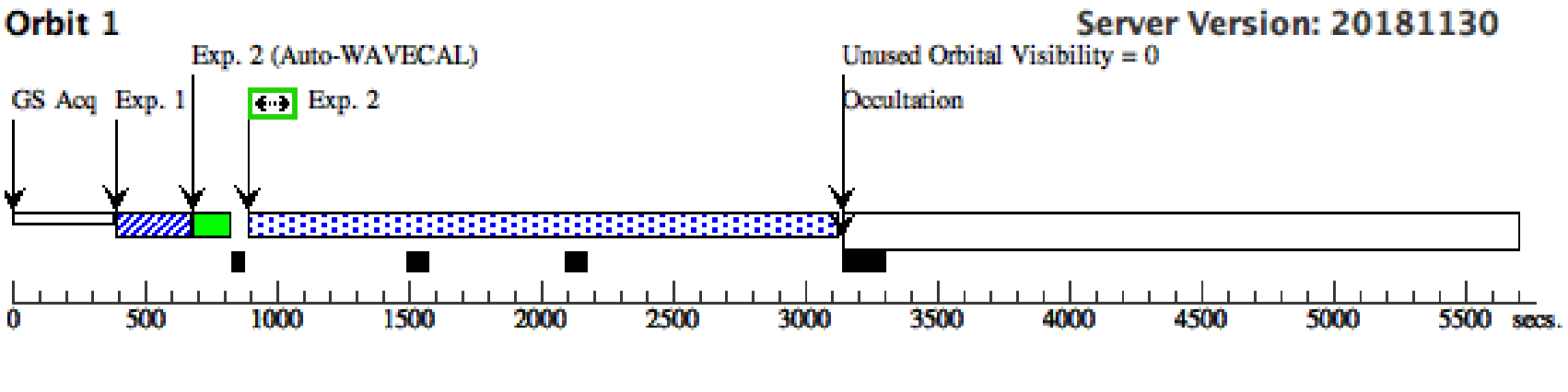
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(6)	GJ205 Alt Name1: HD36395	RA: 05 31 27.3960 (82.8641500d) Dec: -03 40 38.02 (-3.67723d) Equinox: J2000	Proper Motion RA: 761.86 mas/yr Proper Motion Dec: -2093.60 mas/yr Parallax: 0.17708" Epoch of Position: 2000.0 Radial Velocity: +8.67 km/sec	V=7.97+/-0.05 U-MAG=10.63+/-0.05, TYPE=M1.5V, F-LINE(2796)=3.0+/-0.8E-13, W-LINE(2796)=0.3, F-LINE(1216)=2.8+/-0.7E-13, W-LINE(1216)=0.9	Reference Frame: ICRS

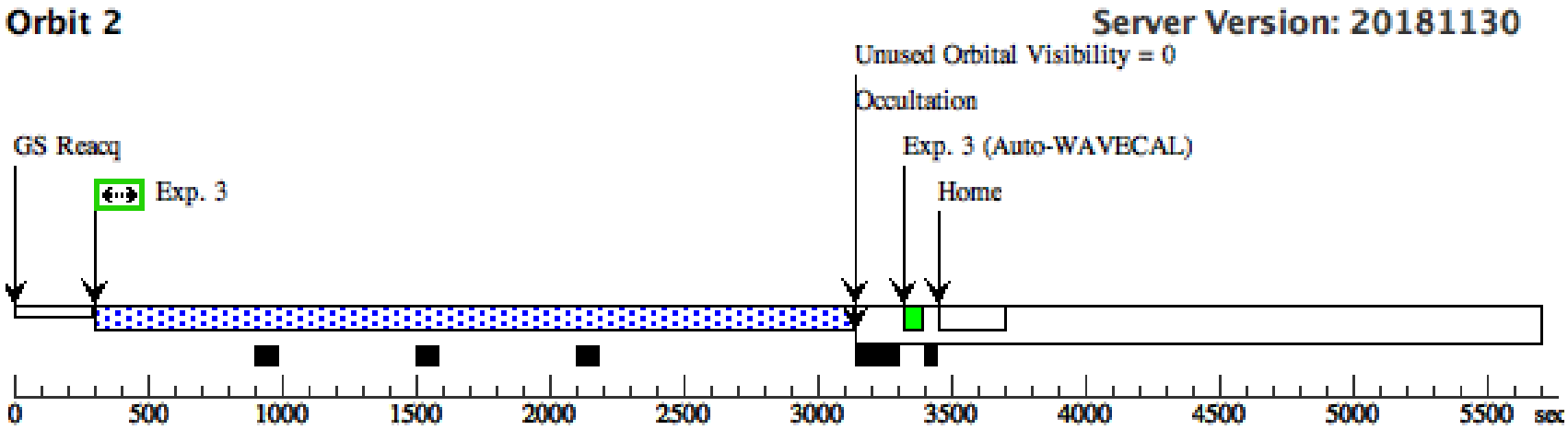
Comments:
Category=STAR
Description=[M V-IV]
Extended=NO

Exposures

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	(STIS.ta.1008973)	(6) GJ205	STIS/CCD, ACQ, F28X50OII	MIRROR		GS ACQ SCENARIO BASE1BE		5 Secs (5 Secs) *[==>]*	 ***[1]***
2	(STIS.sp.1009032)	(6) GJ205	STIS/FUV-MAMA, TIME-TAG, 0.2X0.2	E140M 1425 A	BUFFER-TIME=600			2300 Secs (2217 Secs) *[==>2217.0 Secs]*	 ***[1]***
3	(STIS.sp.1009032)	(6) GJ205	STIS/FUV-MAMA, TIME-TAG, 0.2X0.2	E140M 1425 A	BUFFER-TIME=600			2700 Secs (2810 Secs) *[==>2810.0 Secs]*	 ***[2]***

Orbit Structure





Visit

Proposal 15326, Visit 06, completed Wed Jan 02 19:01:01 GMT 2019

Diagnostic Status: Warning

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

Special Requirements: BETWEEN 04-MAY-2017:00:00:00 AND 08-DEC-2017:00:00:00; BETWEEN 04-MAY-2018:00:00:00 AND 08-DEC-2018:00:00:00

Diagnostics

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

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

Fixed Targets

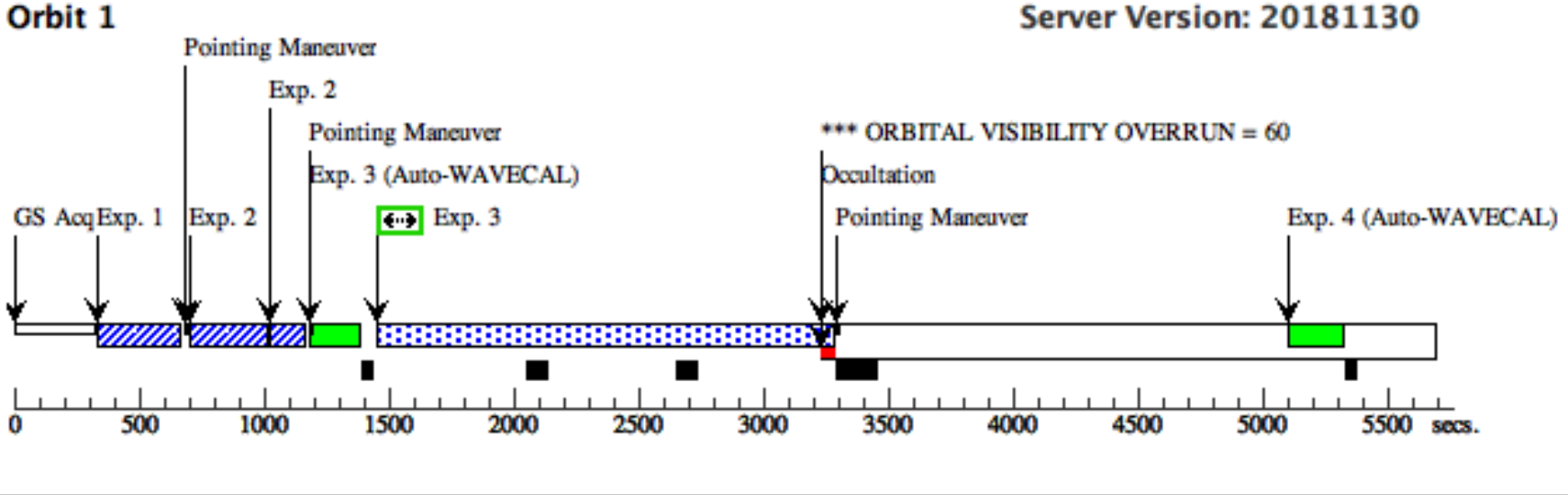
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(7)	GJ588 Alt Name1: LHS-397	RA: 15 32 12.9320 (233.0538833d) Dec: -41 16 32.11 (-41.27559d) Equinox: J2000	Proper Motion RA: -1177.12 mas/yr Proper Motion Dec: -1028.54 mas/yr Parallax: 0.16866" Epoch of Position: 2000.0 Radial Velocity: +15.50 km/sec	V=9.31+/-0.05 U-MAG=11.92+/-0.05, TYPE=M2.5V, F-LINE(2796)=1.3+/-0.3E-13, W-LINE(2796)=0.3, F-LINE(1216)=1.0+/-0.3E-13, W-LINE(1216)=0.9	Reference Frame: ICRS

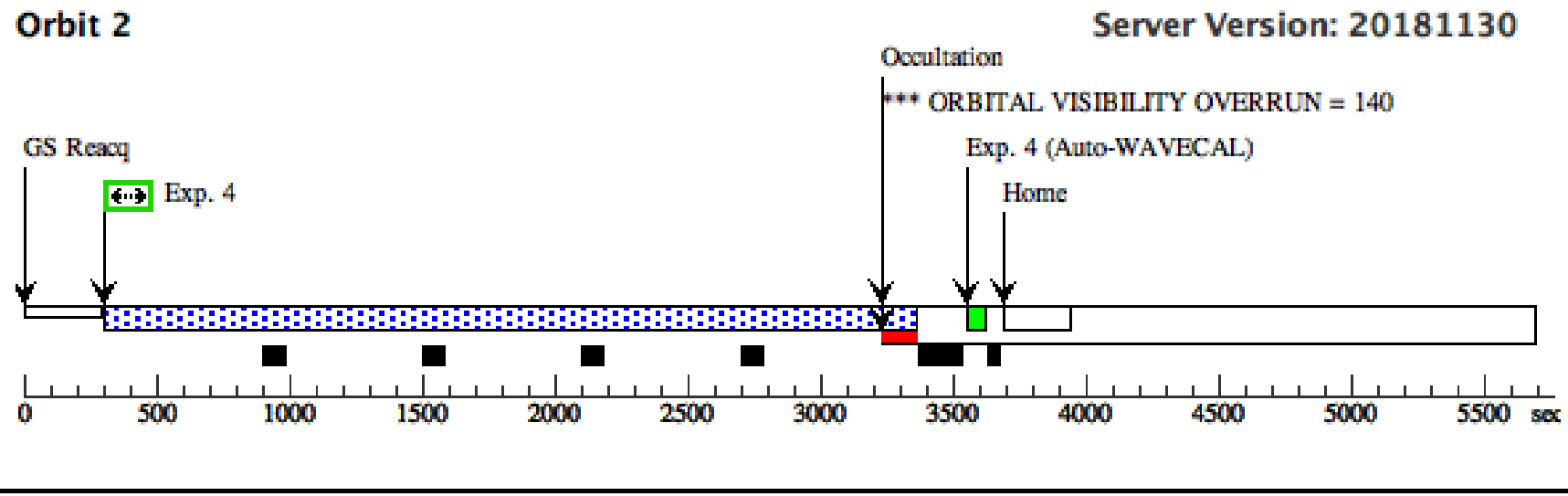
Comments:
Category=STAR
Description=[M V-IV]
Extended=NO

Exposures

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	(STIS.ta.1008977)	(7) GJ588	STIS/CCD, ACQ, F28X50OII	MIRROR				20 Secs (20 Secs) *[==>]*	 ***[1]***
2	(STIS.ta.1008995)	(7) GJ588	STIS/CCD, ACQ/PEAK, 0.2X0.05ND	MIRROR				1.0 Secs (1 Secs) *[==>]*	 ***[1]***
3	(STIS.sp.1009020)	(7) GJ588	STIS/NUV-MAMA, TIME-TAG, 0.2X0.09	E230H 2713 A	BUFFER-TIME=600			1800 Secs (1812 Secs) *[==>1812.0 Secs]*	 ***[1]***
4	(STIS.sp.1009031)	(7) GJ588	STIS/FUV-MAMA, TIME-TAG, 0.2X0.2	E140M 1425 A	BUFFER-TIME=600			2700 Secs (3046 Secs) *[==>3046.0 Secs]*	 ***[2]***

Orbit Structure





Visit

Proposal 15326, Visit 15, completed Wed Jan 02 19:01:02 GMT 2019

Diagnostic Status: Warning

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

Special Requirements: BETWEEN 04-MAY-2017:00:00:00 AND 08-DEC-2017:00:00:00; BETWEEN 04-MAY-2018:00:00:00 AND 08-DEC-2018:00:00:00

Diagnostics

(Visit 15) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN

(Visit 15) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN

Fixed Targets

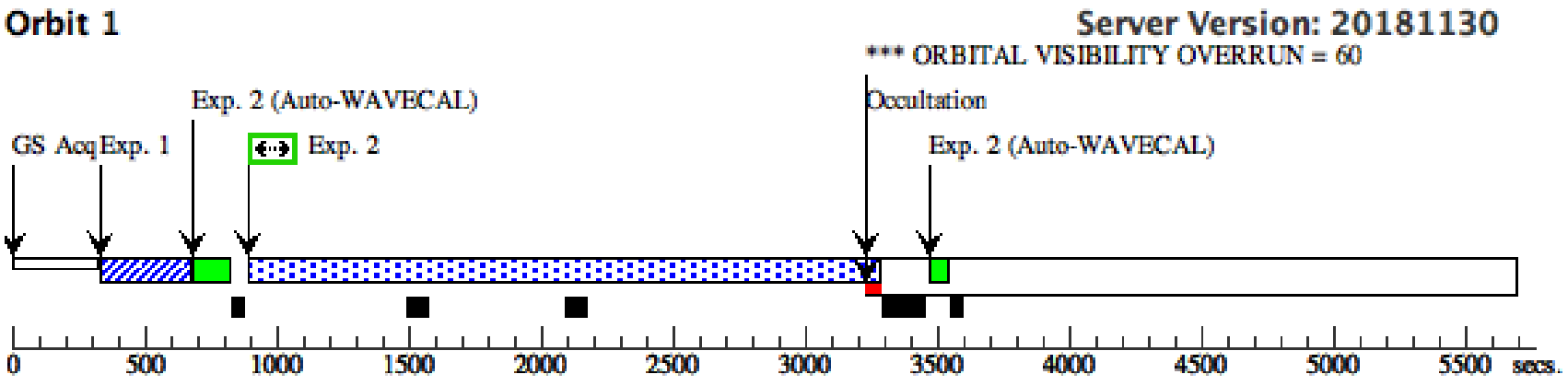
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(7)	GJ588 Alt Name1: LHS-397	RA: 15 32 12.9320 (233.0538833d) Dec: -41 16 32.11 (-41.27559d) Equinox: J2000	Proper Motion RA: -1177.12 mas/yr Proper Motion Dec: -1028.54 mas/yr Parallax: 0.16866" Epoch of Position: 2000.0 Radial Velocity: +15.50 km/sec	V=9.31+/-0.05 U-MAG=11.92+/-0.05, TYPE=M2.5V, F-LINE(2796)=1.3+/-0.3E-13, W-LINE(2796)=0.3, F-LINE(1216)=1.0+/-0.3E-13, W-LINE(1216)=0.9	Reference Frame: ICRS

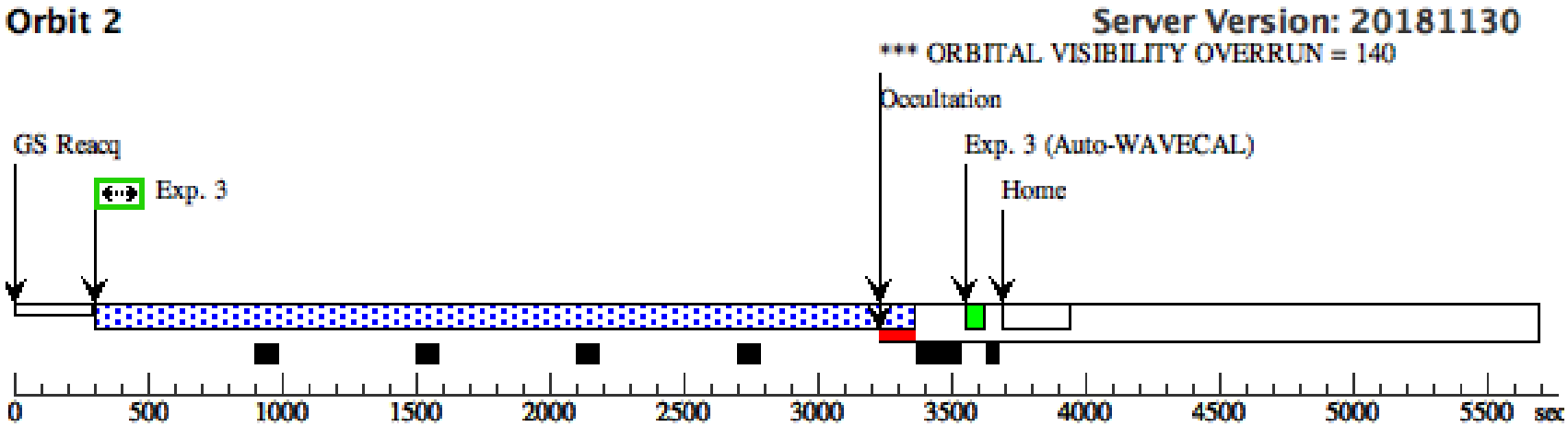
Comments:
Category=STAR
Description=[M V-IV]
Extended=NO

Exposures

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	(STIS.ta.1008977)	(7) GJ588	STIS/CCD, ACQ, F28X50OII	MIRROR				20 Secs (20 Secs)	
								[==>]	***[1]***
2	(STIS.sp.1009031)	(7) GJ588	STIS/FUV-MAMA, TIME-TAG, 0.2X0.2	E140M 1425 A	BUFFER-TIME=600			2300 Secs (2373 Secs)	
								[==>2373.0 Secs]	***[1]***
3	(STIS.sp.1009031)	(7) GJ588	STIS/FUV-MAMA, TIME-TAG, 0.2X0.2	E140M 1425 A	BUFFER-TIME=600			2700 Secs (3046 Secs)	
								[==>3046.0 Secs]	***[2]***

Orbit Structure





Visit

Proposal 15326, Visit 07, implementation Wed Jan 02 19:01:02 GMT 2019

Diagnostic Status: No Diagnostics

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

Special Requirements: BETWEEN 06-JUN-2017:00:00:00 AND 12-MAR-2018:00:00:00; BETWEEN 06-JUN-2018:00:00:00 AND 12-MAR-2019:00:00:00; BETWEEN 06-JUN-2019:00:00:00 AND 12-MAR-2020:00:00:00; BETWEEN 06-JUN-2020:00:00:00 AND 12-MAR-2021:00:00:00

Fixed Targets

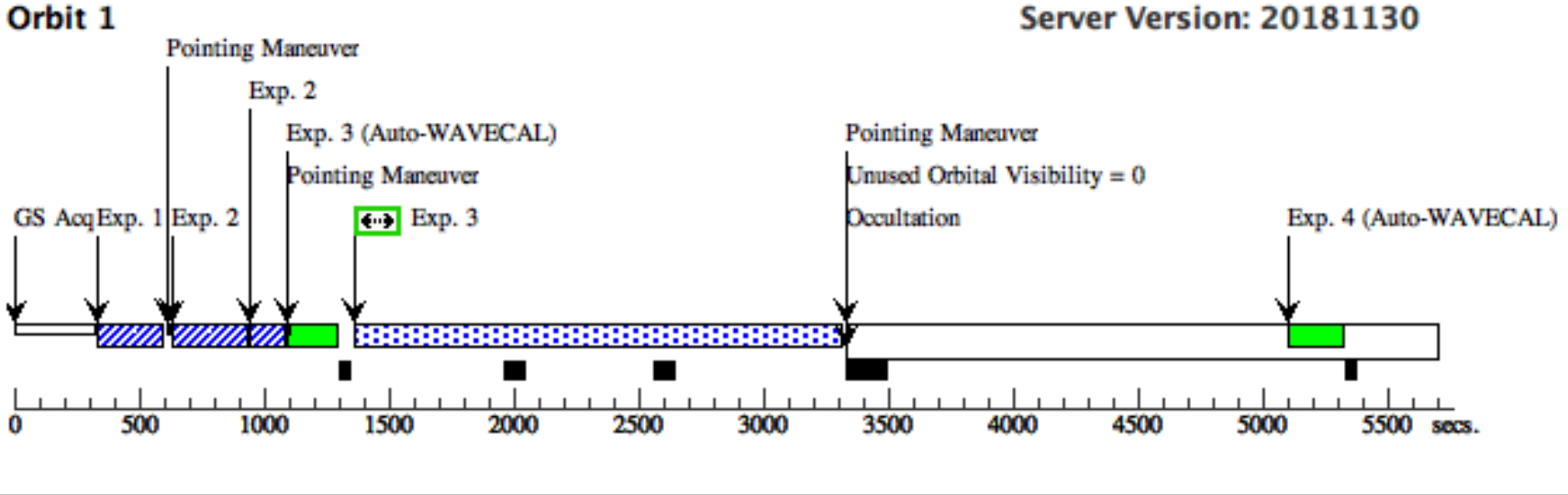
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(9)	GJ338A Alt Name1: HD79210	RA: 09 14 22.7920 (138.5949667d) Dec: +52 41 11.72 (52.68659d) Equinox: J2000	Proper Motion RA: -1535.72 mas/yr Proper Motion Dec: -576.59 mas/yr Parallax: 0.17208" Epoch of Position: 2000.0 Radial Velocity: +11.14 km/sec	V=7.63+/-0.05 U-MAG=10.26+/-0.05, TYPE=M0V, F-LINE(2796)=3.6+/-0.9E-13, W-LINE(2796)=0.3, F-LINE(1216)=3.4+/-0.9E-13, W-LINE(1216)=0.9	Reference Frame: ICRS

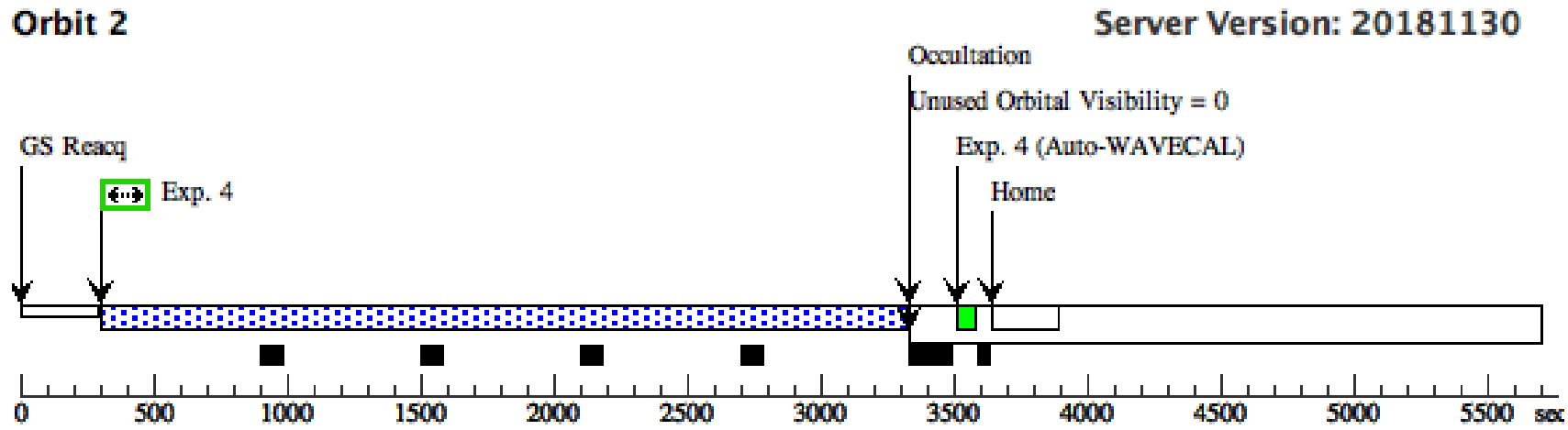
Comments: See individual measurements in SIMBAD for U-mag.
Category=STAR
Description=[M V-IV]
Extended=NO

Exposures

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	(STIS.ta.1008980)	(9) GJ338A	STIS/CCD, ACQ, F28X50OII	MIRROR				2 Secs (2 Secs) *[==>]*	 ***[1]***
2	(STIS.ta.1009002)	(9) GJ338A	STIS/CCD, ACQ/PEAK, 0.2X0.05ND	MIRROR				0.2 Secs (0.2 Secs) *[==>]*	 ***[1]***
3	(STIS.sp.1009022)	(9) GJ338A	STIS/NUV-MAMA, TIME-TAG, 0.2X0.09	E230H 2713 A	BUFFER-TIME=600			1800 Secs (1939 Secs) *[==>1939.0 Secs]*	 ***[1]***
4	(STIS.sp.1009030)	(9) GJ338A	STIS/FUV-MAMA, TIME-TAG, 0.2X0.2	E140M 1425 A	BUFFER-TIME=600			2700 Secs (3001 Secs) *[==>3001.0 Secs]*	 ***[2]***

Orbit Structure





Visit

Proposal 15326, Visit 16, implementation Wed Jan 02 19:01:02 GMT 2019

Diagnostic Status: No Diagnostics

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

Special Requirements: BETWEEN 06-JUN-2017:00:00:00 AND 12-MAR-2018:00:00:00; BETWEEN 06-JUN-2018:00:00:00 AND 12-MAR-2019:00:00:00; BETWEEN 06-JUN-2019:00:00:00 AND 12-MAR-2020:00:00:00; BETWEEN 06-JUN-2020:00:00:00 AND 12-MAR-2021:00:00:00

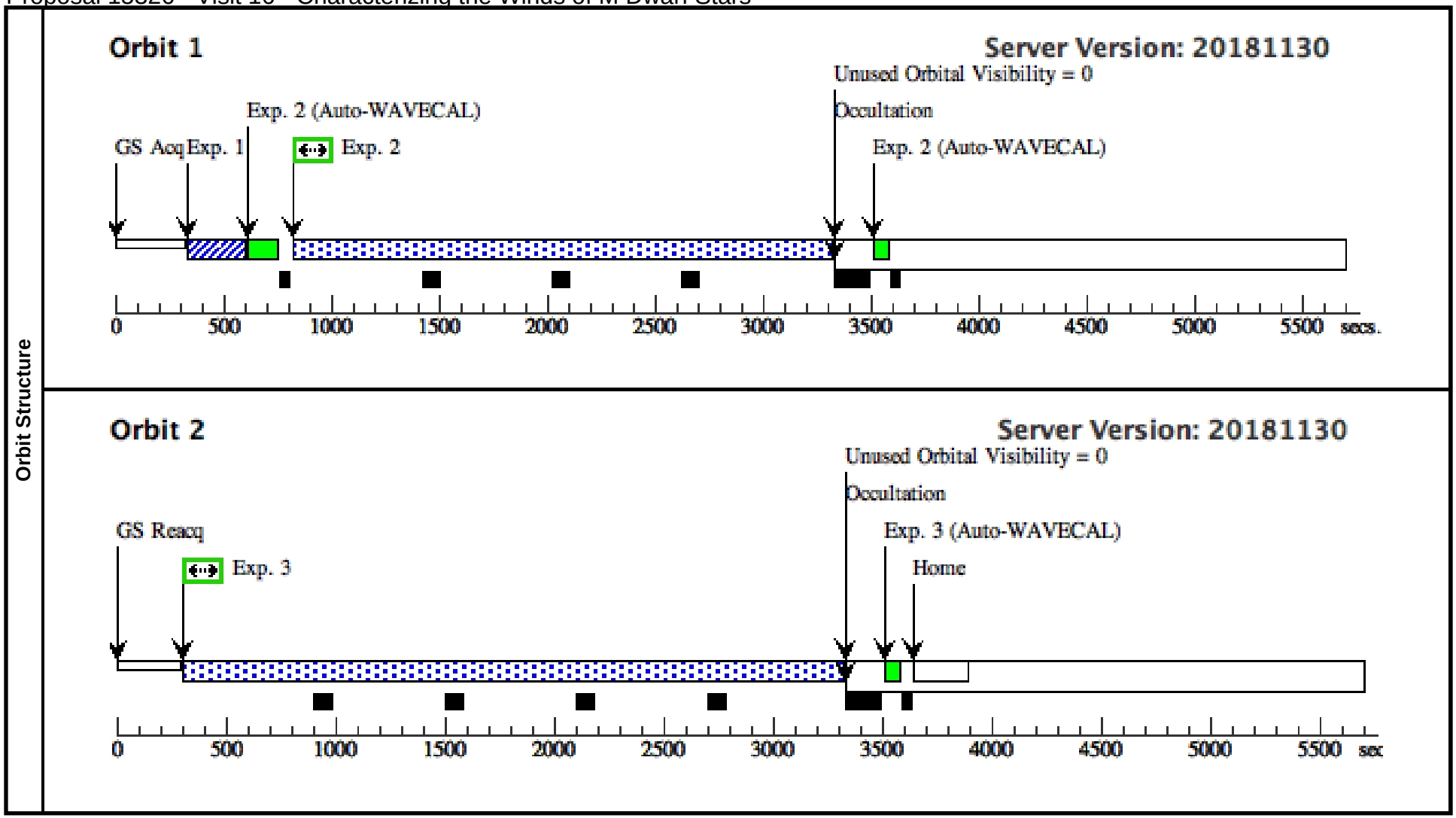
Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(9)	GJ338A Alt Name1: HD79210	RA: 09 14 22.7920 (138.5949667d) Dec: +52 41 11.72 (52.68659d) Equinox: J2000	Proper Motion RA: -1535.72 mas/yr Proper Motion Dec: -576.59 mas/yr Parallax: 0.17208" Epoch of Position: 2000.0 Radial Velocity: +11.14 km/sec	V=7.63+/-0.05 U-MAG=10.26+/-0.05, TYPE=M0V, F-LINE(2796)=3.6+/-0.9E-13, W-LINE(2796)=0.3, F-LINE(1216)=3.4+/-0.9E-13, W-LINE(1216)=0.9	Reference Frame: ICRS

Comments: See individual measurements in SIMBAD for U-mag.
Category=STAR
Description=[M V-IV]
Extended=NO

Exposures

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	(STIS.ta.1008980)	(9) GJ338A	STIS/CCD, ACQ, F28X50OII	MIRROR				2 Secs (2 Secs)	
								[==>]	***[1]***
2	(STIS.sp.1009030)	(9) GJ338A	STIS/FUV-MAMA, TIME-TAG, 0.2X0.2	E140M 1425 A	BUFFER-TIME=600			2300 Secs (2480 Secs)	
								[==>2480.0 Secs]	***[1]***
3	(STIS.sp.1009030)	(9) GJ338A	STIS/FUV-MAMA, TIME-TAG, 0.2X0.2	E140M 1425 A	BUFFER-TIME=600			2700 Secs (3001 Secs)	
								[==>3001.0 Secs]	***[2]***


Orbit Structure
Orbit 1
Server Version: 20181130
Unused Orbital Visibility = 0
Occultation
Exp. 2 (Auto-WAVECAL)
GS Acq
Exp. 1
Exp. 2
Exp. 2 (Auto-WAVECAL)
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
secs.
Orbit 2
Server Version: 20181130
Unused Orbital Visibility = 0
Occultation
GS Reacq
Exp. 3
Exp. 3 (Auto-WAVECAL)
Home
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
sec

Visit

Proposal 15326, Visit 08, implementation Wed Jan 02 19:01:02 GMT 2019

Diagnostic Status: No Diagnostics

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

Special Requirements: BETWEEN 25-JUN-2017:00:00:00 AND 09-FEB-2018:00:00:00; BETWEEN 25-JUN-2018:00:00:00 AND 09-FEB-2019:00:00:00; BETWEEN 25-JUN-2019:00:00:00 AND 09-FEB-2020:00:00:00; BETWEEN 25-JUN-2020:00:00:00 AND 09-FEB-2021:00:00:00

Fixed Targets

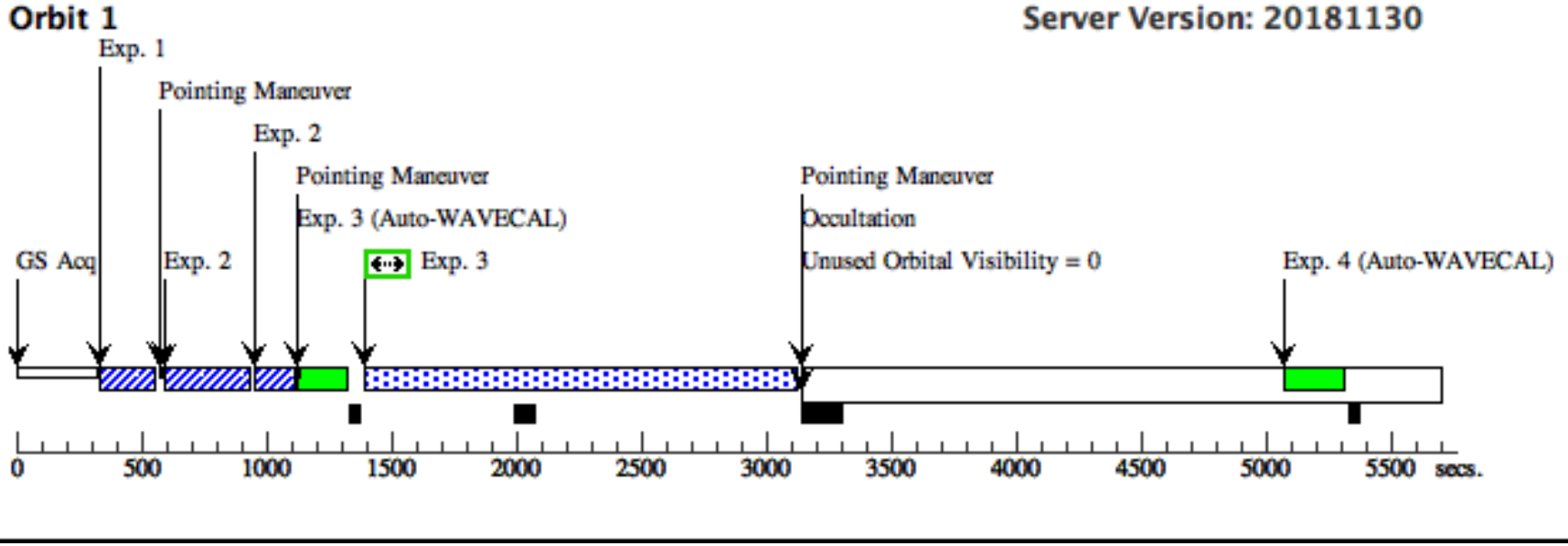
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(8)	GJ285 Alt Name1: YZ-CMI	RA: 07 44 40.1740 (116.1673917d) Dec: +03 33 8.84 (3.55246d) Equinox: J2000	Proper Motion RA: -345.25 mas/yr Proper Motion Dec: -450.70 mas/yr Parallax: 0.16788" Epoch of Position: 2000.0 Radial Velocity: +26.53 km/sec	V= 11.23+/-0.05 U-MAG=13.76+/-0.05, TYPE=M4.5V, F-LINE(2796)=2.5+/-0.6E-13, W-LINE(2796)=0.3, F-LINE(1216)=3.5+/-0.9E-13, W-LINE(1216)=0.9	Reference Frame: ICRS

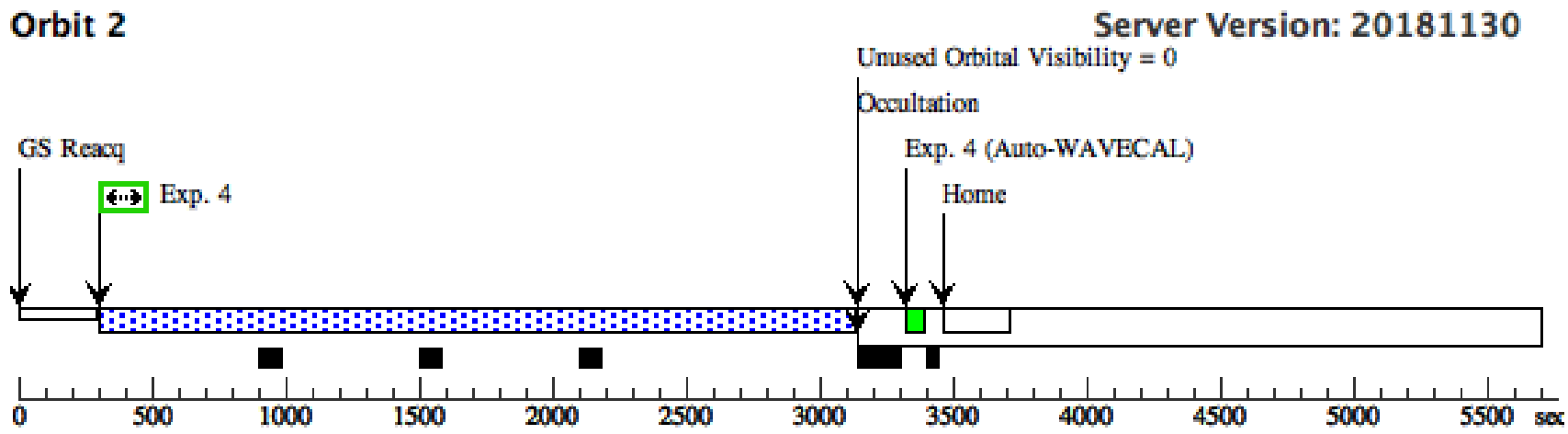
Comments: Active flare star.
Category=STAR
Description=[M V-IV]
Extended=NO

Exposures

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	(STIS.ta.1008983)	(8) GJ285	STIS/CCD, ACQ, F28X50LP	MIRROR				0.1 Secs (0.1 Secs) *[==>]*	 ***[1]***
2	(STIS.ta.1009007)	(8) GJ285	STIS/CCD, ACQ/PEAK, 0.2X0.05ND	MIRROR				3.0 Secs (3 Secs) *[==>]*	 ***[1]***
3	(STIS.sp.1009025)	(8) GJ285	STIS/NUV-MAMA, TIME-TAG, 0.2X0.09	E230H 2713 A	BUFFER-TIME=600			1300 Secs (1719 Secs) *[==>1719.0 Secs]*	 ***[1]***
Comments: For brightest flare calculation, see STIS.sp.1009287. It's close, but not over MAMA Bright limit.									
4	(STIS.sp.1009029)	(8) GJ285	STIS/FUV-MAMA, TIME-TAG, 0.2X0.2	E140H 1271 A	BUFFER-TIME=600			2700 Secs (2810 Secs) *[==>2810.0 Secs]*	 ***[2]***
Comments: Strong flare calculation in STIS.sp.1009312. 56 cts/s is peak pixel ct. rate, close to 75 cts/s limit.									

Orbit Structure





Visit

Proposal 15326, Visit 17, implementation Wed Jan 02 19:01:02 GMT 2019

Diagnostic Status: No Diagnostics

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

Special Requirements: BETWEEN 25-JUN-2017:00:00:00 AND 09-FEB-2018:00:00:00; BETWEEN 25-JUN-2018:00:00:00 AND 09-FEB-2019:00:00:00; BETWEEN 25-JUN-2019:00:00:00 AND 09-FEB-2020:00:00:00; BETWEEN 25-JUN-2020:00:00:00 AND 09-FEB-2021:00:00:00

Fixed Targets

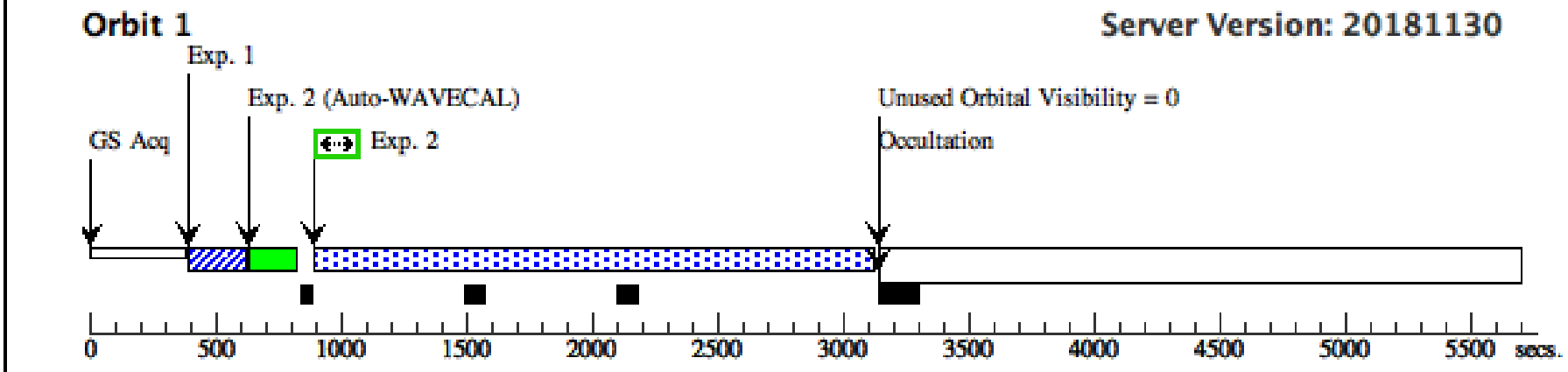
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(8)	GJ285 Alt Name1: YZ-CMI	RA: 07 44 40.1740 (116.1673917d) Dec: +03 33 8.84 (3.55246d) Equinox: J2000	Proper Motion RA: -345.25 mas/yr Proper Motion Dec: -450.70 mas/yr Parallax: 0.16788" Epoch of Position: 2000.0 Radial Velocity: +26.53 km/sec	V= 11.23+/-0.05 U-MAG=13.76+/-0.05, TYPE=M4.5V, F-LINE(2796)=2.5+/-0.6E-13, W-LINE(2796)=0.3, F-LINE(1216)=3.5+/-0.9E-13, W-LINE(1216)=0.9	Reference Frame: ICRS

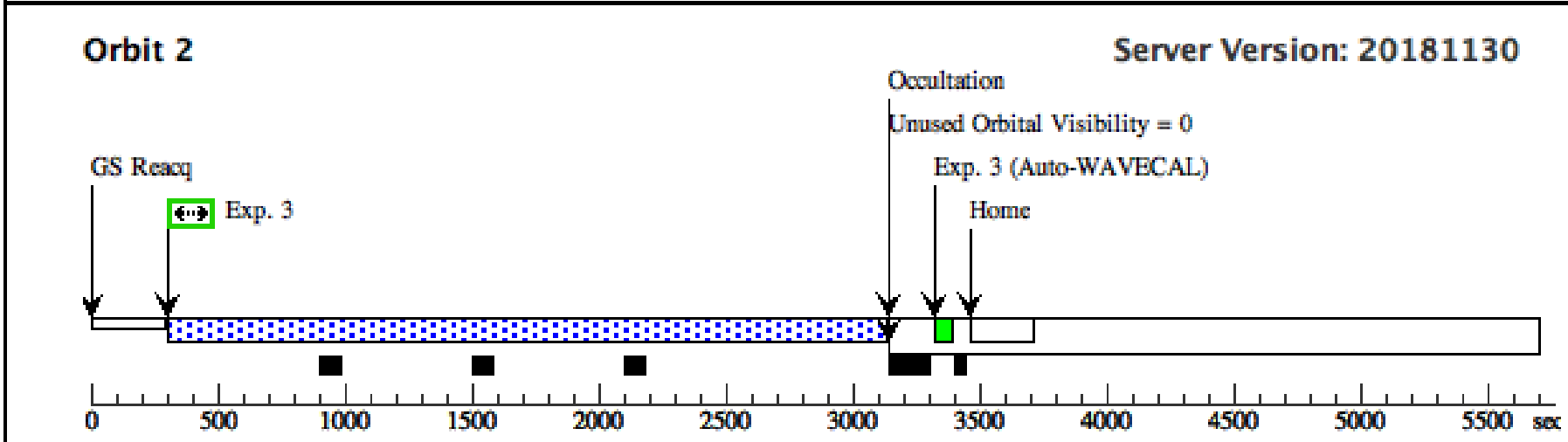
Comments: Active flare star.
Category=STAR
Description=[M V-IV]
Extended=NO

Exposures

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	(STIS.ta.1008983)	(8) GJ285	STIS/CCD, ACQ, F28X50LP	MIRROR		GS ACQ SCENARIO BASE1BE		0.1 Secs (0.1 Secs) *[==>]*	 ***[1]***
2	(STIS.sp.1009029)	(8) GJ285	STIS/FUV-MAMA, TIME-TAG, 0.2X0.2	E140H 1271 A	BUFFER-TIME=600			1500 Secs (2214 Secs) *[==>2214.0 Secs]*	 ***[1]***
3	(STIS.sp.1009029)	(8) GJ285	STIS/FUV-MAMA, TIME-TAG, 0.2X0.2	E140H 1271 A	BUFFER-TIME=600			2700 Secs (2810 Secs) *[==>2810.0 Secs]*	 ***[2]***

Orbit Structure





Visit

Proposal 15326, Visit 09, completed Wed Jan 02 19:01:02 GMT 2019

Diagnostic Status: Warning

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

Special Requirements: BETWEEN 25-MAY-2017:00:00:00 AND 12-DEC-2017:00:00:00; BETWEEN 25-MAY-2018:00:00:00 AND 12-DEC-2018:00:00:00

Diagnostics

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

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

Fixed Targets

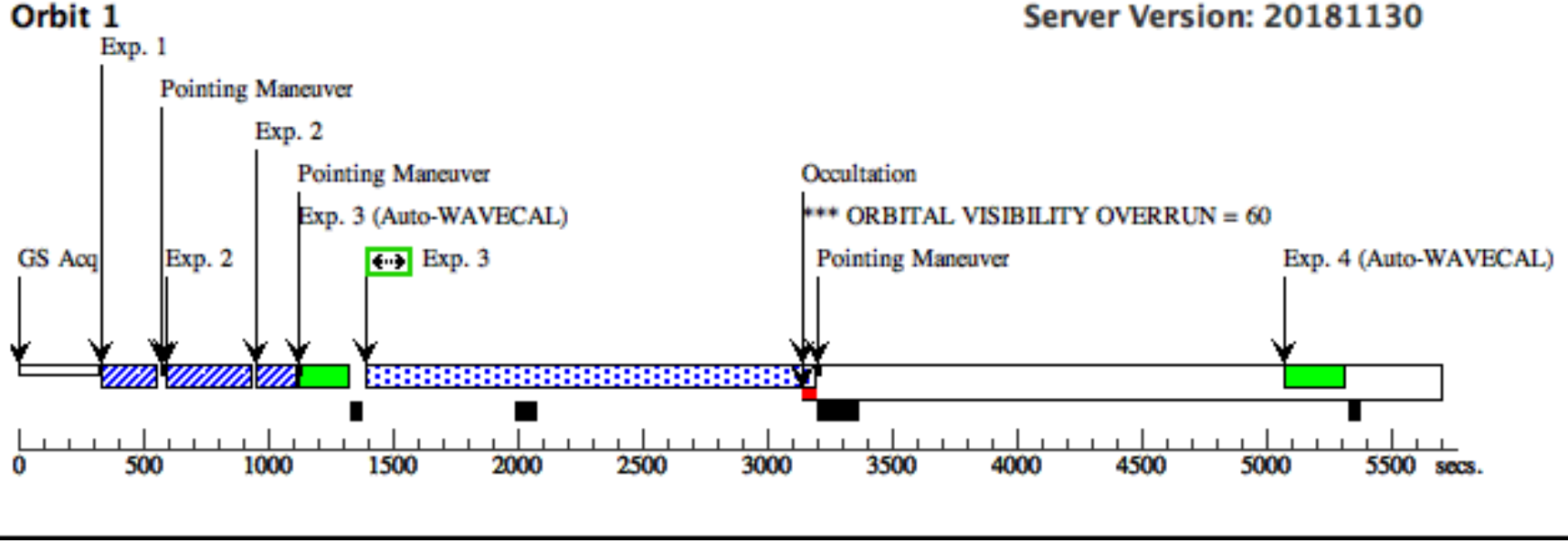
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(10)	GJ644A	RA: 16 55 28.7580 (253.8698250d)	Proper Motion RA: -825.84 mas/yr	V=10.69+/-0.05	Reference Frame: ICRS
	Alt Name1: HD152751	Dec: -08 20 10.79 (-8.33633d)	Proper Motion Dec: -873.53 mas/yr	U-MAG=13.42+/-0.05,	
	Alt Name2: WOLF-630A	Equinox: J2000	Parallax: 0.16141"	TYPE=M3V,	
			Epoch of Position: 2000.0	F-LINE(2796)=5.1+/-1.3E-13,	
			Radial Velocity: +14.89 km/sec	W-LINE(2796)=0.3,	
				F-LINE(1216)=7.7+/-1.9E-13,	
				W-LINE(1216)=0.9	

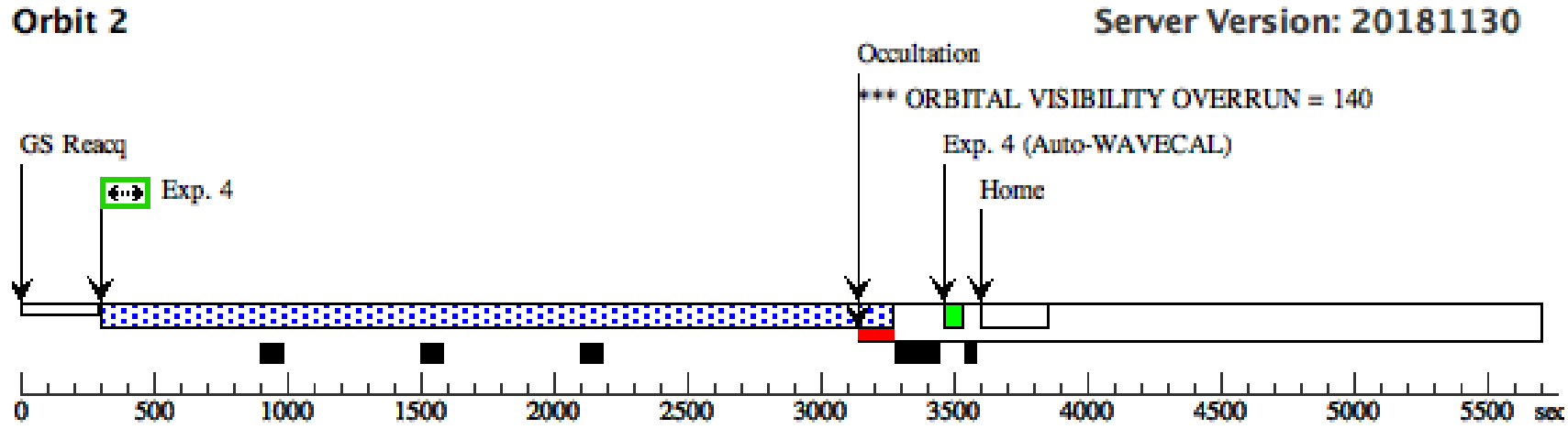
Comments: GJ 644 is a messy system consisting of 5 M dwarfs: GJ 644A (M3), GJ 644B a very nearby (~0.2") spectroscopic binary (M4+M4), GJ 643 a distant (~72") M3.5 star, and GJ 644C a very distant (~220") M7 star. SIMBAD magnitudes can't be trusted due to multiplicity. Actual magnitudes found in Mazeh et al. (2001).
Category=STAR
Description=[M V-IV]
Extended=NO

Exposures

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	(STIS.ta.1008984)	(10) GJ644A	STIS/CCD, ACQ, F28X50LP	MIRROR				0.1 Secs (0.1 Secs)	
								[==>]	***[1]***
2	(STIS.ta.1009012)	(10) GJ644A	STIS/CCD, ACQ/PEAK, 0.2X0.05ND	MIRROR				3.0 Secs (3 Secs)	
								[==>]	***[1]***
3	(STIS.sp.1009027)	(10) GJ644A	STIS/NUV-MAMA, TIME-TAG, 0.2X0.09	E230H 2713 A	BUFFER-TIME=600			1300 Secs (1782 Secs)	
								[==>1782.0 Secs]	***[1]***
	Comments: For brightest flare calculation, see STIS.sp.1009289. It's close, but not over MAMA Bright limit.								
4	(STIS.sp.1009028)	(10) GJ644A	STIS/FUV-MAMA, TIME-TAG, 0.2X0.2	E140H 1271 A	BUFFER-TIME=600			2700 Secs (2953 Secs)	
								[==>2953.0 Secs]	***[2]***
	Comments: Strong flare calculation in STIS.sp.1009318. 75 cts/s is peak pixel ct. rate, right at the 75 cts/s limit.								

Orbit Structure





Visit

Proposal 15326, Visit 18, completed Wed Jan 02 19:01:02 GMT 2019

Diagnostic Status: Warning

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

Special Requirements: BETWEEN 25-MAY-2017:00:00:00 AND 12-DEC-2017:00:00:00; BETWEEN 25-MAY-2018:00:00:00 AND 12-DEC-2018:00:00:00

Diagnostics

(Visit 18) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN

(Visit 18) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(10)	GJ644A	RA: 16 55 28.7580 (253.8698250d)	Proper Motion RA: -825.84 mas/yr	V=10.69+/-0.05	Reference Frame: ICRS
	Alt Name1: HD152751	Dec: -08 20 10.79 (-8.33633d)	Proper Motion Dec: -873.53 mas/yr	U-MAG=13.42+/-0.05,	
	Alt Name2: WOLF-630A	Equinox: J2000	Parallax: 0.16141"	TYPE=M3V,	
			Epoch of Position: 2000.0	F-LINE(2796)=5.1+/-1.3E-13,	
			Radial Velocity: +14.89 km/sec	W-LINE(2796)=0.3,	
				F-LINE(1216)=7.7+/-1.9E-13,	
				W-LINE(1216)=0.9	

Comments: GJ 644 is a messy system consisting of 5 M dwarfs: GJ 644A (M3), GJ 644B a very nearby (~0.2") spectroscopic binary (M4+M4), GJ 643 a distant (~72") M3.5 star, and GJ 644C a very distant (~220") M7 star. SIMBAD magnitudes can't be trusted due to multiplicity. Actual magnitudes found in Mazeh et al. (2001).
Category=STAR
Description=[M V-IV]
Extended=NO

Exposures

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	(STIS.ta.1008984)	(10) GJ644A	STIS/CCD, ACQ, F28X50LP	MIRROR				0.1 Secs (0.1 Secs)	
								[==>]	***[1]***
2	(STIS.sp.1009028)	(10) GJ644A	STIS/FUV-MAMA, TIME-TAG, 0.2X0.2	E140H 1271 A	BUFFER-TIME=600			1500 Secs (2337 Secs)	
								[==>2337.0 Secs]	***[1]***
3	(STIS.sp.1009028)	(10) GJ644A	STIS/FUV-MAMA, TIME-TAG, 0.2X0.2	E140H 1271 A	BUFFER-TIME=600			2700 Secs (2953 Secs)	
								[==>2953.0 Secs]	***[2]***

Orbit Structure