15090 - A UV spectroscopic survey of periodic M dwarfs in the Hyades

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) 2MASSJ04483062+1623187	STIS/CCD STIS/NUV-MAMA	2	29-Mar-2019 12:01:51.0	yes
51	(1) 2MASSJ04483062+1623187	STIS/CCD STIS/NUV-MAMA	2	29-Mar-2019 12:01:52.0	yes
02	(2) 2MASSJ04235911+1643178	STIS/CCD STIS/NUV-MAMA	2	29-Mar-2019 12:01:53.0	yes
52	(2) 2MASSJ04235911+1643178	STIS/CCD STIS/NUV-MAMA	1	29-Mar-2019 12:01:54.0	yes
03	(3) 2MASSJ04251456+1858250	STIS/CCD STIS/NUV-MAMA	2	29-Mar-2019 12:01:55.0	yes
04	(4) 2MASSJ04202761+1853499	STIS/CCD STIS/NUV-MAMA	2	29-Mar-2019 12:01:55.0	yes

Visit	*Targets used in Visit*	*Configurations used in Visit*	*Orbits Used*	*Last Orbit Planner Run*	*OP Current with Visit?*
05	(5) 2MASSJ04172811+1454038	STIS/CCD STIS/NUV-MAMA	1	29-Mar-2019 12:01:56.0	yes
06	(6) 2MASSJ02564122+3522346	STIS/CCD STIS/NUV-MAMA	1	29-Mar-2019 12:01:56.0	yes
07	(7) 2MASSJ03553690+2118482	STIS/CCD STIS/NUV-MAMA	1	29-Mar-2019 12:01:57.0	yes
08	(8) 2MASSJ03555715+1825564	STIS/CCD STIS/NUV-MAMA	1	29-Mar-2019 12:01:58.0	yes
58	(18) 2MASSJ03555715+1825564-COPY	STIS/CCD STIS/NUV-MAMA	1	29-Mar-2019 12:01:58.0	yes
09	(9) 2MASSJ03581434+1237408	STIS/CCD STIS/NUV-MAMA	4	29-Mar-2019 12:01:59.0	yes
10	(10) 2MASSJ04004493+1354227	STIS/CCD STIS/NUV-MAMA	4	29-Mar-2019 12:02:00.0	yes
11	(11) 2MASSJ04062060+1901391	STIS/CCD	2	29-Mar-2019 12:02:01.0	yes
12	(12) 2MASSJ04183382+1821529	STIS/CCD STIS/NUV-MAMA	4	29-Mar-2019 12:02:02.0	yes
13	(13) 2MASSJ04262170+1800009	STIS/CCD STIS/NUV-MAMA	4	29-Mar-2019 12:02:03.0	yes
14	(14) 2MASSJ04290015+1620467	STIS/CCD STIS/NUV-MAMA	1	29-Mar-2019 12:02:04.0	yes
15	(15) 2MASSJ04214955+1929086	STIS/CCD STIS/NUV-MAMA	2	29-Mar-2019 12:02:05.0	yes
16	(16) 2MASSJ04110642+1247481	STIS/CCD STIS/NUV-MAMA	1	29-Mar-2019 12:02:05.0	yes
66	(16) 2MASSJ04110642+1247481	STIS/CCD STIS/NUV-MAMA	1	29-Mar-2019 12:02:06.0	yes

Visit	*Targets used in Visit*	*Configurations used in Visit*	*Orbits Used*	*Last Orbit Planner Run*	*OP Current with Visit?*
17	(17) 2MASSJ04254182+1900477	STIS/CCD STIS/NUV-MAMA	1	29-Mar-2019 12:02:06.0	yes

40 Total Orbits Used

ABSTRACT

Because of its proximity, the 650-Myr-old Hyades open cluster is a unique resource for exploring the relationship between magnetic activity, rotation, and age in low-mass stars. While the cluster has been largely ignored in UV studies of the dependence of activity on rotation, we now have an extensive and growing set of complementary rotation period, Halpha, and X-ray measurements with which to examine in detail the rotation-activity relation at 650 Myr and to constrain theories of magnetic heating. We propose to measure Mg II line emission, the strongest NUV activity tracer, in COS spectra of 17 Hyads ranging in spectral type from M0 to M7 with known rotation periods and Halpha and X-ray measurements. These stars form a representative sample of M-dwarf Hyads with known periods and are a significant addition to, and expansion of, the sample of 20 mainly solar-mass rotators with existing (mostly low-resolution) International Ultravioled Explorer (IUE) NUV spectra. The Mg II measurements will contribute significantly to our goal of mapping out the rotation-activity relation star-by-star in this benchmark open cluster. This, in turn, will move us toward an improved understanding of the radiation environment and habitability of the exoplanets we continue to find around low-mass stars.

OBSERVING DESCRIPTION

Our focus is on completely characterizing the low-mass Hyads for which we have a measured rotation period and Halpha and X-ray data, a total of 75 <1.1 Msun stars. Twenty of these stars have existing IUE spectra, and we are therefore left with 55 stars for which we require HST NUV spectroscopy.

To compute the exposure times for these targets, we need to select an input spectral energy distribution and magnitude. For G stars, we use the default Bruzual synthetic stellar spectra provided by the COS ETC. For K1 to M5 stars, we input MUSCLES SEDs into the ETC, since these are based in part on HST UV spectra (Loyd et al. 2016), and model spectra for these stars are known to underestimate the chromospheric contribution to the UV.

Twenty-nine of our targets have GALEX NUV magnitudes, and we use these to compute the exposure times for these stars. For the remaining 26 stars, we use the 356 Hyades members with GALEX NUV detections to estimate average absolute NUV magnitudes as a function of spectral type.

We then find the NUV magnitude for the spectral type appropriate for each target, and use the distances to each to convert these to apparent NUV magnitudes, thereby accounting for the depth of the cluster. Comparisons between the NUV magnitudes obtained in this way for the 29 targets that have to the GALEX NUV magnitudes indicate that the estimated NUV magnitudes are reasonable. For the solar-mass stars, our estimated magnitudes are systematically too bright by ~0.5 magnitudes, while for the early M dwarfs our estimates are too conservative by roughly the same amount. For the latest-type stars, our estimated NUV magnitudes are again too bright, and to be conservative we therefore add a 0.5 magnitude to the NUV magnitudes we derive to calculate their exposure times.

The results of this procedure warrant a two-pronged approach: for 36 of our targets, the required times are more appropriate for a snapshot program, and we are proposing for those separately. For 19 M0-M7 targets, however, the required exposures correspond to at least one HST orbit, and 17 of those targets are proposed here. Two of the M5 stars in our sample require exposures much greater than four orbits, and we remove those from our sample, which includes five other M5 stars.

To finalize our observing strategy, we followed Instrument Science Report COS 2017-01 to assess the safety of observing our M-dwarf targets. This is a multiple-step process: first, we obtained a spectral type for our targets. For most stars this was done directly from our MDM spectra; for others we converted absolute K magnitudes into spectral types, following the relations laid out in Kraus & Hillenbrand (2007). These spectral types were converted into (U-V) colors using the data presented in Pecaut & Mamajek (2013). We then searched the literature for V magnitudes for our targets; for stars lacking a V in the literature, we computed one from e.g., Sloan Digital Sky Survey (g-r) colors. We combined these V magnitudes with the (U-V) color to obtain the U magnitudes needed to characterize the potential impact of flares on our observations. Our comparisons of these U magnitudes to those in the literature for our targets that have U-band measurements indicate that our derived U magnitudes have uncertainties ~0.3-0.5 magnitudes.

Finally, we used our MDM spectra to determine whether, based on their measured Halpha EqWs, our targets are magnetically active. This sets the maximum U-band magnitude increases (Delta U) of the brightest flare that would occur with a probability of 10^-4. We then computed U_{flare} = U_{quiescent} + Delta U and determined global and local count rates for a flare of this magnitude using COS ETC calculations for the NUV. All of our targets are well below the count-rate limits for the COS photon-counting detectors.

Our instrumental set-up is as follows: we wish to observe our targets using COS in low-resolution mode with the G230L grating. Centered at 2950 A, the resulting spectra will cover the Mg II h and k lines, which are the strongest NUV tracers of magnetic activity. We set up the exposure in ACQ/IMAGE mode, requesting S/N = 40 in the COST ETC. We use TIME-TAG mode for the actual observation of each target and set FP-POS = 4.

We note that four of the visits we arrange have durations of four orbits each, beyond the suggested two-three orbit maximum. These objects are very faint; spliting four orbits into two visits would reduce the exposure time (and thus the maximum S/N) we can reach. Therefore, we request to observe each of our targets in single visit. The exposure times we calculate insure that we have a S/N > 10 in the Mg II lines, which based on the IUE spectra is what is requred to measure these lines confidently, and a S/N ~ 3-8 for the nearby continuum, based on the MUSCLES SEDs.

Visit

Proposal 15090, Visit 01, failed Fri Mar 29 16:02:06 GMT 2019

Diagnostic Status: No Diagnostics

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

Special Requirements: (none)

Fixed Targets

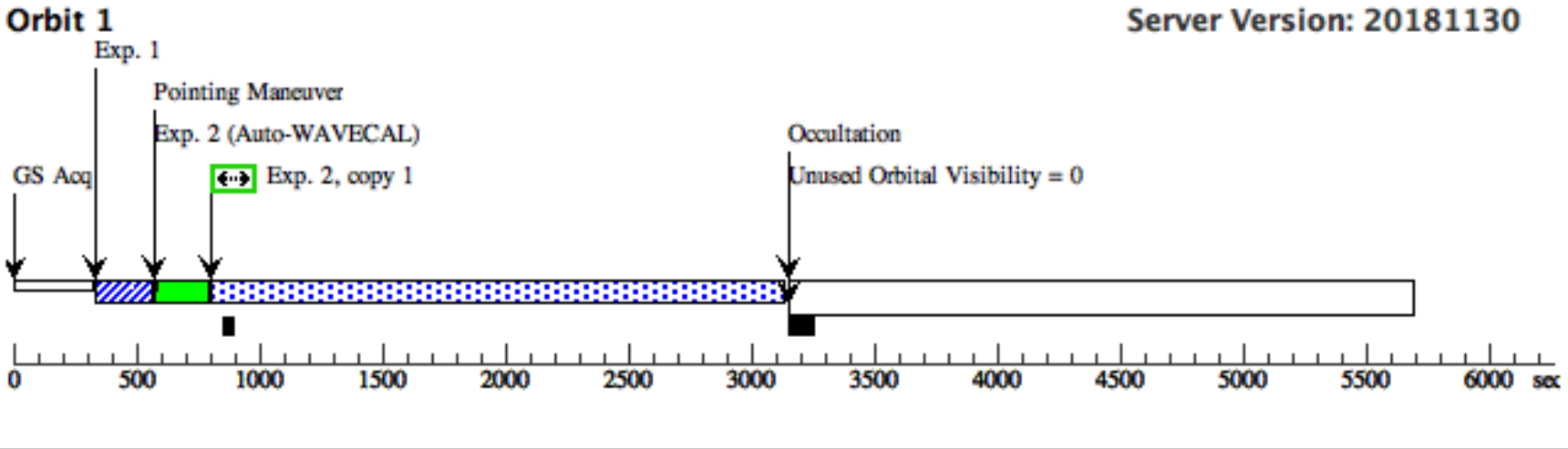
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	2MASSJ04483062+1623187 Alt Name1: LP416-570	RA: 04 48 30.6399 (72.1276663d) Dec: +16 23 18.72 (16.38853d) Equinox: J2000	Proper Motion RA: 86.622 mas/yr Proper Motion Dec: -30.420 mas/yr Epoch of Position: 2000	V=12.427 20.950(GALEX)	Reference Frame: ICRS

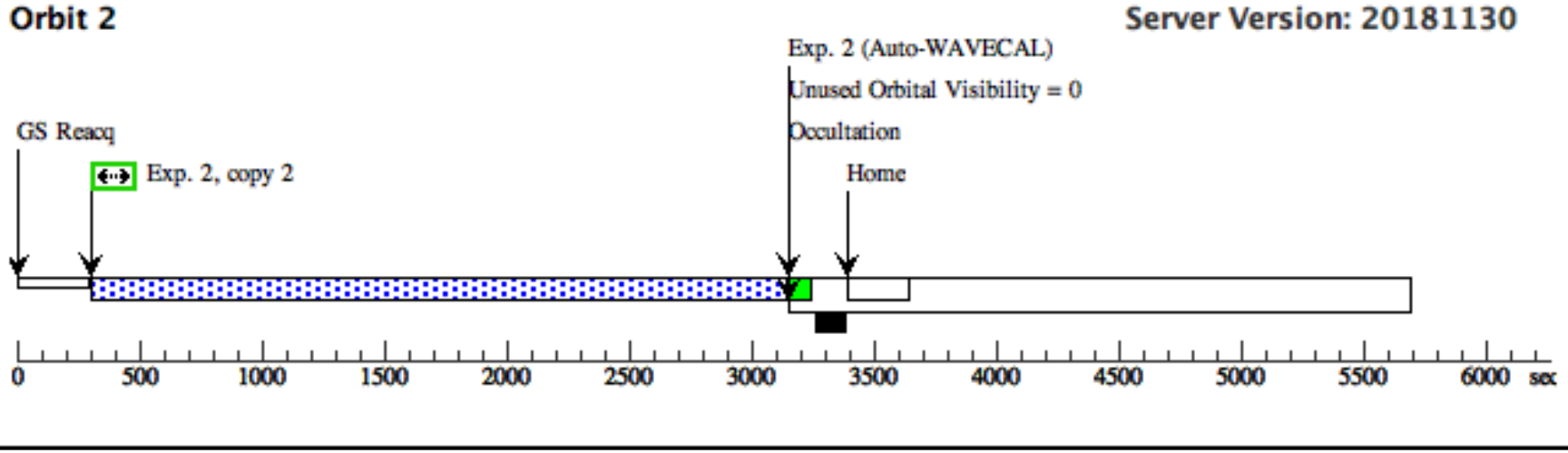
Comments: Positions and proper motions updated to Gaia DR2 values.
Category=STAR
Description=[M V-IV]
Extended=NO

Exposures

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	(1288937)	(1) 2MASSJ04483062+1623187	STIS/CCD, ACQ, F28X50LP	MIRROR				0.1 Secs (0.1 Secs)	
								[==>]	***[1]***
Comments: ACQ switched to longpass filter and exposure time calculated using V=12.43									
2	(1152511)	(1) 2MASSJ04483062+1623187	STIS/NUV-MAMA, ACCUM, 52X2	G230L 2376 A				658.5 Secs X 2 (5119 Secs)	
								[==>2293.5 Secs (Copy 1)]	***[1]***
								[==>2825.5 Secs (Copy 2)]	***[2]***

Orbit Structure





Visit

Proposal 15090, Visit 51 Fri Mar 29 16:02:07 GMT 2019

Diagnostic Status: No Diagnostics

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

Special Requirements: (none)

Fixed Targets

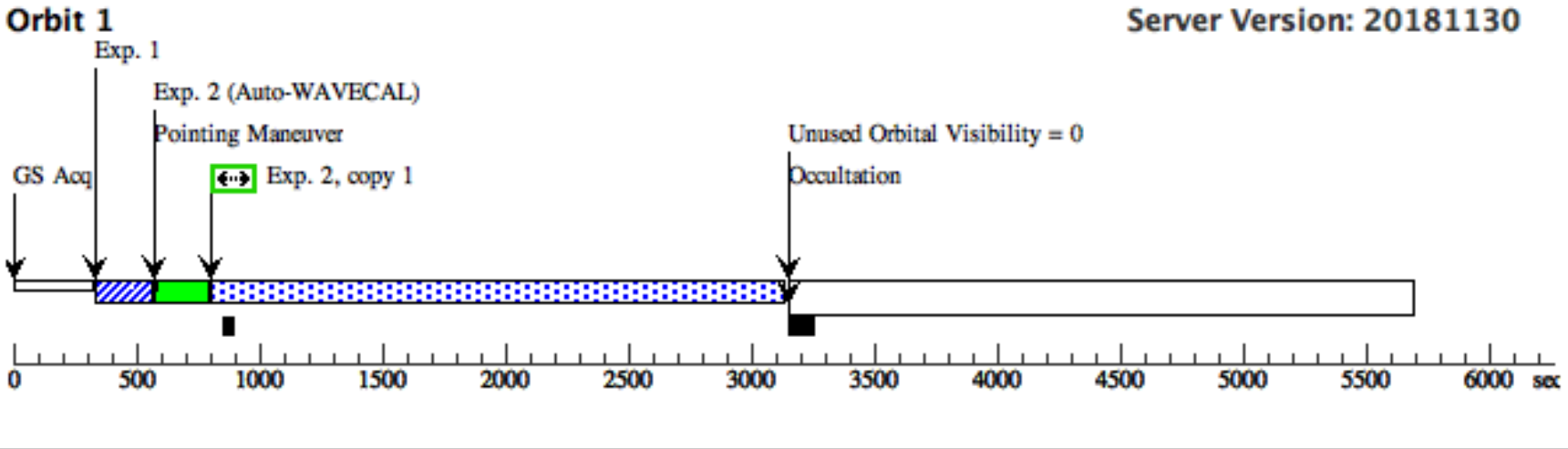
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	2MASSJ04483062+1623187 Alt Name1: LP416-570	RA: 04 48 30.6399 (72.1276663d) Dec: +16 23 18.72 (16.38853d) Equinox: J2000	Proper Motion RA: 86.622 mas/yr Proper Motion Dec: -30.420 mas/yr Epoch of Position: 2000	V=12.427 20.950(GALEX)	Reference Frame: ICRS

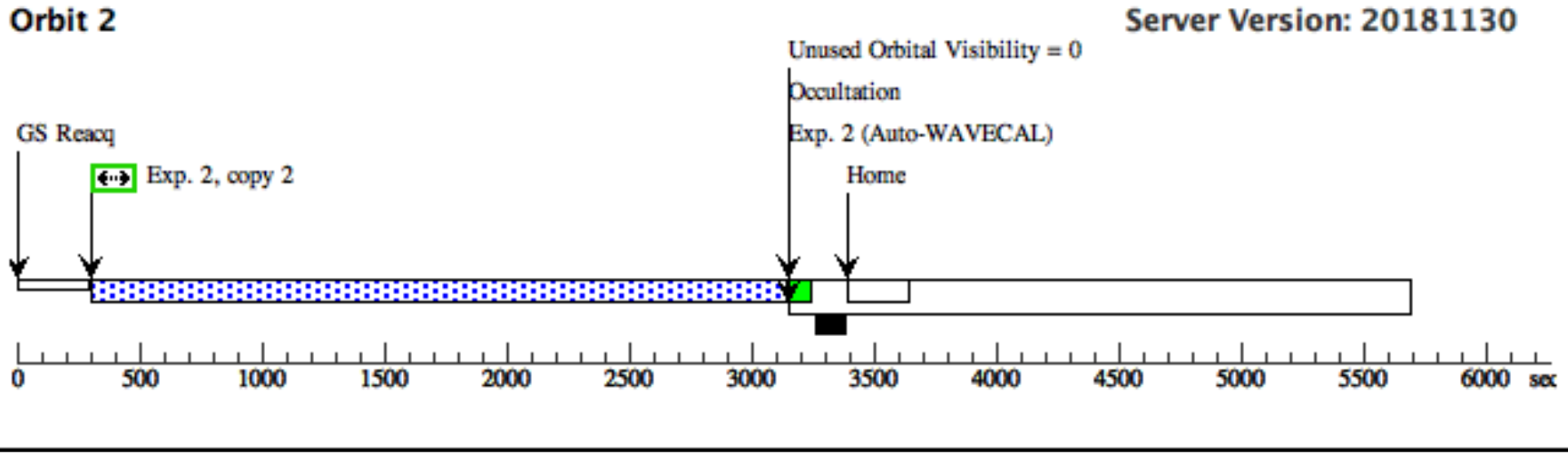
Comments: Positions and proper motions updated to Gaia DR2 values.
Category=STAR
Description=[M V-IV]
Extended=NO

Exposures

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	(1288937)	(1) 2MASSJ04483062+1623187	STIS/CCD, ACQ, F28X50LP	MIRROR				0.1 Secs (0.1 Secs)	
								[==>]	***[1]***
Comments: ACQ switched to longpass filter and exposure time calculated using V=12.43									
2	(1152511)	(1) 2MASSJ04483062+1623187	STIS/NUV-MAMA, ACCUM, 52X2	G230L 2376 A				658.5 Secs X 2 (5119 Secs)	
								[==>2293.5 Secs (Copy 1)]	***[1]***
								[==>2825.5 Secs (Copy 2)]	***[2]***

Orbit Structure





Visit

Proposal 15090, Visit 02, failed Fri Mar 29 16:02:07 GMT 2019

Diagnostic Status: Warning

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

Special Requirements: (none)

Diagnostics

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

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

Fixed Targets

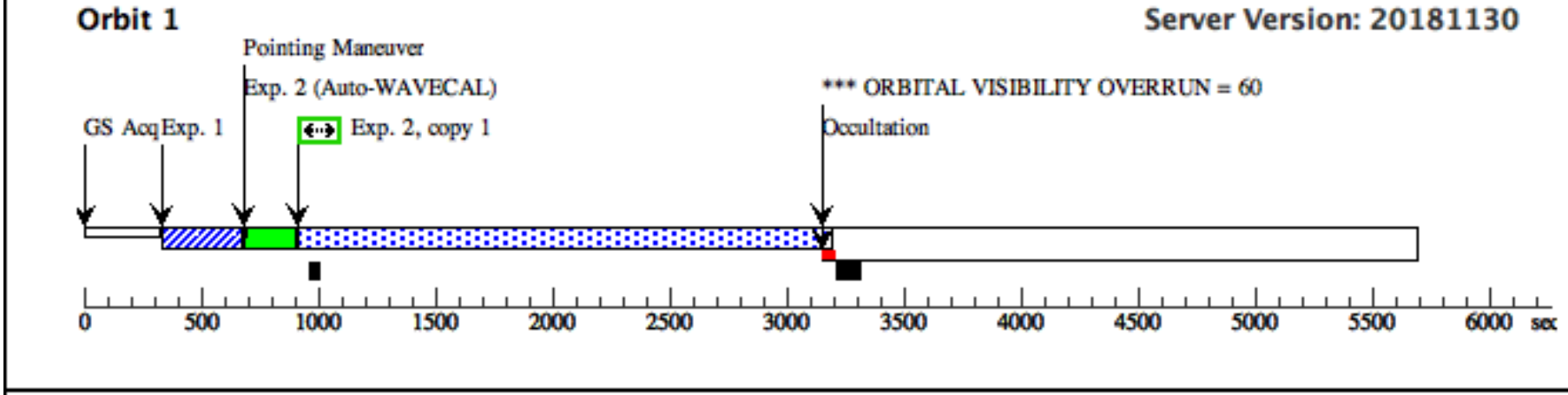
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(2)	2MASSJ04235911+1643178 Alt Name1: GJ3278	RA: 04 23 59.1379 (65.9964079d) Dec: +16 43 17.70 (16.72158d) Equinox: J2000	Proper Motion RA: +106.4 mas/yr Proper Motion Dec: -25.8 mas/yr Parallax: 0.049" Epoch of Position: 2000	V=12.514 20.990(GALEX)	Reference Frame: ICRS

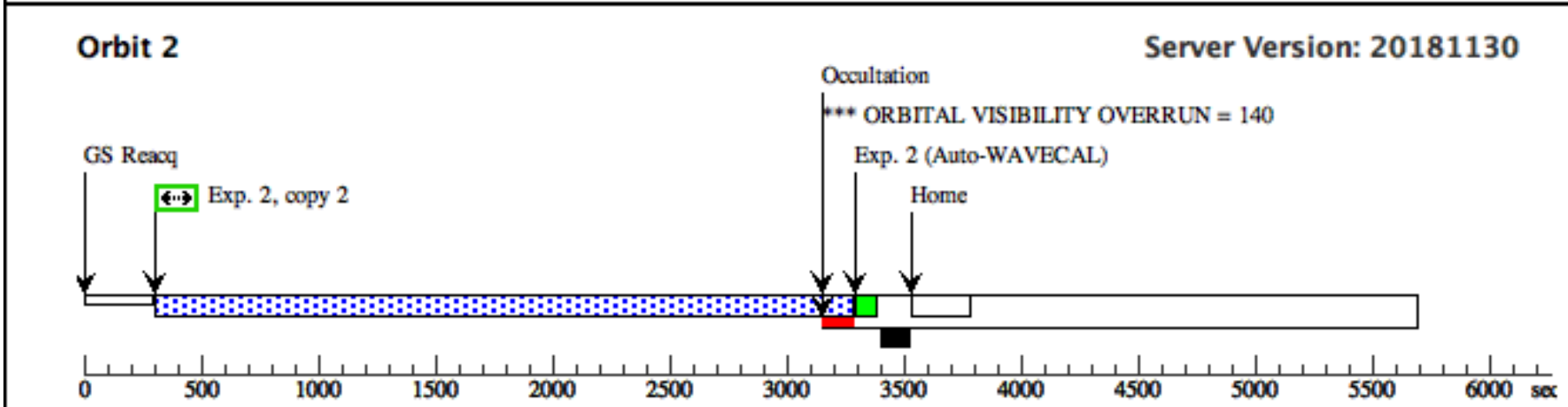
Comments:
Category=STAR
Description=[M V-IV]
Extended=NO

Exposures

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	(1152513)	(2) 2MASSJ04235911+1643178	STIS/CCD, ACQ, F28X50OII	MIRROR				19.6 Secs (19.6 Secs)	
								[==>]	***[1]***
2	(1152514)	(2) 2MASSJ04235911+1643178	STIS/NUV-MAMA, ACCUM, 52X2	G230L 2376 A				686.0 Secs X 2 (5211 Secs)	
								[==>2245.0 Secs (Copy 1)]	***[1]***
								[==>2966.0 Secs (Copy 2)]	***[2]***

Orbit Structure





Visit

Proposal 15090, Visit 52, scheduling Fri Mar 29 16:02:07 GMT 2019

Diagnostic Status: No Diagnostics

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

Special Requirements: (none)

Fixed Targets

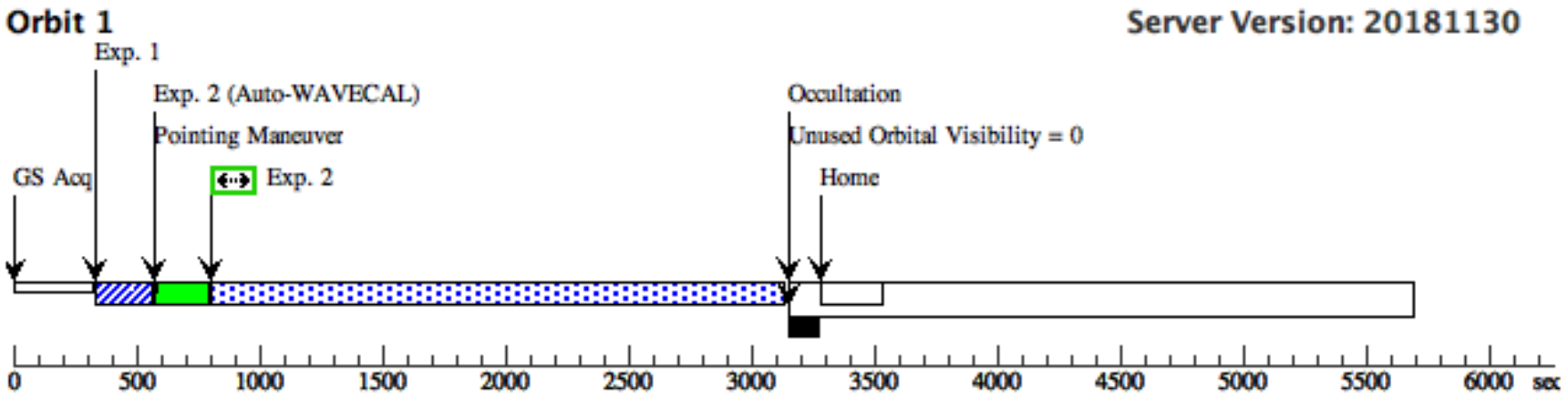
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(2)	2MASSJ04235911+1643178 Alt Name1: GJ3278	RA: 04 23 59.1379 (65.9964079d) Dec: +16 43 17.70 (16.72158d) Equinox: J2000	Proper Motion RA: +106.4 mas/yr Proper Motion Dec: -25.8 mas/yr Parallax: 0.049" Epoch of Position: 2000	V=12.514 20.990(GALEX)	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	(1295984)	(2) 2MASSJ04235911+1643178	STIS/CCD, ACQ, F28X50LP	MIRROR				0.1 Secs (0.1 Secs) *[==>]*	 ***[1]***
Comments: ACQ switched to longpass filter (as was done for other targets after conversation with J. Debes) and exposure time calculated using V=12.51									
2	(1152514)	(2) 2MASSJ04235911+1643178	STIS/NUV-MAMA, ACCUM, 52X2	G230L 2376 A				686.0 Secs (2294 Secs) *[==>2294.0 Secs]*	 ***[1]***

Orbit Structure



Visit

Proposal 15090, Visit 03, completed Fri Mar 29 16:02:07 GMT 2019

Diagnostic Status: No Diagnostics

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

Special Requirements: (none)

Fixed Targets

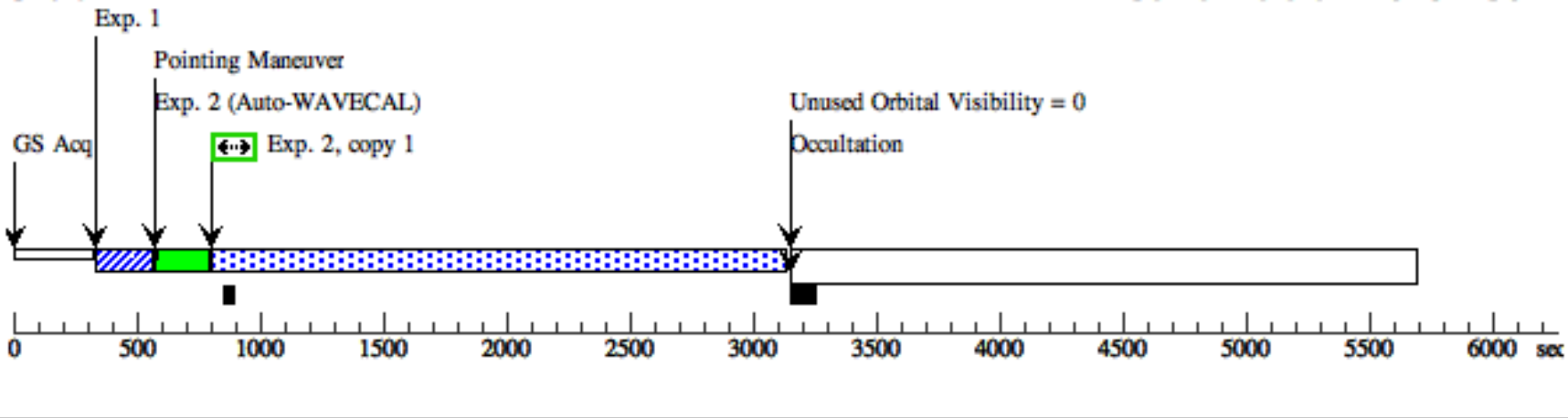
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(3)	2MASSJ04251456+1858250 Alt Name1: LP415-794	RA: 04 25 14.5623 (66.3106763d) Dec: +18 58 24.90 (18.97358d) Equinox: J2000	Proper Motion RA: 97.98 mas/yr Proper Motion Dec: -28.353 mas/yr Epoch of Position: 2000	V=12.728 20.708(Derived)	Reference Frame: ICRS

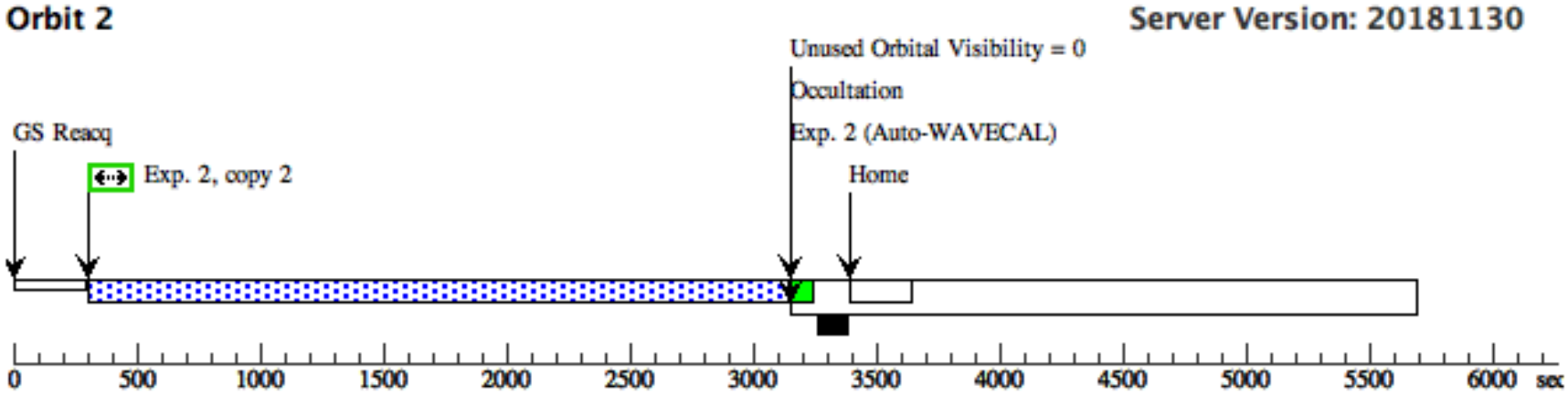
Comments: Positions and proper motions updated to Gaia DR2 values.
Category=STAR
Description=[M V-IV]
Extended=NO

Exposures

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	(1288938)	(3) 2MASSJ04251456+1858250	STIS/CCD, ACQ, F28X50LP	MIRROR				0.1 Secs (0.1 Secs)	
								[==>]	***[1]***
Comments: ACQ switched to longpass filter and exposure time calculated using V=12.73									
2	(1152517)	(3) 2MASSJ04251456+1858250	STIS/NUV-MAMA, ACCUM, 52X2	G230L 2376 A				516.4 Secs X 2 (5118.8 Secs)	
								[==>2293.4 Secs (Copy 1)]	***[1]***
								[==>2825.4 Secs (Copy 2)]	***[2]***

Orbit Structure





Visit

Proposal 15090, Visit 04, completed Fri Mar 29 16:02:07 GMT 2019

Diagnostic Status: No Diagnostics

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

Special Requirements: (none)

Fixed Targets

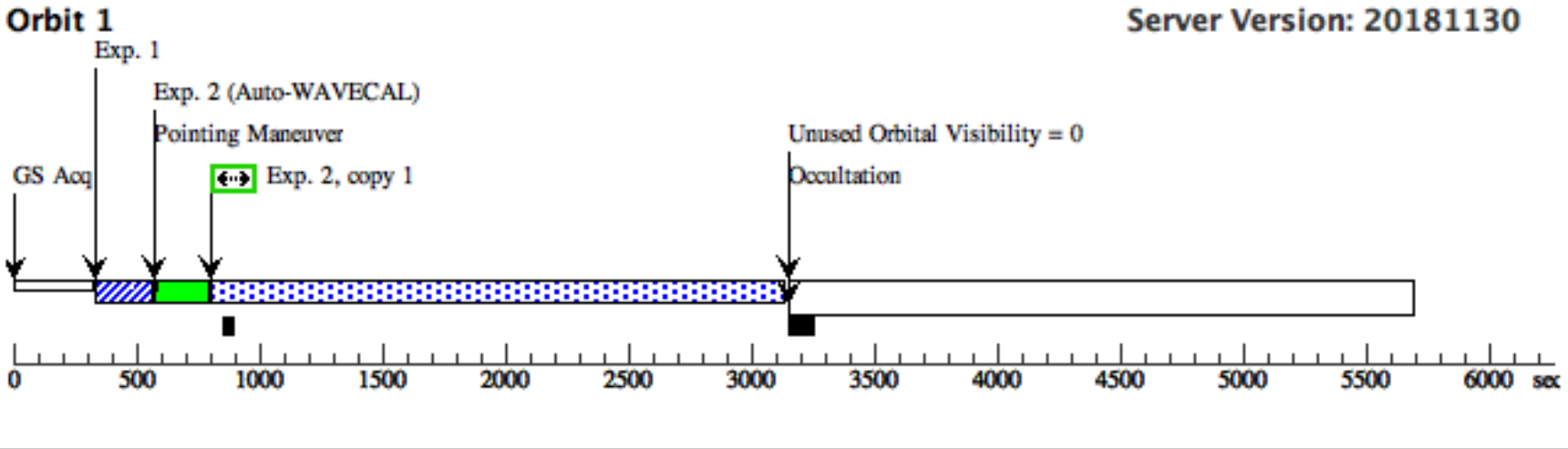
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(4)	2MASSJ04202761+1853499 Alt Name1: LP415-543	RA: 04 20 27.6276 (65.1151150d) Dec: +18 53 49.92 (18.89720d) Equinox: J2000	Proper Motion RA: 104.388 mas/yr Proper Motion Dec: -32.428 mas/yr Epoch of Position: 2000	V=12.62 21.411386311	Reference Frame: ICRS

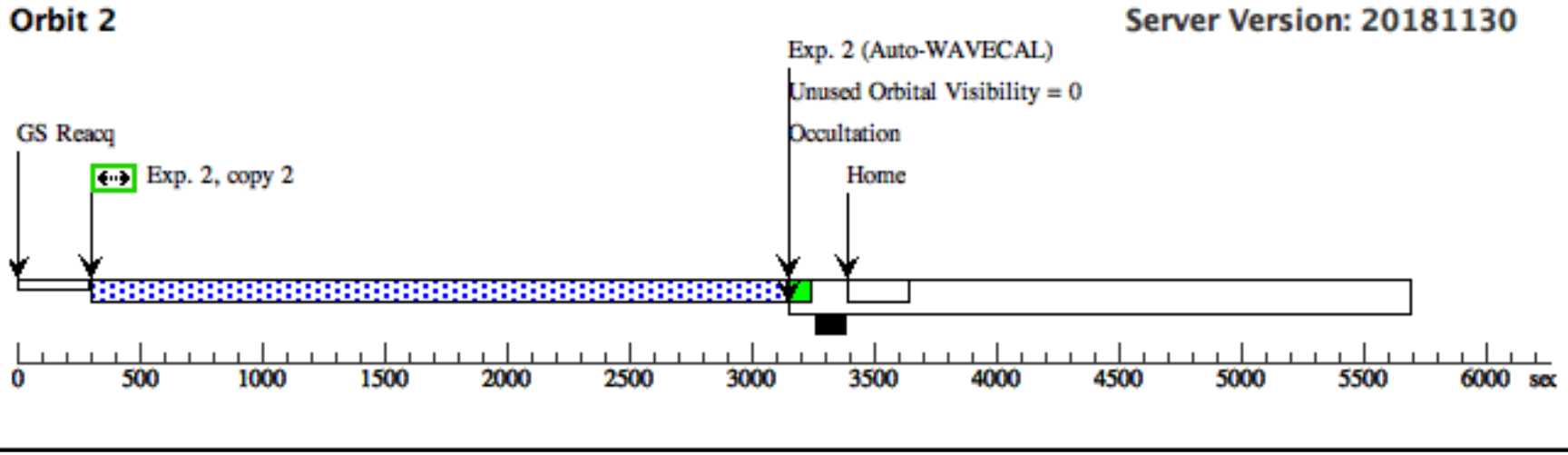
Comments: Positions and proper motions updated to Gaia DR2 values.
Category=STAR
Description=[M V-IV]
Extended=NO

Exposures

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	(1288939)	(4) 2MASSJ04202761+1853499	STIS/CCD, ACQ, F28X50LP	MIRROR				0.1 Secs (0.1 Secs)	
								[==>]	***[1]***
Comments: ACQ switched to longpass filter and exposure time calculated using V=12.62									
2	(1152518)	(4) 2MASSJ04202761+1853499	STIS/NUV-MAMA, ACCUM, 52X2	G230L 2376 A				408 Secs X 2 (5120 Secs)	
								[==>2294.0 Secs (Copy 1)]	***[1]***
								[==>2826.0 Secs (Copy 2)]	***[2]***

Orbit Structure





Visit

Proposal 15090, Visit 05, completed Fri Mar 29 16:02:07 GMT 2019

Diagnostic Status: Warning

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

Special Requirements: (none)

Diagnostics

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

Fixed Targets

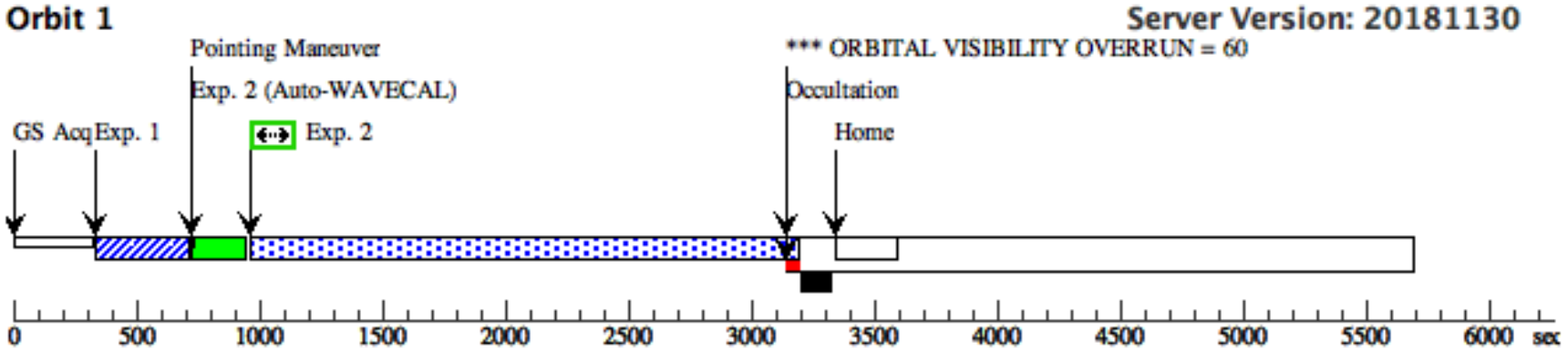
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(5)	2MASSJ04172811+1454038 Alt Name1: EPIC210470484	RA: 04 17 28.1150 (64.3671458d) Dec: +14 54 3.89 (14.90108d) Equinox: J2000	Proper Motion RA: +107.9 mas/yr Proper Motion Dec: -20.8 mas/yr Epoch of Position: 2000	V=14.416 21.388(Derived)	Reference Frame: ICRS

Comments: SIMBAD gives V=14.47
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	(1107045)	(5) 2MASSJ04172811+1454038	STIS/CCD, ACQ, F28X50OII	MIRROR				30.9 Secs (30.9 Secs) *[==>]*	*[1]*
2	(1152523)	(5) 2MASSJ04172811+1454038	STIS/NUV-MAMA, ACCUM, 52X2	G230L 2376 A				432.1 Secs (2193.1 Secs) *[==>2193.1 Secs]*	*[1]*

Orbit Structure



Visit

Proposal 15090, Visit 06, completed Fri Mar 29 16:02:07 GMT 2019

Diagnostic Status: No Diagnostics

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

Special Requirements: (none)

Fixed Targets

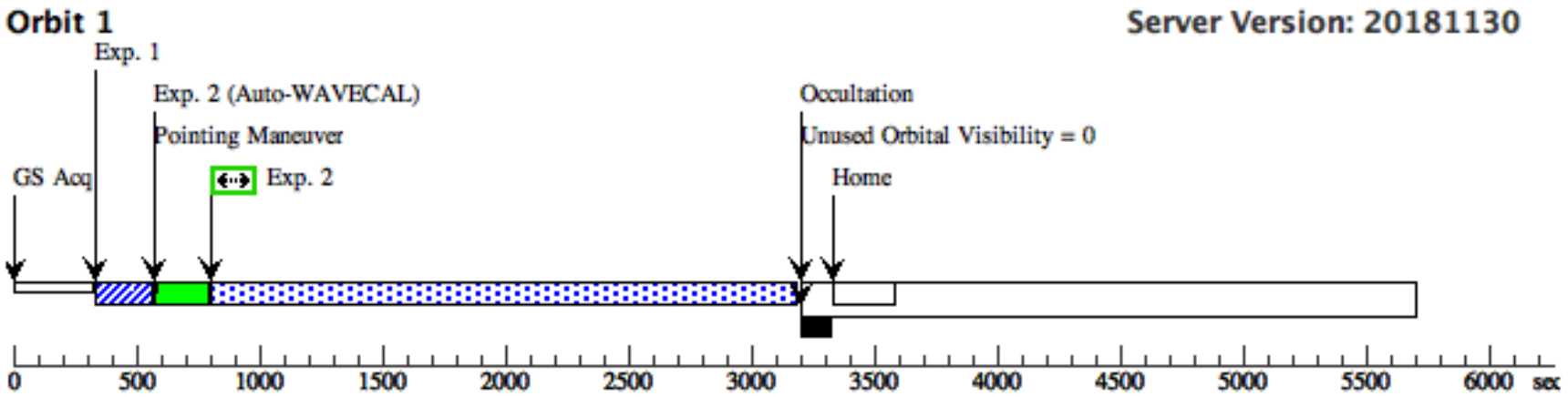
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(6)	2MASSJ02564122+3522346 Alt Name1: LP246-31	RA: 02 56 41.2566 (44.1719025d) Dec: +35 22 34.58 (35.37627d) Equinox: J2000	Proper Motion RA: 201.123 mas/yr Proper Motion Dec: -63.247 mas/yr Epoch of Position: 2000 Radial Velocity: 66.661 km/sec	V=13.542+/-0.04 21.478(GALEX)	Reference Frame: ICRS

Comments: Positions and proper motions updated to Gaia DR2 values.
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	(1288940)	(6) 2MASSJ02564122+3522346	STIS/CCD, ACQ, F28X50LP	MIRROR				0.1 Secs (0.1 Secs) *[==>]*	 ***[1]***
Comments: ACQ switched to longpass filter and exposure time calculated using V=13.54									
2	(1152524)	(6) 2MASSJ02564122+3522346	STIS/NUV-MAMA, ACCUM, 52X2	G230L 2376 A				204.2 Secs (2337.2 Secs) *[==>2337.2 Secs]*	 ***[1]***

Orbit Structure



Visit

Proposal 15090, Visit 07, completed Fri Mar 29 16:02:07 GMT 2019

Diagnostic Status: Warning

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

Special Requirements: (none)

Diagnostics

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

Fixed Targets

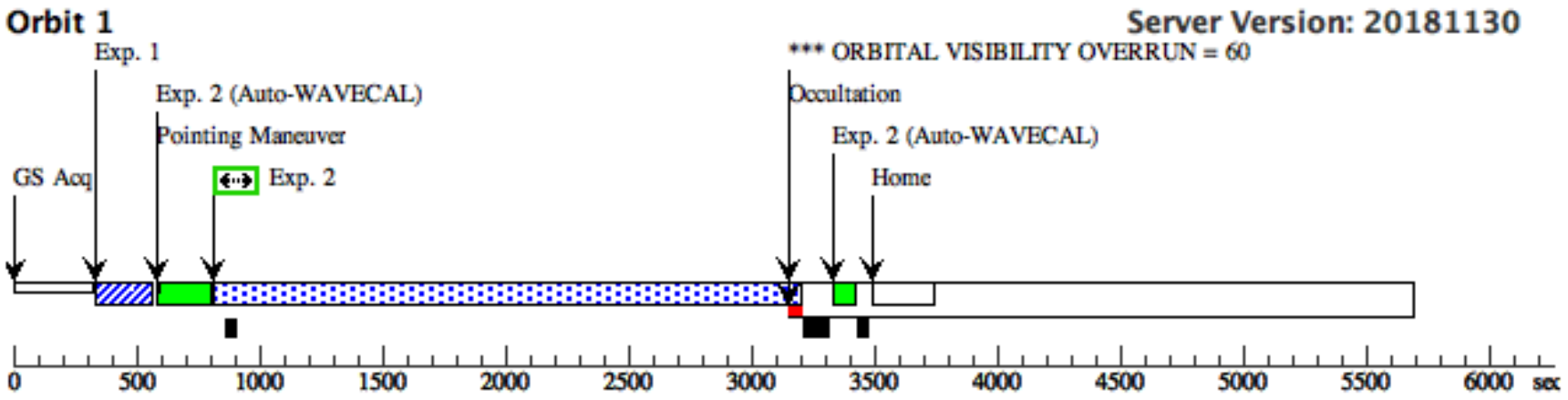
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(7)	2MASSJ03553690+2118482 Alt Name1: EPIC210894955	RA: 03 55 36.9000 (58.9037500d) Dec: +21 18 48.30 (21.31342d) Equinox: J2000	Proper Motion RA: +217 mas/yr Proper Motion Dec: -61 mas/yr Parallax: 0.0626" Epoch of Position: 2000	V=18.7 21.097(Derived)	Reference Frame: ICRS

Comments: SIMBAD has V=17.70
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	(1288941)	(7) 2MASSJ03553690+2118482	STIS/CCD, ACQ, F28X50LP	MIRROR				1.9 Secs (1.9 Secs) *[==>]*	 ***[1]***
Comments: ACQ switched to longpass filter and exposure time calculated using V=18.70									
2	(1152525)	(7) 2MASSJ03553690+2118482	STIS/NUV-MAMA, ACCUM, 52X2	G230L 2376 A				301 Secs (2349 Secs) *[==>2349.0 Secs]*	 ***[1]***

Orbit Structure



Visit

Proposal 15090, Visit 08, failed

Fri Mar 29 16:02:07 GMT 2019

Diagnostic Status: Warning

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

Special Requirements: (none)

Diagnostics

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

Fixed Targets

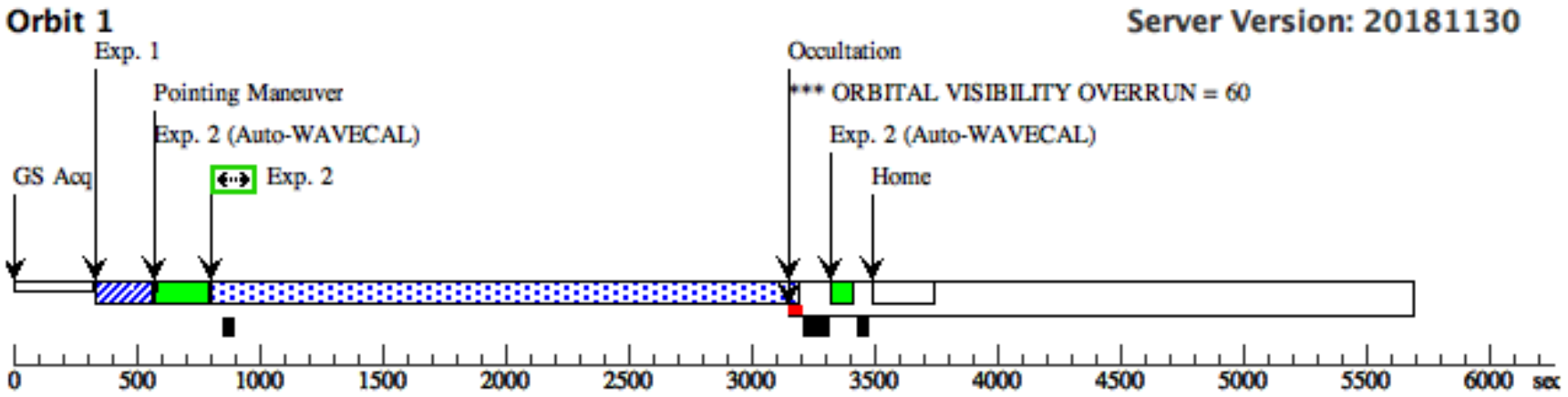
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(8)	2MASSJ03555715+1825564 Alt Name1: EPIC210704853	RA: 03 55 57.1750 (58.9882292d) Dec: +18 25 56.31 (18.43231d) Equinox: J2000	Proper Motion RA: +13.3 mas/yr Proper Motion Dec: -86.2 mas/yr Epoch of Position: 2000	V=14.47+/-0.45 21.323(Derived)	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	(1288942)	(8) 2MASSJ03555715+1825564	STIS/CCD, ACQ, F28X50LP	MIRROR				0.1 Secs (0.1 Secs) *[==>]*	*[1]*
Comments: ACQ switched to longpass filter and exposure time calculated using V=14.47									
2	(1152527)	(8) 2MASSJ03555715+1825564	STIS/NUV-MAMA, ACCUM, 52X2	G230L 2376 A				175.2 Secs (2353.2 Secs) *[==>2353.2 Secs]*	*[1]*

Orbit Structure



Visit

Proposal 15090, Visit 58 Fri Mar 29 16:02:07 GMT 2019

Diagnostic Status: No Diagnostics

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

Special Requirements: (none)

Fixed Targets

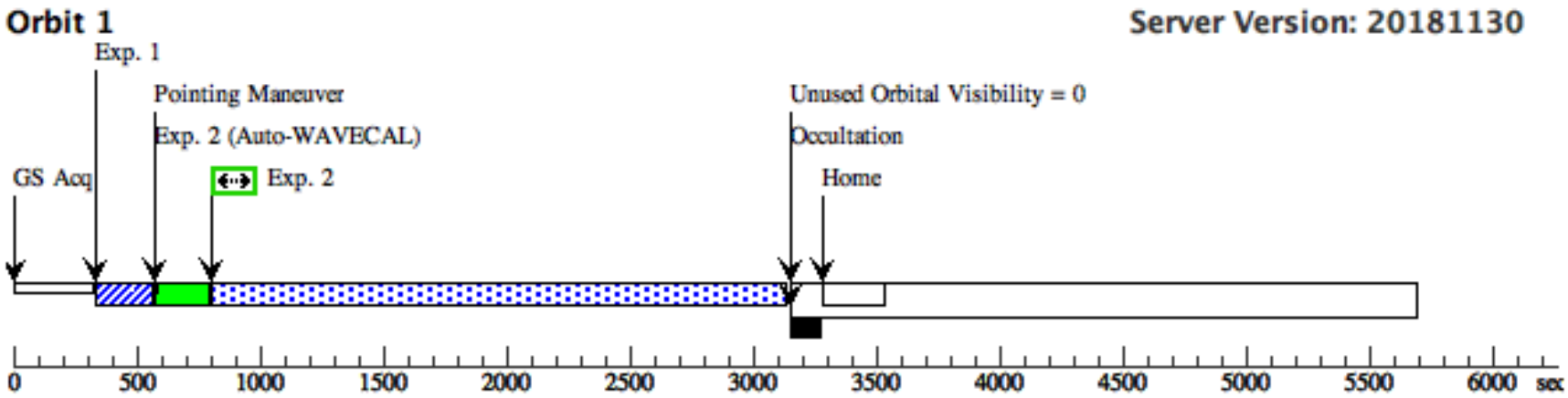
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(18)	2MASSJ03555715+1825564-COPY Alt Name1: EPIC210704853	RA: 03 55 57.1756 (58.9882317d) Dec: +18 25 56.22 (18.43228d) Equinox: J2000	Proper Motion RA: 136.694 mas/yr Proper Motion Dec: -30.893 mas/yr Epoch of Position: 2000	V=14.47+/-0.45 21.323(Derived)	Reference Frame: ICRS

Comments: Updated proper motions to Gaia DR2 values
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	(1288942)	(18) 2MASSJ03555715+1825564-COPY	STIS/CCD, ACQ, F28X50LP	MIRROR				0.1 Secs (0.1 Secs) *[==>]*	*[1]*
Comments: ACQ switched to longpass filter and exposure time calculated using V=14.47									
2	(1152527)	(18) 2MASSJ03555715+1825564-COPY	STIS/NUV-MAMA, ACCUM, 52X2	G230L 2376 A				175.2 Secs (2293.2 Secs) *[==>2293.2 Secs]*	*[1]*

Orbit Structure



Visit

Proposal 15090, Visit 09, completed Fri Mar 29 16:02:07 GMT 2019

Diagnostic Status: No Diagnostics

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

Special Requirements: (none)

Fixed Targets

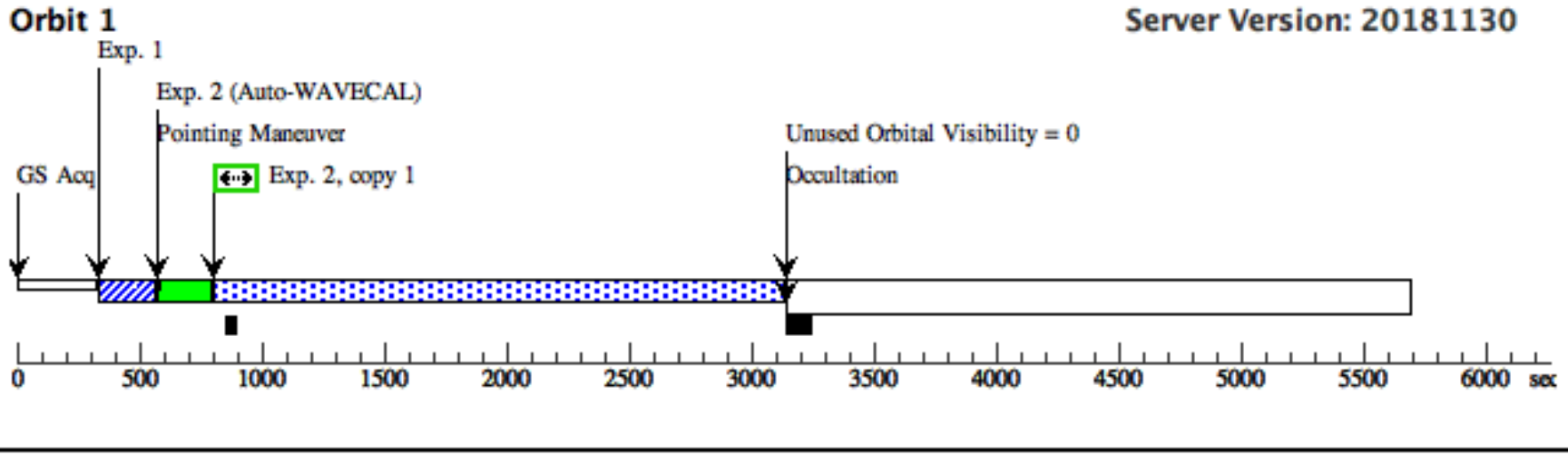
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(9)	2MASSJ03581434+1237408 Alt Name1: LP474-28	RA: 03 58 14.3646 (59.5598525d) Dec: +12 37 40.89 (12.62803d) Equinox: J2000	Proper Motion RA: 129.435 mas/yr Proper Motion Dec: -12.310 mas/yr Epoch of Position: 2000	V=11.845 22.127(Derived)	Reference Frame: ICRS

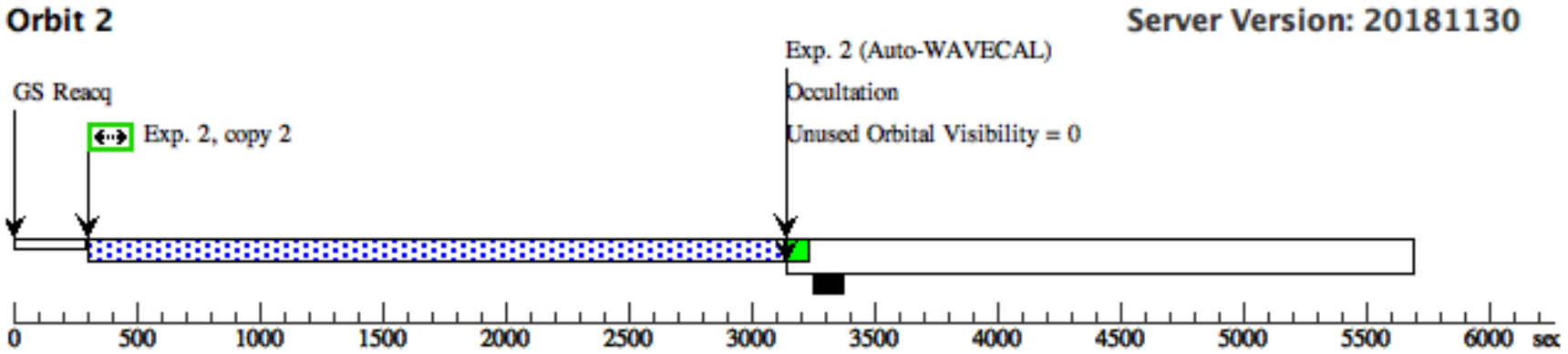
Comments: Positions and proper motions updated to Gaia DR2 values.
Category=STAR
Description=[M V-IV]
Extended=NO

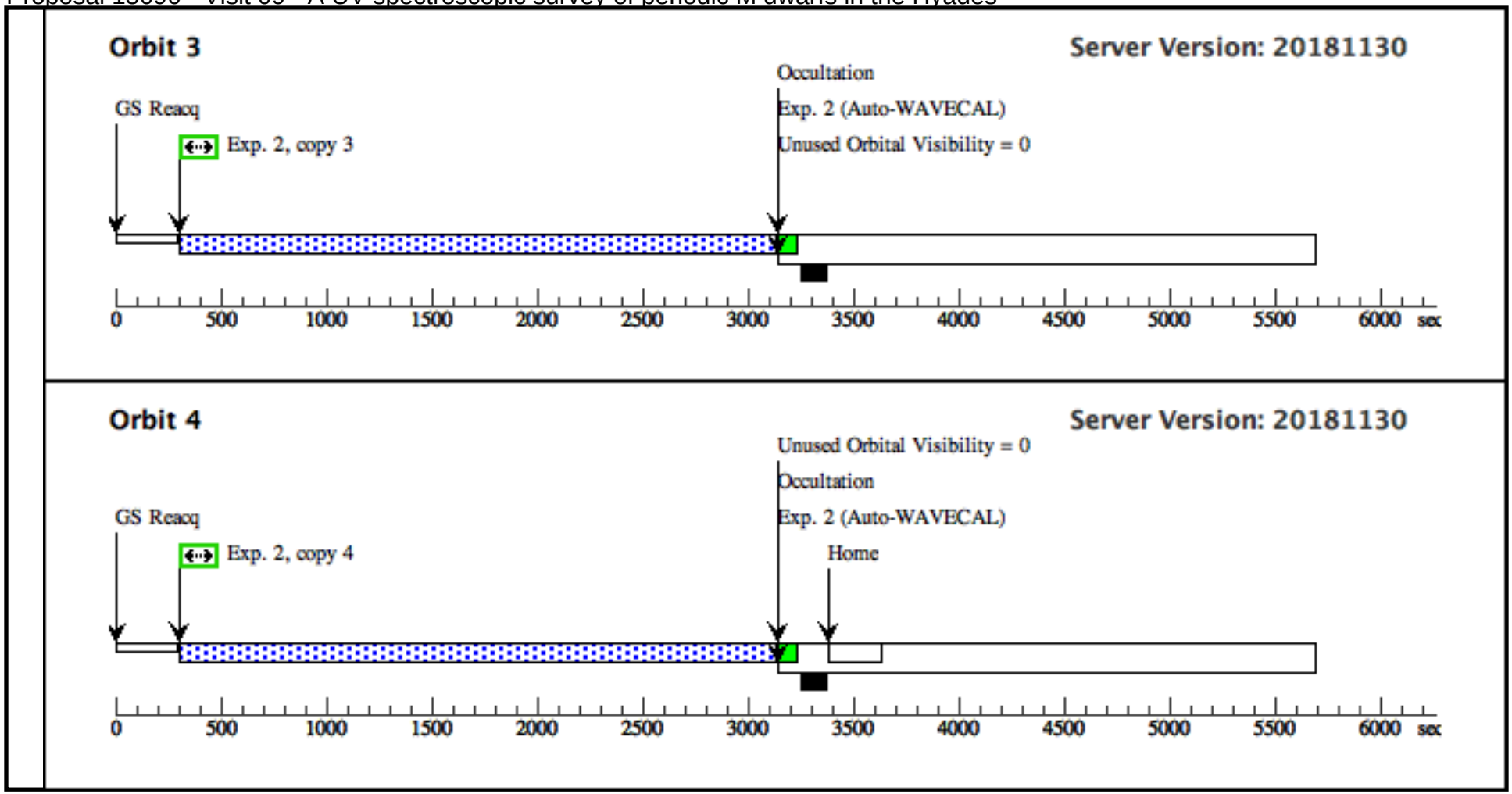
Exposures

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	(1288943)	(9) 2MASSJ03581434+1237408	STIS/CCD, ACQ, F28X50LP	MIRROR				0.1 Secs (0.1 Secs)	
								[==>]	***[1]***
Comments: ACQ switched to longpass filter and exposure time calculated using V=11.85									
2	(1152529)	(9) 2MASSJ03581434+1237408	STIS/NUV-MAMA, ACCUM, 52X2	G230L 2376 A				846.7 Secs X 4 (10692.8 Secs)	
								[==>2286.7 Secs (Copy 1)]	***[1]***
								[==>2818.7 Secs (Copy 2)]	***[2]***
								[==>2793.7 Secs (Copy 3)]	***[3]***
								[==>2793.7 Secs (Copy 4)]	***[4]***

Orbit Structure






Orbit 3
Server Version: 20181130
Occultation
GS Reacq
Exp. 2 (Auto-WAVECAL)
Exp. 2, copy 3
Unused Orbital Visibility = 0
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
6000
sec
Orbit 4
Server Version: 20181130
Unused Orbital Visibility = 0
Occultation
GS Reacq
Exp. 2 (Auto-WAVECAL)
Exp. 2, copy 4
Home
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
6000
sec

Visit

Proposal 15090, Visit 10, completed Fri Mar 29 16:02:07 GMT 2019

Diagnostic Status: No Diagnostics

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

Special Requirements: (none)

Fixed Targets

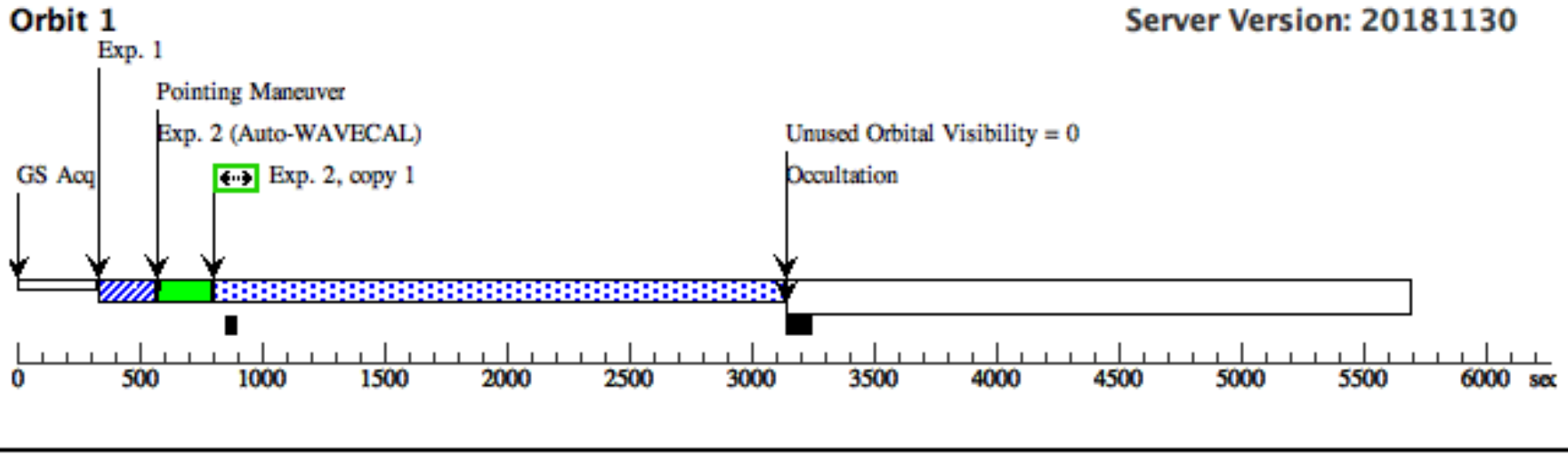
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(10)	2MASSJ04004493+1354227 Alt Name1: LP474-54	RA: 04 00 44.9509 (60.1872954d) Dec: +13 54 22.80 (13.90633d) Equinox: J2000	Proper Motion RA: 128.295 mas/yr Proper Motion Dec: -16.179 mas/yr Epoch of Position: 2000	V=14.863+/-0.06 22.189(Derived)	Reference Frame: ICRS

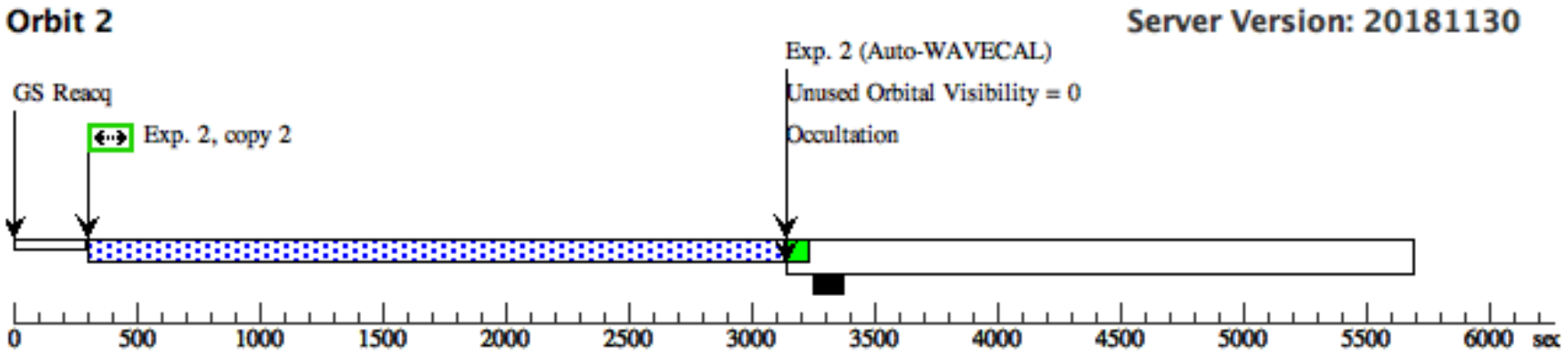
Comments: Positions and proper motions updated to Gaia DR2 values.
Category=STAR
Description=[M V-IV]
Extended=NO

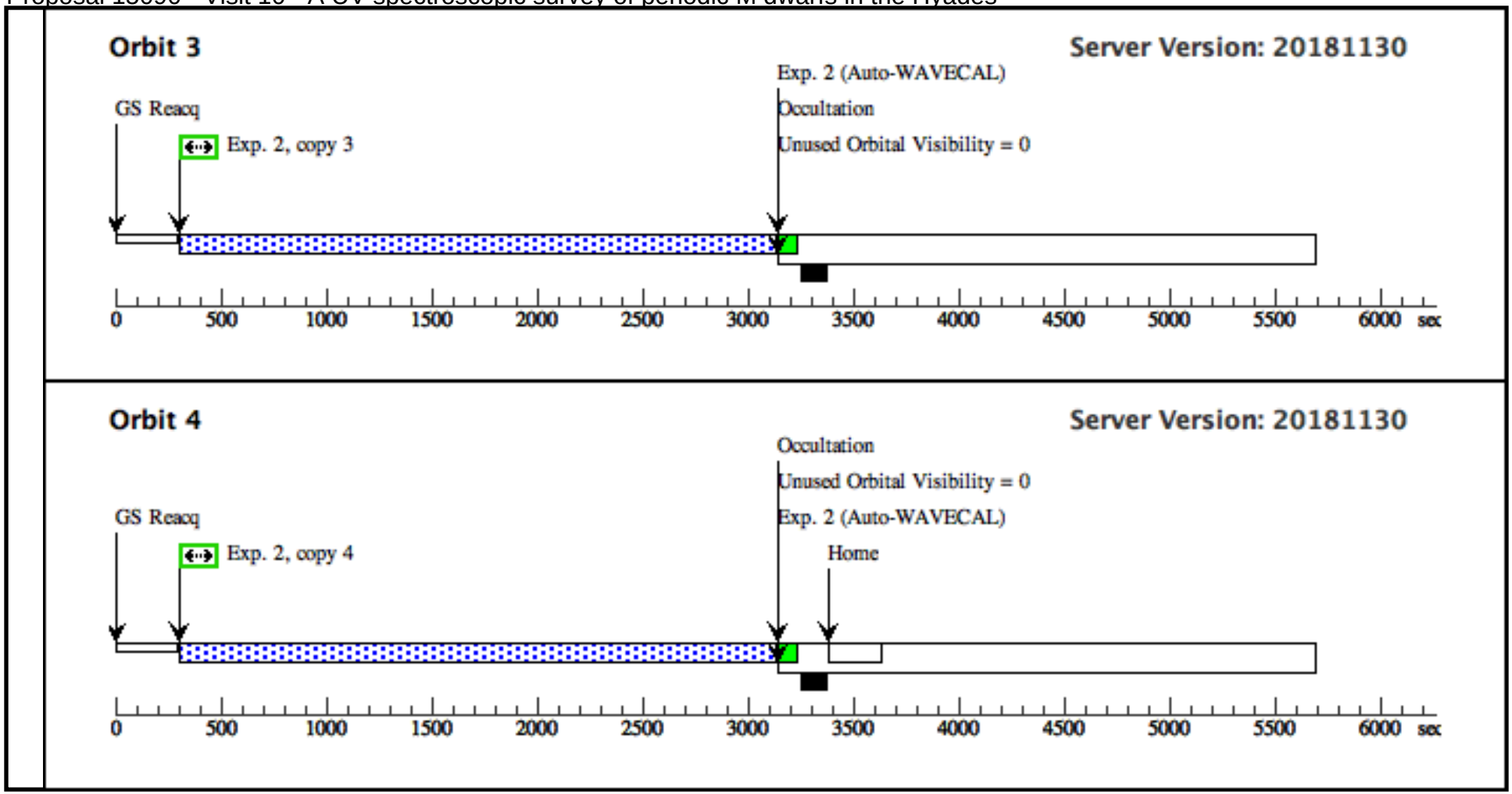
Exposures

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	(1288944)	(10) 2MASSJ04004493+1354227	STIS/CCD, ACQ, F28X50LP	MIRROR				0.1 Secs (0.1 Secs)	
								[==>]	***[1]***
Comments: ACQ switched to longpass filter and exposure time calculated using V=14.86 .									
2	(1152531)	(10) 2MASSJ04004493+1354227	STIS/NUV-MAMA, ACCUM, 52X2	G230L 2376 A				901.6 Secs X 4 (10692.4 Secs)	
								[==>2286.6 Secs (Copy 1)]	***[1]***
								[==>2818.6 Secs (Copy 2)]	***[2]***
								[==>2793.6 Secs (Copy 3)]	***[3]***
								[==>2793.6 Secs (Copy 4)]	***[4]***

Orbit Structure






Orbit 3
Server Version: 20181130
Exp. 2 (Auto-WAVECAL)
Occultation
Unused Orbital Visibility = 0
GS Reacq
Exp. 2, copy 3
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
6000
sec
Orbit 4
Server Version: 20181130
Occultation
Unused Orbital Visibility = 0
Exp. 2 (Auto-WAVECAL)
Home
GS Reacq
Exp. 2, copy 4
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
6000
sec

Visit

Proposal 15090, Visit 11, scheduling Fri Mar 29 16:02:08 GMT 2019

Diagnostic Status: No Diagnostics

Scientific Instruments: STIS/CCD

Special Requirements: (none)

Fixed Targets

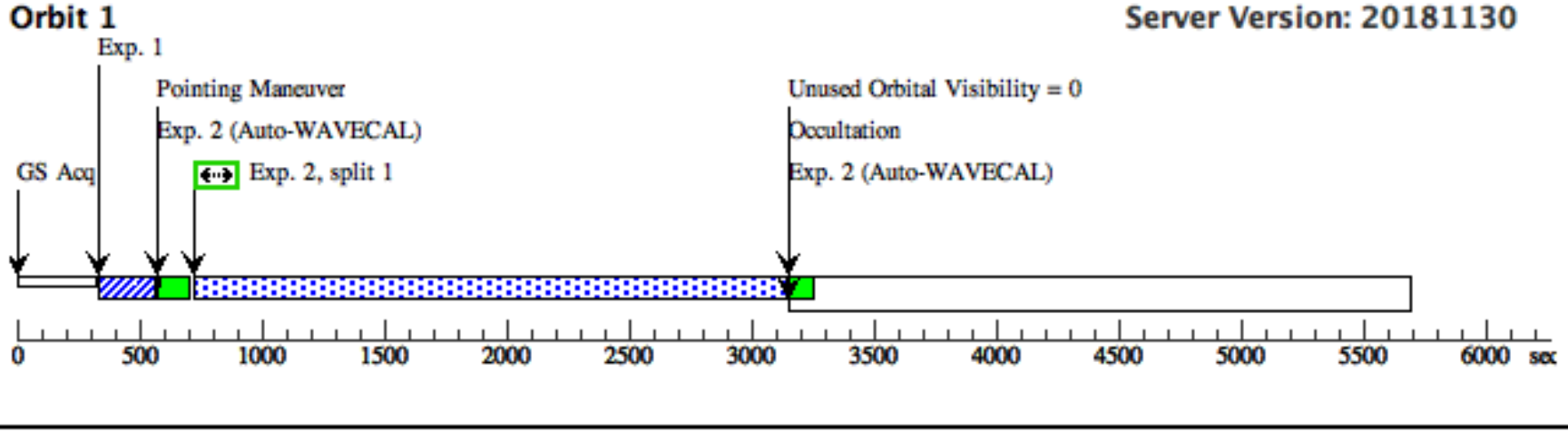
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(11)	2MASSJ04062060+1901391 Alt Name1: LP414-1100	RA: 04 06 20.6319 (61.5859662d) Dec: +19 01 38.90 (19.02747d) Equinox: J2000	Proper Motion RA: 107.636 mas/yr Proper Motion Dec: -28.135 mas/yr Epoch of Position: 2000	V=16.13 21.549(GALEX)	Reference Frame: ICRS

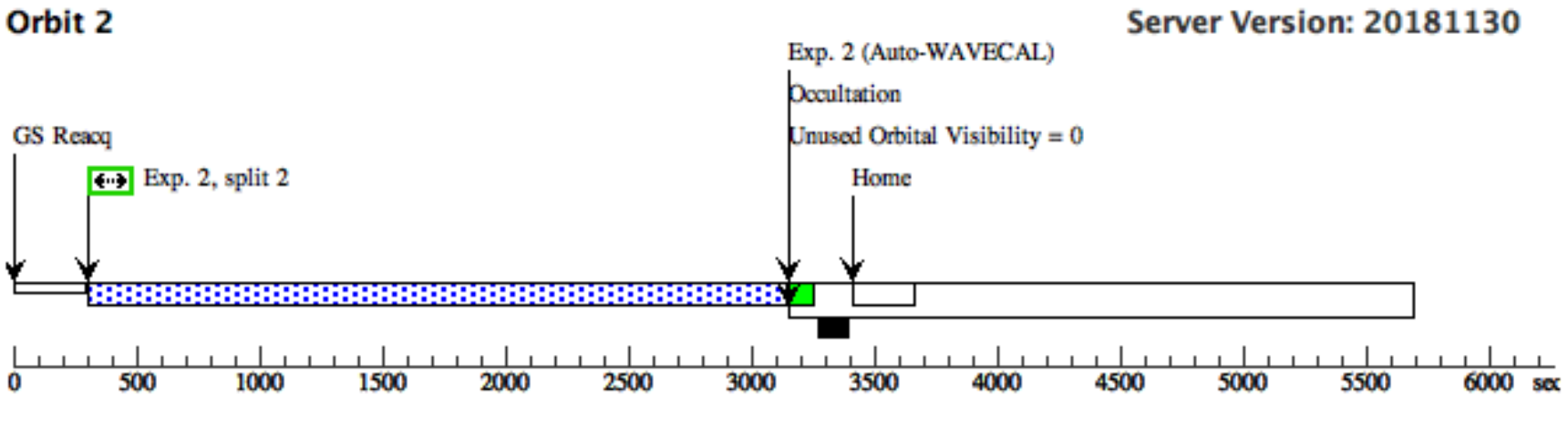
Comments: Positions and proper motions updated to Gaia DR2 values. V magnitude changed to SIMBAD value of 16.13.
Category=STAR
Description=[M V-IV]
Extended=NO

Exposures

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	(1304858)	(11) 2MASSJ04062060+1901391	STIS/CCD, ACQ, F28X50LP	MIRROR				0.2 Secs (0.2 Secs)	
								[==>]	***[1]***
Comments: ACQ switched to longpass filter and exposure time calculated using V=16.13									
2	(1290062)	(11) 2MASSJ04062060+1901391	STIS/CCD, ACCUM, 52X2	G230LB 2375 A				3978.1 Secs (5096 Secs)	
								[==>2339.0 Secs (Split 1)]	***[1]***
								[==>2757.0 Secs (Split 2)]	***[2]***
Comments: Configuration updated to change to STIS/CCD because of concerns with BOP in orginally configuration. ETC calculations suggest that resulting spectrum should have similar S/N as one obtained in original configuration.									

Orbit Structure





Visit

Proposal 15090, Visit 12, completed Fri Mar 29 16:02:08 GMT 2019

Diagnostic Status: No Diagnostics

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

Special Requirements: (none)

Fixed Targets

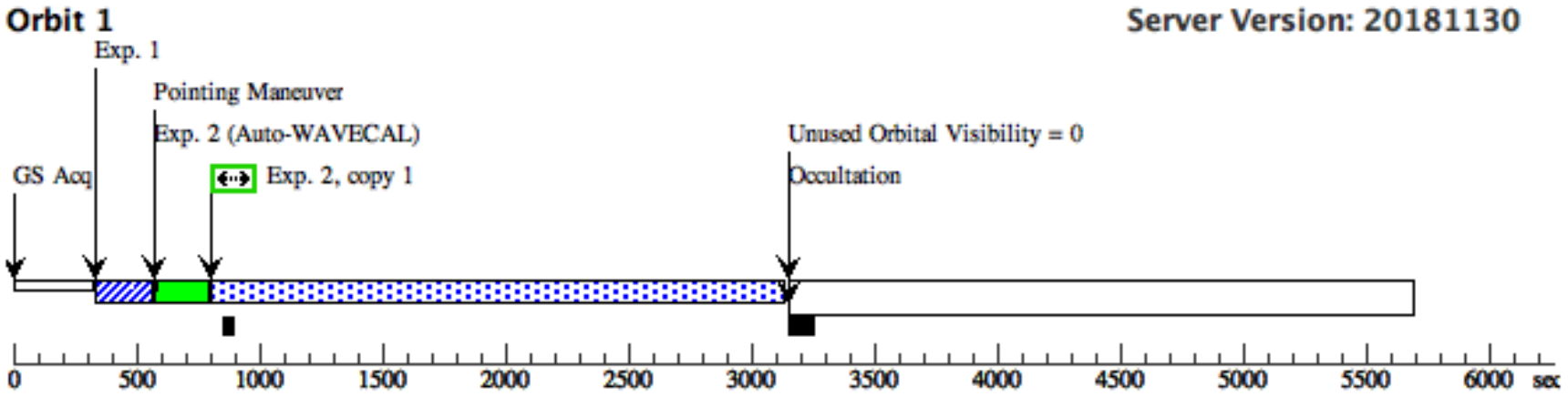
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(12)	2MASSJ04183382+1821529 Alt Name1: LP414-158	RA: 04 18 33.8487 (64.6410362d) Dec: +18 21 53.00 (18.36472d) Equinox: J2000	Proper Motion RA: 116.596 mas/yr Proper Motion Dec: -31.197 mas/yr Epoch of Position: 2000	V=16.09 22.705(GALEX)	Reference Frame: ICRS

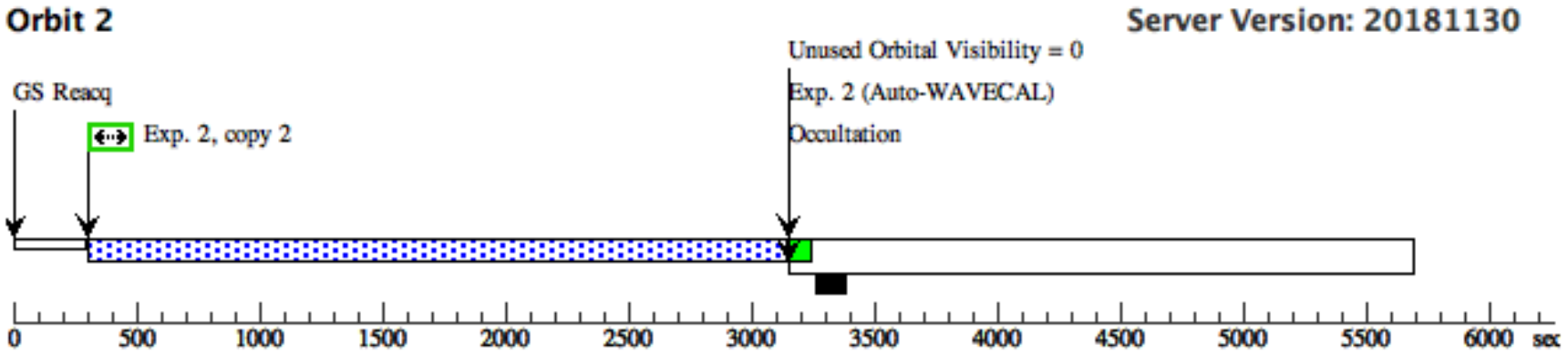
Comments: Positions and proper motions updated to Gaia DR2 values. V magnitude changed to SIMBAD value of 16.09.
Category=STAR
Description=[M V-IV]
Extended=NO

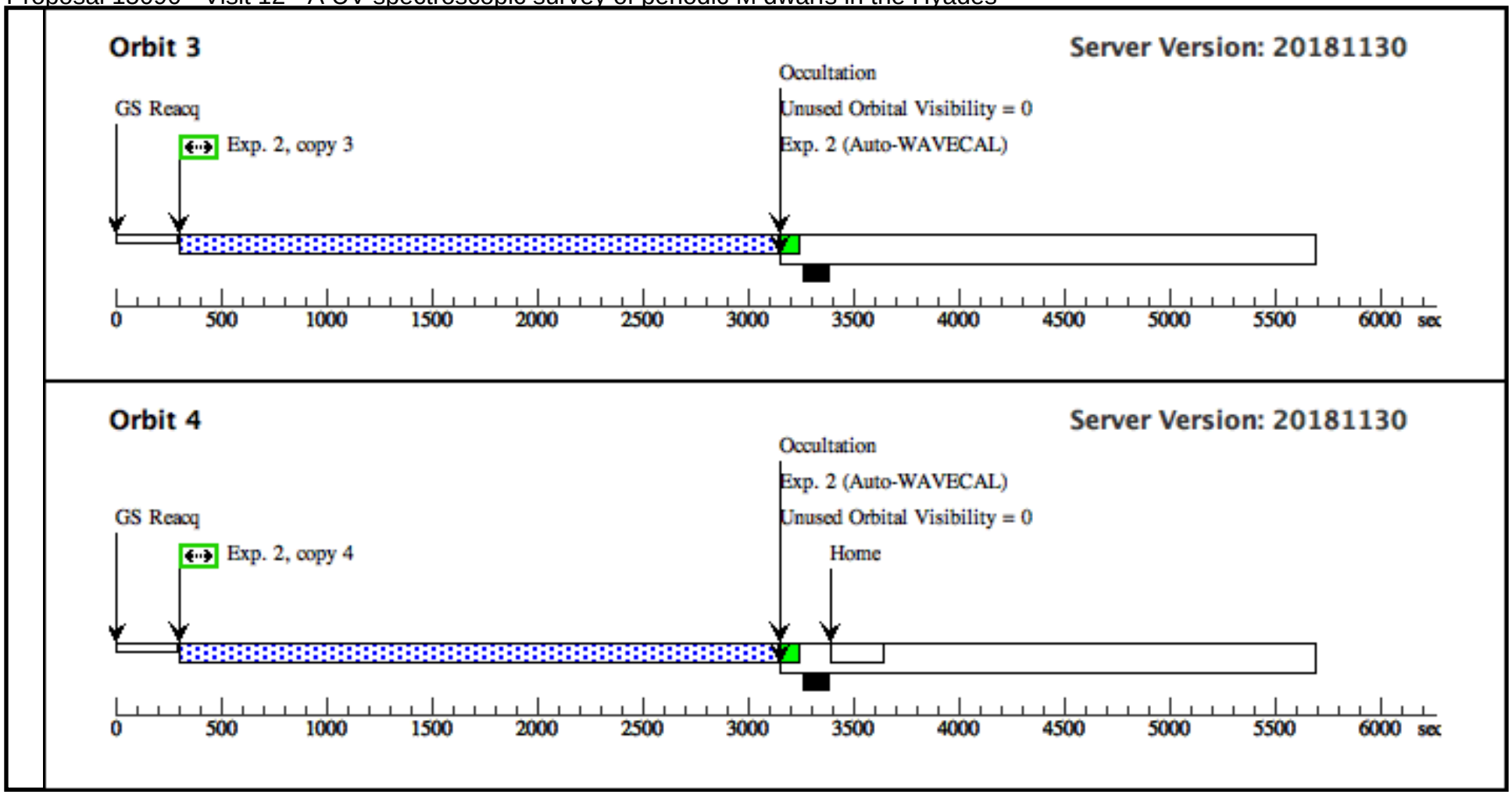
Exposures

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	(1304859)	(12) 2MASSJ04183382+1821529	STIS/CCD, ACQ, F28X50LP	MIRROR				0.2 Secs (0.2 Secs)	
								[==>]	***[1]***
Comments: ACQ switched to longpass filter and exposure time calculated using V=16.09									
2	(1152535)	(12) 2MASSJ04183382+1821529	STIS/NUV-MAMA, ACCUM, 52X2	G230L 2376 A				1580.9 Secs X 4 (10721.6 Secs)	
								[==>2293.9 Secs (Copy 1)]	***[1]***
								[==>2825.9 Secs (Copy 2)]	***[2]***
								[==>2800.9 Secs (Copy 3)]	***[3]***
								[==>2800.9 Secs (Copy 4)]	***[4]***

Orbit Structure






Orbit 3
Server Version: 20181130
Occultation
Unused Orbital Visibility = 0
Exp. 2 (Auto-WAVECAL)
GS Reacq
Exp. 2, copy 3
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
6000
sec
Orbit 4
Server Version: 20181130
Occultation
Exp. 2 (Auto-WAVECAL)
Unused Orbital Visibility = 0
GS Reacq
Exp. 2, copy 4
Home
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
6000
sec

Visit

Proposal 15090, Visit 13, completed Fri Mar 29 16:02:08 GMT 2019

Diagnostic Status: No Diagnostics

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

Special Requirements: (none)

Fixed Targets

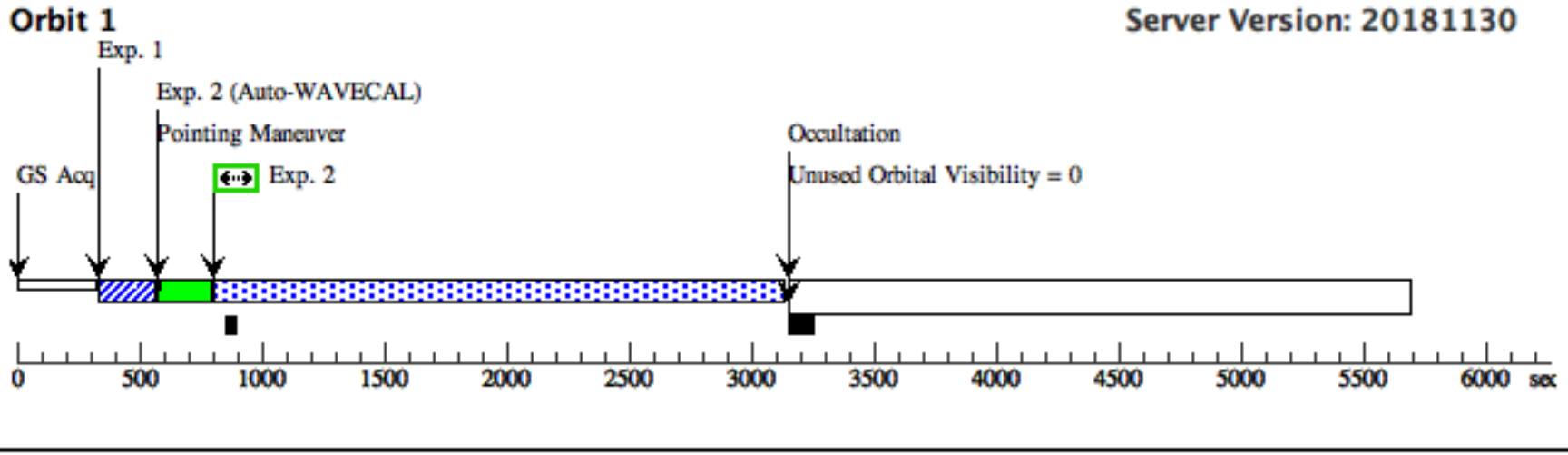
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(13)	2MASSJ04262170+1800009 Alt Name1: LP415-875	RA: 04 26 21.7068 (66.5904450d) Dec: +18 00 1.03 (18.00029d) Equinox: J2000	Proper Motion RA: 98.236 mas/yr Proper Motion Dec: -29.889 mas/yr Epoch of Position: 2000 Radial Velocity: +48 km/sec	V=15.89 22.381(Derived)	Reference Frame: ICRS

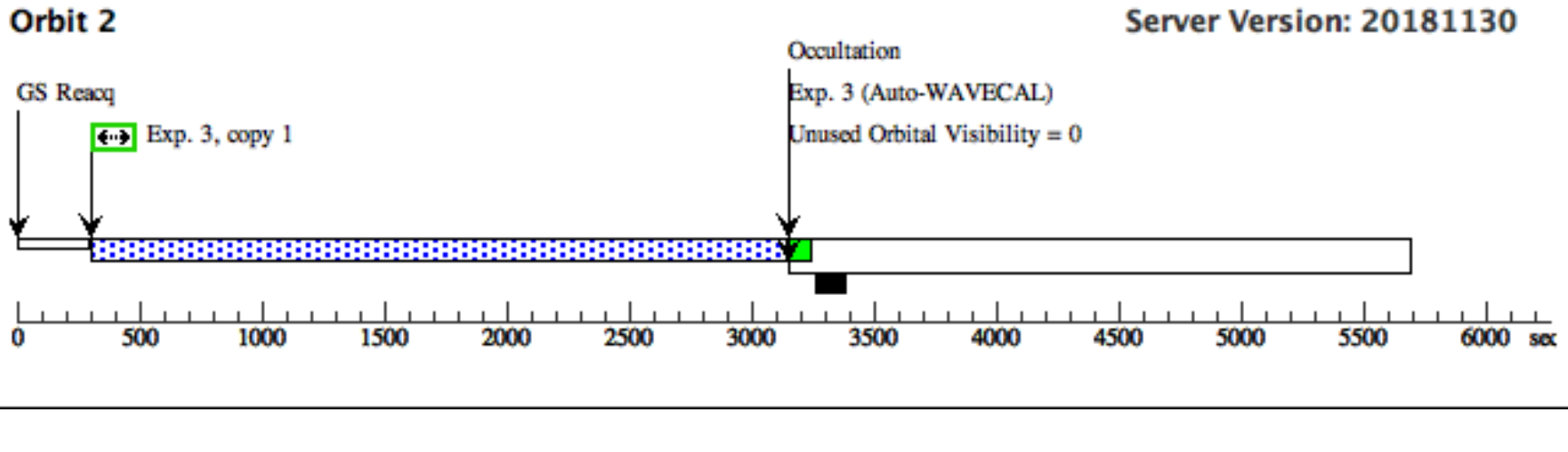
Comments: Positions and proper motions updated to Gaia DR2 values.
Category=STAR
Description=[M V-IV]
Extended=NO

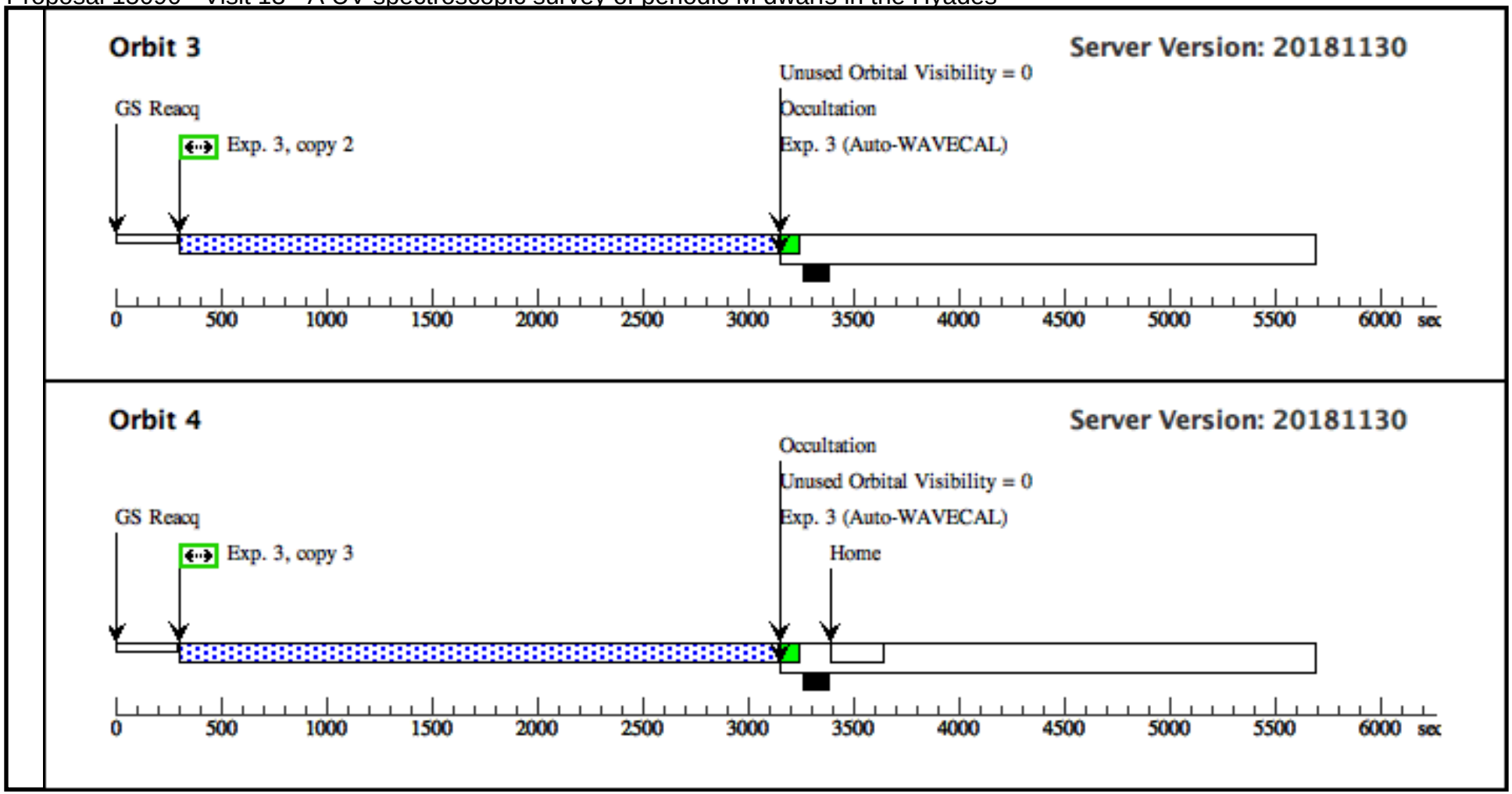
Exposures

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	(1304860)	(13) 2MASSJ04262170+1800009	STIS/CCD, ACQ, F28X50LP	MIRROR				0.2 Secs (0.2 Secs)	
								[==>]	***[1]***
Comments: ACQ switched to longpass filter and exposure time calculated using V=15.89									
2	(1152536)	(13) 2MASSJ04262170+1800009	STIS/NUV-MAMA, ACCUM, 52X2	G230L 2376 A				1102.8 Secs (2293.8 Secs)	
								[==>2293.8 Secs]	***[1]***
3	(1152536)	(13) 2MASSJ04262170+1800009	STIS/NUV-MAMA, ACCUM, 52X2	G230L 2376 A				2500 Secs X 3 (8428 Secs)	
								[==>2826.0 Secs (Copy 1)]	***[2]***
								[==>2801.0 Secs (Copy 2)]	***[3]***
								[==>2801.0 Secs (Copy 3)]	***[4]***

Orbit Structure






Orbit 3
Server Version: 20181130
Unused Orbital Visibility = 0
Occultation
Exp. 3 (Auto-WAVECAL)
GS Reacq
Exp. 3, copy 2
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
6000
sec
Orbit 4
Server Version: 20181130
Occultation
Unused Orbital Visibility = 0
Exp. 3 (Auto-WAVECAL)
Home
GS Reacq
Exp. 3, copy 3
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
6000
sec

Visit

Proposal 15090, Visit 14, completed Fri Mar 29 16:02:08 GMT 2019

Diagnostic Status: No Diagnostics

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

Special Requirements: (none)

Fixed Targets

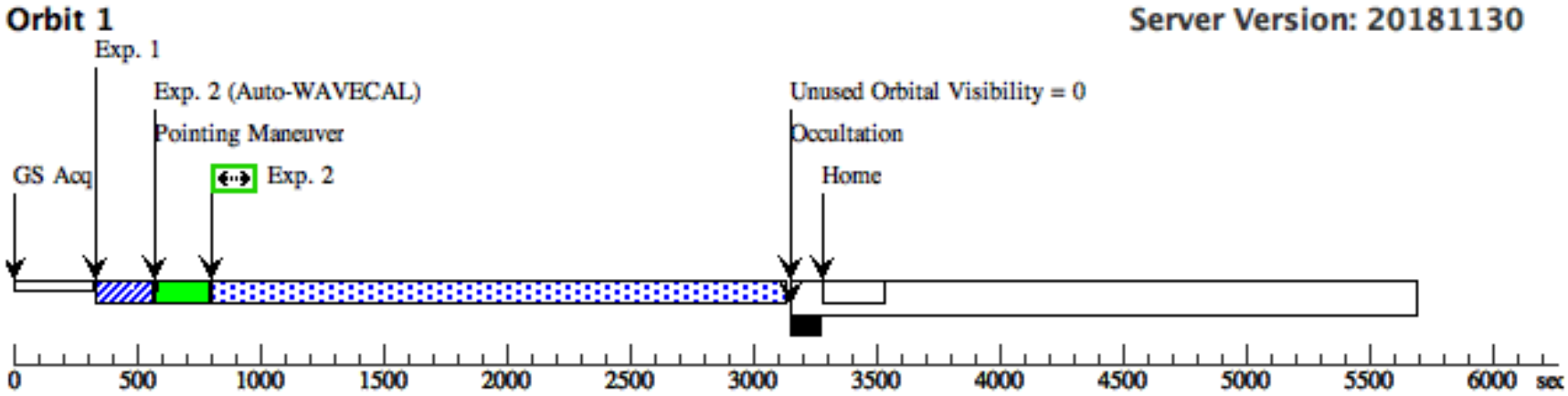
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(14)	2MASSJ04290015+1620467 Alt Name1: V1104TAU	RA: 04 29 0.1513 (67.2506304d) Dec: +16 20 46.81 (16.34634d) Equinox: J2000	Proper Motion RA: 104.875 mas/yr Proper Motion Dec: -27.38 mas/yr Epoch of Position: 2000	V=14.28 21.437(Derived)	Reference Frame: ICRS

Comments: Classified as BY Dra in SIMBAD. Positions and proper motions updated to Gaia DR2 values.
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	(1288948)	(14) 2MASSJ04290015+1620467	STIS/CCD, ACQ, F28X50LP	MIRROR				0.1 Secs (0.1 Secs) *[==>]*	 ***[1]***
Comments: ACQ switched to longpass filter and exposure time calculated using V=14.28									
2	(1152537)	(14) 2MASSJ04290015+1620467	STIS/NUV-MAMA, ACCUM, 52X2	G230L 2376 A				159.6 Secs (2293.6 Secs) *[==>2293.6 Secs]*	 ***[1]***

Orbit Structure



Visit

Proposal 15090, Visit 15, completed Fri Mar 29 16:02:08 GMT 2019

Diagnostic Status: No Diagnostics

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

Special Requirements: (none)

Fixed Targets

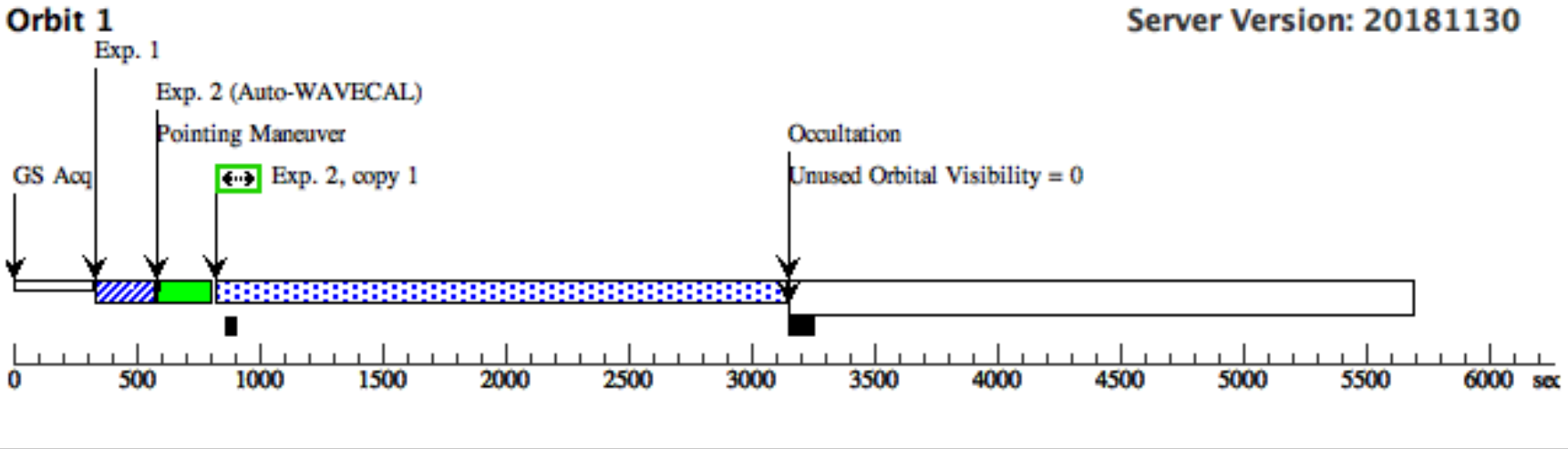
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(15)	2MASSJ04214955+1929086 Alt Name1: LP415-20	RA: 04 21 49.5662 (65.4565258d) Dec: +19 29 8.61 (19.48573d) Equinox: J2000	Proper Motion RA: 134.716 mas/yr Proper Motion Dec: -38.416 mas/yr Epoch of Position: 2000	V=19.23 21.924(Derived)	Reference Frame: ICRS

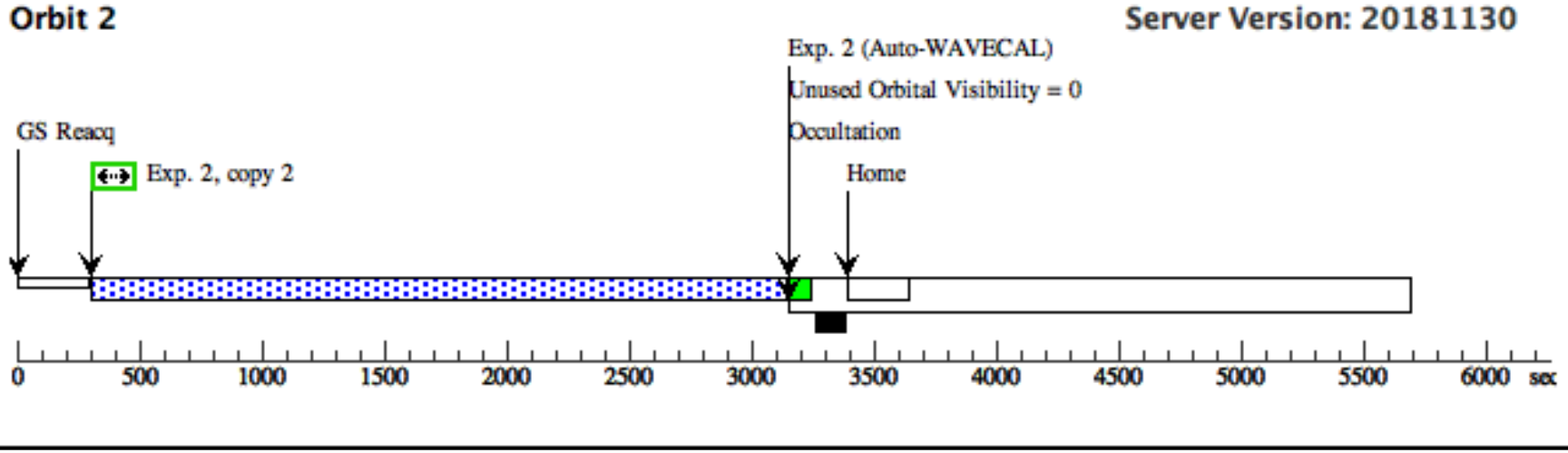
Comments: Positions and proper motions updated to Gaia DR2 values. V magnitude updated to SIMBAD value of 19.23.
Category=STAR
Description=[M V-IV]
Extended=NO

Exposures

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	(1304861)	(15) 2MASSJ04214955+1929086	STIS/CCD, ACQ, F28X50LP	MIRROR				3.1 Secs (3.1 Secs)	
								[==>]	***[1]***
Comments: ACQ switched to longpass filter and exposure time calculated using V=19.23									
2	(1152538)	(15) 2MASSJ04214955+1929086	STIS/NUV-MAMA, ACCUM, 52X2	G230L 2376 A				681.4 Secs X 2 (5106.8 Secs)	
								[==>2281.4 Secs (Copy 1)]	***[1]***
								[==>2825.4 Secs (Copy 2)]	***[2]***

Orbit Structure





Visit

Proposal 15090, Visit 16, failed Fri Mar 29 16:02:08 GMT 2019

Diagnostic Status: No Diagnostics

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

Special Requirements: (none)

Fixed Targets

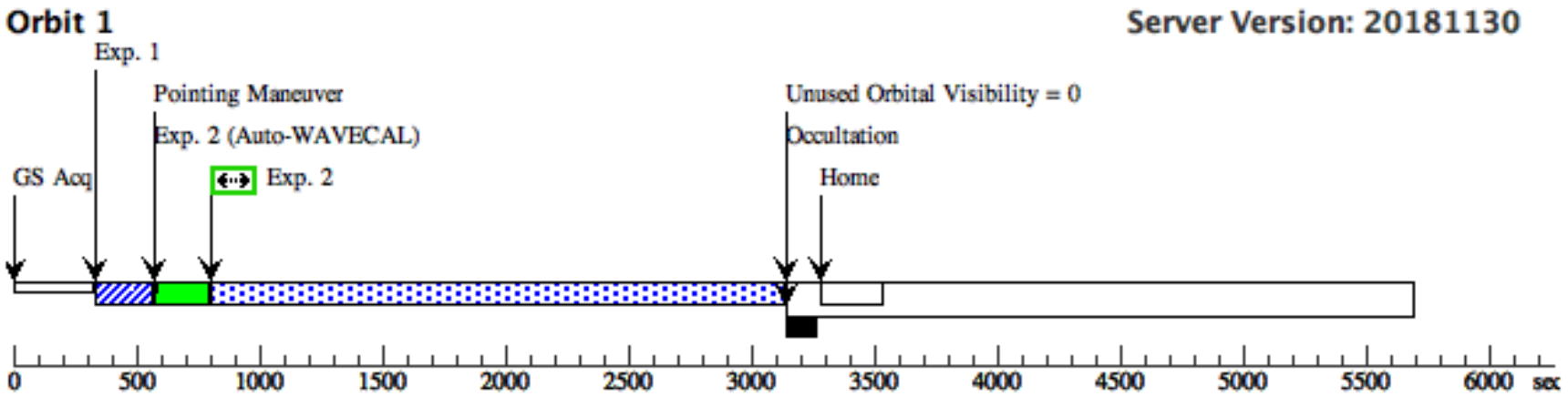
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(16)	2MASSJ04110642+1247481 Alt Name1: EPIC210371851	RA: 04 11 6.4230 (62.7767625d) Dec: +12 47 48.17 (12.79671d) Equinox: J2000	Proper Motion RA: 107.2 mas/yr Proper Motion Dec: -4.5 mas/yr Epoch of Position: 2000	V=15.62 21.196(Derived)	Reference Frame: ICRS

Comments: Listed as BD in SIMBAD. No V magnitude available. Proper motions updated to AllWISE survey values.
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	(1288949)	(16) 2MASSJ04110642+1247481	STIS/CCD, ACQ, F28X50LP	MIRROR				0.2 Secs (0.2 Secs) *[==>]*	*[1]*
Comments: ACQ switched to longpass filter and exposure time calculated using V=15.62									
2	(1152539)	(16) 2MASSJ04110642+1247481	STIS/NUV-MAMA, ACCUM, 52X2	G230L 2376 A				331.9 Secs (2286.9 Secs) *[==>2286.9 Secs]*	*[1]*

Orbit Structure



Visit

Proposal 15090, Visit 66 Fri Mar 29 16:02:08 GMT 2019

Diagnostic Status: No Diagnostics

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

Special Requirements: (none)

Fixed Targets

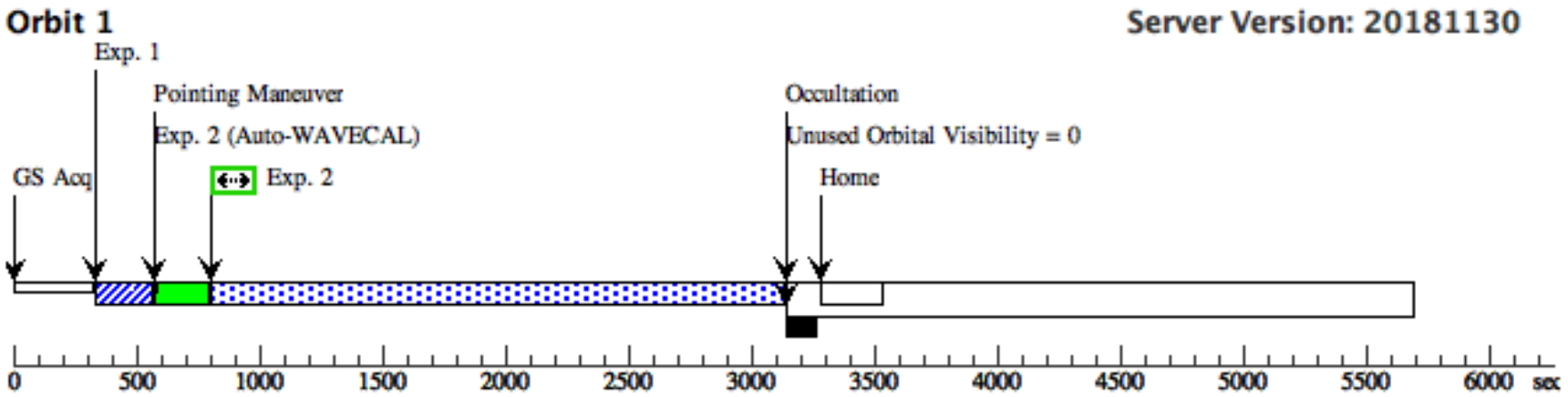
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(16)	2MASSJ04110642+1247481 Alt Name1: EPIC210371851	RA: 04 11 6.4230 (62.7767625d) Dec: +12 47 48.17 (12.79671d) Equinox: J2000	Proper Motion RA: 107.2 mas/yr Proper Motion Dec: -4.5 mas/yr Epoch of Position: 2000	V=15.62 21.196(Derived)	Reference Frame: ICRS

Comments: Listed as BD in SIMBAD. No V magnitude available. Proper motions updated to AllWISE survey values.
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	(1288949)	(16) 2MASSJ04110642+1247481	STIS/CCD, ACQ, F28X50LP	MIRROR				0.2 Secs (0.2 Secs) *[==>]*	 ***[1]***
Comments: ACQ switched to longpass filter and exposure time calculated using V=15.62									
2	(1152539)	(16) 2MASSJ04110642+1247481	STIS/NUV-MAMA, ACCUM, 52X2	G230L 2376 A				331.9 Secs (2286.9 Secs) *[==>2286.9 Secs]*	 ***[1]***

Orbit Structure



Visit

Proposal 15090, Visit 17, completed Fri Mar 29 16:02:08 GMT 2019

Diagnostic Status: Warning

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

Special Requirements: (none)

Diagnostics

(Visit 17) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(17)	2MASSJ04254182+1900477 Alt Name1: EPIC210743724	RA: 04 25 41.8343 (66.4243096d) Dec: +19 00 47.60 (19.01322d) Equinox: J2000		V=14.82 21.24	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	(1107046)	(17) 2MASSJ04254182+1900477	STIS/CCD, ACQ, F28X50OII	MIRROR				26.9 Secs (26.9 Secs) *[==>]*	*[1]*
2	(1152540)	(17) 2MASSJ04254182+1900477	STIS/NUV-MAMA, ACCUM, 52X2	G230L 2376 A				372.6 Secs (2216.6 Secs) *[==>2216.6 Secs]*	*[1]*

Orbit Structure