



# 14712 - HST-COS Ultraviolet Spectroscopy of B[e] Supergiant Stars in the Magellanic Clouds

Cycle: 24, Proposal Category: GO

(UV Initiative)

(Availability Mode: SUPPORTED)

## INVESTIGATORS

<i>Name</i>	<i>Institution</i>	<i>E-Mail</i>
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## VISITS

<i>Visit</i>	<i>Targets used in Visit</i>	<i>Configurations used in Visit</i>	<i>Orbits Used</i>	<i>Last Orbit Planner Run</i>	<i>OP Current with Visit?</i>
01	(1) RMC-15	COS/FUV COS/NUV	1	07-Nov-2017 13:05:11.0	yes
02	(2) RMC-38	COS/FUV COS/NUV	1	07-Nov-2017 13:05:13.0	yes
03	(3) RMC-48	COS/FUV COS/NUV	1	07-Nov-2017 13:05:14.0	yes
04	(4) CL-NGC-346-KWBBE-200	COS/FUV COS/NUV	1	07-Nov-2017 13:05:15.0	yes
05	(5) HEN-S59	COS/FUV COS/NUV	1	07-Nov-2017 13:05:17.0	yes

<i>Visit</i>	<i>Targets used in Visit</i>	<i>Configurations used in Visit</i>	<i>Orbits Used</i>	<i>Last Orbit Planner Run</i>	<i>OP Current with Visit?</i>
06	(6) MSX-LMC-209	COS/FUV COS/NUV	1	07-Nov-2017 13:05:19.0	yes
07	(7) LHA-120-N-29	COS/FUV COS/NUV	1	07-Nov-2017 13:05:20.0	yes
08	(8) 2MASS-J05165404-6720052	COS/FUV COS/NUV	1	07-Nov-2017 13:05:22.0	yes
09	(9) ANON05132129	COS/FUV COS/NUV	1	07-Nov-2017 13:05:23.0	yes
10	(10) HEN-S35	STIS/CCD STIS/FUV-MAMA	1	07-Nov-2017 13:05:24.0	yes
11	(11) HEN-S93	COS/FUV COS/NUV	1	07-Nov-2017 13:05:25.0	yes
12	(12) AZV-172	COS/FUV COS/NUV	1	07-Nov-2017 13:05:27.0	yes
13	(13) RMC-4	STIS/CCD STIS/FUV-MAMA	1	07-Nov-2017 13:05:28.0	yes
51	(1) RMC-15	COS/FUV COS/NUV	1	07-Nov-2017 13:05:29.0	yes

14 Total Orbits Used

## **ABSTRACT**

Massive stars end their lives as supernovae (SNe), which drive their host galaxy's chemical evolution by returning gas and dust to it. Some of the dust detected with SNe remnants should be created by the SN progenitor. It is therefore important to understand dusty mass loss from massive SN progenitors. One particularly poorly understood class of post-main sequence massive star, and therefore SN progenitor, is the B[e] supergiant (hereafter sgB[e]). SgB[e]s are mass-losing luminous B stars with a fast polar wind and a slower equatorial wind, the latter usually giving rise to dust production. Relatively few sgB[e]s are known. They usually have large thermal IR excesses due to large amounts of circumstellar dust, though recently-identified sgB[e]s in the low-metallicity Small Magellanic Cloud (SMC) have been found by Graus et al (2012) to be largely without circumstellar dust. To clarify their role as SN progenitors and the post-SN fate of the mass they lose, we request HST-COS ultraviolet (UV) spectra

for a sample of 8 recently identified and 5 known sgB[e]s in the Large Magellanic Cloud and SMC. We will use the COS UV spectra to characterize the mass loss of the 3 recently-identified largely dustless sgB[e]s from the SMC, to compare to known dusty sgB[e]s. No other facility exists or will come into operation in the near future that can obtain these UV spectra. We will use the COS spectra to characterize the mass loss and determine basic stellar atmospheric parameters, which will reveal the evolutionary state of sgB[e]s and determine how their mass loss is related to their atmospheric parameters. This, in turn, will reveal their roles as mass-losing SN progenitors.

## **OBSERVING DESCRIPTION**

We request ultraviolet spectra of 13 stars - 4 recently-identified sgB[e] stars in the LMC, 4 recently-identified sgB[e] stars in the SMC, and 5 known sgB[e] stars in the LMC and SMC - to be obtained using COS on HST. We used the Exposure Time Calculator (ETC) available at <http://etc.stsci.edu/etc/input/cos/spectroscopic/> to determine the exposure times for our targets. We ask for the G140L grating in FUV, with the 1280 central wavelength setting (B setting of <902-1195 Angstroms, A setting of 1282-2148 angstroms), with the Primary Science Aperture. In the ETC, we treat our stars's photospheres as if they are all B5III, 15000K,  $\log(g)=3.5$  Castelli and Kurucz model photospheres, assuming  $E(B-V) = 0.2$  (Gummersbach et al 1995), applying extinction before normalization. The photosphere is normalized to the U band.

9 of our targets are in the CVZ, which means each orbit lasts 96 minutes. The other 4 targets are not in the CVZ, and at their declination, they have about 59 minutes of visibility according to the declination range for these targets ( $-60 > \text{DEC} > -80$ ) in the Orbital Visibility Table in Section 6.1 of the HST Primer. For all 13 targets, we wish to observe each target using the G140L grating within one orbit. This is a total of 13 orbits.

The 9 CVZ targets have  $11.73 > U > 15.2$ . At 1400 Angstroms wavelength, assuming an exposure of 4920s (82 minutes), the estimated S/N ranges from 120 for the target with  $U = 11.73$  to  $\sim 32$  for the target with  $U = 15.2$ . The 4 non-CVZ targets, Hen S93, RMC 4, RMC 48, and MSX LMC 209, have  $U = 12.58$ ,  $U = 12.61-11.74$  (Zickgraf et al 1996 find some

minor variability for RMC 4),  $U = 12.92$ , and  $U = 14.10$  respectively. At 1400 Angstroms wavelength, assuming an exposure of 2700s (45 minutes), the estimated S/N ranges for these non-CVZ targets are 81 for Hen S93, 120-80 for RMC 4, 70 for RMC 48, and 40 for MSX LMC 209. All these S/N values are sufficient for our spectroscopic needs (Figure 3).

The total overhead for each observation is 14 minutes. This breaks down into 6 minutes for guide star acquisition, 3 minutes for the ACQ/Image, and 5 minutes of G140L overhead. Altogether, then, each non-CVZ target requires 59 minutes of observation, while each CVZ target requires 96 minutes of observation (including overheads), which satisfies the limits of target variability from Table 6.1 of the HST Primer.

A typical observation of a target would therefore be as follows. First the guide star would be acquired (6 minutes). Next, a target acquisition observation would be obtained (3 minutes). Then there would be about 5 minutes of COS G104L overhead. This would be followed by a single 2700 second exposure of COS in the G140L setting for non-CVZ targets, or a single 4920 second exposure of COS in G140L for CVZ targets.

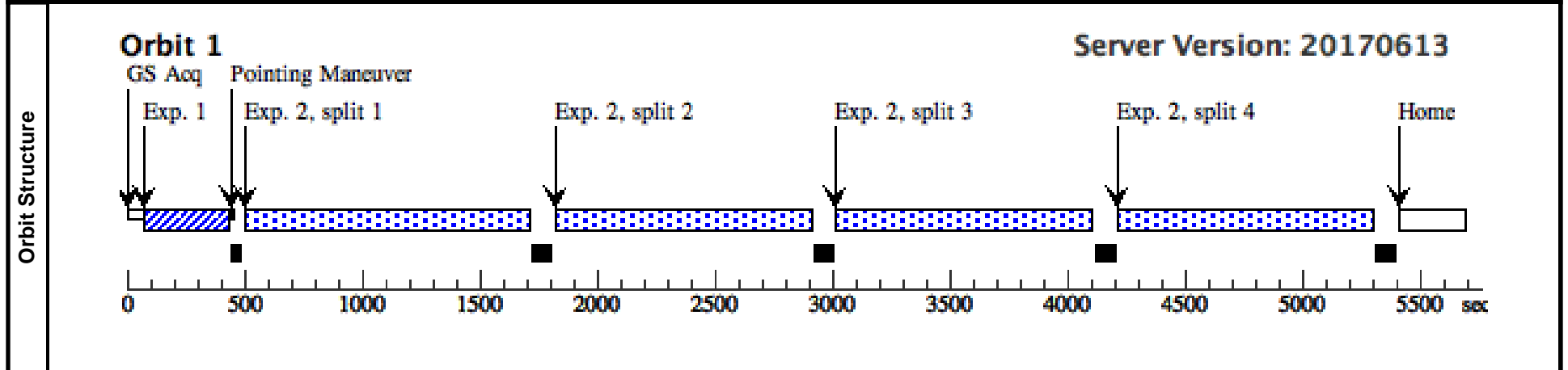
Proposal 14712 - G140L (01) - HST-COS Ultraviolet Spectroscopy of B[e] Supergiant Stars in the Magellanic Clouds

Tue Nov 07 18:05:30 GMT 2017

<b>Visit</b>	Proposal 14712, G140L (01), failed				
	Diagnostic Status: No Diagnostics				
	Scientific Instruments: COS/FUV, COS/NUV				
	Special Requirements: CVZ				

<b>Fixed Targets</b>	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
	(1)	RMC-15	RA: 00 59 29.1490 (14.8714542d) Dec: -72 01 4.51 (-72.01792d) Equinox: J2000	Radial Velocity: 128 km/sec	V=12.696+/-0.01 U = 11.813, GALEX NUV=15.21 +/-0.03	Reference Frame: ICRS
	<i>Comments: Extended=NO</i>					

<b>Exposures</b>	#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1	(COS.ta.823 649)	(1) RMC-15	COS/NUV, ACQ/IMAGE, PSA	MIRRORB			Sequence 1-2 Non-Int in G140L (01)	20 Secs (20 Secs) [==>]	[1]
	2	(COS.sp.903 854)	(1) RMC-15	COS/FUV, TIME-TAG, PSA	G140L 1280 A	BUFFER-TIME=1400; FP-POS=ALL		Sequence 1-2 Non-Int in G140L (01)	1035 Secs (4140 Secs) [==>(Split 1)] [==>(Split 2)] [==>(Split 3)] [==>(Split 4)]	[1]



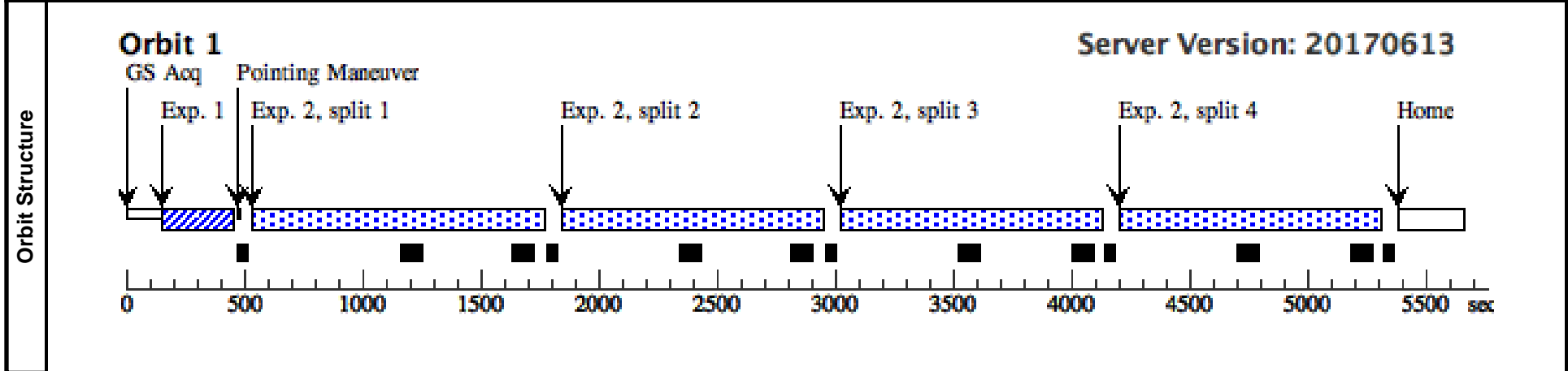
Proposal 14712 - G140L (02) - HST-COS Ultraviolet Spectroscopy of B[e] Supergiant Stars in the Magellanic Clouds

Tue Nov 07 18:05:31 GMT 2017

<b>Visit</b>	Proposal 14712, G140L (02), scheduling				
	Diagnostic Status: No Diagnostics				
	Scientific Instruments: COS/FUV, COS/NUV				
	Special Requirements: CVZ				

<b>Fixed Targets</b>	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
	(2)	RMC-38	RA: 01 05 46.9600 (16.4456667d) Dec: -71 46 22.10 (-71.77281d) Equinox: J2000		V=13.036+/-0.01 U = 12.243, GALEX(NUV, estimate)=14.1	Reference Frame: ICRS
	<i>Comments: Extended=NO</i>					

<b>Exposures</b>	#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1	(COS.ta.826 764)	(2) RMC-38	COS/NUV, ACQ/IMAGE, BOA	MIRRORA			Sequence 1-2 Non-Int in G140L (02)	35 Secs (35 Secs) [==>]	[1]
	2	(COS.sp.904 722)	(2) RMC-38	COS/FUV, TIME-TAG, PSA	G140L 1280 A	BUFFER-TIME=470; FP-POS=ALL		Sequence 1-2 Non-Int in G140L (02)	1057 Secs (4228 Secs) [==>(Split 1)] [==>(Split 2)] [==>(Split 3)] [==>(Split 4)]	[1]



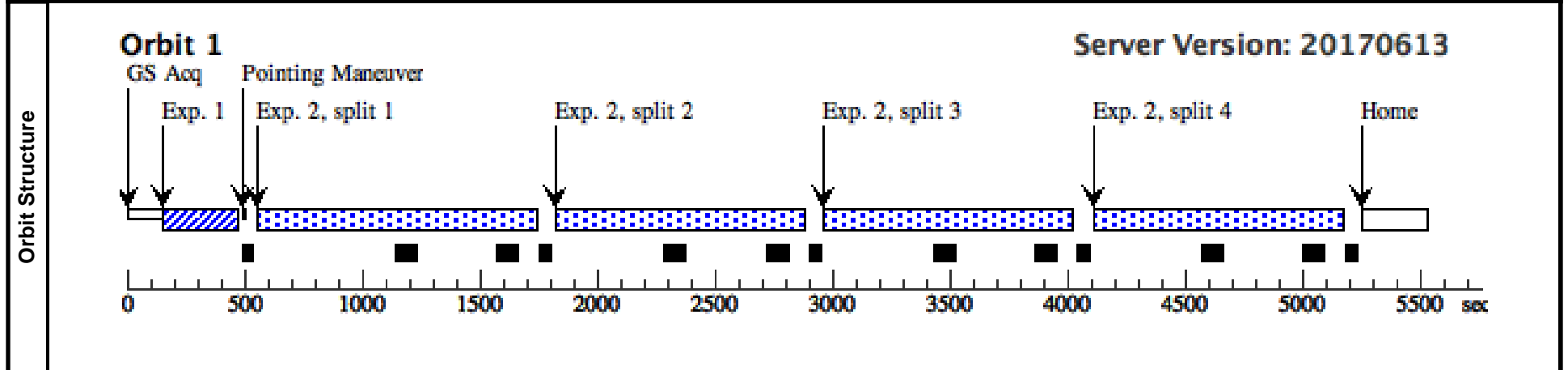
Proposal 14712 - G140L (03) - HST-COS Ultraviolet Spectroscopy of B[e] Supergiant Stars in the Magellanic Clouds

Tue Nov 07 18:05:31 GMT 2017

<b>Visit</b>	Proposal 14712, G140L (03), scheduling				
	Diagnostic Status: No Diagnostics				
	Scientific Instruments: COS/FUV, COS/NUV				
	Special Requirements: CVZ				

<b>Fixed Targets</b>	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
	(3)	RMC-48	RA: 01 30 10.9500 (22.5456250d) Dec: -73 18 55.80 (-73.31550d) Equinox: J2000		V=13.72+/-0.01 U = 12.97, GALEX NUV=14.38 +/-0.01	Reference Frame: ICRS
	<i>Comments: This object was generated by the target selector and retrieved from the SIMBAD database.</i>					
	<i>Extended=NO</i>					

<b>Exposures</b>	#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1	(COS.ta.826 764)	(3) RMC-48	COS/NUV, ACQ/IMAGE, BOA	MIRRORA			Sequence 1-2 Non-Int in G140L (03)	45 Secs (45 Secs) [==>]	[1]
	2	(COS.sp.102 8379)	(3) RMC-48	COS/FUV, TIME-TAG, PSA	G140L 1280 A	BUFFER-TIME=429; FP-POS=ALL		Sequence 1-2 Non-Int in G140L (03)	1010 Secs (4040 Secs) [==>(Split 1)] [==>(Split 2)] [==>(Split 3)] [==>(Split 4)]	[1]



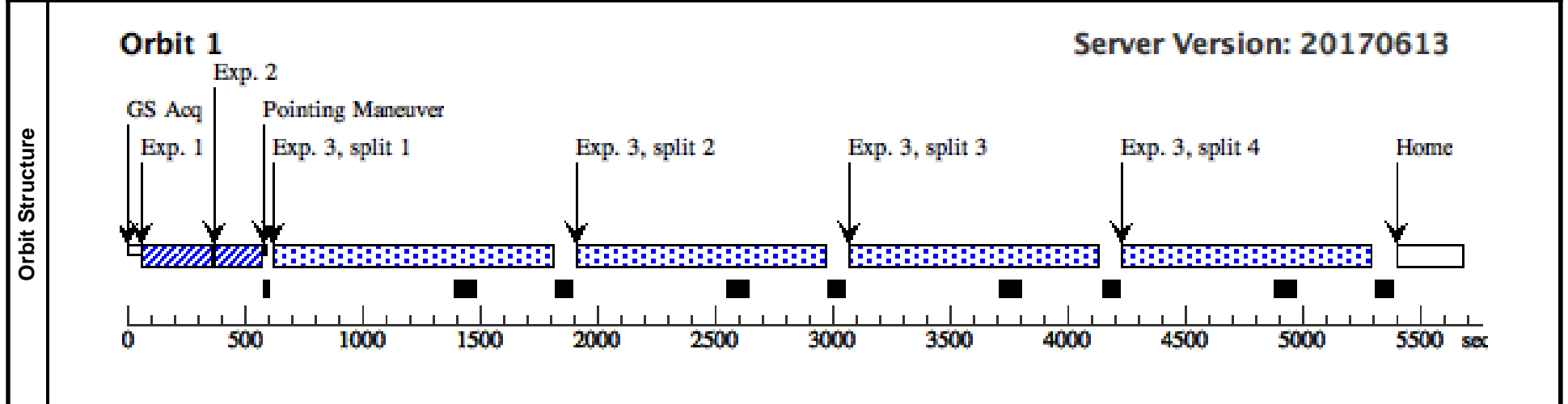
Proposal 14712 - G140L (04) - HST-COS Ultraviolet Spectroscopy of B[e] Supergiant Stars in the Magellanic Clouds

Tue Nov 07 18:05:31 GMT 2017

<b>Visit</b>	<b>Proposal 14712, G140L (04), scheduling</b>				
	<b>Diagnostic Status: No Diagnostics</b>				
	Scientific Instruments: COS/FUV, COS/NUV				
	Special Requirements: CVZ				

<b>Fixed Targets</b>	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
	(4)	CL-NGC-346-KWBBE-200 Alt Name1: 2MASSJ00590587-7211270	RA: 00 59 5.8780 (14.7744917d) Dec: -72 11 26.98 (-72.19083d) Equinox: J2000		V=15.8+/-0.01 U = 14.834, GALEX(NUV, estimate)=16.1	Reference Frame: ICRS
	<i>Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.</i>					
	<i>Extended=NO</i>					

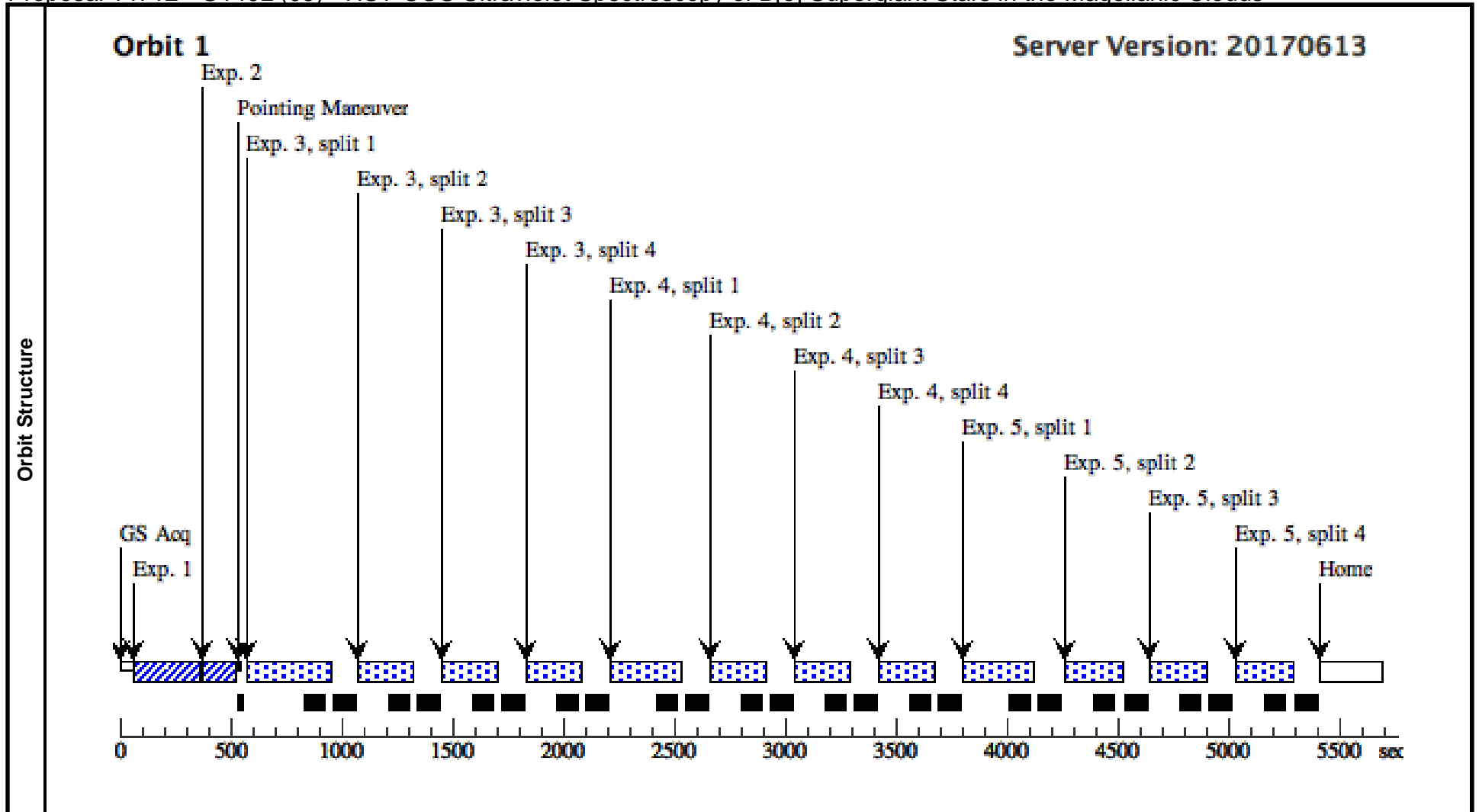
<b>Exposures</b>	#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1	(COS.sa.992 914)	(4) CL-NGC-346-K WBBE-200	COS/NUV, ACQ/PEAKXD, PSA	G230L 2635 A			Sequence 1-3 Non-Int in G140L (04)	10 Secs (10 Secs) [==>]	[1]
	2	(COS.sa.992 914)	(4) CL-NGC-346-K WBBE-200	COS/NUV, ACQ/PEAKD, PSA	G230L 2635 A	STEP-SIZE=0.9; CENTER=FLUX-W T-FLR; NUM-POS=5		Sequence 1-3 Non-Int in G140L (04)	10 Secs (10 Secs) [==>]	[1]
	3	(COS.sp.102 838)	(4) CL-NGC-346-K WBBE-200	COS/FUV, TIME-TAG, PSA	G140L 1280 A	BUFFER-TIME=60 7; FP-POS=ALL		Sequence 1-3 Non-Int in G140L (04)	1010 Secs (4040 Secs) [==>(Split 1)] [==>(Split 2)] [==>(Split 3)] [==>(Split 4)]	[1]



Proposal 14712 - G140L (05) - HST-COS Ultraviolet Spectroscopy of B[e] Supergiant Stars in the Magellanic Clouds

Tue Nov 07 18:05:31 GMT 2017

<b>Visit</b>	<b>Proposal 14712, G140L (05), scheduling</b> <b>Diagnostic Status: Warning</b> Scientific Instruments: COS/FUV, COS/NUV Special Requirements: CVZ																																																																				
	(G140L (05)) Warning (Orbit Planner): INEFFICIENT ORDERING OF FP-POS POSITIONS (G140L (05)) Warning (Orbit Planner): INEFFICIENT ORDERING OF FP-POS POSITIONS																																																																				
<b>Fixed Targets</b>	<table border="1"> <thead> <tr> <th>#</th> <th>Name</th> <th>Target Coordinates</th> <th>Targ. Coord. Corrections</th> <th>Fluxes</th> <th>Miscellaneous</th> </tr> </thead> <tbody> <tr> <td>(5)</td> <td>HEN-S59</td> <td>RA: 05 45 29.4920 (86.3728833d) Dec: -68 11 45.90 (-68.19608d) Equinox: J2000</td> <td></td> <td>V=14.021+/-0.01 U = 13.367, GALEX NUV=15.2 +/-0.4</td> <td>Reference Frame: ICRS</td> </tr> </tbody> </table> <p><i>Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.</i>                  Extended=NO</p>										#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous	(5)	HEN-S59	RA: 05 45 29.4920 (86.3728833d) Dec: -68 11 45.90 (-68.19608d) Equinox: J2000		V=14.021+/-0.01 U = 13.367, GALEX NUV=15.2 +/-0.4	Reference Frame: ICRS																																															
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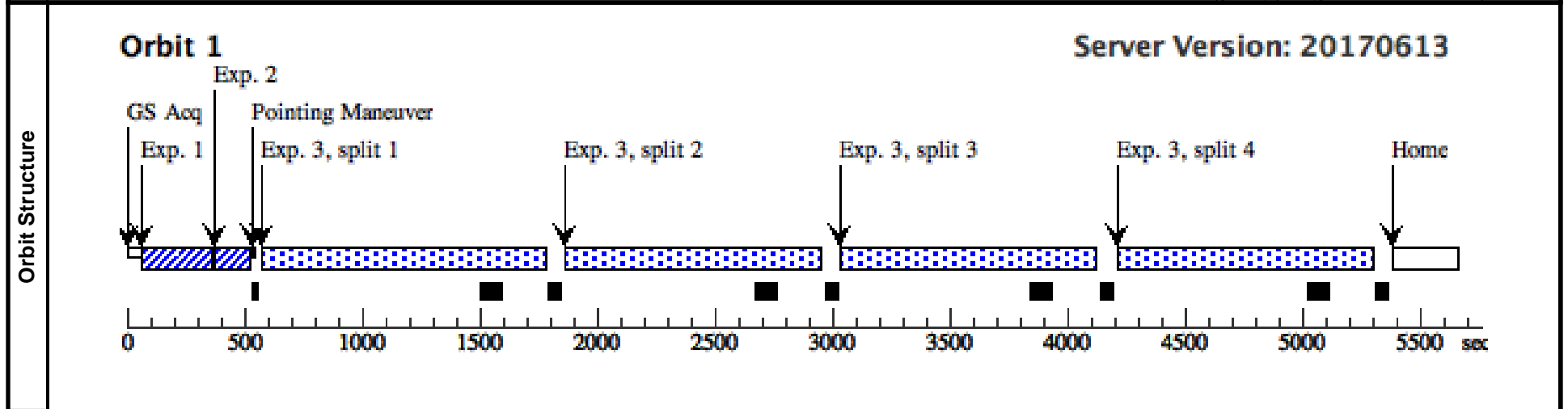
Proposal 14712 - G140L (06) - HST-COS Ultraviolet Spectroscopy of B[e] Supergiant Stars in the Magellanic Clouds

Tue Nov 07 18:05:31 GMT 2017

<b>Visit</b>	Proposal 14712, G140L (06), scheduling			
	Diagnostic Status: No Diagnostics			
	Scientific Instruments: COS/FUV, COS/NUV			
	Special Requirements: CVZ			

<b>Fixed Targets</b>	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
	(6)	MSX-LMC-209	RA: 05 12 9.0250 (78.0376042d) Dec: -71 06 49.68 (-71.11380d) Equinox: J2000		V=14.267+/-0.01 U = 14.098, GALEX NUV=16.67 +/-0.01	Reference Frame: ICRS
	<i>Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.</i>					
	<i>Extended=NO</i>					

<b>Exposures</b>	#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1	(COS.sa.899 725)	(6) MSX-LMC-209	COS/NUV, ACQ/PEAKXD, PSA	G230L 2635 A			Sequence 1-3 Non-Int in G140L (06)	0.6 Secs (0.6 Secs) [==>]	[1]
	2	(COS.sa.899 724)	(6) MSX-LMC-209	COS/NUV, ACQ/PEAKD, PSA	G230L 2635 A	STEP-SIZE=0.9; CENTER=FLUX-W T-FLR; NUM-POS=5		Sequence 1-3 Non-Int in G140L (06)	0.5 Secs (0.5 Secs) [==>]	[1]
	3	(COS.sp.102 8386)	(6) MSX-LMC-209	COS/FUV, TIME-TAG, PSA	G140L 1280 A	BUFFER-TIME=77 FP-POS=ALL		Sequence 1-3 Non-Int in G140L (06)	1039 Secs (4156 Secs) [==>(Split 1)] [==>(Split 2)] [==>(Split 3)] [==>(Split 4)]	[1]



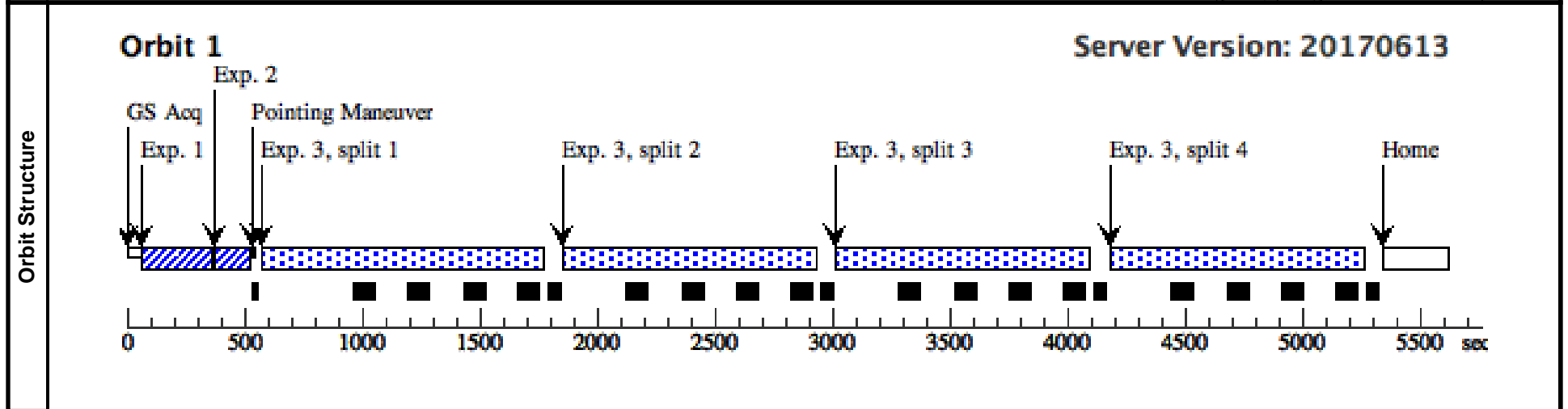
# Proposal 14712 - G140L (07) - HST-COS Ultraviolet Spectroscopy of B[e] Supergiant Stars in the Magellanic Clouds

Tue Nov 07 18:05:31 GMT 2017

<b>Visit</b>	<b>Proposal 14712, G140L (07), scheduling</b>			
	<b>Diagnostic Status: No Diagnostics</b>			
	Scientific Instruments: COS/FUV, COS/NUV			
	Special Requirements: CVZ			

<b>Fixed Targets</b>	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
	(7)	LHA-120-N-29	RA: 05 12 36.6990 (78.1529125d) Dec: -66 38 22.54 (-66.63959d) Equinox: J2000		V=14.937+/-0.01 U = 14.304, GALEX NUV=15.97 +/-0.05	Reference Frame: ICRS
	<i>Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.</i>					
	<i>Extended=NO</i>					

<b>Exposures</b>	#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1	(COS.sa.899 753)	(7) LHA-120-N-29	COS/NUV, ACQ/PEAKXD, PSA	G230L 2635 A			Sequence 1-3 Non-Int in G140L (07)	1.3 Secs (1.3 Secs) [==>]	[1]
	2	(COS.sa.899 754)	(7) LHA-120-N-29	COS/NUV, ACQ/PEAKD, PSA	G230L 2635 A	STEP-SIZE=0.9; CENTER=FLUX-W T-FLR; NUM-POS=5		Sequence 1-3 Non-Int in G140L (07)	1.1 Secs (1.1 Secs) [==>]	[1]
	3	(COS.sp.102 8387)	(7) LHA-120-N-29	COS/FUV, TIME-TAG, PSA	G140L 1280 A	BUFFER-TIME=23 FP-POS=ALL		Sequence 1-3 Non-Int in G140L (07)	1027 Secs (4108 Secs) [==>(Split 1)] [==>(Split 2)] [==>(Split 3)] [==>(Split 4)]	[1]



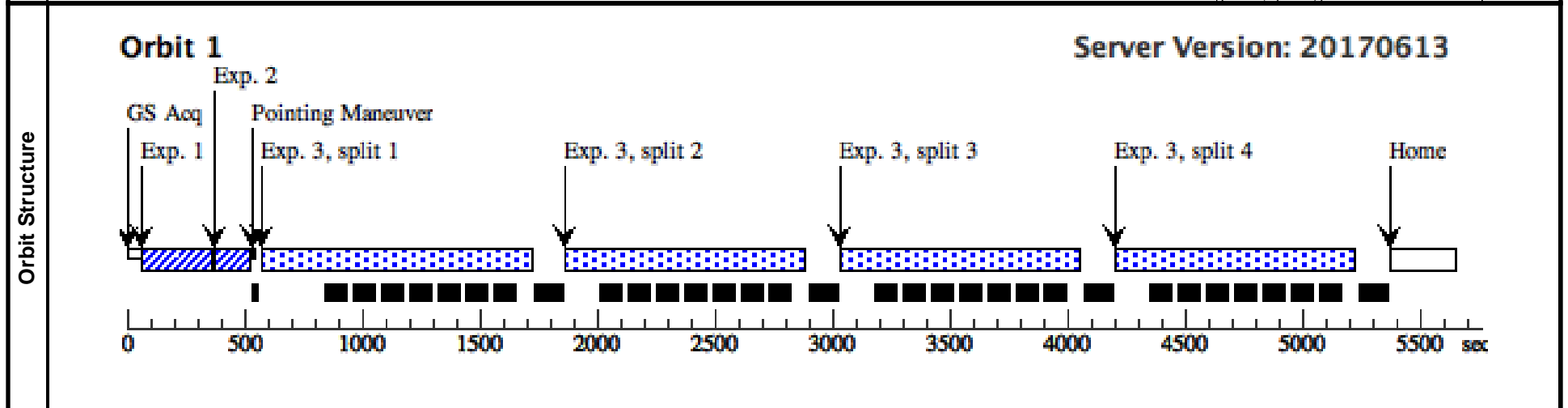
Proposal 14712 - G140L (08) - HST-COS Ultraviolet Spectroscopy of B[e] Supergiant Stars in the Magellanic Clouds

Tue Nov 07 18:05:31 GMT 2017

<b>Visit</b>	<b>Proposal 14712, G140L (08), scheduling</b>				
	<b>Diagnostic Status: No Diagnostics</b>				
	Scientific Instruments: COS/FUV, COS/NUV				
	Special Requirements: CVZ				

<b>Fixed Targets</b>	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
	(8)	2MASS-J05165404-6720052	RA: 05 16 54.0450 (79.2251875d) Dec: -67 20 5.25 (-67.33479d) Equinox: J2000		V=14.905+/-0.01 U = 14.173, GALEX(NUV, estimate)=14.6	Reference Frame: ICRS
	<i>Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.</i>					
	<i>Extended=NO</i>					

<b>Exposures</b>	#	Label (ETC Run)	Target	Config, Mode, Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1	(COS.sa.899 763)	(8) 2MASS-J05165404-6720052	COS/NUV, ACQ/PEAKXD, PSA	G230L 2635 A			Sequence 1-3 Non-Int in G140L (08)	0.7 Secs (0.7 Secs) [==>]	[1]
	2	(COS.sa.899 764)	(8) 2MASS-J05165404-6720052	COS/NUV, ACQ/PEAKD, PSA	G230L 2635 A	STEP-SIZE=0.9; CENTER=FLUX-W T-FLR; NUM-POS=5		Sequence 1-3 Non-Int in G140L (08)	0.6 Secs (0.6 Secs) [==>]	[1]
	3	(COS.sp.102 8388)	(8) 2MASS-J05165404-6720052	COS/FUV, TIME-TAG, PSA	G140L 1280 A	BUFFER-TIME=11 9; FP-POS=ALL		Sequence 1-3 Non-Int in G140L (08)	970 Secs (3880 Secs) [==>(Split 1)] [==>(Split 2)] [==>(Split 3)] [==>(Split 4)]	[1]



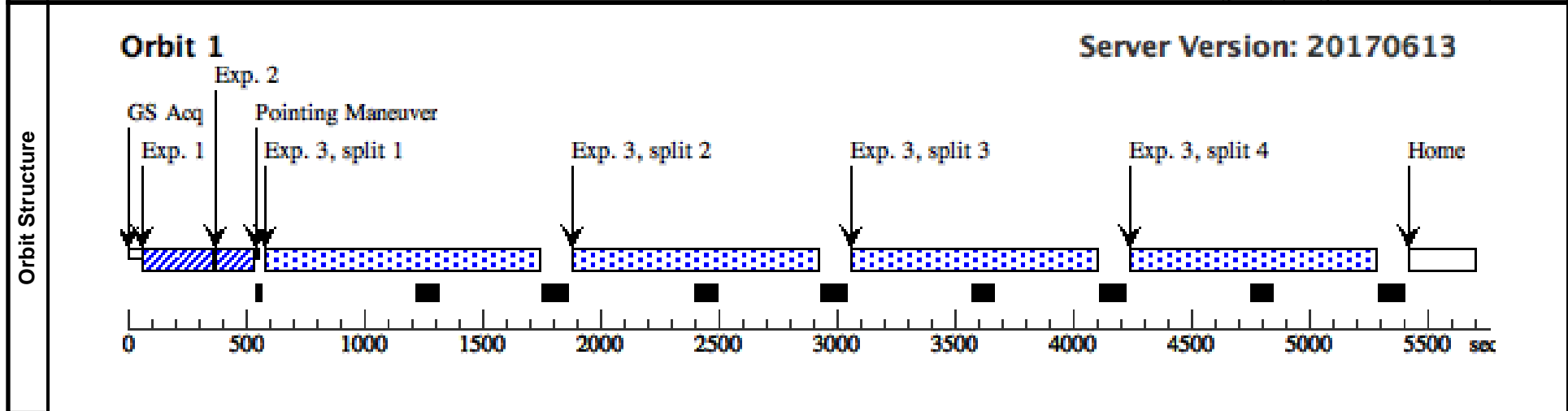
Proposal 14712 - G140L (09) - HST-COS Ultraviolet Spectroscopy of B[e] Supergiant Stars in the Magellanic Clouds

Tue Nov 07 18:05:31 GMT 2017

<b>Visit</b>	Proposal 14712, G140L (09), scheduling				
	Diagnostic Status: No Diagnostics				
	Scientific Instruments: COS/FUV, COS/NUV				
	Special Requirements: CVZ				

<b>Fixed Targets</b>	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
	(9)	ANON05132129	RA: 05 13 21.2600 (78.3385833d) Dec: -65 39 14.76 (-65.65410d) Equinox: J2000		V=15.752+/-0.01 U = 15.184, GALEX NUV=16.61 +/-0.01	Reference Frame: ICRS
	<i>Comments: Extended=NO</i>					

<b>Exposures</b>	#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1	(COS.sa.899 769)	(9) ANON05132129	COS/NUV, ACQ/PEAKXD, PSA	G230L 2635 A			Sequence 1-3 Non-Int in G140L (09)	2.9 Secs (2.9 Secs) [==>]	[1]
	2	(COS.sa.899 770)	(9) ANON05132129	COS/NUV, ACQ/PEAKD, PSA	G230L 2635 A	STEP-SIZE=0.9; CENTER=FLUX-W T-FLR; NUM-POS=5		Sequence 1-3 Non-Int in G140L (09)	2.4 Secs (2.4 Secs) [==>]	[1]
	3	(COS.sp.102 8390)	(9) ANON05132129	COS/FUV, TIME-TAG, PSA	G140L 1280 A	BUFFER-TIME=48 FP-POS=ALL		Sequence 1-3 Non-Int in G140L (09)	988 Secs (3952 Secs) [==>(Split 1)] [==>(Split 2)] [==>(Split 3)] [==>(Split 4)]	[1]



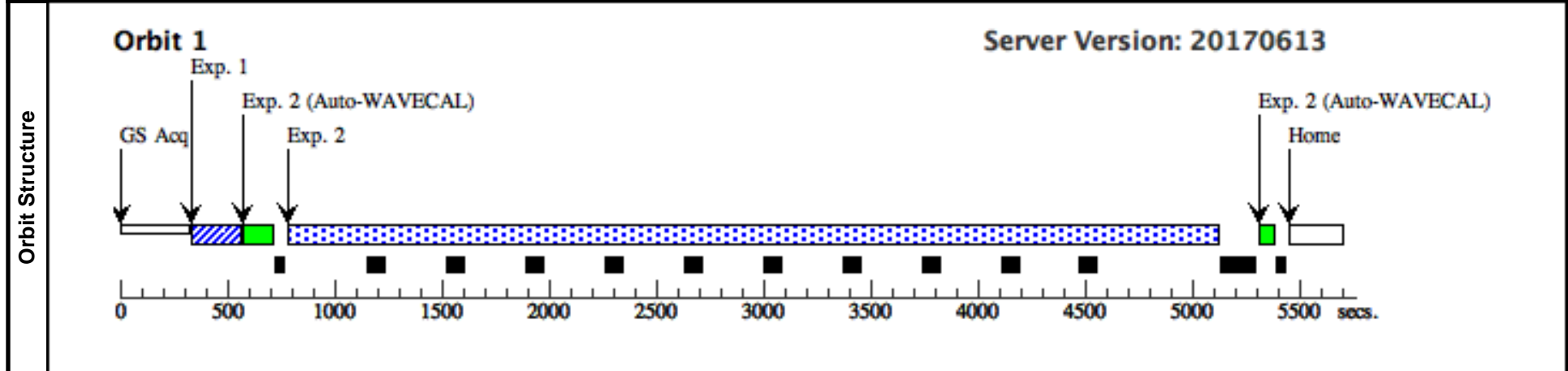
Proposal 14712 - E140M (10) - HST-COS Ultraviolet Spectroscopy of B[e] Supergiant Stars in the Magellanic Clouds

Tue Nov 07 18:05:31 GMT 2017

<b>Visit</b>	<b>Proposal 14712, E140M (10), scheduling</b> <b>Diagnostic Status: No Diagnostics</b> Scientific Instruments: STIS/CCD, STIS/FUV-MAMA Special Requirements: CVZ <i>Comments: Use E140M instead of G140L since latter gives warnings; we can bin E140M in regions with lower S/N</i>				

<b>Fixed Targets</b>	<b>#</b>	<b>Name</b>	<b>Target Coordinates</b>	<b>Targ. Coord. Corrections</b>	<b>Fluxes</b>	<b>Miscellaneous</b>
	(10)	HEN-S35	RA: 05 27 17.8390 (81.8243292d) Dec: -66 22 5.64 (-66.36823d) Equinox: J2000		V=13.1+/-0.01 U=12.46, GALEX(NUV, estimate)=14.3	Reference Frame: ICRS
<i>Comments: Extended=NO</i>						

<b>Exposures</b>	#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1	(STIS.ta.994 758)	(10) HEN-S35	STIS/CCD, ACQ, F28X50LP	MIRROR					0.5 Secs (0.5 Secs) [==>]
2	(STIS.sp.99 4762)	(10) HEN-S35	STIS/FUV-MAMA, TIME-TAG, 0.2X0.2	E140M 1425 A	BUFFER-TIME=36 9				4320 Secs (4320 Secs) [==>]	[1]



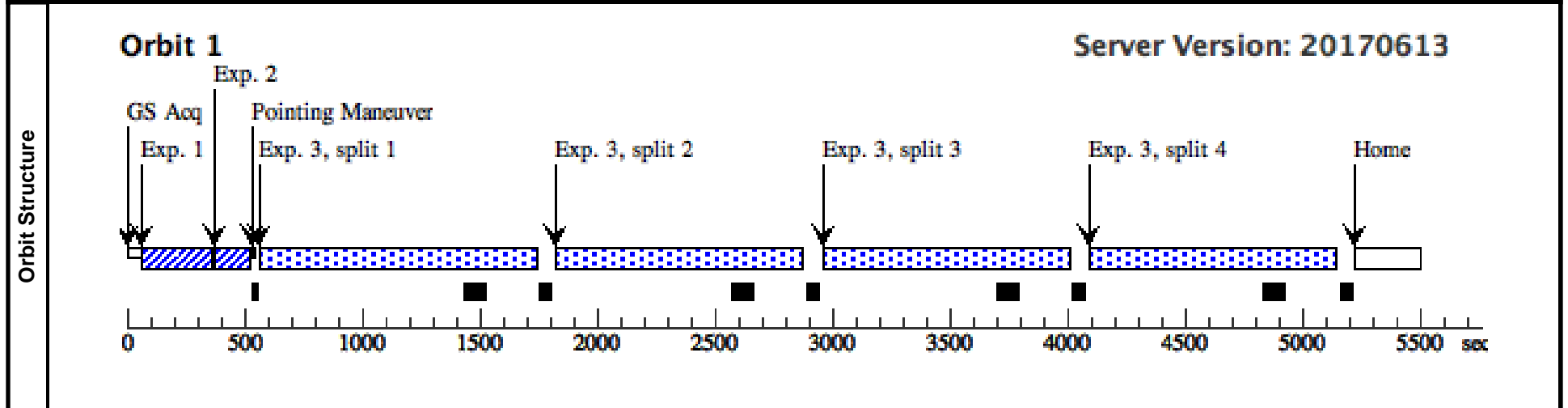
Proposal 14712 - G140L (11) - HST-COS Ultraviolet Spectroscopy of B[e] Supergiant Stars in the Magellanic Clouds

Tue Nov 07 18:05:31 GMT 2017

<b>Visit</b>	Proposal 14712, G140L (11), implementation				
	Diagnostic Status: No Diagnostics				
	Scientific Instruments: COS/FUV, COS/NUV				
	Special Requirements: CVZ				

<b>Fixed Targets</b>	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
	(11)	HEN-S93	RA: 05 16 31.7950 (79.1324792d) Dec: -68 22 9.30 (-68.36925d) Equinox: J2000		V=12.7+/-0.01 U=12.54, GALEX(NUV, estimate)=14.4	Reference Frame: ICRS
	<i>Comments: Extended=NO</i>					

<b>Exposures</b>	#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1	(COS.sa.899 774)	(11) HEN-S93	COS/NUV, ACQ/PEAKXD, PSA	G230L 2635 A			Sequence 1-3 Non-Int in G140L (11)	0.4 Secs (0.4 Secs) [==>]	[1]
	2	(COS.sa.899 774)	(11) HEN-S93	COS/NUV, ACQ/PEAKD, PSA	G230L 2635 A	STEP-SIZE=0.9; CENTER=FLUX-W T-FLR; NUM-POS=5		Sequence 1-3 Non-Int in G140L (11)	0.4 Secs (0.4 Secs) [==>]	[1]
	3	(COS.sp.102 8471)	(11) HEN-S93	COS/FUV, TIME-TAG, PSA	G140L 1280 A	BUFFER-TIME=70 9; FP-POS=ALL		Sequence 1-3 Non-Int in G140L (11)	1000 Secs (4000 Secs) [==>(Split 1)] [==>(Split 2)] [==>(Split 3)] [==>(Split 4)]	[1]



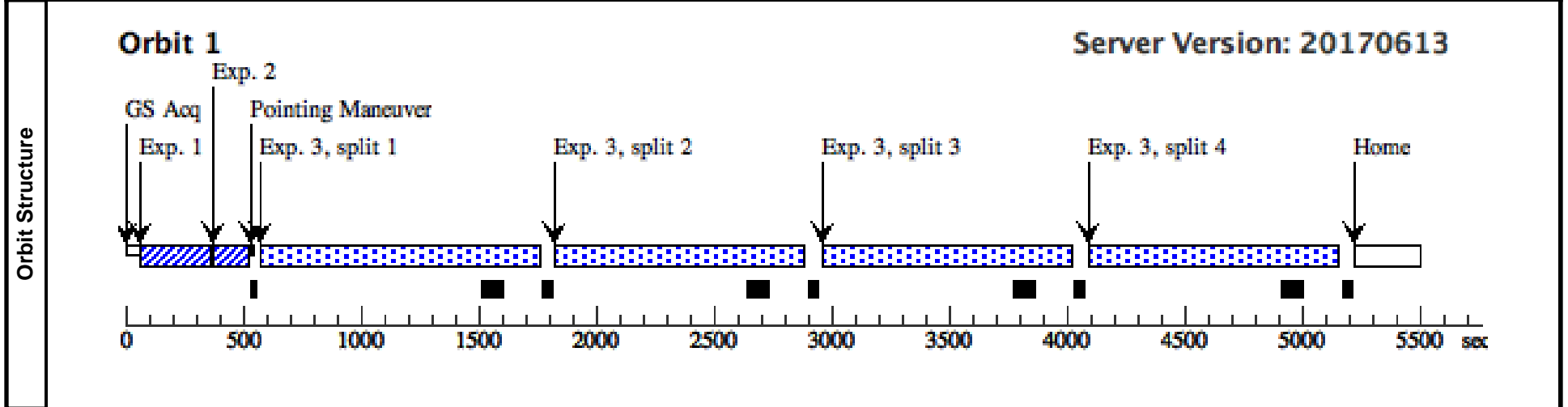
Proposal 14712 - G140L (12) - HST-COS Ultraviolet Spectroscopy of B[e] Supergiant Stars in the Magellanic Clouds

Tue Nov 07 18:05:31 GMT 2017

<b>Visit</b>	<b>Proposal 14712, G140L (12), scheduling</b>				
	<b>Diagnostic Status: No Diagnostics</b>				
	Scientific Instruments: COS/FUV, COS/NUV				
	Special Requirements: CVZ				

<b>Fixed Targets</b>	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
	(12)	AZV-172	RA: 00 55 53.8000 (13.9741667d)		V=13.25+/-0.01	Reference Frame: ICRS
		Alt Name1: LHA-115-S-23	Dec: -72 08 59.60 (-72.14989d)		U=12.82,	
		Alt Name2: 2MASSJ00555380-7208596	Equinox: J2000		GALEX NUV=16.98 +/- 0.08	
	<i>Comments: Extended=NO</i>					

<b>Exposures</b>	#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1	(COS.sa.899 725)	(12) AZV-172	COS/NUV, ACQ/PEAKXD, PSA	G230L 2635 A			Sequence 1-3 Non-Int in G140L (12)	0.6 Secs (0.6 Secs) [==>]	[1]
	2	(COS.sa.899 724)	(12) AZV-172	COS/NUV, ACQ/PEAKD, PSA	G230L 2635 A	STEP-SIZE=0.9; CENTER=FLUX-W T-FLR; NUM-POS=5		Sequence 1-3 Non-Int in G140L (12)	0.5 Secs (0.5 Secs) [==>]	[1]
	3	(COS.sp.102 5529)	(12) AZV-172	COS/FUV, TIME-TAG, PSA	G140L 1280 A	BUFFER-TIME=78		Sequence 1-3 Non-Int in G140L (12)	1010 Secs (4040 Secs) [==>(Split 1)] [==>(Split 2)] [==>(Split 3)] [==>(Split 4)]	[1]



Proposal 14712 - E140M (13) - HST-COS Ultraviolet Spectroscopy of B[e] Supergiant Stars in the Magellanic Clouds

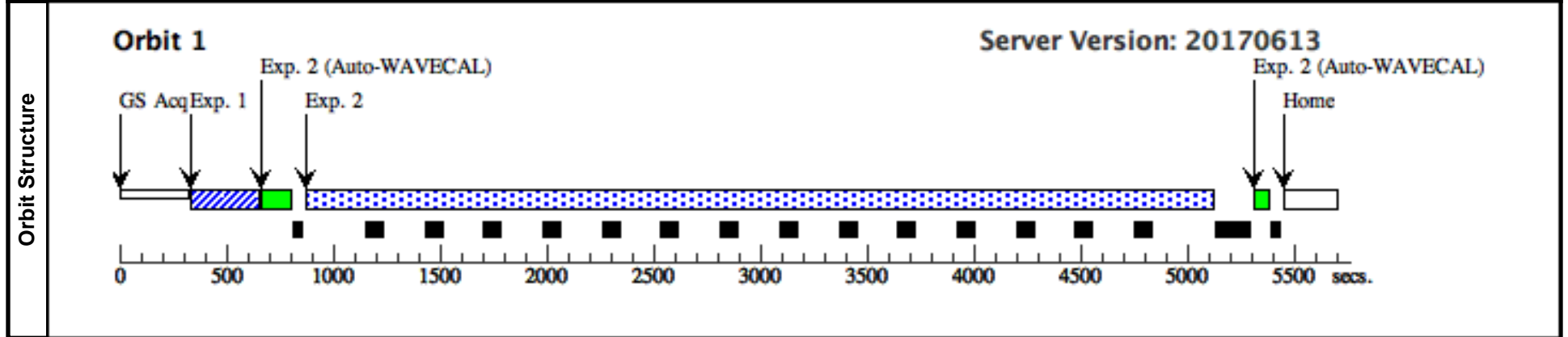
Tue Nov 07 18:05:31 GMT 2017

<b>Visit</b>	<b>Proposal 14712, E140M (13), completed</b> <b>Diagnostic Status: No Diagnostics</b> Scientific Instruments: STIS/CCD, STIS/FUV-MAMA Special Requirements: CVZ <i>Comments: Use E140M instead of G140L since latter gives warnings; we can bin E140M in regions with lower S/N</i>				
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<b>Fixed Targets</b>	<b>#</b>	<b>Name</b>	<b>Target Coordinates</b>	<b>Targ. Coord. Corrections</b>	<b>Fluxes</b>	<b>Miscellaneous</b>
	(13)	RMC-4	RA: 00 46 55.0110 (11.7292125d) Dec: -73 08 34.27 (-73.14285d) Equinox: J2000		V=12.9+/-0.01 U=12.14, GALEX(NUV, estimate)=14.0	Reference Frame: ICRS

*Comments: Extended=NO*

<b>Exposures</b>	#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1	(STIS.ta.994 765)	(13) RMC-4	STIS/CCD, ACQ, F25ND3	MIRROR					6 Secs (6 Secs) [==>]
2	(STIS.sp.99 4763)	(13) RMC-4	STIS/FUV-MAMA, TIME-TAG, 0.2X0.2	E140M 1425 A	BUFFER-TIME=27 7				4230 Secs (4230 Secs) [==>]	[1]



Proposal 14712 - G140L (51) - HST-COS Ultraviolet Spectroscopy of B[e] Supergiant Stars in the Magellanic Clouds

Tue Nov 07 18:05:31 GMT 2017

<b>Visit</b>	<b>Proposal 14712, G140L (51), implementation</b> <b>Diagnostic Status: No Diagnostics</b> Scientific Instruments: COS/FUV, COS/NUV Special Requirements: CVZ <i>Comments: This is a repeat of visit 01.</i>				

<b>Fixed Targets</b>	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
	(1)	RMC-15	RA: 00 59 29.1490 (14.8714542d) Dec: -72 01 4.51 (-72.01792d) Equinox: J2000	Radial Velocity: 128 km/sec	V=12.696+/-0.01 U = 11.813, GALEX NUV=15.21 +/-0.03	Reference Frame: ICRS
	<i>Comments: Extended=NO</i>					

<b>Exposures</b>	#	Label (ETC Run)	Target	Config, Mode, Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1	(COS.sa.103 3037)	(1) RMC-15	COS/NUV, ACQ/PEAKXD, PSA	G230L 2635 A			Sequence 1-3 Non-Int in G140L (51)	2.0 Secs (2 Secs) [==>]	[1]
	2	(COS.sa.103 3039)	(1) RMC-15	COS/NUV, ACQ/PEAKD, PSA	G230L 2635 A	STEP-SIZE=0.9; CENTER=FLUX-W T-FLR; NUM-POS=5		Sequence 1-3 Non-Int in G140L (51)	0.5 Secs (0.5 Secs) [==>]	[1]
	3	(COS.sp.103 3047)	(1) RMC-15	COS/FUV, TIME-TAG, PSA	G140L 1280 A	BUFFER-TIME=20 0; FP-POS=ALL		Sequence 1-3 Non-Int in G140L (51)	1000 Secs (4000 Secs) [==>(Split 1)] [==>(Split 2)] [==>(Split 3)] [==>(Split 4)]	[1]

