



17426 - Benchmarking early-type Wolf-Rayet stars as sources of He II ionizing flux in stellar populations

Cycle: 31, Proposal Category: GO

(UV Initiative)

(Availability Mode: SUPPORTED)

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VISITS

Proposal 17426 (STScI Edit Number: 2, Created: Thursday, August 1, 2024 at 5:00:47 PM Eastern Standard Time) - Overview

<i>Visit</i>	<i>Targets used in Visit</i>	<i>Configurations used in Visit</i>	<i>Orbits Used</i>	<i>Last Orbit Planner Run</i>	<i>OP Current with Visit?</i>
01	(1) WR3	COS/FUV	1	01-Aug-2024 18:00:38.0	yes
15	(1) WR3	COS/FUV	1	01-Aug-2024 18:00:38.0	yes
02	(2) BAT99-5	COS/FUV	2	01-Aug-2024 18:00:39.0	yes
03	(3) BAT99-40	COS/FUV COS/NUV	1	01-Aug-2024 18:00:40.0	yes
04	(4) BAT99-47	COS/FUV COS/NUV	1	01-Aug-2024 18:00:40.0	yes
13	(13) BAT99-62	COS/FUV COS/NUV	1	01-Aug-2024 18:00:41.0	yes
14	(14) BAT99-66	COS/FUV COS/NUV	1	01-Aug-2024 18:00:41.0	yes
05	(5) BAT99-74	COS/FUV COS/NUV	1	01-Aug-2024 18:00:42.0	yes
06	(6) SMC-AB-12	COS/FUV COS/NUV	1	01-Aug-2024 18:00:43.0	yes
07	(7) M31WR-154	COS/FUV COS/NUV	2	01-Aug-2024 18:00:43.0	yes
08	(8) M33-WR1	COS/FUV COS/NUV	3	01-Aug-2024 18:00:44.0	yes
09	(9) M33-WR2	COS/FUV COS/NUV	3	01-Aug-2024 18:00:45.0	yes
10	(10) M33-WR15	COS/FUV COS/NUV	3	01-Aug-2024 18:00:46.0	yes
11	(11) M33WR-47	COS/FUV COS/NUV	3	01-Aug-2024 18:00:46.0	yes
12	(12) DR1-IN-IC1613	COS/FUV COS/NUV	3	01-Aug-2024 18:00:47.0	yes

27 Total Orbits Used

ABSTRACT

Classical, hydrogen-depleted Wolf-Rayet (WR) stars mark an evolved stage of massive stars with major impacts to their environment. The high temperatures of WR stars, the progenitors of massive black holes, turn them into major sources of ionizing flux. In the last two decades, the discovery of strong high-ionization emission lines in both high-redshift galaxies and extremely low-metal local galaxies has raised more questions than answers about the origin of the He II ionizing radiation and its implications for the cosmic reionization and galaxy evolution. The current generation of stellar population synthesis models fails to reproduce the necessary hard ionizing fluxes. Yet, their treatment of hydrogen-depleted stars is still insufficient with regards to both theoretical insights as well as observational template material.

Here, we propose a crucial observational solution by studying whether certain types of WR stars may be the missing ingredient required for stellar population synthesis models to reproduce the nebular emission line characteristics of high-redshift galaxies, enabling the inference of the properties of the first galaxies in the Universe. Most WR stars are consuming the necessary high-energy photons to drive their strong winds, but model calculations show that a subset of early-type WR stars with weaker winds can produce large amounts of He II ionizing photons. The proposed COS observations will allow us to probe the stellar and wind properties of this subset of the WR population, distinguish sources of strong He II ionizing flux, constrain pre-supernova feedback, and provide the necessary templates for a new generation of population synthesis models.

OBSERVING DESCRIPTION

We propose to observe WR stars in six different galaxies with FUV spectroscopy, aiming at a S/N of 10 or better at 1310 Angstrom. For low-reddened LMC and SMC targets, we can reach

a S/N of > 50 in one orbit using the G140L grating in its 800 mode with pass band 913 - 1950. This setting covers the far UV range in one arm without any gaps. The low resolution is sufficient to resolve the wind-broadened lines of WR stars. The spectral range contains important diagnostic lines, such as the resonance lines of C IV, N V, and O VI which act as crucial indicators in order to determine accurate wind parameters and properly constrain the actual stellar temperature beneath the expanding layers of the WR wind. The presence or absence of specific lines provide major diagnostics for dense winds and follow-up spectral modelling, which will determine which stars are transparent or opaque to highly-ionizing flux below 228 Angstrom (corresponding to energies above 54 eV). A minimum S/N of ~ 10 is required for the total observation time of each target to resolve weaker metal line. The higher S/N targets will allow us an excellent mapping of the Fe line forest and enable us to also use the COS data in the low-sensitivity region below 1100 Angstrom, where in particular the high-ionization O VI 1038 doublet is located.

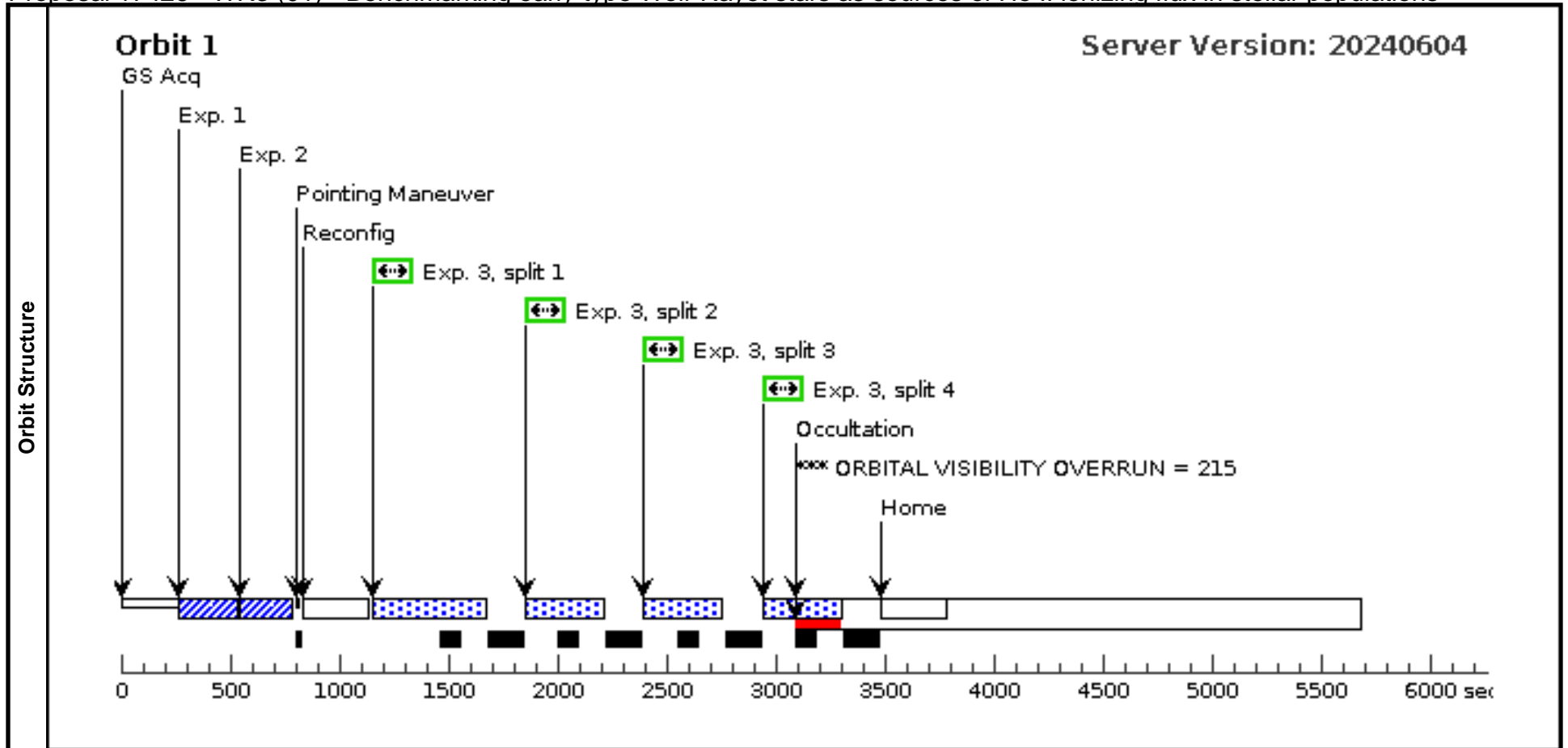
For most targets, precise Gaia DR3 coordinates are available. For the remaining targets, we make use of Pan-STARRS DR1 data, which has been cross-checked with other available literature data. The resulting small-error coordinates enable a fast NUV image target acquisition. The LMC and SMC WR targets usually require the use of the bright object aperture for this procedure, while the primary science aperture can be used all further-away WR stars. For the Galactic WR target, a dispersed light acquisition is required to mitigate brightness issues.

All ETC calculations are performed with dedicated atmosphere models for each target based on available optical spectra and photometry to predict the UV fluxes while taking into account the source-specific reddening.

Proposal 17426 - WR3 (01) - Benchmarking early-type Wolf-Rayet stars as sources of He II ionizing flux in stellar populations

Thu Aug 01 22:00:47 GMT 2024

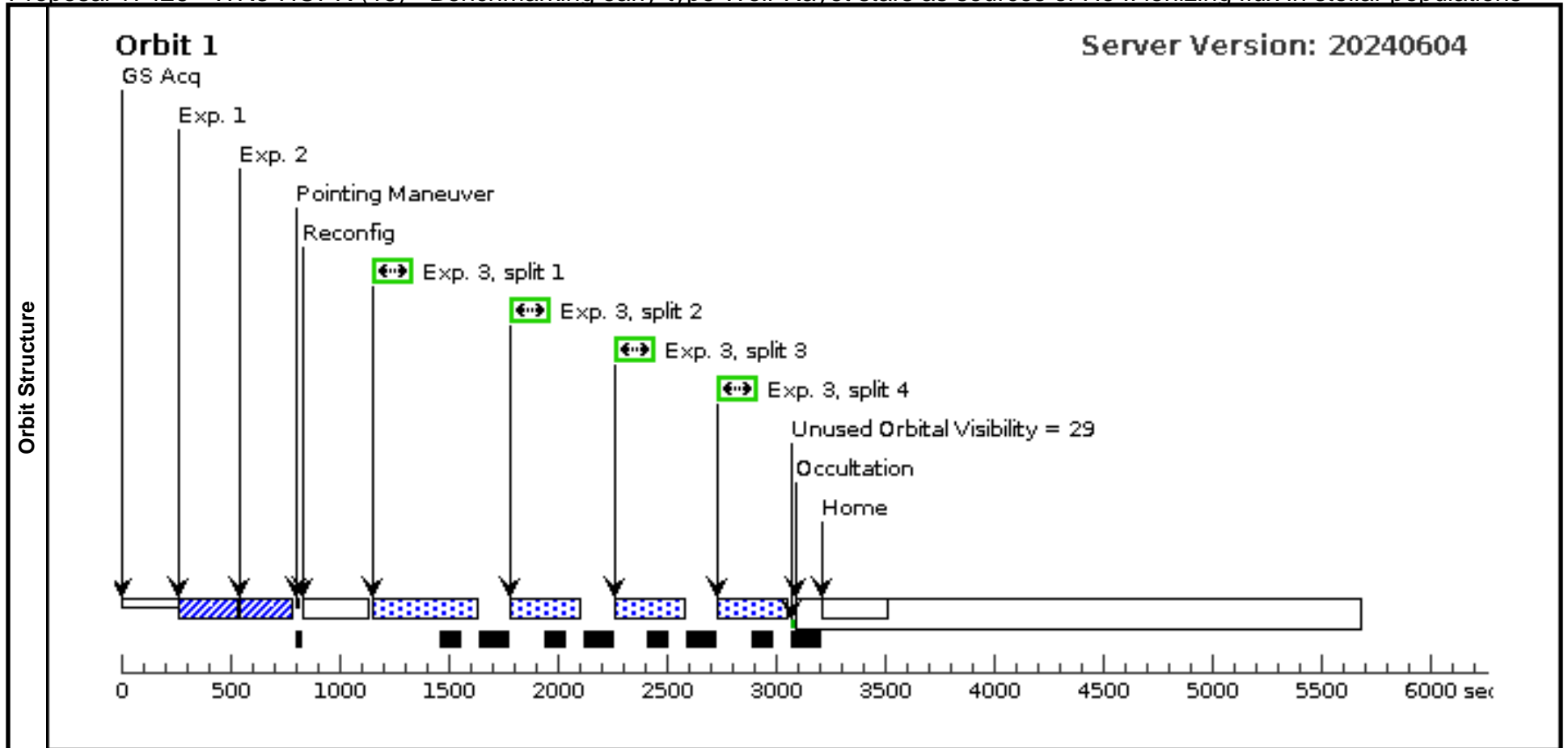
Visit	Proposal 17426, WR3 (01), failed Diagnostic Status: Warning Scientific Instruments: COS/FUV Special Requirements: (none)									
	(WR3 (01)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN									
Fixed Targets	#	Name	Target Coordinates		Targ. Coord. Corrections		Fluxes	Miscellaneous		
	(1)	WR3	RA: 01 38 55.6274 (24.7317808d) Dec: +58 09 22.67 (58.15630d) Equinox: J2000		Proper Motion RA: -5.307010688464723E-4 sec of time/yr Proper Motion Dec: -0.001549999910821498 arcsec/yr Epoch of Position: 2015.5		V=10.69	Reference Frame: ICRS		
<i>Comments: This object was generated by the targetselector and retrieved from the SIMBAD database. Coordinates updated with Gaia DR3</i> Category=STAR Description=[WOLF RAYET - WN] Extended=NO										
Exposures	#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1	TA (COS.sa.188 7906)	(1) WR3	COS/FUV, ACQ/PEAKXD, PSA	G160M 1600 A	SEGMENT=A			20 Secs (20 Secs) [==>]	[1]
	2	TA2 (COS.sa.190 0732)	(1) WR3	COS/FUV, ACQ/PEAKD, PSA	G160M 1600 A	SEGMENT=A; STEP-SIZE=0.9; NUM-POS=5			19 Secs (19 Secs) [==>]	[1]
	3	(COS.sp.188 9226)	(1) WR3	COS/FUV, TIME-TAG, PSA	G130M 1096 A	BUFFER-TIME=11 6; FP-POS=ALL			305 Secs (1220 Secs) [==>(Split 1)] [==>(Split 2)] [==>(Split 3)] [==>(Split 4)]	[1]



Proposal 17426 - WR3-HOPR (15) - Benchmarking early-type Wolf-Rayet stars as sources of He II ionizing flux in stellar populations

Thu Aug 01 22:00:47 GMT 2024

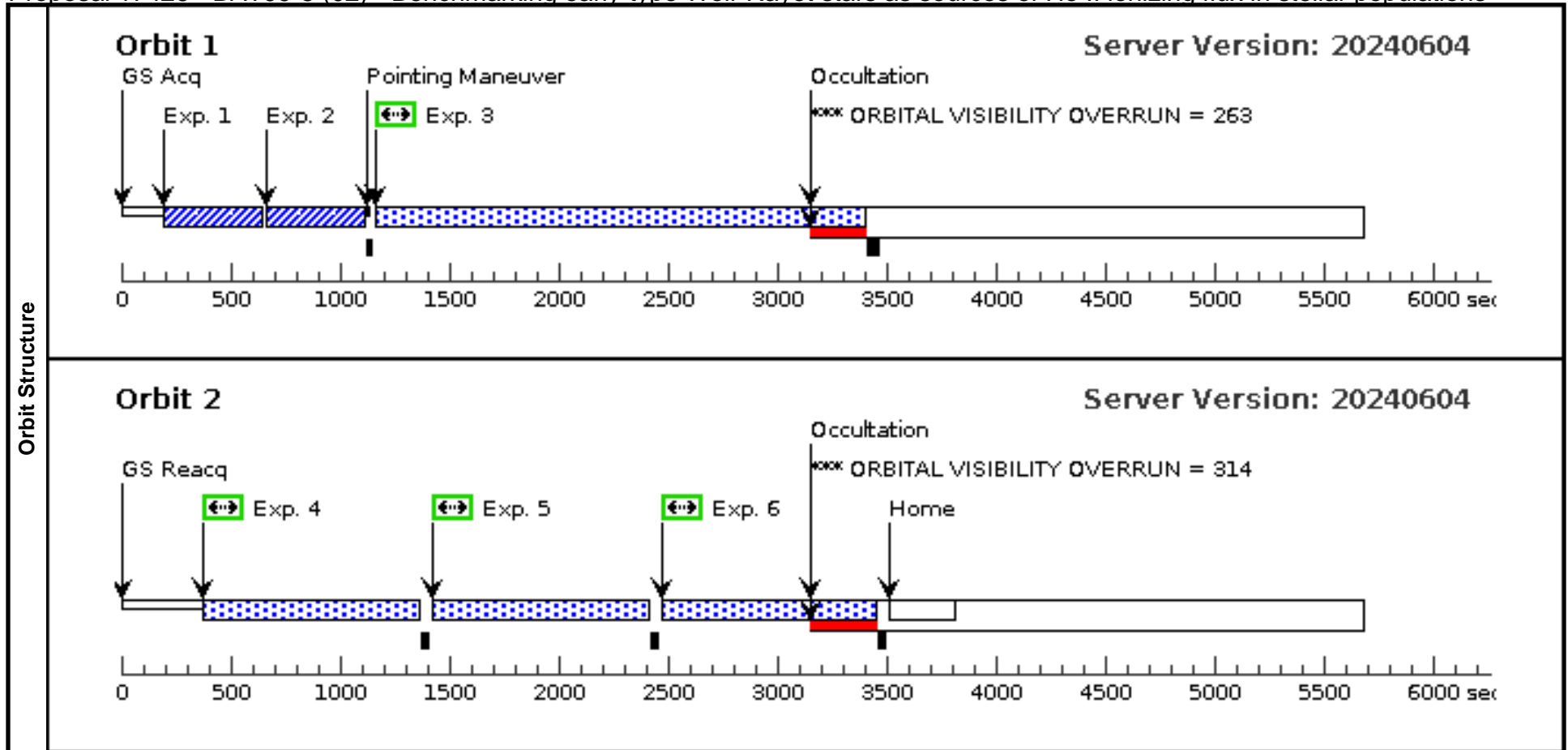
Visit	Proposal 17426, WR3-HOPR (15) Diagnostic Status: No Diagnostics Scientific Instruments: COS/FUV Special Requirements: (none) <i>Comments: This is a HOPR repeat for failed visit 01</i>									
	Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous			
		(1)	WR3	RA: 01 38 55.6274 (24.7317808d) Dec: +58 09 22.67 (58.15630d) Equinox: J2000	Proper Motion RA: -5.307010688464723E-4 sec of time/yr Proper Motion Dec: -0.001549999910821498 arcsec/yr Epoch of Position: 2015.5	V=10.69	Reference Frame: ICRS			
	<i>Comments: This object was generated by the targetselector and retrieved from the SIMBAD database. Coordinates updated with Gaia DR3</i> Category=STAR Description=[WOLF RAYET - WN] Extended=NO									
Exposures	#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1	TA (COS.sa.188 7906)	(1) WR3	COS/FUV, ACQ/PEAKXD, PSA	G160M 1600 A	SEGMENT=A			20 Secs (20 Secs) [==>]	[1]
	2	TA2 (COS.sa.190 0732)	(1) WR3	COS/FUV, ACQ/PEAKD, PSA	G160M 1600 A	SEGMENT=A; STEP-SIZE=0.9; NUM-POS=5			19 Secs (19 Secs) [==>]	[1]
	3	(COS.sp.188 9226)	(1) WR3	COS/FUV, TIME-TAG, PSA	G130M 1096 A	BUFFER-TIME=11 6; FP-POS=ALL			265 Secs (1060 Secs) [==>(Split 1)] [==>(Split 2)] [==>(Split 3)] [==>(Split 4)]	[1]



Proposal 17426 - BAT99-5 (02) - Benchmarking early-type Wolf-Rayet stars as sources of He II ionizing flux in stellar populations

Thu Aug 01 22:00:47 GMT 2024

Visit	Proposal 17426, BAT99-5 (02), completed Diagnostic Status: Warning Scientific Instruments: COS/FUV Special Requirements: (none)										
	(BAT99-5 (02)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN (BAT99-5 (02)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN										
Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections		Fluxes	Miscellaneous				
	(2)	BAT99-5 Alt Name1: BREY-4	RA: 04 54 28.0892 (73.6170383d) Dec: -69 12 50.80 (-69.21411d) Equinox: J2000	Proper Motion RA: 3.6425794348987796E-4 sec of time/yr Proper Motion Dec: -6.699997356918175E-5 arcsec/yr Epoch of Position: 2015.5		V=16.742	Reference Frame: ICRS				
<i>Comments: This object was generated by the targetselector and retrieved from the SIMBAD database. Coordinates updated via Gaia DR3</i> Category=EXT-STAR Description=[WOLF RAYET - WN] Extended=NO											
Exposures	#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]		Orbit
	1	TA (COS.sa.188 7879)	(2) BAT99-5	COS/FUV, ACQ/PEAKXD, PSA	G140L 1105 A				60 Secs (60 Secs) [==>]		[1]
	2	TA2 (COS.sa.188 7879)	(2) BAT99-5	COS/FUV, ACQ/PEAKD, PSA	G140L 1105 A	STEP-SIZE=0.9; SEGMENT=A; NUM-POS=5			60 Secs (60 Secs) [==>]		[1]
	3	(COS.sp.188 9241)	(2) BAT99-5	COS/FUV, TIME-TAG, PSA	G140L 800 A	BUFFER-TIME=50 06; FP-POS=1			2079 Secs (2079 Secs) [==>]		[1]
	4	(COS.sp.188 7883)	(2) BAT99-5	COS/FUV, TIME-TAG, PSA	G140L 800 A	BUFFER-TIME=50 06; FP-POS=2			933 Secs (933 Secs) [==>]		[2]
	5	(COS.sp.188 7886)	(2) BAT99-5	COS/FUV, TIME-TAG, PSA	G140L 800 A	BUFFER-TIME=50 06; FP-POS=3			933 Secs (933 Secs) [==>]		[2]
	6	(COS.sp.188 7883)	(2) BAT99-5	COS/FUV, TIME-TAG, PSA	G140L 800 A	BUFFER-TIME=50 06; FP-POS=4			925 Secs (925 Secs) [==>]		[2]



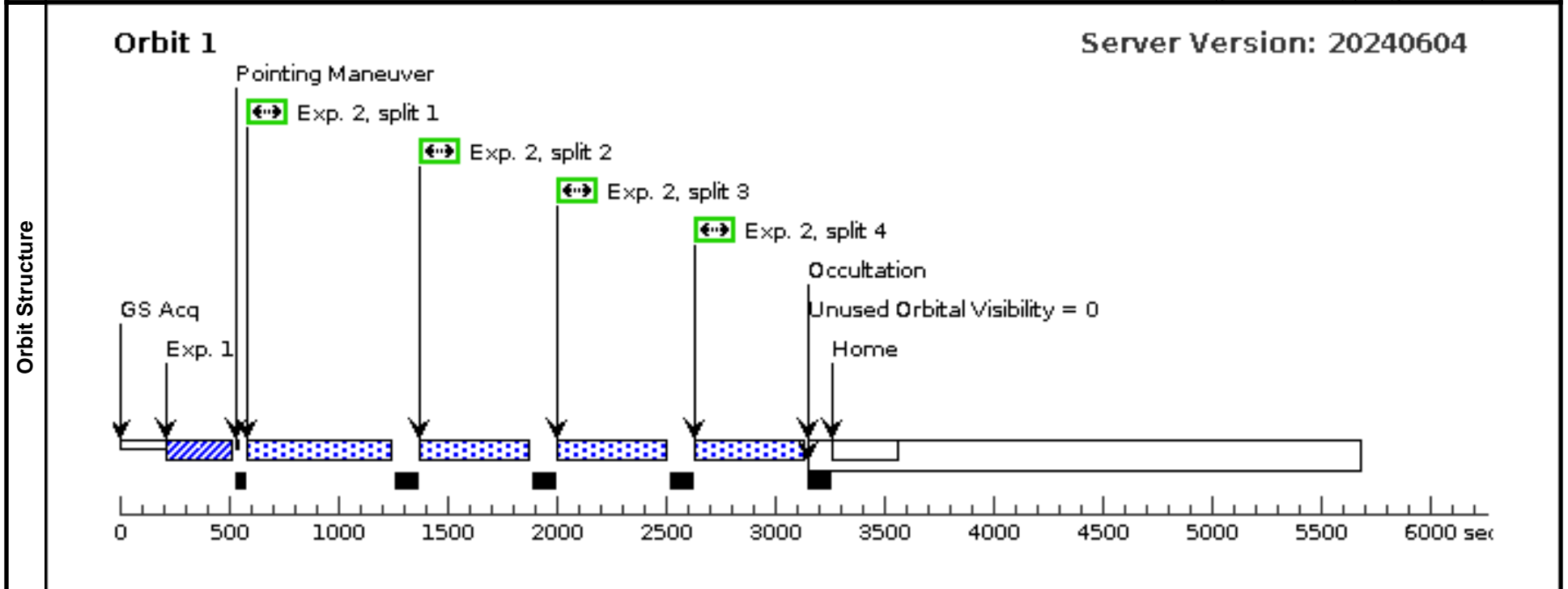
Proposal 17426 - BAT99-40 (03) - Benchmarking early-type Wolf-Rayet stars as sources of He II ionizing flux in stellar populations

Thu Aug 01 22:00:48 GMT 2024

Visit	Proposal 17426, BAT99-40 (03), completed				
	Diagnostic Status: No Diagnostics				
	Scientific Instruments: COS/FUV, COS/NUV				
	Special Requirements: (none)				

Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
	(3)	BAT99-40	RA: 05 26 36.8618 (81.6535908d) Dec: -68 51 1.26 (-68.85035d) Equinox: J2000	Epoch of Position: 2015.5	V=14.77 Gaia G 14.745229	Reference Frame: ICRS
	<i>Comments: This object was generated by the targetselector and retrieved from the SIMBAD database. SIMBAD Coordinates (05 26 36.8640, -68 50 59.64) replaced by closest Gaia DR3 source after original Foellmi coordinates are not confirmed by recent surveys while Gaia XP spectrum hints at WN spectral type and no other WN that close to the Foellmi coordinates is known (but would have been discovered in previous WR searches).</i> Category=EXT-STAR Description=[WOLF RAYET - WN] Extended=NO					

Exposures	#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1	TA BAT99-40 (COS.ta.188 7994)	(3) BAT99-40	COS/NUV, ACQ/IMAGE, BOA	MIRRORA				40 Secs (40 Secs) [==>]	[1]
	2	(COS.sp.188 9235)	(3) BAT99-40	COS/FUV, TIME-TAG, PSA	G140L 800 A	BUFFER-TIME=46 5; FP-POS=ALL			563 Secs (1792 Secs) [==>448.0 Secs (Split 1)] [==>448.0 Secs (Split 2)] [==>448.0 Secs (Split 3)] [==>448.0 Secs (Split 4)]	[1]



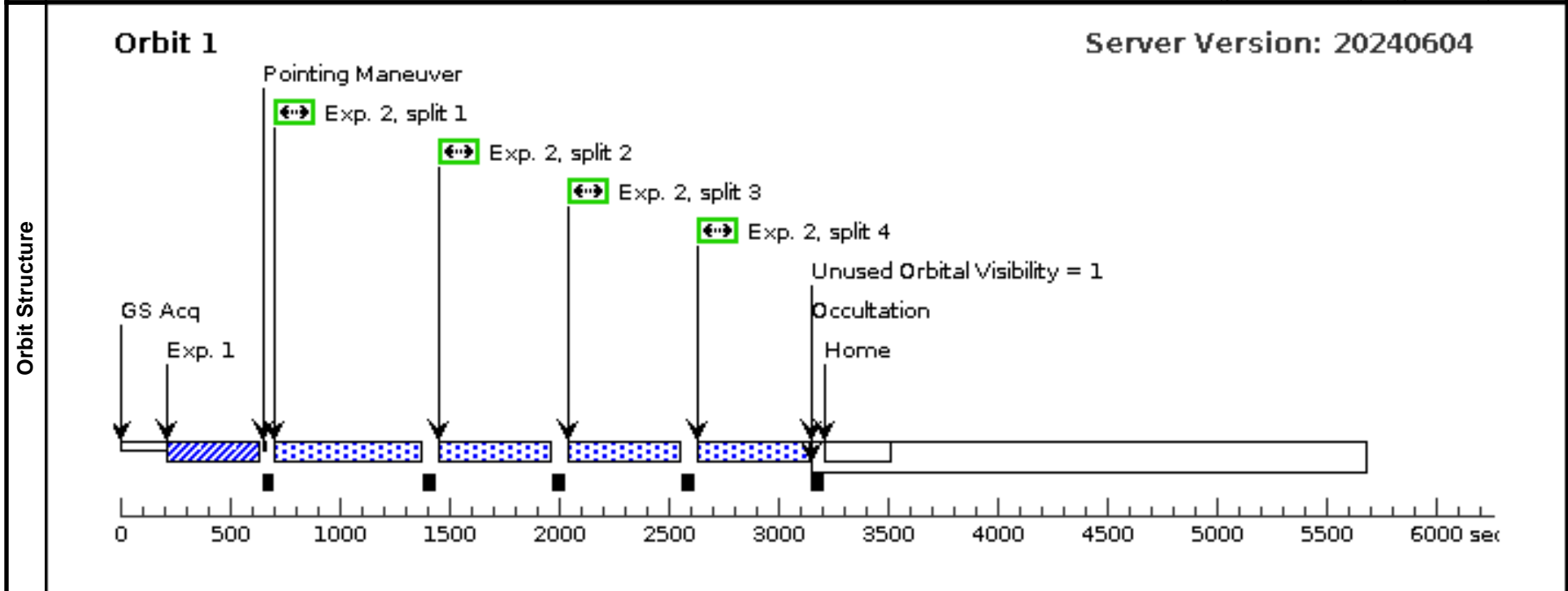
Proposal 17426 - BAT99-47 (04) - Benchmarking early-type Wolf-Rayet stars as sources of He II ionizing flux in stellar populations

Thu Aug 01 22:00:48 GMT 2024

Visit	Proposal 17426, BAT99-47 (04), completed				
	Diagnostic Status: No Diagnostics				
	Scientific Instruments: COS/FUV, COS/NUV				
	Special Requirements: (none)				

Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
	(4)	BAT99-47	RA: 05 29 12.3651 (82.3015213d) Dec: -68 45 36.15 (-68.76004d) Equinox: J2000	Proper Motion RA: 2.971961789774144E-4 sec of time/yr Proper Motion Dec: 9.270000000000001E-4 arcsec/yr Epoch of Position: 2015.5	V=15.295	Reference Frame: ICRS
	<i>Comments: This object was generated by the targetselector and retrieved from the SIMBAD database. Coordinates updated via Gaia DR3</i>					
	Category=EXT-STAR Description=[WOLF RAYET - WN] Extended=NO					

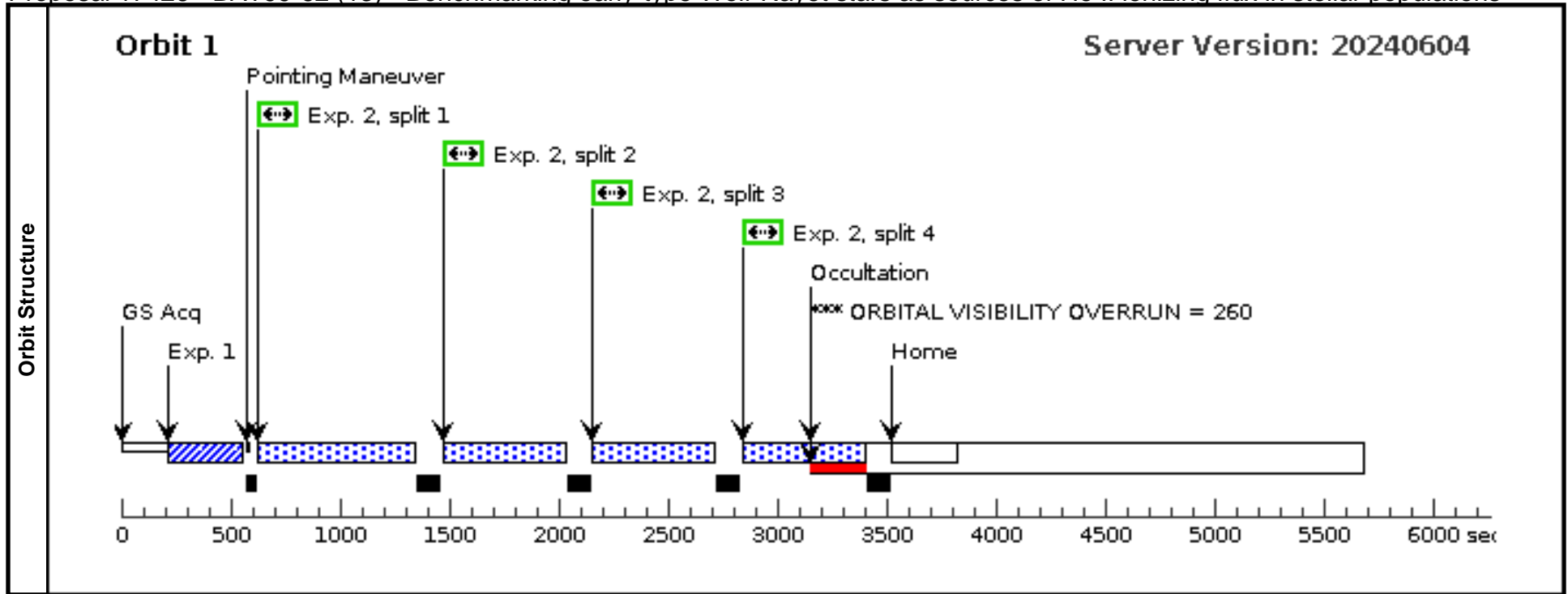
Exposures	#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1	TA BAT99-47 (COS.ta.188 7995)	(4) BAT99-47	COS/NUV, ACQ/IMAGE, BOA	MIRRORA				100 Secs (100 Secs) [==>]	[1]
	2	(COS.sp.188 9234)	(4) BAT99-47	COS/FUV, TIME-TAG, PSA	G140L 800 A	BUFFER-TIME=10 56; FP-POS=ALL			512 Secs (1812 Secs) [==>453.0 Secs (Split 1)] [==>453.0 Secs (Split 2)] [==>453.0 Secs (Split 3)] [==>453.0 Secs (Split 4)]	[1]



Proposal 17426 - BAT99-62 (13) - Benchmarking early-type Wolf-Rayet stars as sources of He II ionizing flux in stellar populations

Thu Aug 01 22:00:48 GMT 2024

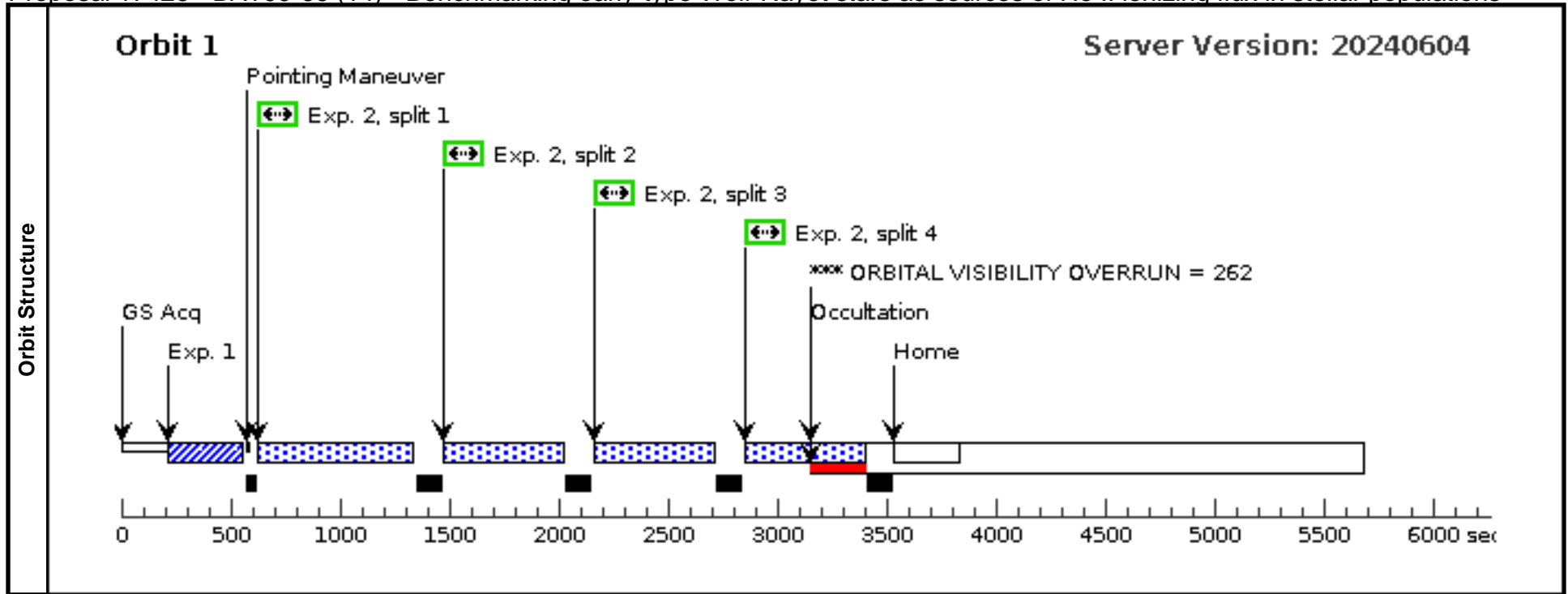
Visit	Proposal 17426, BAT99-62 (13), completed Diagnostic Status: Warning Scientific Instruments: COS/FUV, COS/NUV Special Requirements: (none)									
	(BAT99-62 (13)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN									
Diagnosics										
Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous				
	(13)	BAT99-62 Alt Name1: BREY-51	RA: 05 34 37.4805 (83.6561687d) Dec: -66 14 37.99 (-66.24389d) Equinox: J2000	Proper Motion RA: 1.666 mas/yr Proper Motion Dec: 0.646 mas/yr Epoch of Position: 2000	V=15.312	Reference Frame: ICRS				
Comments: This object was generated by the targetselector and retrieved from the SIMBAD database. Coordinates updated by Gaia DR3. Category=EXT-STAR Description=[WOLF RAYET - WN] Extended=NO										
Exposures	#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1	TA BAT99-62 (COS.ta.1890792)	(13) BAT99-62	COS/NUV, ACQ/IMAGE, BOA	MIRRORA				60 Secs (60 Secs) [==>]	[1]
2	(COS.sp.1890804)	(13) BAT99-62	COS/FUV, TIME-TAG, PSA	G140L 800 A	BUFFER-TIME=54 6; FP-POS=ALL			503 Secs (2012 Secs) [==>(Split 1)] [==>(Split 2)] [==>(Split 3)] [==>(Split 4)]	[1]	



Proposal 17426 - BAT99-66 (14) - Benchmarking early-type Wolf-Rayet stars as sources of He II ionizing flux in stellar populations

Thu Aug 01 22:00:48 GMT 2024

Visit	Proposal 17426, BAT99-66 (14), completed Diagnostic Status: Warning Scientific Instruments: COS/FUV, COS/NUV Special Requirements: (none)										
	(BAT99-66 (14)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN										
Diagnosics											
Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections		Fluxes	Miscellaneous				
	(14)	BAT99-66 Alt Name1: BREY-54	RA: 05 35 29.7912 (83.8741300d) Dec: -67 06 49.40 (-67.11372d) Equinox: J2000	Proper Motion RA: 1.7189999999999999 mas/yr Proper Motion Dec: 0.414 mas/yr Epoch of Position: 2000		V=15.36	Reference Frame: ICRS				
Comments: This object was generated by the targetselector and retrieved from the SIMBAD database. Coordinates updated by Gaia DR3. Category=EXT-STAR Description=[WOLF RAYET - WN] Extended=NO											
Exposures	#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]		Orbit
	1	TA BAT99-66 (COS.ta.189 0808)	(14) BAT99-66	COS/NUV, ACQ/IMAGE, BOA	MIRRORA				60 Secs (60 Secs) [==>]		[1]
	2	(COS.sp.189 0803)	(14) BAT99-66	COS/FUV, TIME-TAG, PSA	G140L 800 A	BUFFER-TIME=47 2; FP-POS=ALL				496 Secs (1984 Secs) [==>(Split 1)] [==>(Split 2)] [==>(Split 3)] [==>(Split 4)]	



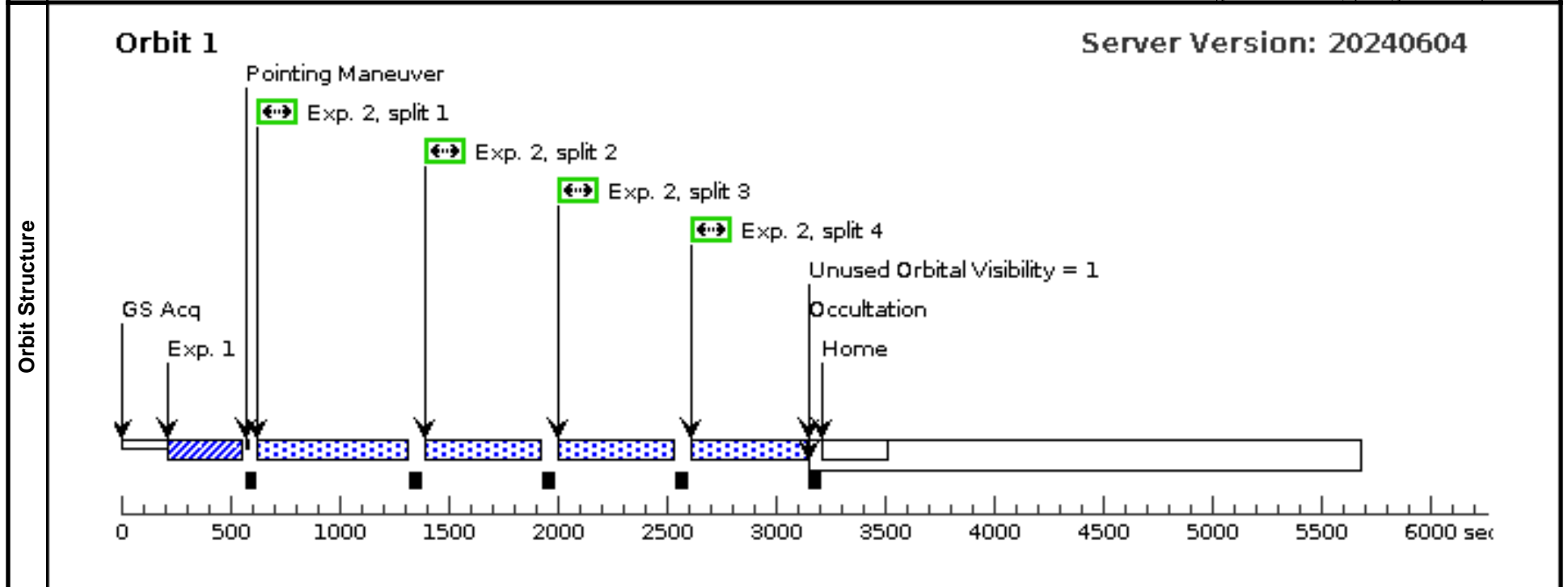
Proposal 17426 - BAT99-74 (05) - Benchmarking early-type Wolf-Rayet stars as sources of He II ionizing flux in stellar populations

Thu Aug 01 22:00:48 GMT 2024

Visit	Proposal 17426, BAT99-74 (05), completed				
	Diagnostic Status: No Diagnostics				
	Scientific Instruments: COS/FUV, COS/NUV				
	Special Requirements: (none)				

Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
	(5)	BAT99-74	RA: 05 35 52.4536 (83.9685567d) Dec: -68 55 8.63 (-68.91906d) Equinox: J2000	Proper Motion RA: 3.323265079958024E-4 sec of time/yr Proper Motion Dec: 8.09E-4 arcsec/yr Epoch of Position: 2015.5	V=15.584	Reference Frame: ICRS
	<i>Comments: This object was generated by the targetselector and retrieved from the SIMBAD database. Coordinates updated by Gaia DR3</i>					
	Category=EXT-STAR Description=[WOLF RAYET - WN] Extended=NO					

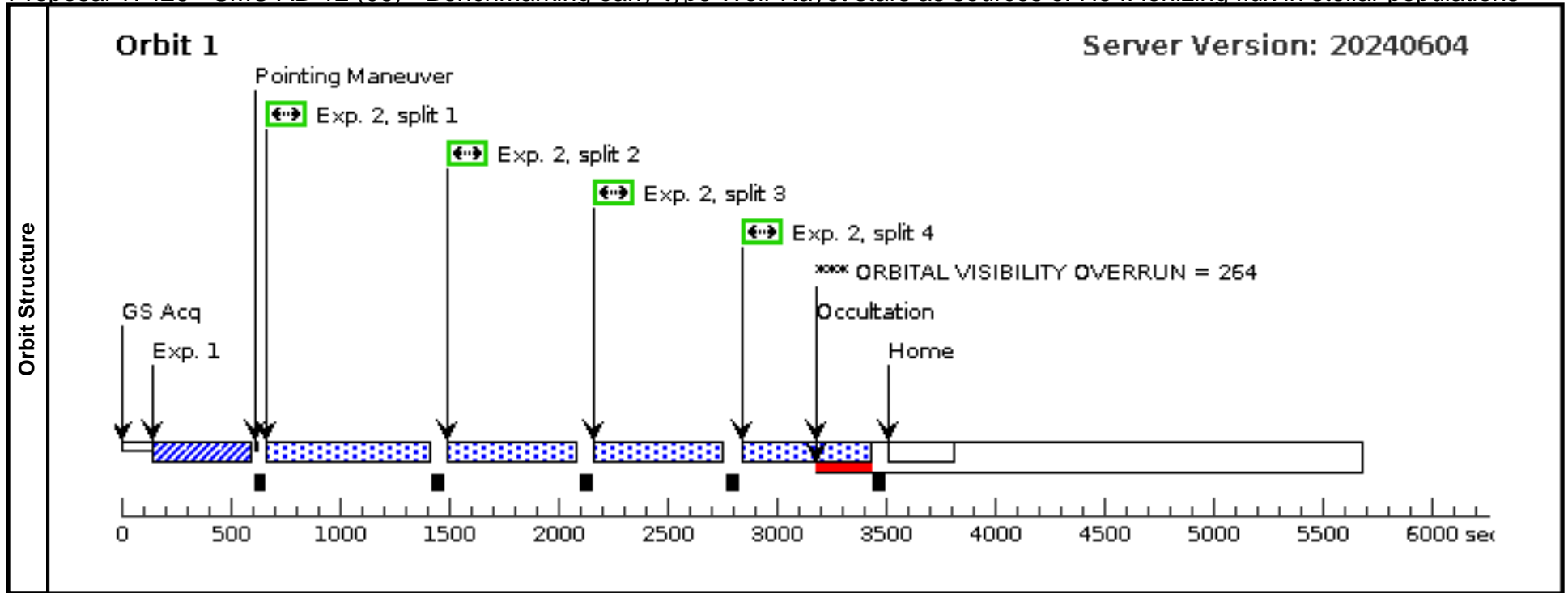
Exposures	#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1	TA (COS.ta.188 7898)	(5) BAT99-74	COS/NUV, ACQ/IMAGE, BOA	MIRRORA				60 Secs (60 Secs) [==>]	[1]
	2	(COS.sp.188 9209)	(5) BAT99-74	COS/FUV, TIME-TAG, PSA	G140L 800 A	FP-POS=ALL; BUFFER-TIME=11 76			532 Secs (1892 Secs) [==>473.0 Secs (Split 1)] [==>473.0 Secs (Split 2)] [==>473.0 Secs (Split 3)] [==>473.0 Secs (Split 4)]	[1]



Proposal 17426 - SMC AB-12 (06) - Benchmarking early-type Wolf-Rayet stars as sources of He II ionizing flux in stellar populations

Thu Aug 01 22:00:48 GMT 2024

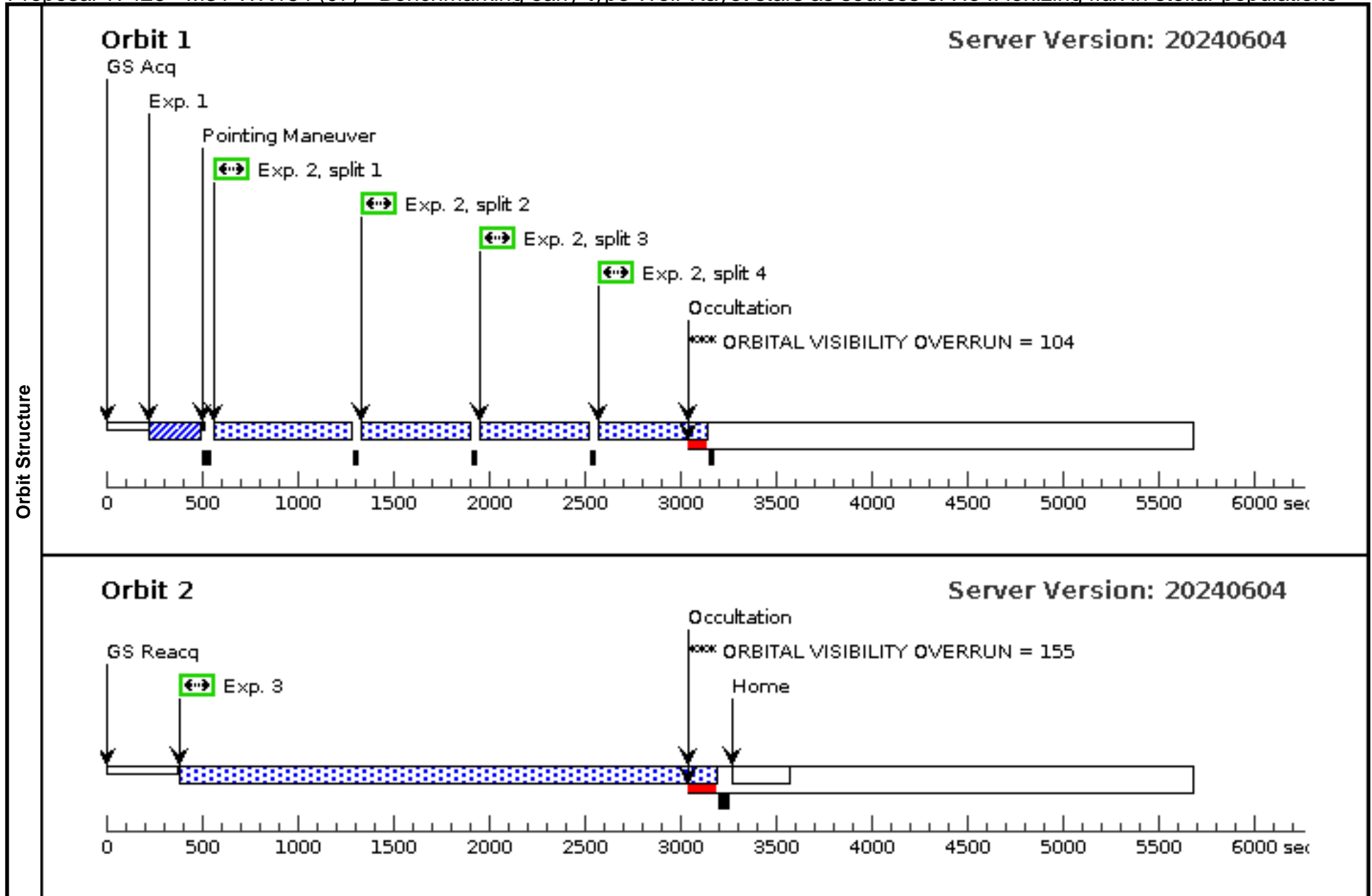
Visit	Proposal 17426, SMC AB-12 (06), completed Diagnostic Status: Warning Scientific Instruments: COS/FUV, COS/NUV Special Requirements: (none)									
	(SMC AB-12 (06)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN									
Diagnosics										
Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections		Fluxes	Miscellaneous			
	(6)	SMC-AB-12	RA: 01 02 52.4011 (15.7183379d) Dec: -72 06 52.53 (-72.11459d) Equinox: J2000	Proper Motion RA: 1.4088137989361595E-4 sec of time/yr Proper Motion Dec: -0.001294999947276665 arcsec/yr Epoch of Position: 2015.5	V=16.08	Reference Frame: ICRS				
<i>Comments: This object was generated by the targetselector and retrieved from the SIMBAD database. Coordinates updated with Gaia DR3</i> Category=EXT-STAR Description=[WOLF RAYET - WN] Extended=NO										
Exposures	#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1	TA (COS.ta.190 0731)	(6) SMC-AB-12	COS/NUV, ACQ/IMAGE, PSA	MIRRORB				80 Secs (80 Secs)	
									[==>]	[1]
2	(COS.sp.188 9208)	(6) SMC-AB-12	COS/FUV, TIME-TAG, PSA	G140L 800 A	FP-POS=ALL; BUFFER-TIME=14 26				539 Secs (2156 Secs)	
									[==>(Split 1)] [==>(Split 2)] [==>(Split 3)] [==>(Split 4)]	[1]



Proposal 17426 - M31 WR154 (07) - Benchmarking early-type Wolf-Rayet stars as sources of He II ionizing flux in stellar populations

Thu Aug 01 22:00:48 GMT 2024

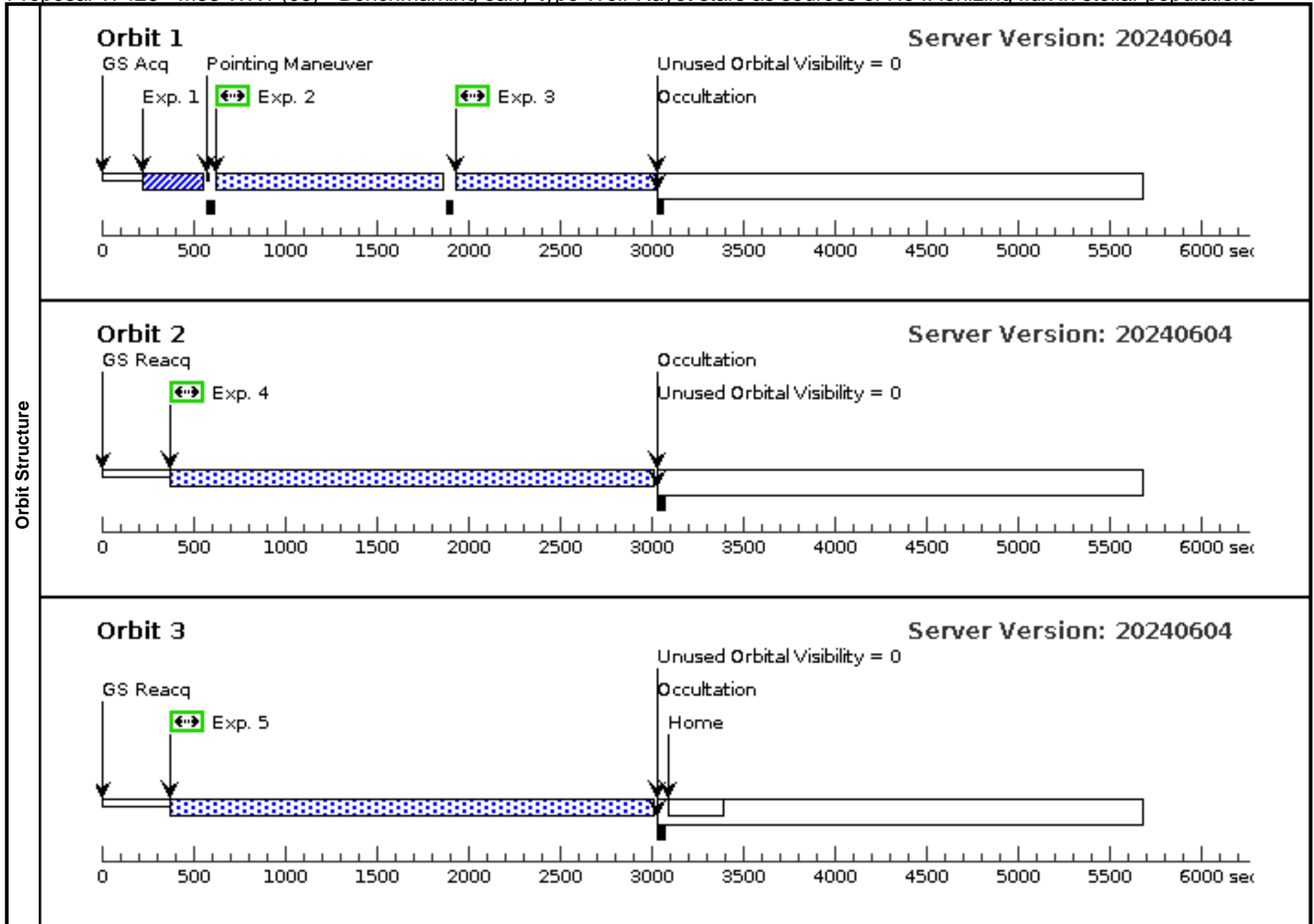
Visit	Proposal 17426, M31 WR154 (07), completed Diagnostic Status: Warning Scientific Instruments: COS/FUV, COS/NUV Special Requirements: (none)									
	(M31 WR154 (07)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN (M31 WR154 (07)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN									
Diagnosics										
Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous				
	(7)	M31WR-154 Alt Name1: LGGs- J004655.89+420015.1	RA: 00 46 55.8650 (11.7327708d) Dec: +42 00 15.16 (42.00421d) Equinox: J2000	Epoch of Position: 2015.5	V=21.00	Reference Frame: ICRS				
<i>Comments: This object was generated by the targetselector and retrieved from the SIMBAD database. Coordinates from Pan-STARRS DRI (Chambers+, 2016), agree almost perfectly with recent UVIT data (Leahy+, 2020) and still well with optical works from Massey+2016 and Maravelias+2022</i> Category=EXT-STAR Description=[WOLF RAYET - WN] Extended=NO										
Exposures	#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1	TA (COS.ta.188 7931)	(7) M31WR-154	COS/NUV, ACQ/IMAGE, PSA	MIRRORA				26 Secs (26 Secs) [==>]	[1]
	2	(COS.sp.188 9228)	(7) M31WR-154	COS/FUV, TIME-TAG, PSA	G140L 800 A	BUFFER-TIME=73 82; FP-POS=ALL			514 Secs (2056 Secs) [==>(Split 1)] [==>(Split 2)] [==>(Split 3)] [==>(Split 4)]	[1]
	3	(COS.sp.188 9227)	(7) M31WR-154	COS/FUV, TIME-TAG, PSA	G140L 800 A	BUFFER-TIME=73 82; FP-POS=4			2760 Secs (2760 Secs) [==>]	[2]



Proposal 17426 - M33 WR1 (08) - Benchmarking early-type Wolf-Rayet stars as sources of He II ionizing flux in stellar populations

Thu Aug 01 22:00:48 GMT 2024

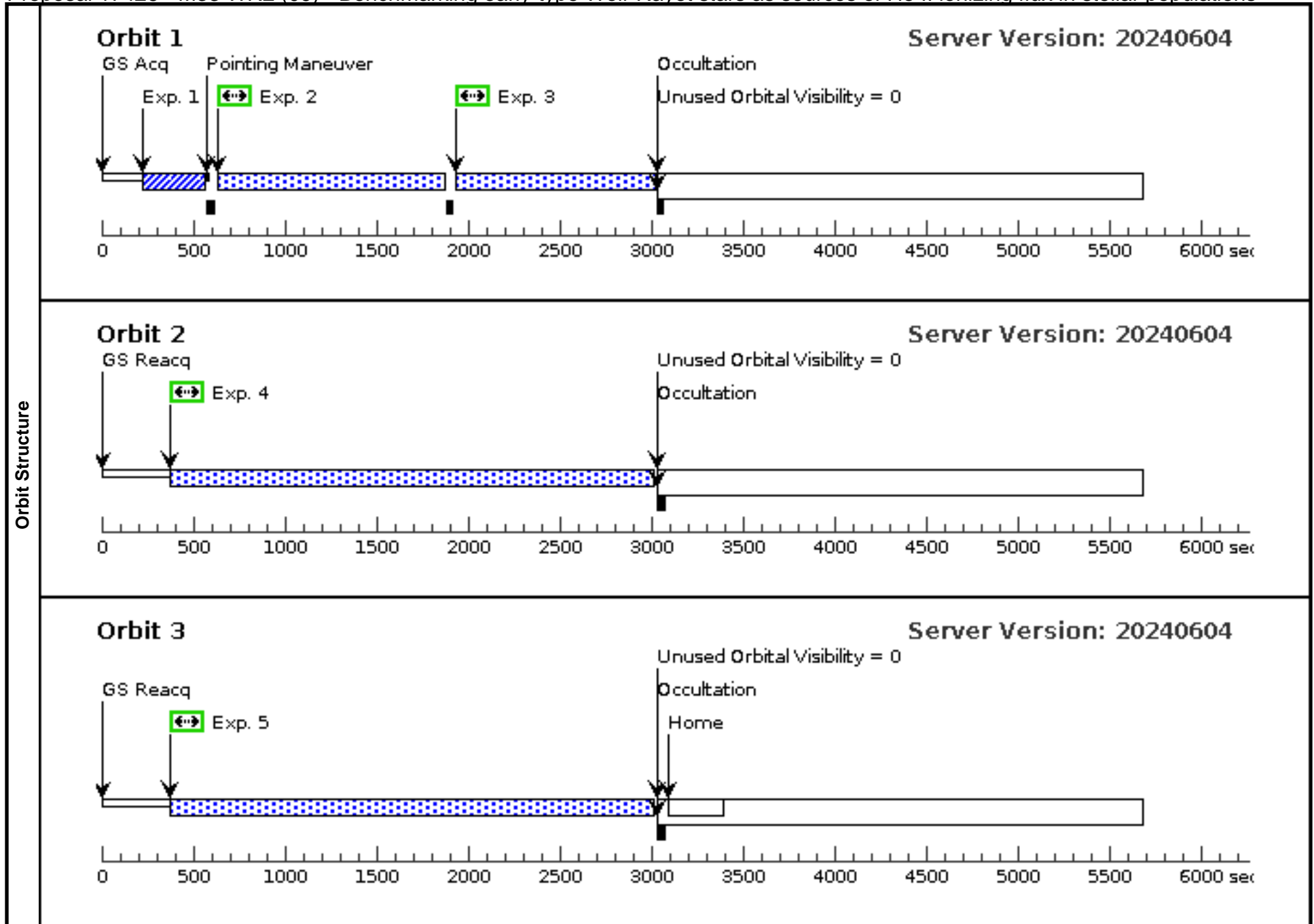
Visit	Proposal 17426, M33 WR1 (08), scheduled Diagnostic Status: No Diagnostics Scientific Instruments: COS/FUV, COS/NUV Special Requirements: (none)																											
	Fixed Targets	<table border="1"> <thead> <tr> <th>#</th> <th>Name</th> <th>Target Coordinates</th> <th>Targ. Coord. Corrections</th> <th>Fluxes</th> <th>Miscellaneous</th> </tr> </thead> <tbody> <tr> <td>(8)</td> <td>M33-WR1</td> <td>RA: 01 32 32.0301 (23.1334587d) Dec: +30 35 22.29 (30.58952d) Equinox: J2000</td> <td>Epoch of Position: 2011.696</td> <td>V=20.99</td> <td>Reference Frame: ICRS</td> </tr> <tr> <td colspan="6"> <i>Comments: This object was generated by the targetselector and retrieved from the SIMBAD database. Coordinates from Pan-STARRS DR1 (Chambers+, 2016), agree almost perfectly with newer Massey photometry coordinates</i> Category=EXT-STAR Description=[WOLF RAYET - WN] Extended=NO </td> </tr> </tbody> </table>										#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous	(8)	M33-WR1	RA: 01 32 32.0301 (23.1334587d) Dec: +30 35 22.29 (30.58952d) Equinox: J2000	Epoch of Position: 2011.696	V=20.99	Reference Frame: ICRS	<i>Comments: This object was generated by the targetselector and retrieved from the SIMBAD database. Coordinates from Pan-STARRS DR1 (Chambers+, 2016), agree almost perfectly with newer Massey photometry coordinates</i> Category=EXT-STAR Description=[WOLF RAYET - WN] Extended=NO				
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous																							
(8)	M33-WR1	RA: 01 32 32.0301 (23.1334587d) Dec: +30 35 22.29 (30.58952d) Equinox: J2000	Epoch of Position: 2011.696	V=20.99	Reference Frame: ICRS																							
<i>Comments: This object was generated by the targetselector and retrieved from the SIMBAD database. Coordinates from Pan-STARRS DR1 (Chambers+, 2016), agree almost perfectly with newer Massey photometry coordinates</i> Category=EXT-STAR Description=[WOLF RAYET - WN] Extended=NO																												
Exposures	#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit																		
	1	TA (COS.ta.188 7926)	(8) M33-WR1	COS/NUV, ACQ/IMAGE, PSA	MIRRORA				60 Secs (60 Secs) [==>]	[1]																		
	2	(COS.sp.189 0395)	(8) M33-WR1	COS/FUV, TIME-TAG, PSA	G140L 800 A	BUFFER-TIME=78 10; FP-POS=1			1066 Secs (1035 Secs) [==>1035.0 Secs]	[1]																		
	3	(COS.sp.189 0395)	(8) M33-WR1	COS/FUV, TIME-TAG, PSA	G140L 800 A	BUFFER-TIME=78 10; FP-POS=2			1065 Secs (1034 Secs) [==>1034.0 Secs]	[1]																		
	4	(COS.sp.188 9200)	(8) M33-WR1	COS/FUV, TIME-TAG, PSA	G140L 800 A	BUFFER-TIME=78 10; FP-POS=3			2703 Secs (2590 Secs) [==>2590.0 Secs]	[2]																		
	5	(COS.sp.188 9200)	(8) M33-WR1	COS/FUV, TIME-TAG, PSA	G140L 800 A	BUFFER-TIME=78 10; FP-POS=4			2703 Secs (2590 Secs) [==>2590.0 Secs]	[3]																		



Proposal 17426 - M33 WR2 (09) - Benchmarking early-type Wolf-Rayet stars as sources of He II ionizing flux in stellar populations

Thu Aug 01 22:00:48 GMT 2024

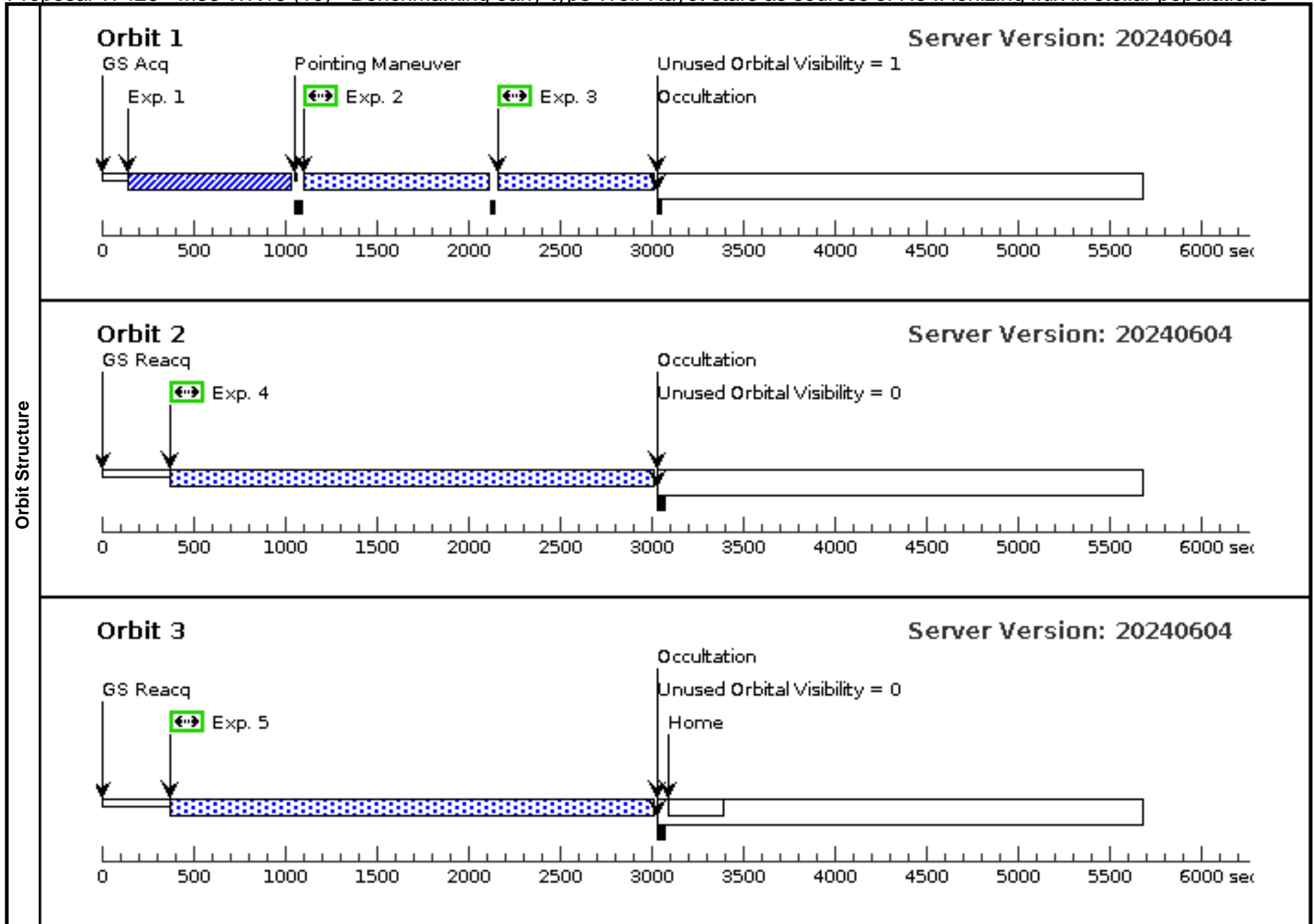
Visit	Proposal 17426, M33 WR2 (09), scheduled Diagnostic Status: No Diagnostics Scientific Instruments: COS/FUV, COS/NUV Special Requirements: (none)									
	Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous			
		(9)	M33-WR2	RA: 01 32 32.1137 (23.1338071d) Dec: +30 35 13.58 (30.58711d) Equinox: J2000	Epoch of Position: 2011.627	V=20.74	Reference Frame: ICRS			
	<i>Comments: This object was generated by the targetselector and retrieved from the SIMBAD database. Coordinates from Pan-STARRS DR1 (Chambers+, 2016), agree decently with Gaia DR3, 0.7arcsec offset to old Massey</i> Category=EXT-STAR Description=[WOLF RAYET - WN] Extended=NO									
Exposures	#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1	TA (COS.ta.188 7984)	(9) M33-WR2	COS/NUV, ACQ/IMAGE, PSA	MIRRORA				61 Secs (61 Secs) [==>]	[1]
	2	(COS.sp.189 0786)	(9) M33-WR2	COS/FUV, TIME-TAG, PSA	G140L 800 A	BUFFER-TIME=78 10; FP-POS=1			1065 Secs (1034 Secs) [==>1034.0 Secs]	[1]
	3	(COS.sp.189 0786)	(9) M33-WR2	COS/FUV, TIME-TAG, PSA	G140L 800 A	BUFFER-TIME=78 10; FP-POS=2			1064 Secs (1033 Secs) [==>1033.0 Secs]	[1]
	4	(COS.sp.188 9236)	(9) M33-WR2	COS/FUV, TIME-TAG, PSA	G140L 800 A	BUFFER-TIME=78 10; FP-POS=3			2703 Secs (2590 Secs) [==>2590.0 Secs]	[2]
	5	(COS.sp.188 9236)	(9) M33-WR2	COS/FUV, TIME-TAG, PSA	G140L 800 A	BUFFER-TIME=78 10; FP-POS=4			2703 Secs (2590 Secs) [==>2590.0 Secs]	[3]



Proposal 17426 - M33 WR15 (10) - Benchmarking early-type Wolf-Rayet stars as sources of He II ionizing flux in stellar populations

Thu Aug 01 22:00:48 GMT 2024

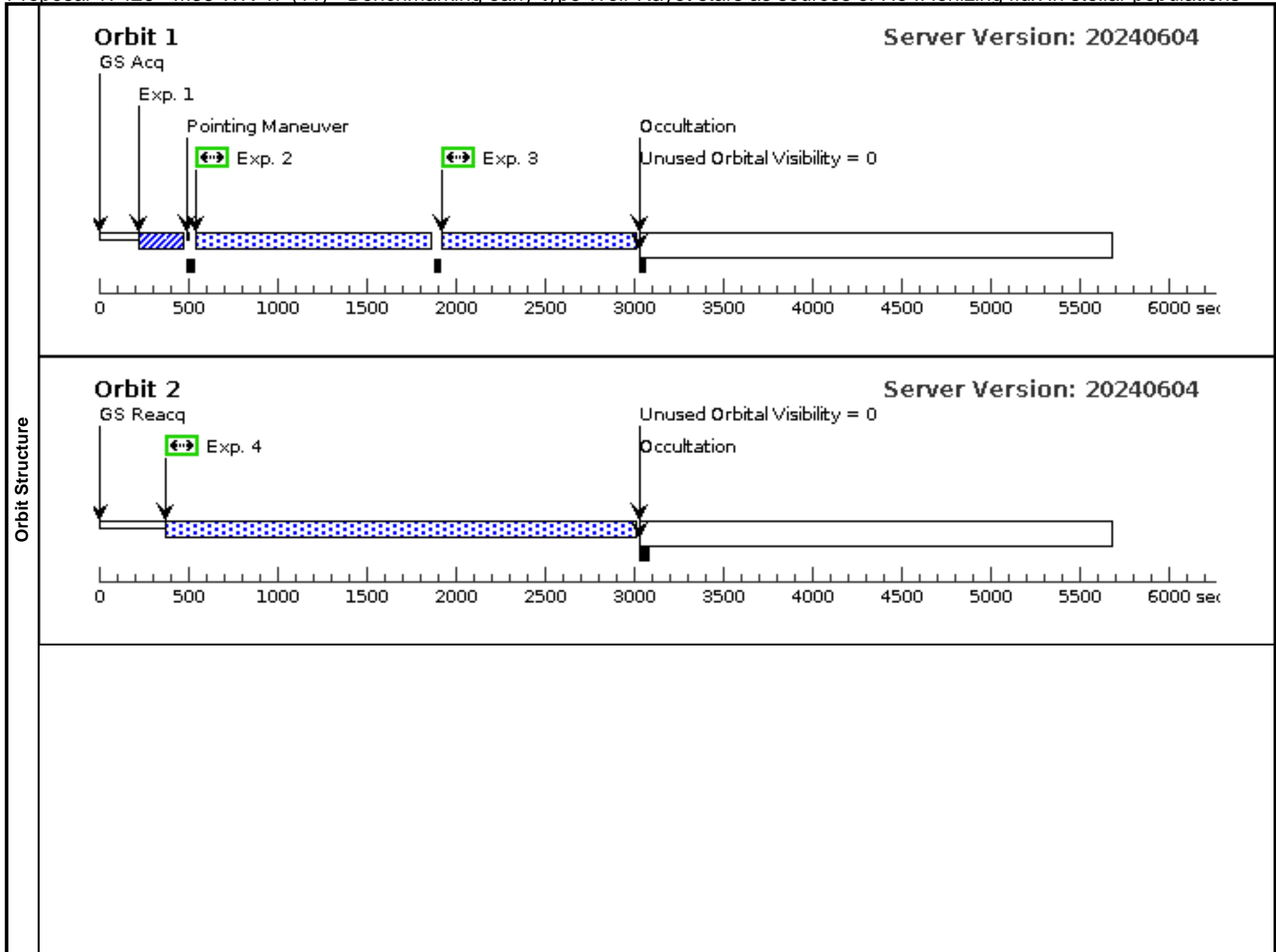
Visit	Proposal 17426, M33 WR15 (10), scheduled Diagnostic Status: No Diagnostics Scientific Instruments: COS/FUV, COS/NUV Special Requirements: (none)									
	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous				
Fixed Targets	(10)	M33-WR15	RA: 01 32 57.2722 (23.2386342d)	Epoch of Position: 2015.5	V=21.07	Reference Frame: ICRS				
		Alt Name1: NM2011-J013257.32+304418.1	Dec: +30 44 18.14 (30.73837d)	Equinox: J2000	<i>Comments: This object was generated by the targetselector and retrieved from the SIMBAD database. Coordinates from Pan-STARRS DR1 (Chambers+, 2016), agree well with newer Massey+2016 photometry coordinates.</i> Category=EXT-STAR Description=[WOLF RAYET - WN] Extended=NO					
Exposures	#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1	TA (COS.ta.189 9276)	(10) M33-WR15	COS/NUV, ACQ/IMAGE, PSA	MIRRORB				300 Secs (300 Secs)	
									[==>]	[1]
	2	(COS.sp.188 9233)	(10) M33-WR15	COS/FUV, TIME-TAG, PSA	G140L 800 A	BUFFER-TIME=79 78;	FP-POS=1		830 Secs (799 Secs)	
									[==>799.0 Secs]	[1]
	3	(COS.sp.189 9278)	(10) M33-WR15	COS/FUV, TIME-TAG, PSA	G140L 800 A	BUFFER-TIME=79 78;	FP-POS=2		830 Secs (799 Secs)	
								[==>799.0 Secs]	[1]	
4	(COS.sp.188 9231)	(10) M33-WR15	COS/FUV, TIME-TAG, PSA	G140L 800 A	BUFFER-TIME=79 78;	FP-POS=3		2703 Secs (2590 Secs)		
								[==>2590.0 Secs]	[2]	
5	(COS.sp.188 9231)	(10) M33-WR15	COS/FUV, TIME-TAG, PSA	G140L 800 A	BUFFER-TIME=79 78;	FP-POS=4		2703 Secs (2590 Secs)		
								[==>2590.0 Secs]	[3]	

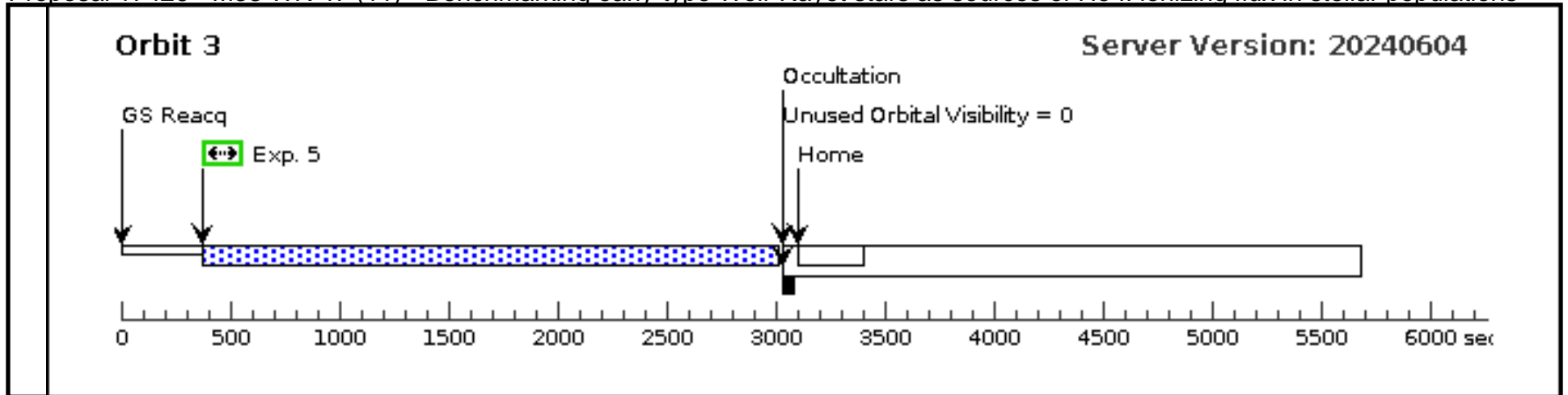


Proposal 17426 - M33 WR 47 (11) - Benchmarking early-type Wolf-Rayet stars as sources of He II ionizing flux in stellar populations

Thu Aug 01 22:00:48 GMT 2024

Visit	Proposal 17426, M33 WR 47 (11), scheduling Diagnostic Status: No Diagnostics Scientific Instruments: COS/FUV, COS/NUV Special Requirements: (none)									
	Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous			
		(11)	M33WR-47	RA: 01 33 15.4299 (23.3142913d) Dec: +30 45 10.88 (30.75302d) Equinox: J2000	Alt Name1: NM2011-J013315.55+304514.1	Proper Motion RA: 6.772328658830429E-5 sec of time/yr Proper Motion Dec: 8.400000000000001E-5 arcsec/yr Epoch of Position: 2015.5	V=18.779	Reference Frame: ICRS		
	<i>Comments: This object was generated by the targetselector and retrieved from the SIMBAD database. Coordinates updated by Gaia DR3</i> Category=EXT-STAR Description=[WOLF RAYET - WN] Extended=NO									
Exposures	#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1	TA (COS.ta.188 7911)	(11) M33WR-47	COS/NUV, ACQ/IMAGE, PSA	MIRRORA				20 Secs (20 Secs) [==>]	[1]
	2	(COS.sp.188 7955)	(11) M33WR-47	COS/FUV, TIME-TAG, PSA	G140L 800 A		BUFFER-TIME=76 56; FP-POS=1		1141 Secs (1110 Secs) [==>1110.0 Secs]	[1]
	3	(COS.sp.188 9190)	(11) M33WR-47	COS/FUV, TIME-TAG, PSA	G140L 800 A		BUFFER-TIME=76 56; FP-POS=2		1070 Secs (1039 Secs) [==>1039.0 Secs]	[1]
	4	(COS.sp.188 9191)	(11) M33WR-47	COS/FUV, TIME-TAG, PSA	G140L 800 A		BUFFER-TIME=76 56; FP-POS=3		2703 Secs (2590 Secs) [==>2590.0 Secs]	[2]
	5	(COS.sp.188 9191)	(11) M33WR-47	COS/FUV, TIME-TAG, PSA	G140L 800 A		BUFFER-TIME=76 56; FP-POS=4		2703 Secs (2590 Secs) [==>2590.0 Secs]	[3]





Proposal 17426 - IC1613 DR1 (12) - Benchmarking early-type Wolf-Rayet stars as sources of He II ionizing flux in stellar populations

Thu Aug 01 22:00:48 GMT 2024

Visit	Proposal 17426, IC1613 DR1 (12), scheduling Diagnostic Status: No Diagnostics Scientific Instruments: COS/FUV, COS/NUV Special Requirements: (none)									
	Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous			
		(12)	DR1-IN-IC1613 Alt Name1: AM85-IC-1613-6	RA: 01 05 1.6178 (16.2567408d) Dec: +02 04 19.94 (2.07221d) Equinox: J2000	Proper Motion RA: -1.4476133309797336E-4 sec of time/yr Proper Motion Dec: -5.319999672792619E-4 arcsec/yr Epoch of Position: 2015.5	V=20.7 G=19.99	Reference Frame: ICRS			
	<i>Comments: This object was generated by the targetselector and retrieved from the SIMBAD database. Updated coordinates using Gaia DR3.</i> Category=EXT-STAR Description=[WOLF RAYET] Extended=NO									
Exposures	#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1	TA Search (COS.ta.188 7892)	(12) DR1-IN-IC1613	COS/NUV, ACQ/SEARCH, PSA	MIRRORA	SCAN-SIZE=2; STEP-SIZE=1.767; CENTER=FLUX-W T			120 Secs (120 Secs) [==>]	[1]
	2	TA Image (COS.ta.188 7869)	(12) DR1-IN-IC1613	COS/NUV, ACQ/IMAGE, PSA	MIRRORA				30 Secs (30 Secs) [==>]	[1]
	3	(COS.sp.188 9189)	(12) DR1-IN-IC1613	COS/FUV, TIME-TAG, PSA	G140L 800 A	FP-POS=1; BUFFER-TIME=72 74			1613 Secs (1545 Secs) [==>1545.0 Secs]	[1]
	4	(COS.sp.188 7895)	(12) DR1-IN-IC1613	COS/FUV, TIME-TAG, PSA	G140L 800 A	FP-POS=2; BUFFER-TIME=72 74			2680 Secs (2561 Secs) [==>2561.0 Secs]	[2]
	5	(COS.sp.189 0391)	(12) DR1-IN-IC1613	COS/FUV, TIME-TAG, PSA	G140L 800 A	FP-POS=3; BUFFER-TIME=72 74			1283 Secs (1223 Secs) [==>1223.0 Secs]	[3]
	6	(COS.sp.189 0391)	(12) DR1-IN-IC1613	COS/FUV, TIME-TAG, PSA	G140L 800 A	FP-POS=4; BUFFER-TIME=72 74			1282 Secs (1222 Secs) [==>1222.0 Secs]	[3]

