



16767 - A Family Portrait of the O Stars in the Extremely Metal-Poor Galaxy

Sextans A

Cycle: 29, Proposal Category: GO

(UV Initiative)

(Availability Mode: SUPPORTED)

INVESTIGATORS

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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) SA1	COS/FUV COS/NUV	3	04-Oct-2021 16:00:14.0	yes
02	(1) SA1	COS/FUV COS/NUV	2	04-Oct-2021 16:00:15.0	yes
03	(1) SA1	COS/FUV COS/NUV	3	04-Oct-2021 16:00:16.0	yes
04	(1) SA1	COS/FUV COS/NUV	3	04-Oct-2021 16:00:17.0	yes
05	(1) SA1	COS/FUV COS/NUV	3	04-Oct-2021 16:00:17.0	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	(1) SA1	COS/FUV COS/NUV	2	04-Oct-2021 16:00:18.0	yes
07	(1) SA1	COS/FUV COS/NUV	2	04-Oct-2021 16:00:19.0	yes
08	(2) SA2	COS/FUV COS/NUV	2	04-Oct-2021 16:00:19.0	yes
09	(2) SA2	COS/FUV COS/NUV	2	04-Oct-2021 16:00:20.0	yes
10	(2) SA2	COS/FUV COS/NUV	3	04-Oct-2021 16:00:21.0	yes
11	(2) SA2	COS/FUV COS/NUV	3	04-Oct-2021 16:00:21.0	yes
12	(2) SA2	COS/FUV COS/NUV	2	04-Oct-2021 16:00:22.0	yes
13	(2) SA2	COS/FUV COS/NUV	2	04-Oct-2021 16:00:23.0	yes

32 Total Orbits Used

ABSTRACT

Low-metallicity massive stars may have reionized the universe at $z > 6$. Yet, their contribution to the ionizing photon budget remains unconstrained and can only be estimated from stellar models. The predicted ionizing flux is highly sensitive to theoretical mass-loss rates and metal opacities, but these have never been observationally determined below the metallicity of the SMC (20% solar). Observations of individually resolved, metal-poor O stars spanning a range of masses and evolutionary stages are needed to determine the contribution of high-redshift galaxies to cosmic reionization.

Sextans A is the only nearby dwarf galaxy substantially more metal-poor than the SMC that hosts more than a few known O stars. Five have already been observed by COS and two more will be observed by ULLYSES, but these do not sample the full range of spectral types and luminosity classes. We propose new G130M and G160M COS observations of two late-O (super)giants that sample new parameter space. For the first time at 6% solar metallicity, the combined new and archival COS data will enable us to (1) empirically determine the photospheric metal opacities that set ionizing

photon production; (2) measure mass-loss rates as a function of spectral type to improve the purely theoretical mass-loss prescriptions that underlie stellar evolution models; and (3) produce new stellar spectral templates tailored to the FUV observations that will be ideally suited to modeling the ionizing spectra of galaxies during the epoch of reionization. The proposed observations are urgently needed to interpret upcoming JWST campaigns at high redshift and can only be done with HST/COS.

OBSERVING DESCRIPTION

Here we plan observations of two O stars in the nearby, metal-poor galaxy Sextans A with the Cosmic Origins Spectrograph. We will use both the G130M and G160M gratings to get continuous coverage of important stellar wind and photospheric features to determine the mass-loss rates and abundances of these giant and supergiant O stars to constrain their output of ionizing photons.

We obtained initial coordinates by locating the target stars in HST imaging with updated WCS information aligned to Gaia DR2. We then identified the target stars in the Gaia catalog and adopted the coordinates reported by Gaia for these observations. Gaia reports astrometric uncertainties less than 1 mas, but we conservatively estimate uncertainties of 0.01-0.02 arcsec.

We estimate exposure times using the NUV F275W magnitude for one target star and the V-band magnitude for the other target, which is not covered by NUV HST imaging. We adopt conservative estimates of interstellar reddening assuming intrinsically blue colors typical of these spectral types and use the Bruzual O9 III spectral template in the COS ETC. We have tested various late-O giant and supergiant stellar templates in the COS ETC and confirm that the estimated exposure times will achieve SNR ~ 10 per resolution element near key wind features. We use these estimates of exposure times for both target acquisition and spectroscopic observations. All BUFFER-TIMES are 2/3 times the values reported by the COS ETC.

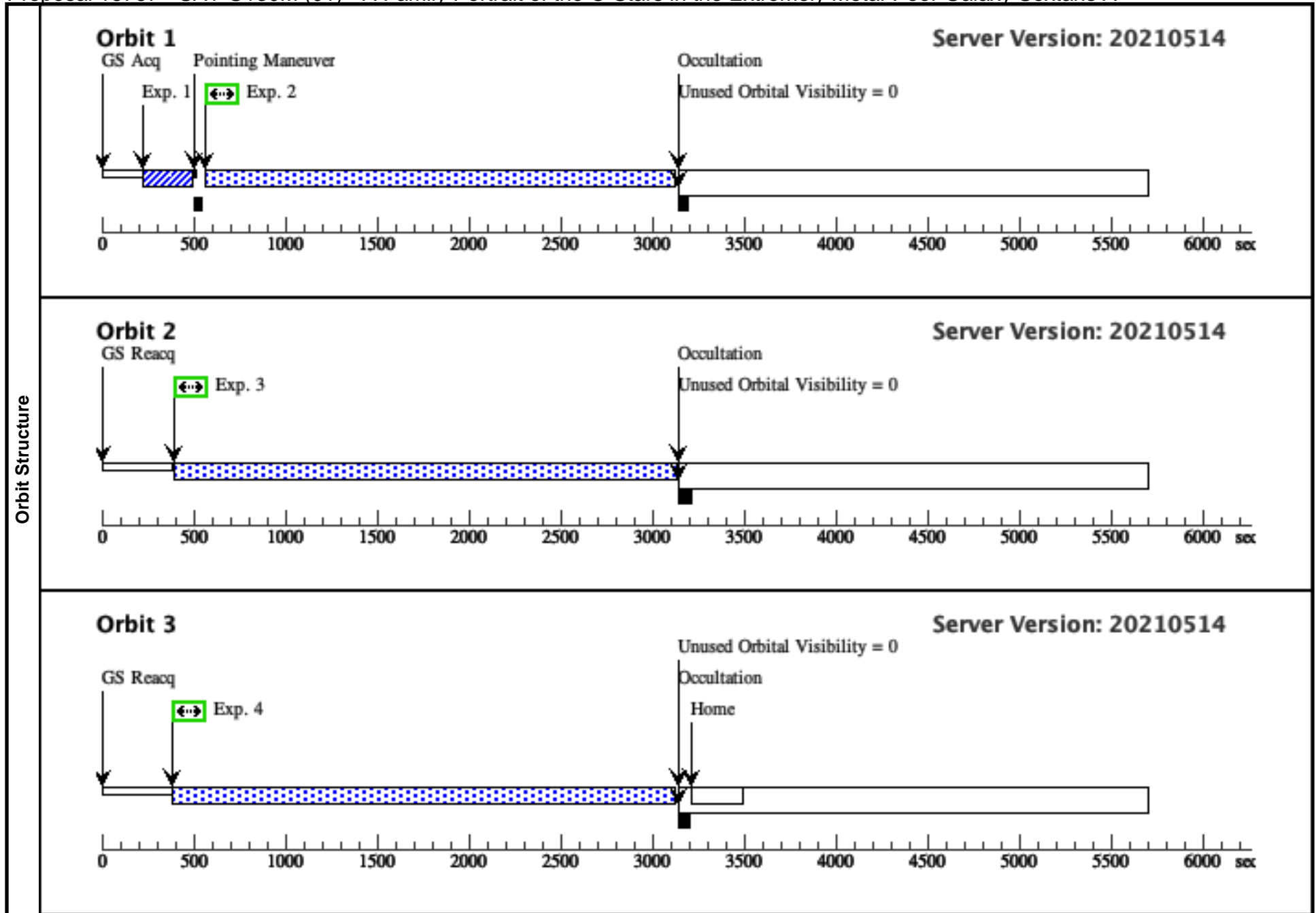
We will use the ACQ/IMAGE mode with the PSA and Mirror A for target acquisition. All our observations satisfy the BOT safety standards. We organize the observations into visits of at most 3 orbits, as strongly encouraged for Cycle 29 observations.

For all spectroscopic observations, we use TIME-TAG mode with FLASH=YES and SEGMENT=BOTH. We use the G130M grating with the 1291 central wavelength to cover the N V 1240, O V 1371, and Si IV 1400 stellar wind profiles. The G130M configuration only uses FP=3, 4 configurations to satisfy the COS2025 restrictions. We also use the G160M grating with the 1600 central wavelength to cover the Fe V 1428, S V 1502, C IV 1550, He II 1640, and N IV 1719 stellar wind and photospheric profiles. We use FP=All for the G160M observations to extend the possible wavelength coverage.

Proposal 16767 - SA1-G130M (01) - A Family Portrait of the O Stars in the Extremely Metal-Poor Galaxy Sextans A

Mon Oct 04 20:00:23 GMT 2021

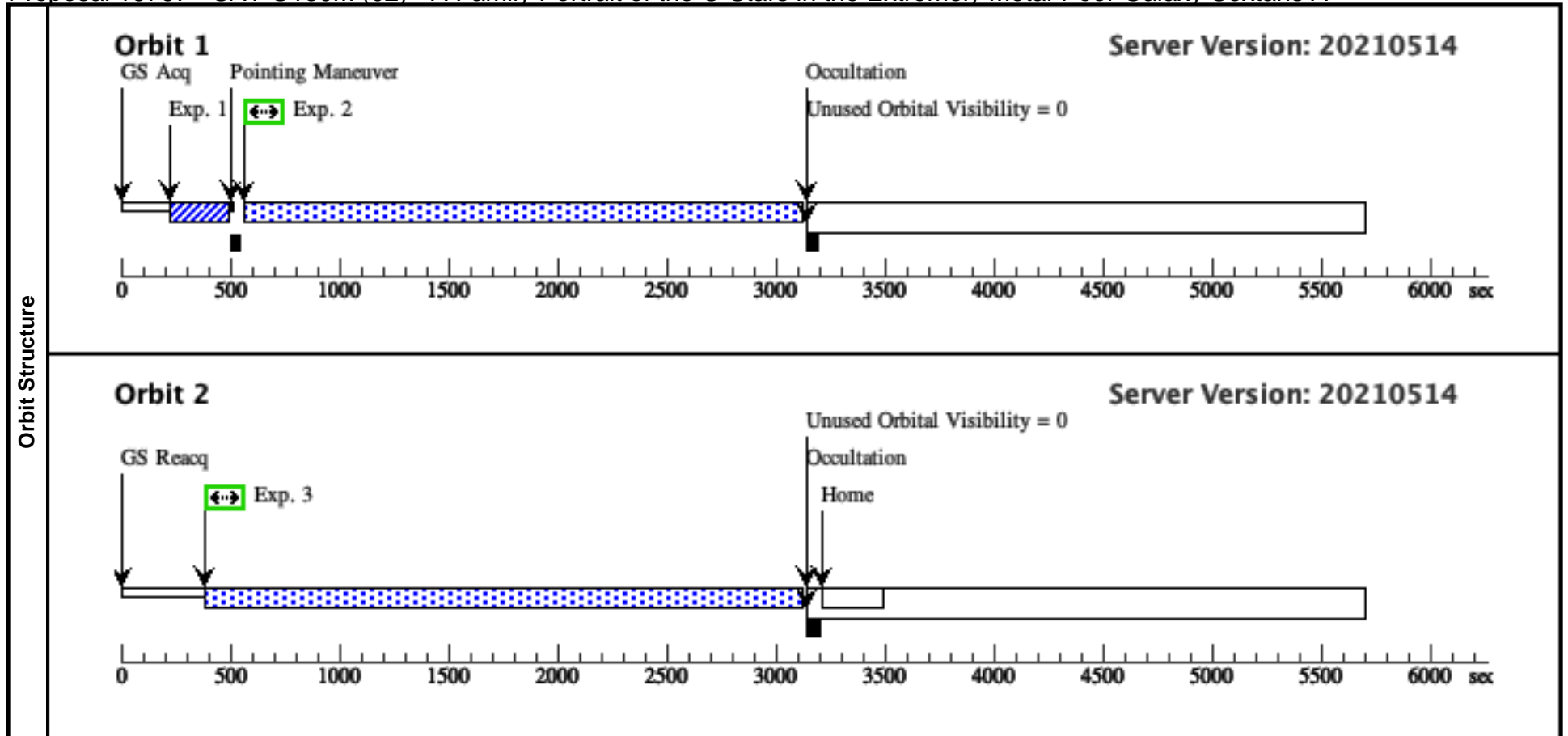
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<i>Comments:</i> Category=EXT-STAR Description=[SUPERGIANT O] Extended=NO										
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	1	SA1-ACQ (COS.ta.152 2902)	(1) SA1	COS/NUV, ACQ/IMAGE, PSA	MIRRORA				20.1 Secs (20.1 Secs)	
									[==>]	[1]
	2	SA1-G130 M-FPPOS3 (COS.sp.152 2899)	(1) SA1	COS/FUV, TIME-TAG, PSA	G130M 1291 A	BUFFER-TIME=54 08;	FP-POS=3; FLASH=YES; SEGMENT=BOTH		2394 Secs (2394 Secs)	
									[==>]	[1]
3	SA1-G130 M-FPPOS3 (COS.sp.152 2899)	(1) SA1	COS/FUV, TIME-TAG, PSA	G130M 1291 A	BUFFER-TIME=46 84;	FP-POS=3; FLASH=YES; SEGMENT=BOTH		2686 Secs (2686 Secs)		
								[==>]	[2]	
4	SA1-G130 M-FPPOS4 (COS.sp.152 2899)	(1) SA1	COS/FUV, TIME-TAG, PSA	G130M 1291 A	FP-POS=4;	BUFFER-TIME=54 08;		2686 Secs (2686 Secs)		
						FLASH=YES; SEGMENT=BOTH		[==>]	[3]	



Proposal 16767 - SA1-G130M (02) - A Family Portrait of the O Stars in the Extremely Metal-Poor Galaxy Sextans A

Mon Oct 04 20:00:23 GMT 2021

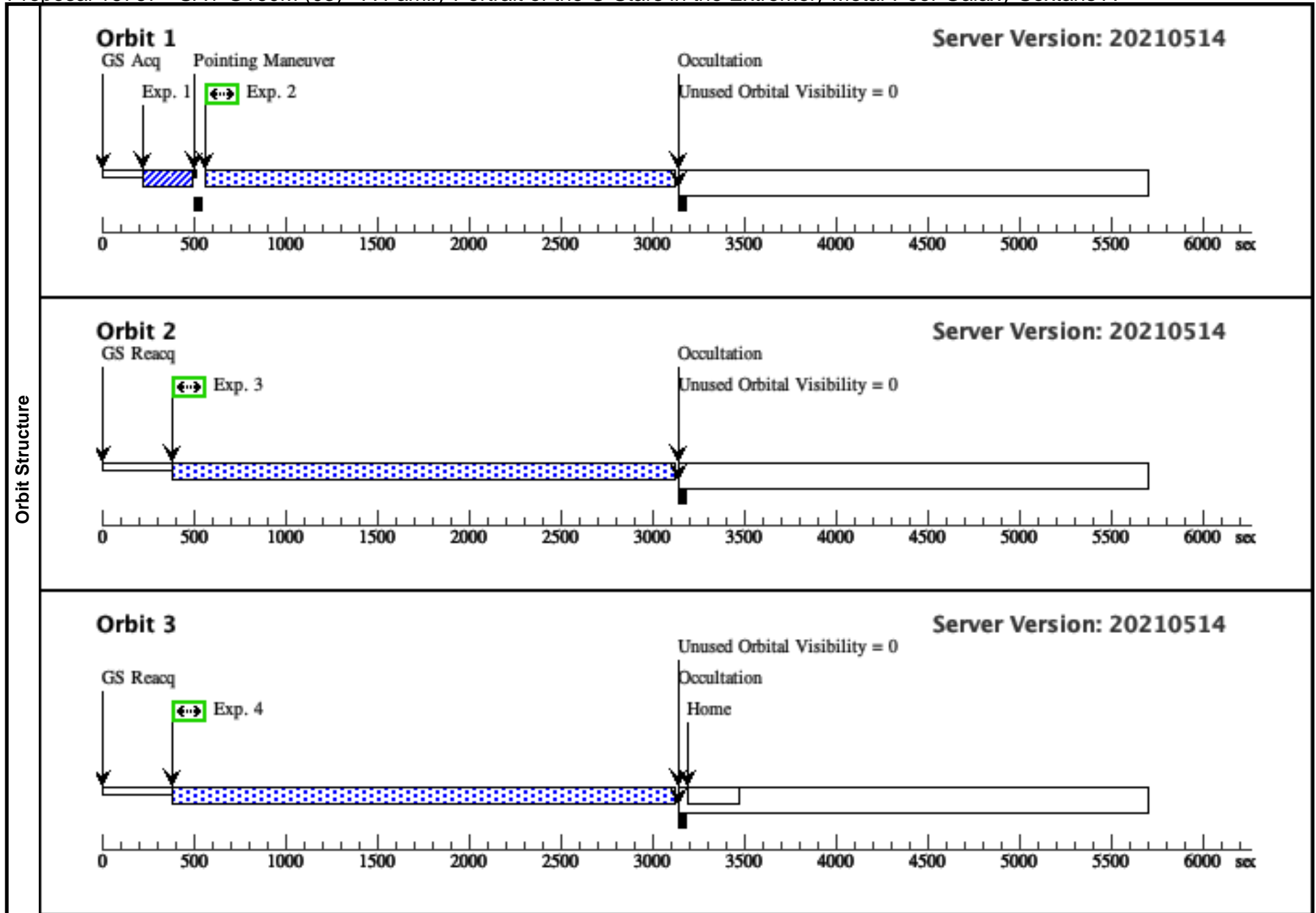
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		Alt Name1: J101104.78-044224.1 Alt Name2: OB623	Dec: -04 42 24.24 (-4.70673d) Equinox: J2000							
<i>Comments:</i> Category=EXT-STAR Description=[SUPERGIANT O] Extended=NO										
Exposures	#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1	SA1-ACQ (COS.ta.152 2902)	(1) SA1	COS/NUV, ACQ/IMAGE, PSA	MIRRORA				20.1 Secs (20.1 Secs)	
									[==>]	[1]
	2	SA1-G130 M-FPPOS3 (COS.sp.152 2899)	(1) SA1	COS/FUV, TIME-TAG, PSA	G130M 1291 A	BUFFER-TIME=54 08; FP-POS=3; FLASH=YES; SEGMENT=BOTH			2406 Secs (2394 Secs)	
								[==>2394.0 Secs]	[1]	
3	SA1-G130 M-FPPOS4 (COS.sp.152 2899)	(1) SA1	COS/FUV, TIME-TAG, PSA	G130M 1291 A	BUFFER-TIME=54 08; FP-POS=4; FLASH=YES; SEGMENT=BOTH			2000 Secs (2686 Secs)		
								[==>2686.0 Secs]	[2]	



Proposal 16767 - SA1-G160M (03) - A Family Portrait of the O Stars in the Extremely Metal-Poor Galaxy Sextans A

Mon Oct 04 20:00:23 GMT 2021

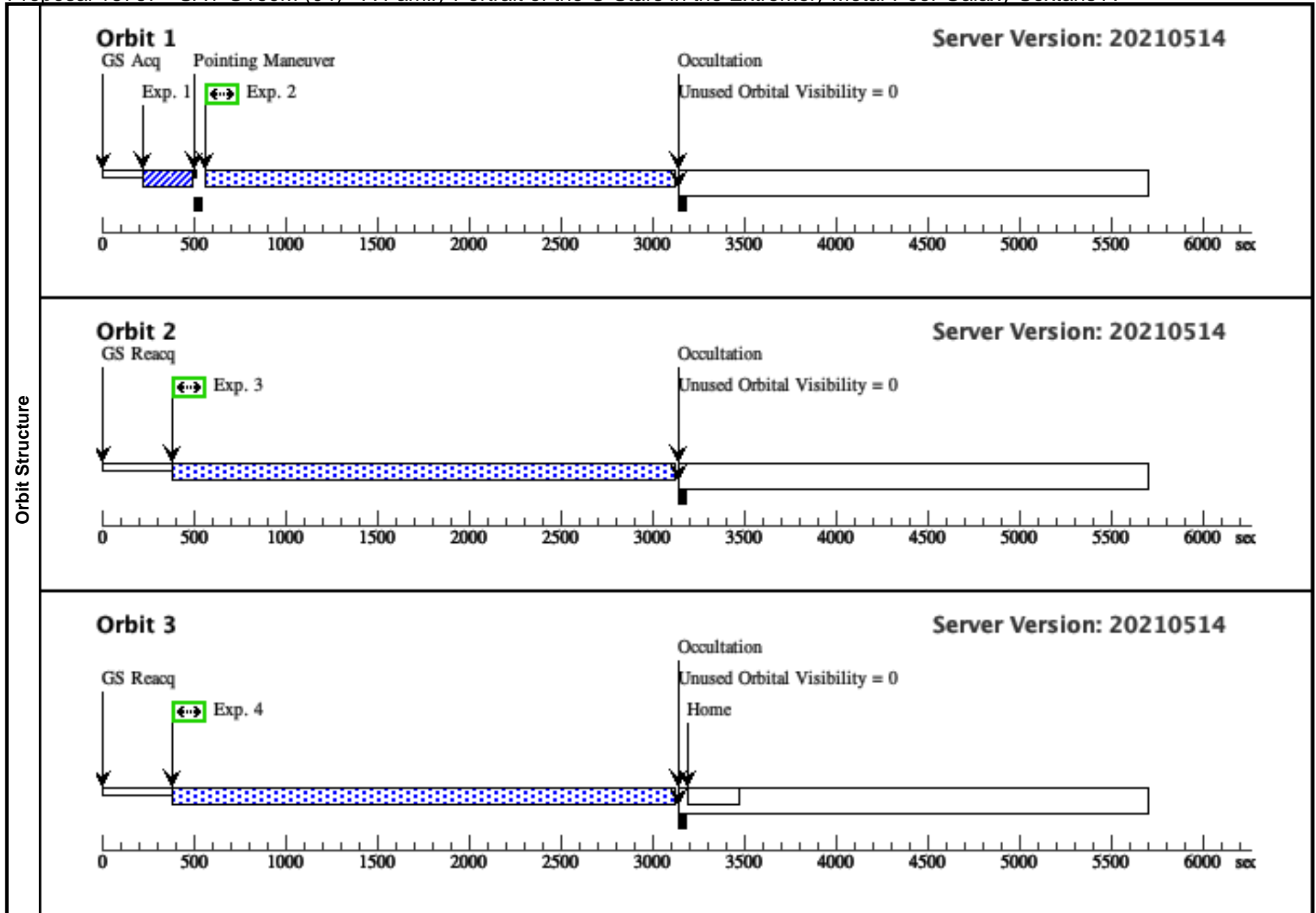
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Exposures	#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1	SA1-ACQ (COS.ta.152 2902)	(1) SA1	COS/NUV, ACQ/IMAGE, PSA	MIRRORA				20.1 Secs (20.1 Secs)	
									[==>]	[1]
	2	SA1-G160 M-FPPOS1 (COS.sp.152 2900)	(1) SA1	COS/FUV, TIME-TAG, PSA	G160M 1600 A	BUFFER-TIME=10000; FP-POS=1; FLASH=YES; SEGMENT=BOTH			2348 Secs (2348 Secs)	
									[==>]	[1]
3	SA1-G160 M-FPPOS2 (COS.sp.152 2900)	(1) SA1	COS/FUV, TIME-TAG, PSA	G160M 1600 A	BUFFER-TIME=10000; FP-POS=2; FLASH=YES; SEGMENT=BOTH			2686 Secs (2686 Secs)		
								[==>]	[2]	
4	SA1-G160 M-FPPOS3 (COS.sp.152 2900)	(1) SA1	COS/FUV, TIME-TAG, PSA	G160M 1600 A	BUFFER-TIME=10000; FP-POS=3; FLASH=YES; SEGMENT=BOTH			2686 Secs (2686 Secs)		
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Proposal 16767 - SA1-G160M (04) - A Family Portrait of the O Stars in the Extremely Metal-Poor Galaxy Sextans A

Mon Oct 04 20:00:23 GMT 2021

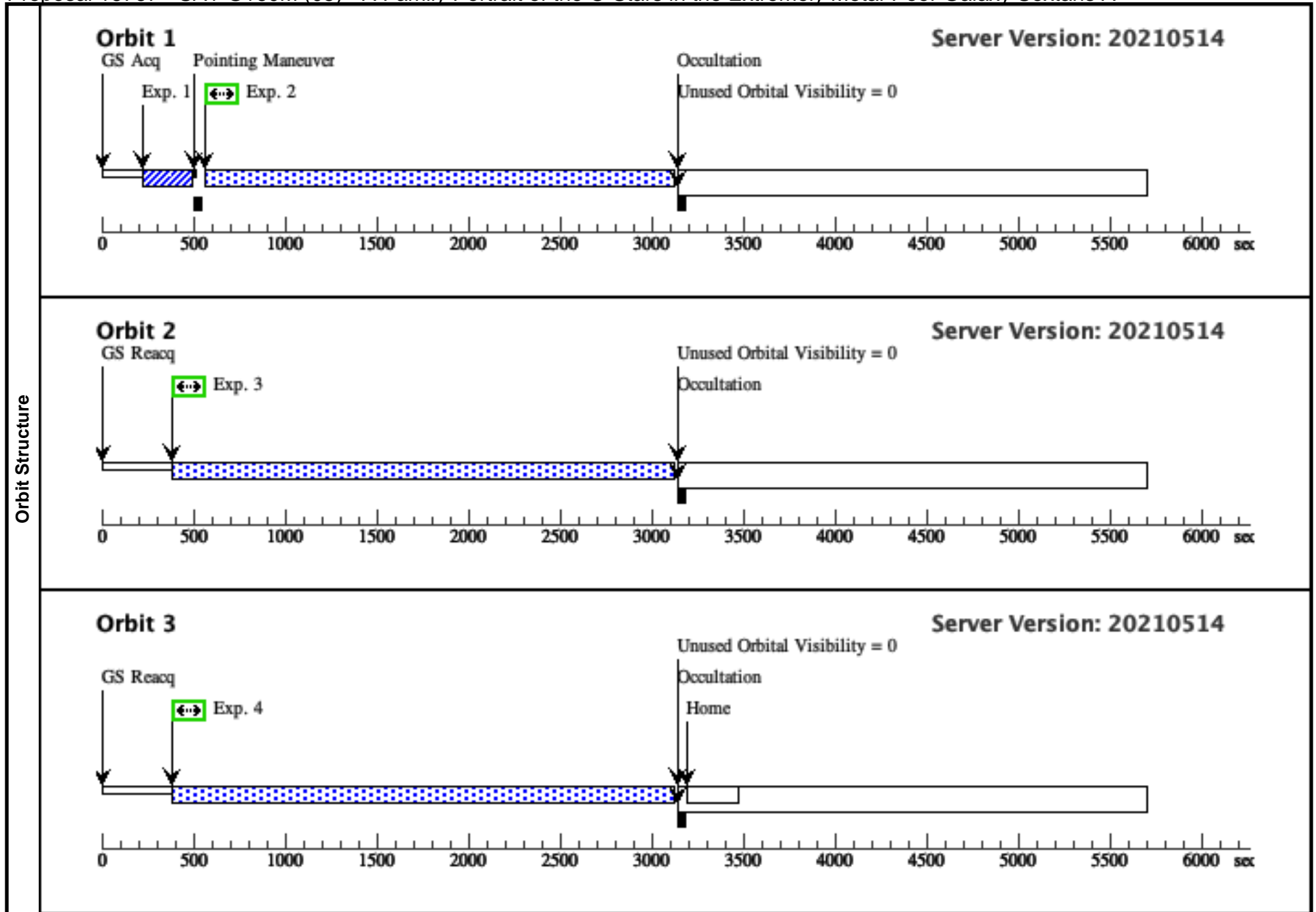
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Fixed Targets	(1)	SA1 Alt Name1: J101104.78-044224.1 Alt Name2: OB623	RA: 10 11 4.7698 (152.7698742d) Dec: -04 42 24.24 (-4.70673d) Equinox: J2000		V=20.68	Reference Frame: ICRS				
	<i>Comments:</i> Category=EXT-STAR Description=[SUPERGIANT O] Extended=NO									
Exposures	#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1	SA1-ACQ (COS.ta.152 2902)	(1) SA1	COS/NUV, ACQ/IMAGE, PSA	MIRRORA				20.1 Secs (20.1 Secs) [==>]	[1]
	2	SA1-G160 M-FPPOS2 (COS.sp.152 2900)	(1) SA1	COS/FUV, TIME-TAG, PSA	G160M 1600 A	BUFFER-TIME=10000; FP-POS=2; FLASH=YES; SEGMENT=BOTH			2348 Secs (2348 Secs) [==>]	[1]
	3	SA1-G160 M-FPPOS3 (COS.sp.152 2900)	(1) SA1	COS/FUV, TIME-TAG, PSA	G160M 1600 A	BUFFER-TIME=10000; FP-POS=3; FLASH=YES; SEGMENT=BOTH			2686 Secs (2686 Secs) [==>]	[2]
	4	SA1-G160 M-FPPOS4 (COS.sp.152 2900)	(1) SA1	COS/FUV, TIME-TAG, PSA	G160M 1600 A	BUFFER-TIME=10000; FP-POS=4; FLASH=YES; SEGMENT=BOTH			2686 Secs (2686 Secs) [==>]	[3]



Proposal 16767 - SA1-G160M (05) - A Family Portrait of the O Stars in the Extremely Metal-Poor Galaxy Sextans A

Mon Oct 04 20:00:23 GMT 2021

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Fixed Targets	(1)	SA1	RA: 10 11 4.7698 (152.7698742d)		V=20.68	Reference Frame: ICRS				
		Alt Name1: J101104.78-044224.1 Alt Name2: OB623	Dec: -04 42 24.24 (-4.70673d) Equinox: J2000							
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Exposures	#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1	SA1-ACQ (COS.ta.152 2902)	(1) SA1	COS/NUV, ACQ/IMAGE, PSA	MIRRORA				20.1 Secs (20.1 Secs)	
									[==>]	[1]
	2	SA1-G160 M-FPPOS1 (COS.sp.152 2900)	(1) SA1	COS/FUV, TIME-TAG, PSA	G160M 1600 A	BUFFER-TIME=10000; FP-POS=1; FLASH=YES; SEGMENT=BOTH			2348 Secs (2348 Secs)	
									[==>]	[1]
3	SA1-G160 M-FPPOS3 (COS.sp.152 2900)	(1) SA1	COS/FUV, TIME-TAG, PSA	G160M 1600 A	BUFFER-TIME=10000; FP-POS=3; FLASH=YES; SEGMENT=BOTH			2686 Secs (2686 Secs)		
								[==>]	[2]	
4	SA1-G160 M-FPPOS4 (COS.sp.152 2900)	(1) SA1	COS/FUV, TIME-TAG, PSA	G160M 1600 A	BUFFER-TIME=10000; FP-POS=4; FLASH=YES; SEGMENT=BOTH			2686 Secs (2686 Secs)		
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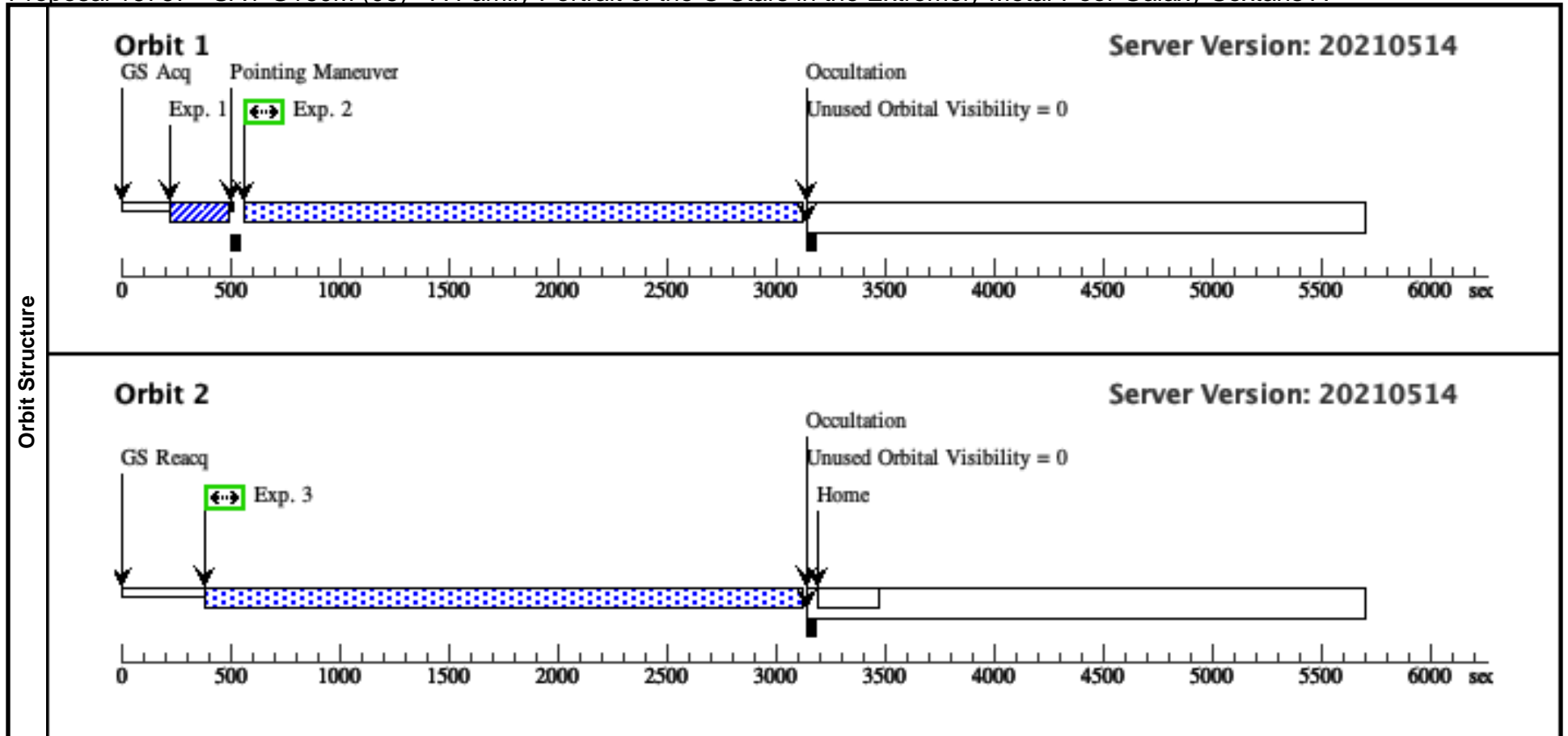


Orbit Structure

Proposal 16767 - SA1-G160M (06) - A Family Portrait of the O Stars in the Extremely Metal-Poor Galaxy Sextans A

Mon Oct 04 20:00:23 GMT 2021

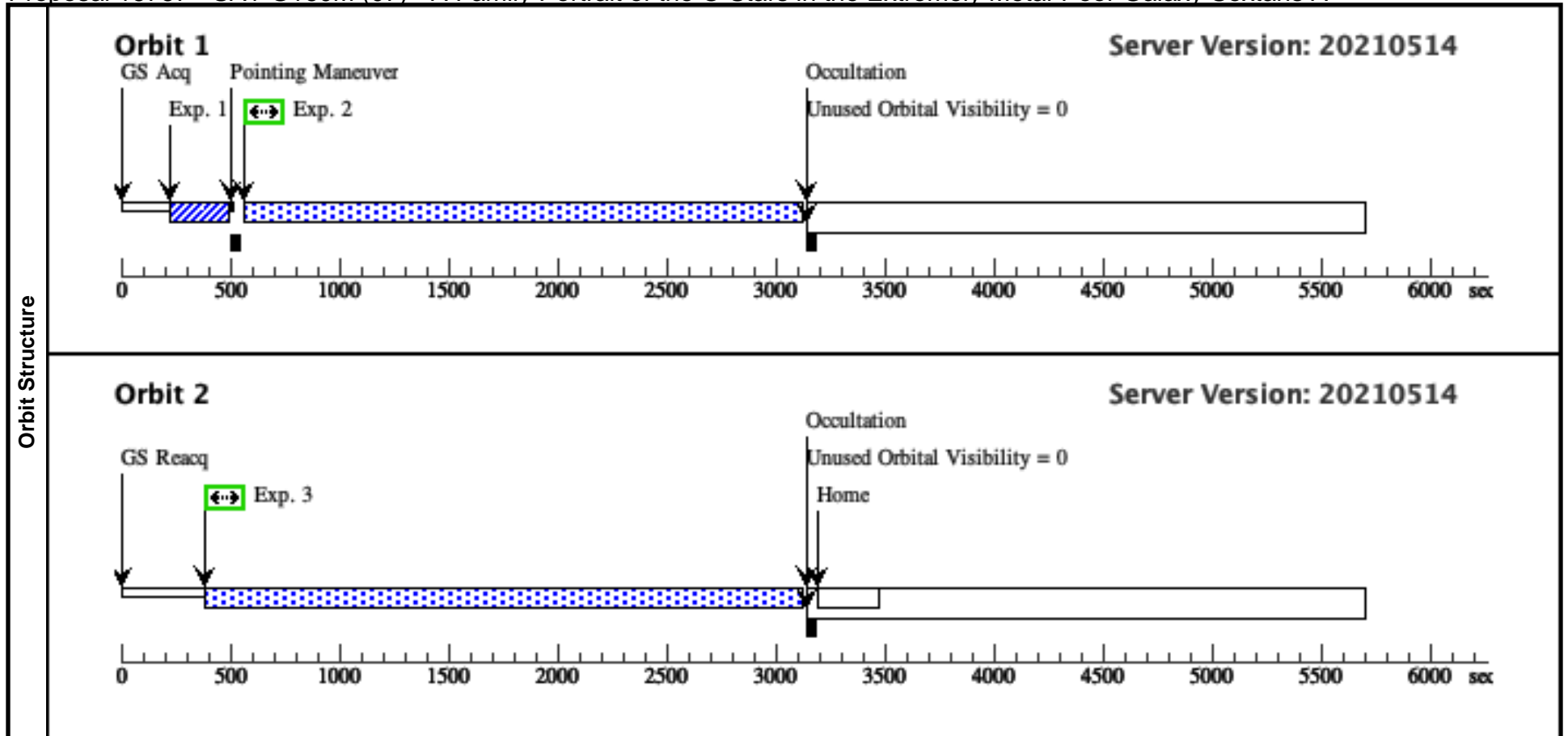
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		Alt Name1: J101104.78-044224.1 Alt Name2: OB623	Dec: -04 42 24.24 (-4.70673d) Equinox: J2000							
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Exposures	#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1	SA1-ACQ (COS.ta.152 2902)	(1) SA1	COS/NUV, ACQ/IMAGE, PSA	MIRRORA				20.1 Secs (20.1 Secs)	
									[==>]	[1]
	2	SA1-G160 M-FPPOS1 (COS.sp.152 2900)	(1) SA1	COS/FUV, TIME-TAG, PSA	G160M 1600 A	BUFFER-TIME=10000; FP-POS=1; FLASH=YES; SEGMENT=BOTH			2348 Secs (2348 Secs)	
								[==>]	[1]	
3	SA1-G160 M-FPPOS2 (COS.sp.152 2900)	(1) SA1	COS/FUV, TIME-TAG, PSA	G160M 1600 A	BUFFER-TIME=10000; FP-POS=2; FLASH=YES; SEGMENT=BOTH			2686 Secs (2686 Secs)		
								[==>]	[2]	



Proposal 16767 - SA1-G160M (07) - A Family Portrait of the O Stars in the Extremely Metal-Poor Galaxy Sextans A

Mon Oct 04 20:00:24 GMT 2021

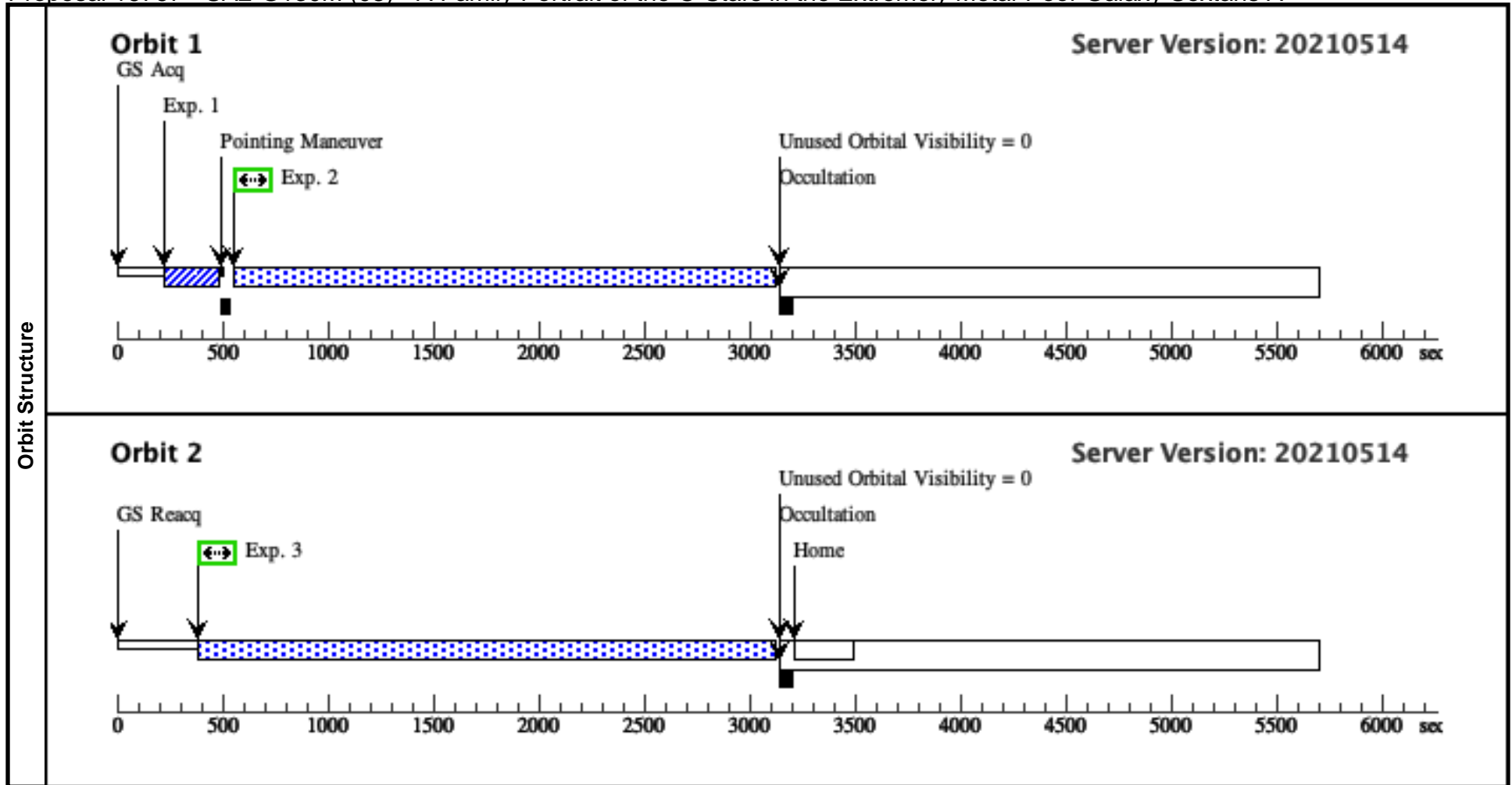
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		Alt Name1: J101104.78-044224.1 Alt Name2: OB623	Dec: -04 42 24.24 (-4.70673d) Equinox: J2000							
	<i>Comments:</i> Category=EXT-STAR Description=[SUPERGIANT O] Extended=NO									
Exposures	#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1	SA1-ACQ (COS.ta.152 2902)	(1) SA1	COS/NUV, ACQ/IMAGE, PSA	MIRRORA				20.1 Secs (20.1 Secs)	
									[==>]	[1]
	2	SA1-G160 M-FPPOS1 (COS.sp.152 2900)	(1) SA1	COS/FUV, TIME-TAG, PSA	G160M 1600 A	BUFFER-TIME=10000; FP-POS=1; FLASH=YES; SEGMENT=BOTH			2348 Secs (2348 Secs)	
								[==>]	[1]	
3	SA1-G160 M-FPPOS4 (COS.sp.152 2900)	(1) SA1	COS/FUV, TIME-TAG, PSA	G160M 1600 A	BUFFER-TIME=10000; FP-POS=4; FLASH=YES; SEGMENT=BOTH			2686 Secs (2686 Secs)		
								[==>]	[2]	



Proposal 16767 - SA2-G130M (08) - A Family Portrait of the O Stars in the Extremely Metal-Poor Galaxy Sextans A

Mon Oct 04 20:00:24 GMT 2021

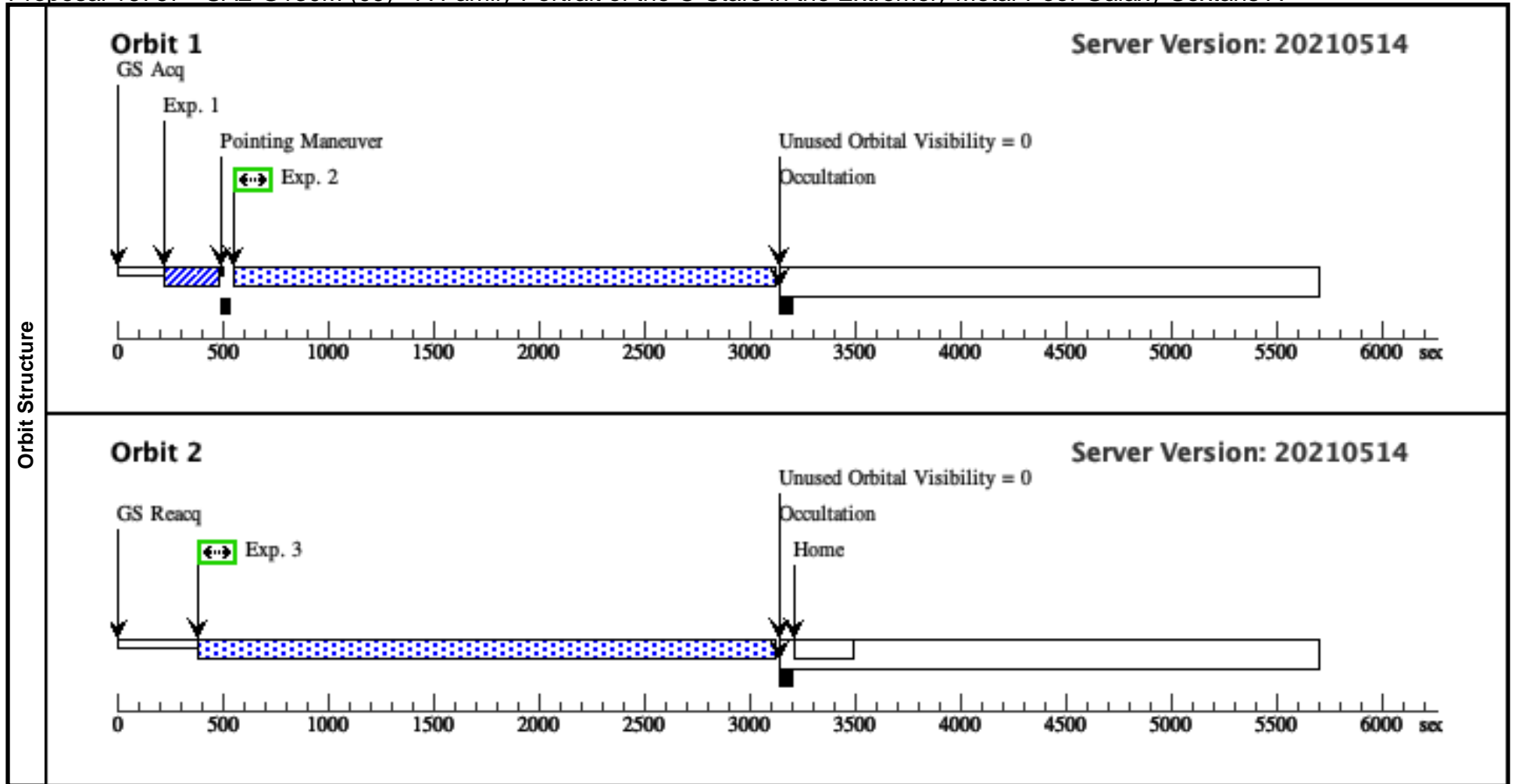
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	(2)	SA2	RA: 10 10 56.8453 (152.7368554d) Alt Name1: J101056.85-044040.9 Dec: -04 40 40.90 (-4.67803d) Equinox: J2000		V=20.4 F275W = 18.26	Reference Frame: ICRS				
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Exposures	#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1	SA2-ACQ (COS.ta.152 2906)	(2) SA2	COS/NUV, ACQ/IMAGE, PSA	MIRRORA				15.3 Secs (15.3 Secs) [==>]	[1]
	2	SA2-G130 M-FPPOS3 (COS.sp.152 2908)	(2) SA2	COS/FUV, TIME-TAG, PSA	G130M 1291 A	BUFFER-TIME=52 33; FP-POS=3; FLASH=YES; SEGMENT=BOTH			2404 Secs (2404 Secs) [==>]	[1]
	3	SA2-G130 M-FPPOS4 (COS.sp.152 2908)	(2) SA2	COS/FUV, TIME-TAG, PSA	G130M 1291 A	FP-POS=4; BUFFER-TIME=52 33; FLASH=YES; SEGMENT=BOTH			2686 Secs (2686 Secs) [==>]	[2]



Proposal 16767 - SA2-G130M (09) - A Family Portrait of the O Stars in the Extremely Metal-Poor Galaxy Sextans A

Mon Oct 04 20:00:24 GMT 2021

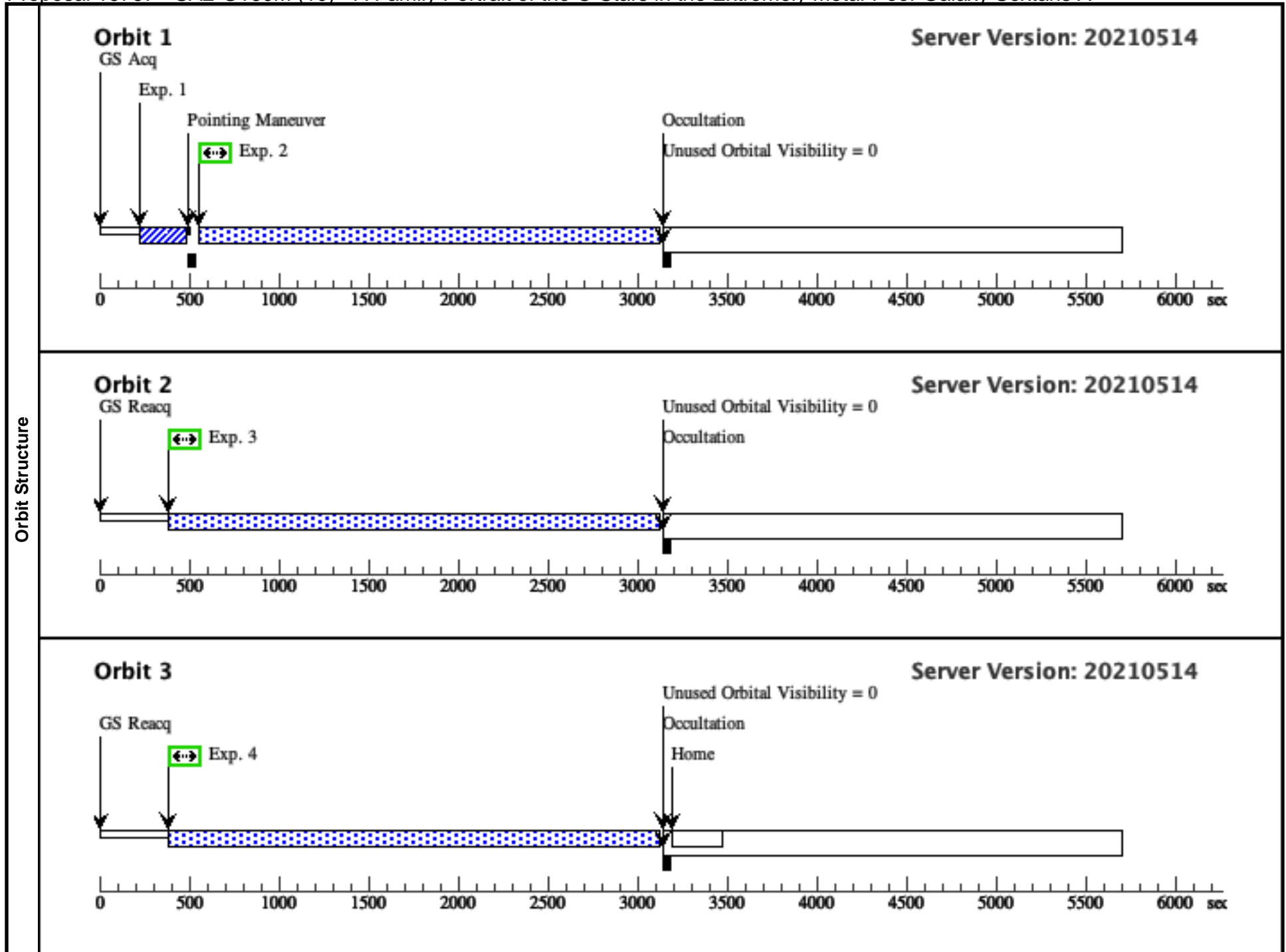
Visit	Proposal 16767, SA2-G130M (09), implementation Diagnostic Status: No Diagnostics Scientific Instruments: COS/FUV, COS/NUV Special Requirements: (none)									
	Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous			
	(2)	SA2	RA: 10 10 56.8453 (152.7368554d) Alt Name1: J101056.85-044040.9 Dec: -04 40 40.90 (-4.67803d) Equinox: J2000		V=20.4 F275W = 18.26	Reference Frame: ICRS				
	<i>Comments:</i> Category=EXT-STAR Description=[GIANT O] Extended=NO									
Exposures	#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1	SA2-ACQ (COS.ta.152 2906)	(2) SA2	COS/NUV, ACQ/IMAGE, PSA	MIRRORA				15.3 Secs (15.3 Secs) [==>]	[1]
	2	SA2-G130 M-FPPOS3 (COS.sp.152 2908)	(2) SA2	COS/FUV, TIME-TAG, PSA	G130M 1291 A	BUFFER-TIME=52 33; FP-POS=3; FLASH=YES; SEGMENT=BOTH			2404 Secs (2404 Secs) [==>]	[1]
	3	SA2-G130 M-FPPOS4 (COS.sp.152 2908)	(2) SA2	COS/FUV, TIME-TAG, PSA	G130M 1291 A	FP-POS=4; BUFFER-TIME=52 33; FLASH=YES; SEGMENT=BOTH			2686 Secs (2686 Secs) [==>]	[2]



Proposal 16767 - SA2-G160M (10) - A Family Portrait of the O Stars in the Extremely Metal-Poor Galaxy Sextans A

Mon Oct 04 20:00:24 GMT 2021

Visit	Proposal 16767, SA2-G160M (10), implementation Diagnostic Status: No Diagnostics Scientific Instruments: COS/FUV, COS/NUV Special Requirements: (none)										
	Fixed Targets	# Name Target Coordinates Targ. Coord. Corrections Fluxes Miscellaneous (2) SA2 RA: 10 10 56.8453 (152.7368554d) V=20.4 Reference Frame: ICRS Alt Name1: J101056.85-044040.9 Dec: -04 40 40.90 (-4.67803d) F275W = 18.26 Equinox: J2000 Comments: Category=EXT-STAR Description=[GIANT O] Extended=NO									
Exposures	#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit	
	1	SA2-ACQ (COS.ta.152 2906)	(2) SA2	COS/NUV, ACQ/IMAGE, PSA	MIRRORA					15.3 Secs (15.3 Secs) [==>]	[1]
	2	SA2-G160 M-FPPOS1 (COS.sp.152 2909)	(2) SA2	COS/FUV, TIME-TAG, PSA	G160M 1600 A	BUFFER-TIME=10000; FP-POS=1; FLASH=YES; SEGMENT=BOTH			2358 Secs (2358 Secs) [==>]	[1]	
	3	SA2-G160 M-FPPOS2 (COS.sp.152 2909)	(2) SA2	COS/FUV, TIME-TAG, PSA	G160M 1600 A	BUFFER-TIME=10000; FP-POS=2; FLASH=YES; SEGMENT=BOTH			2686 Secs (2686 Secs) [==>]	[2]	
	4	SA2-G160 M-FPPOS3 (COS.sp.152 2909)	(2) SA2	COS/FUV, TIME-TAG, PSA	G160M 1600 A	BUFFER-TIME=10000; FP-POS=3; FLASH=YES; SEGMENT=BOTH			2686 Secs (2686 Secs) [==>]	[3]	

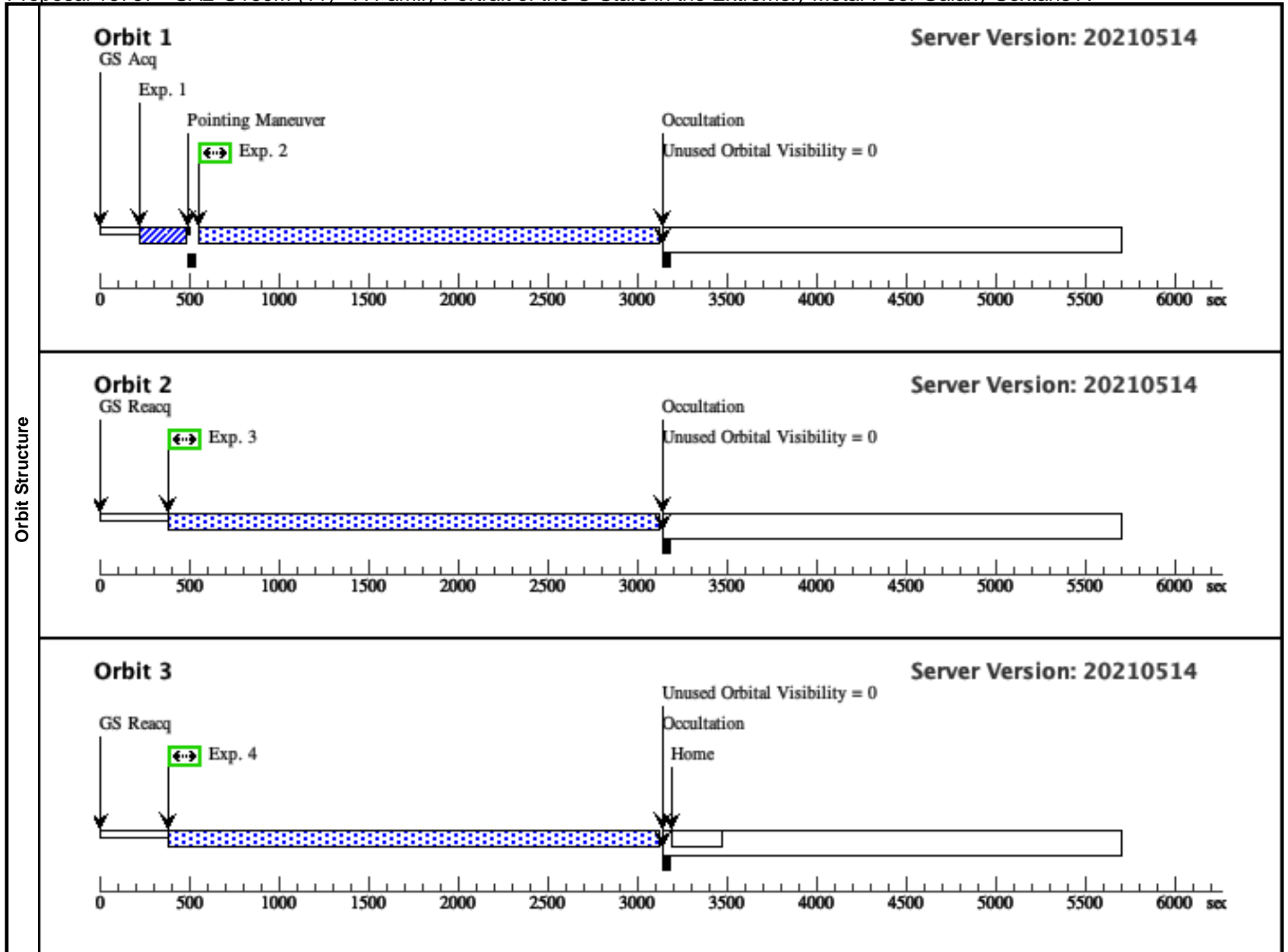


Orbit Structure

Proposal 16767 - SA2-G160M (11) - A Family Portrait of the O Stars in the Extremely Metal-Poor Galaxy Sextans A

Mon Oct 04 20:00:24 GMT 2021

Visit	Proposal 16767, SA2-G160M (11), implementation 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>(2)</td> <td>SA2</td> <td>RA: 10 10 56.8453 (152.7368554d) Alt Name1: J101056.85-044040.9 Dec: -04 40 40.90 (-4.67803d) Equinox: J2000</td> <td></td> <td>V=20.4 F275W = 18.26</td> <td>Reference Frame: ICRS</td> </tr> <tr> <td colspan="6"> <i>Comments:</i> Category=EXT-STAR Description=[GIANT O] Extended=NO </td> </tr> </tbody> </table>										#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous	(2)	SA2	RA: 10 10 56.8453 (152.7368554d) Alt Name1: J101056.85-044040.9 Dec: -04 40 40.90 (-4.67803d) Equinox: J2000		V=20.4 F275W = 18.26	Reference Frame: ICRS	<i>Comments:</i> Category=EXT-STAR Description=[GIANT O] Extended=NO				
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous																							
(2)	SA2	RA: 10 10 56.8453 (152.7368554d) Alt Name1: J101056.85-044040.9 Dec: -04 40 40.90 (-4.67803d) Equinox: J2000		V=20.4 F275W = 18.26	Reference Frame: ICRS																							
<i>Comments:</i> Category=EXT-STAR Description=[GIANT O] Extended=NO																												
Exposures	#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit																		
	1	SA2-ACQ (COS.ta.152 2906)	(2) SA2	COS/NUV, ACQ/IMAGE, PSA	MIRRORA				15.3 Secs (15.3 Secs) [==>]	[1]																		
	2	SA2-G160 M-FPPOS2 (COS.sp.152 2909)	(2) SA2	COS/FUV, TIME-TAG, PSA	G160M 1600 A	BUFFER-TIME=10 000; FP-POS=2; FLASH=YES; SEGMENT=BOTH			2358 Secs (2358 Secs) [==>]	[1]																		
	3	SA2-G160 M-FPPOS3 (COS.sp.152 2909)	(2) SA2	COS/FUV, TIME-TAG, PSA	G160M 1600 A	BUFFER-TIME=10 000; FP-POS=3; FLASH=YES; SEGMENT=BOTH			2686 Secs (2686 Secs) [==>]	[2]																		
	4	SA2-G160 M-FPPOS4 (COS.sp.152 2909)	(2) SA2	COS/FUV, TIME-TAG, PSA	G160M 1600 A	BUFFER-TIME=10 000; FP-POS=4; FLASH=YES; SEGMENT=BOTH			2686 Secs (2686 Secs) [==>]	[3]																		

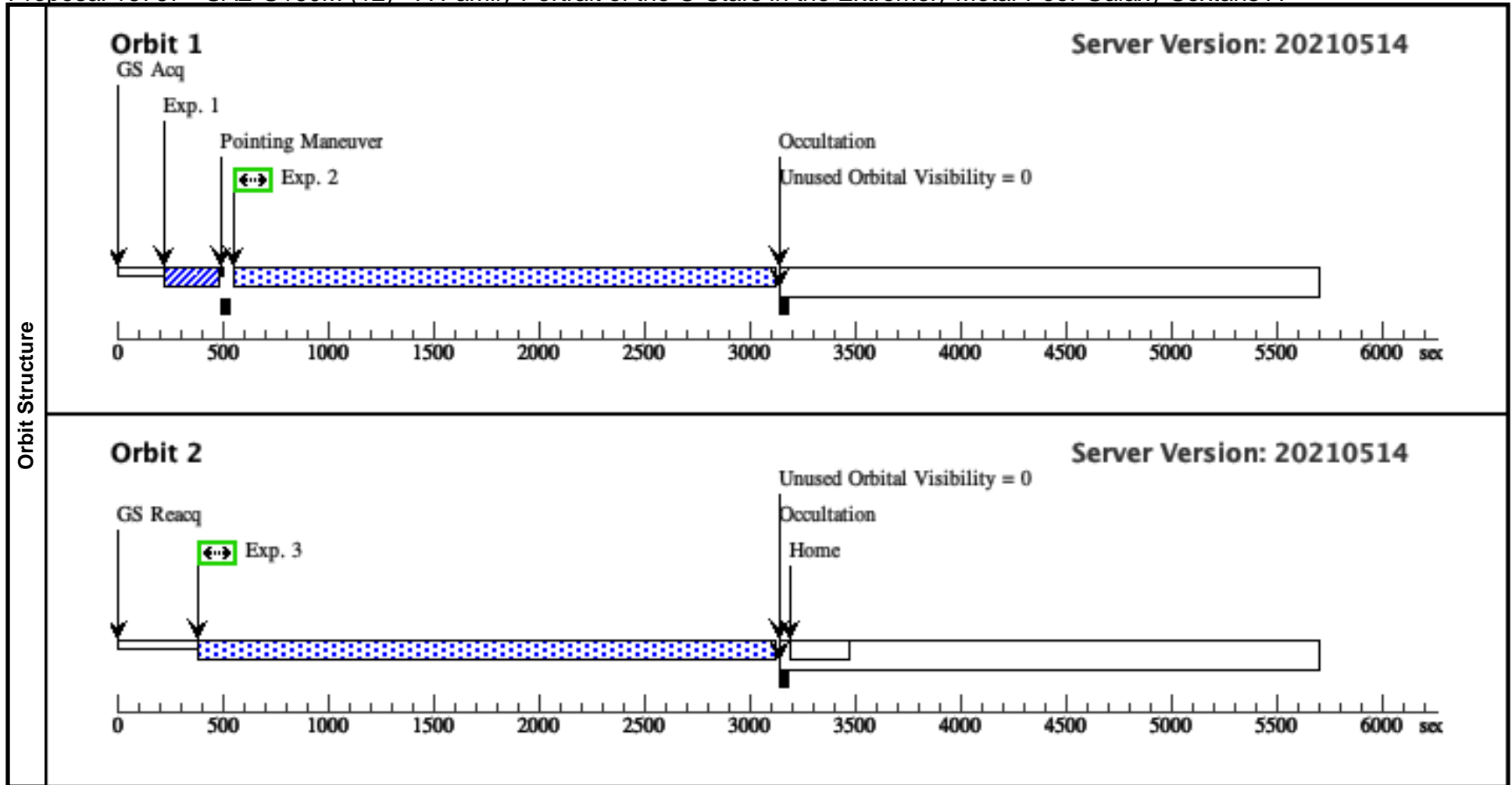


Orbit Structure

Proposal 16767 - SA2-G160M (12) - A Family Portrait of the O Stars in the Extremely Metal-Poor Galaxy Sextans A

Mon Oct 04 20:00:24 GMT 2021

Visit	Proposal 16767, SA2-G160M (12), implementation Diagnostic Status: No Diagnostics Scientific Instruments: COS/FUV, COS/NUV Special Requirements: (none)									
	Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous			
	(2)	SA2	RA: 10 10 56.8453 (152.7368554d) Alt Name1: J101056.85-044040.9 Dec: -04 40 40.90 (-4.67803d) Equinox: J2000		V=20.4 F275W = 18.26	Reference Frame: ICRS				
	<i>Comments:</i> Category=EXT-STAR Description=[GIANT O] Extended=NO									
Exposures	#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1	SA2-ACQ (COS.ta.152 2906)	(2) SA2	COS/NUV, ACQ/IMAGE, PSA	MIRRORA				15.3 Secs (15.3 Secs) [==>]	[1]
	2	SA2-G160 M-FPPOS1 (COS.sp.152 2909)	(2) SA2	COS/FUV, TIME-TAG, PSA	G160M 1600 A	BUFFER-TIME=10000; FP-POS=1; FLASH=YES; SEGMENT=BOTH			2358 Secs (2358 Secs) [==>]	[1]
	3	SA2-G160 M-FPPOS2 (COS.sp.152 2909)	(2) SA2	COS/FUV, TIME-TAG, PSA	G160M 1600 A	BUFFER-TIME=10000; FP-POS=2; FLASH=YES; SEGMENT=BOTH			2686 Secs (2686 Secs) [==>]	[2]



Proposal 16767 - SA2-G160M (13) - A Family Portrait of the O Stars in the Extremely Metal-Poor Galaxy Sextans A

Mon Oct 04 20:00:24 GMT 2021

Visit	Proposal 16767, SA2-G160M (13), implementation Diagnostic Status: No Diagnostics Scientific Instruments: COS/FUV, COS/NUV Special Requirements: (none)									
	Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous			
	(2)	SA2	RA: 10 10 56.8453 (152.7368554d) Alt Name1: J101056.85-044040.9 Dec: -04 40 40.90 (-4.67803d) Equinox: J2000		V=20.4 F275W = 18.26	Reference Frame: ICRS				
	<i>Comments:</i> Category=EXT-STAR Description=[GIANT O] Extended=NO									
Exposures	#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1	SA2-ACQ (COS.ta.152 2906)	(2) SA2	COS/NUV, ACQ/IMAGE, PSA	MIRRORA				15.3 Secs (15.3 Secs) [==>]	[1]
	2	SA2-G160 M-FPPOS1 (COS.sp.152 2909)	(2) SA2	COS/FUV, TIME-TAG, PSA	G160M 1600 A	BUFFER-TIME=10000; FP-POS=1; FLASH=YES; SEGMENT=BOTH			2358 Secs (2358 Secs) [==>]	[1]
	3	SA2-G160 M-FPPOS4 (COS.sp.152 2909)	(2) SA2	COS/FUV, TIME-TAG, PSA	G160M 1600 A	BUFFER-TIME=10000; FP-POS=4; FLASH=YES; SEGMENT=BOTH			2686 Secs (2686 Secs) [==>]	[2]

