



16371 - ULLYSES SMC O8-O9 Stars COS

Cycle: 28, Proposal Category: GO/DD

(Availability Mode: SUPPORTED)

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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>
1C	(1) AV186	COS/FUV	1	03-Mar-2022 15:09:34.0	yes
1D	(1) AV186	COS/FUV	3	03-Mar-2022 15:09:36.0	yes
AD	(1) AV186	COS/FUV	2	03-Mar-2022 15:09:37.0	yes
FD	(1) AV186	COS/FUV	1	03-Mar-2022 15:09:38.0	yes
2C	(2) M2002-SMC-81469	COS/FUV	3	03-Mar-2022 15:09:39.0	yes
3C	(3) NGC346-ELS-13	COS/FUV	6	03-Mar-2022 15:09:42.0	yes
4C	(4) NGC346-ELS-25	COS/FUV	3	03-Mar-2022 15:09:45.0	yes

19 Total Orbits Used

ABSTRACT

The Space Telescope Science Institute (STScI) Director has decided to devote up to 1000 orbits of Director's Discretionary time in observing Cycles 27-29 to a new Hubble Ultraviolet Legacy program focused on star formation and associated stellar physics. This new program, ULLYSES (UV Legacy Library of Young Stars as Essential Standards), will provide a UV spectroscopic reference sample of young (< 10 Myr) high- and low-mass stars. It will target over ~150 OB stars in the Magellanic Clouds and lower metallicity galaxies in the Local Group, and ~40 T Tauri stars and brown dwarfs in the Milky Way. In addition, ULLYSES will monitor 4 typical T Tauri stars over different rotational phases through at least three rotation

periods, and over timescales of months to years. The resulting library will provide template spectra of massive stars at metallicities substantially below the well studied, while the low mass sample will cover a wide range of ages, accretion rates, and masses, including objects down to well below 0.5 M_{sun} . The legacy of this large UV dataset on the first 10 Myr of stellar evolution will be enhanced by complementary datasets obtained by the scientific community. In addition to the core goals of the program related to stellar astrophysics of low and high mass stars, this data will also enable exciting science in the fields of ISM, CGM, jets, and exoplanets. ULLYSES will be modeled after the Frontier Fields program: all data obtained will be non-proprietary. The implementation team at STScI is developing high-level science data products and a sophisticated database and website for disseminating data from the ULLYSES program and ancillary datasets for the ULLYSES target sample from space and ground-based facilities.

OBSERVING DESCRIPTION

This proposal includes a subset of the massive ULLYSES stars being observed in the Magellanic clouds.

Depending on target brightness, the main FUV spectral range will generally use either the STIS E140M setting or the combination of the COS c1291 + c1611 settings. Sufficiently bright stars without good FUSE data in the archive will also be observed with the COS c1096 setting to provide coverage at shorter wavelengths. Where time permits, stars of type O9 or later will also be observed with STIS E230M/1978, while for supergiants of spectral type B5 or later E230M/2707 may also be included. Where possible, targets of a given spectral type were selected to span both a range in extinction and in rotation rates to support a variety of stellar and ISM studies.

Signal-to-noise requirements used to determine the desired exposures times were defined as follows:

COS/G130M/c1096: 20 / nine-pixel resel at 1080 A

COS/G130M/c1291: 30 / six-pixel resel at 1150 A

COS/G160M/c1611: 30 / six-pixel resel at 1590 A

COS/G185M/c1953: 30 / three-pixel resel at 1860 A

COS/G185M/c1986: 30 / three-pixel resel at 1980 A

STIS/E140M/c1425: 20 / two-pixel resel at 1200 A

STIS/E230M/c1978: 20 / two-pixel resel at 1800 A

STIS/E230M/c2707: 20 / two-pixel resel at 2800 A

The actual implemented exposure times may be adjusted to efficiently use HST orbits, but should always provide at least 80% of the desired time as defined by the above requirements.

Proposal 16371 (STScI Edit Number: 0, Created: Thursday, March 3, 2022 at 3:09:45 PM Eastern Standard Time) - Overview

Additional details about the scientific motivation and technical implementation strategy of the ULLYSES observations can be found at <http://www.stsci.edu/stsci-research/research-topics-and-programs/ullyses>. The ULLYSES program is based on the recommendations of a working group led by Sally Oey; the full text of that group's report can be found at http://www.stsci.edu/files/live/sites/www/files/home/stsci-research/research-topics-and-programs/ullyses/_documents/HSTUV-report-ULLYSES.pdf.

Visit	<p>Proposal 16371, AV186-COS (1C), completed</p> <p>Diagnostic Status: Warning</p> <p>Scientific Instruments: COS/FUV</p> <p>Special Requirements: SCHED 100%</p> <p><i>Comments: vstatus; 1C; AV186; P/COS approved for submission; P/AF 16/06/21 ; intrev: complete ; P/JRD 07/06/21</i></p> <p><i>vcheck; Enter targ name & Inst. & Resp. Sci.; AV186 ; COS ; AF</i></p> <p><i>vcheck; ETC numbers entered in APT?; Completed</i></p> <p><i>vcheck; Any screening violations?; None</i></p> <p><i>vcheck; S/N ETC calcs done & documented?; Completed</i></p> <p><i>vcheck; Field images checked & saved?; Yes - AV186_DSS.png and AV186_2MASS.png</i></p> <p><i>vcheck; Selected ACQ strategy?; Dispersed G130M/1291</i></p> <p><i>vcheck; Possible ACQ or Sci spoilers?; None</i></p> <p><i>vcheck; Field BOT clear?; Yes - 15 safe, 0 unknown</i></p> <p><i>vcheck; Visual BOT check for stars not in catalog?; Completed - no issues</i></p> <p><i>vcheck; Orbit packing finalized?; 1 orbit for G130M/1291 + G160M/1611.</i></p> <p><i>vcheck; Verify visit grouping correct; Not applicable</i></p> <p><i>vcheck; Is visit ready for int. review?; Yes</i></p> <p><i>Allocated COS orbits = 4 (split into 2 visits, 1 + 3 orbits)</i></p>																																														
	<p>Diagnosics</p> <p>(AV186-COS (1C)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN</p>																																														
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>(1)</td> <td>AV186</td> <td>RA: 00 57 26.9409 (14.3622537d)</td> <td></td> <td>V=13.98</td> <td>Reference Frame: ICRS</td> </tr> <tr> <td></td> <td>Alt Name1: NGC330-13</td> <td>Dec: -72 33 13.58 (-72.55377d)</td> <td></td> <td>SpT=O8.5 III((f)); E(B-V)=0.06;</td> <td></td> </tr> <tr> <td></td> <td>Alt Name2: NGC-330-ELS-013</td> <td>Equinox: J2000</td> <td></td> <td>U=12.75,</td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td>B=13.77; V=13.98; F1160=3.28</td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td>e-13; F1360=2.65e-13; F1700=1</td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td>.83e-13; F2200=1.05e-13</td> <td></td> </tr> </tbody> </table>					#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous	(1)	AV186	RA: 00 57 26.9409 (14.3622537d)		V=13.98	Reference Frame: ICRS		Alt Name1: NGC330-13	Dec: -72 33 13.58 (-72.55377d)		SpT=O8.5 III((f)); E(B-V)=0.06;			Alt Name2: NGC-330-ELS-013	Equinox: J2000		U=12.75,						B=13.77; V=13.98; F1160=3.28						e-13; F1360=2.65e-13; F1700=1						.83e-13; F2200=1.05e-13	
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<p><i>Comments: tstatus; AV186; P/COS approved for submission; S/ins not started; P/AF 4/06/21; S/xx DD/MM/YY</i></p> <p><i>tcheck; APT/SIMBAD target names: ; AV186, 'AzV 186' ...</i></p> <p><i>other aliases include 2dFS 1230, Cl* NGC330 ELS 13, M2002 SMC 40341</i></p> <p><i>tcheck; Target info verification status?; OK ...</i></p> <p><i>The spectral type is from 2016ApJ...817..113L O8.5 III((f)). Updated the photometry to use to use photometry and reddeningto use values from 2002ApJS..141...81M, which (together with the spectral type) imply E(B-V) = 0.06.</i></p> <p><i>tcheck; Coordinates & P.M. updated?; Yes, Gaia DR2</i></p> <p><i>tcheck; Adopted SED compared to Observations?; Yes ...</i></p> <p><i>The selection of a model spectrum was based on the analysis of the optical spectrum of AV 186 by Mokiem et al. (2006A&A...456.1131M). Models with values of (Teff, log g) bracketing those determined by Mokiem et al. were selected from the PoWR grid for SMC metallicity (Z=0.14) and compared with the observational material, which consists of IUE spectra and UBv photometry. The model flux was scaled to the distance of the SMC and attenuated by an SMCbar extinction law with E(B-V) = 0.08. This reddening is slightly larger than the value of 0.06 implied by the photometry of Massey (2002ApJS..141...81M), but well within the uncertainties of the measurements. An additional flux scaling factor of 0.22 was required to get a good match with the available IUE spectra and UBv photometry. The need for this factor indicates that the luminosity of the model does not match the luminosity of AV 186. The adopted SED corresponds to the file PoWR_35000_3.40_m6.52_Z0.14_smcbar_ebmv_0.08_sed.fits.</i></p> <p><i>Adopted SED: ~/box/ullyses_tech/ullyses_proposals/c28_mc/16371/AV186/AV186_adopted_sed.fits</i></p> <p><i>Adopted SED illustrated: ~/box/ullyses_tech/ullyses_proposals/c28_mc/16371/AV186/AV186_adopted_sed_vs_IUE.png</i></p> <p><i>Alternate illustration: ~/box/ullyses_tech/ullyses_proposals/c28_mc/16371/AV186/AV186_model.pdf</i></p> <p><i>Category=EXT-STAR</i></p> <p><i>Description=[GIANT O, OF]</i></p> <p><i>Extended=NO</i></p>																																															

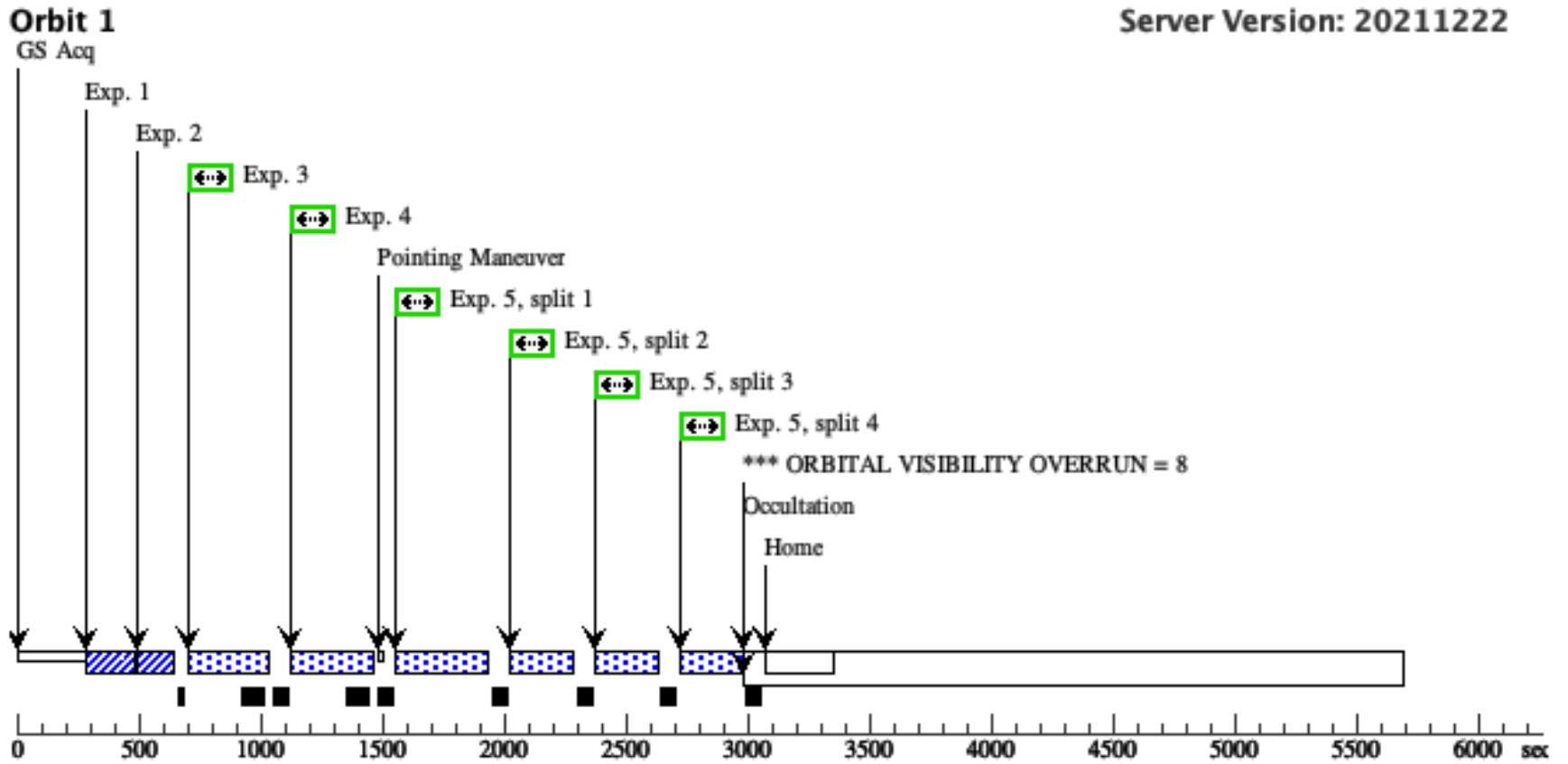
Proposal 16371 - AV186-COS (1C) - ULLYSES SMC O8-O9 Stars COS

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
Exposures	1	ACQ/PEAK (1) AV186 XD (COS.sa.151 7328)	COS/FUV, ACQ/PEAKXD, PSA	G130M 1291 A	CENTER=FLUX-W T; NUM-POS=3; STEP-SIZE=1.3; SEGMENT=BOTH			0.3 Secs (0.3 Secs) [==>]	[1]
	<p>Comments: TA in light dispersed by G130M/1291 was selected for efficiency.</p> <p>The adopted SED corresponds to PoWR_35000_3.40_m6.52_Z0.14_smobar_ebmv_0.08.fits: ~/box/ullyses_tech/ullyses_proposals/c28_mc/16371/AV186/AV186_adopted_sed.fits</p> <p>ETC estimates that SNR=40 is obtained for Segments A and B combined in 0.2551 s per dwell point; see COS.sa.1517328. This baseline exposure time was rounded up to 0.3 s per dwell point. No ETC Warnings</p> <p>BOT XD: 15 safe, 0 unknown in the GSC II catalog. BOT D: 20 safe, 0 unknown in the GSC II catalog. There are no spoiler stars within 43 arcsec of the center of the PSA: see ~/box/ullyses_tech/ullyses_proposals/c28_mc/16371/AV186/AV186_DSS.png ~/box/ullyses_tech/ullyses_proposals/c28_mc/16371/AV186/AV186_2MASS.png</p>								
	2	ACQ/PEAK (1) AV186 D (COS.sa.151 7328)	COS/FUV, ACQ/PEAKD, PSA	G130M 1291 A	CENTER=FLUX-W T-FLR; NUM-POS=5; STEP-SIZE=0.9; SEGMENT=BOTH			0.3 Secs (0.3 Secs) [==>]	[1]
<p>Comments: TA in light dispersed by G130M/1291 was selected for efficiency.</p> <p>The adopted SED corresponds to PoWR_35000_3.40_m6.52_Z0.14_smobar_ebmv_0.08.fits: ~/box/ullyses_tech/ullyses_proposals/c28_mc/16371/AV186/AV186_adopted_sed.fits</p> <p>ETC estimates that SNR=40 is obtained for Segments A and B combined in 0.2551 s per dwell point; see COS.sa.1517328. This baseline exposure time was rounded up to 0.3 s per dwell point. No ETC Warnings</p> <p>BOT XD: 15 safe, 0 unknown in the GSC II catalog. BOT D: 20 safe, 0 unknown in the GSC II catalog. There are no spoiler stars within 43 arcsec of the center of the PSA: see ~/box/ullyses_tech/ullyses_proposals/c28_mc/16371/AV186/AV186_DSS.png ~/box/ullyses_tech/ullyses_proposals/c28_mc/16371/AV186/AV186_2MASS.png</p>									
3	G130M/129 (1) AV186 1-3 (COS.sp.151 7628)	COS/FUV, TIME-TAG, PSA	G130M 1291 A	BUFFER-TIME=19 2.0; FP-POS=3			285.0 Secs (285 Secs) [==>]	[1]	
<p>Comments: The adopted SED corresponds to PoWR_35000_3.40_m6.52_Z0.14_smobar_ebmv_0.08.fits: ~/box/ullyses_tech/ullyses_proposals/c28_mc/16371/AV186/AV186_adopted_sed.fits</p> <p>ETC estimates that SNR=30/resel is obtained at 1150 +/- 0.5 A in 697.6165 s. [COS.sp.1517329] This baseline exposure time was rounded to 700 s (350 s per FP-POS) No ETC Warnings. Count Rate (Total, Segment A, Segment B) = (8159.559, 3541.121, 4618.437) cts/s Brightest Pixel: 0.152 cts/s at 1216.22 A BUFFER TIME: (ETC, ETC * 2/3, Optimized) = (289, 192, 120) s</p> <p>During orbit packing, the exposure time was decreased to 81% of the baseline value: 570 s total, 285 s per FP-POS. As a result, the *planned* SNR = 27.1/resel at 1150 A [COS.sp.1517628] The ETC run associated with the *planned* SNR is noted in the APT field.</p> <p>BOT: 15 safe, 0 unknown in the GSC II catalog.</p>									

Proposal 16371 - AV186-COS (1C) - ULLYSES SMC O8-O9 Stars COS

4	G130M/129 (1) AV186 1-4 (COS.sp.151 7628)	COS/FUV, TIME-TAG, PSA	G130M 1291 A	BUFFER-TIME=19 2.0; FP-POS=4	285.0 Secs (285 Secs) [==>]	[1]
<p><i>Comments: The adopted SED corresponds to PoWR_35000_3.40_m6.52_Z0.14_smcbar_ebm_v0.08.fits: ~/box/ullyses_tech/ullyses_proposals/c28_mc/16371/AV186/AV186_adopted_sed.fits</i></p> <p><i>ETC estimates that SNR=30/resel is obtained at 1150 +/- 0.5 A in 697.6165 s. [COS.sp.1517329] This baseline exposure time was rounded to 700 s (350 s per FP-POS) No ETC Warnings. Count Rate (Total, Segment A, Segment B) = (8159.559, 3541.121, 4618.437) cts/s Brightest Pixel: 0.152 cts/s at 1216.22 A BUFFER TIME: (ETC, ETC * 2/3, Optimized) = (289, 192, 120) s</i></p> <p><i>During orbit packing, the exposure time was decreased to 81% of the baseline value: 570 s total, 285 s per FP-POS. As a result, the *planned* SNR = 27.1/resel at 1150 A [COS.sp.1517628] The ETC run associated with the *planned* SNR is noted in the APT field.</i></p> <p><i>BOT: 15 safe, 0 unknown in the GSC II catalog.</i></p>						
5	G160M/161 (1) AV186 1 (COS.sp.151 7629)	COS/FUV, TIME-TAG, PSA	G160M 1611 A	BUFFER-TIME=41 6; FP-POS=ALL	205 Secs (820 Secs) [==>(Split 1)] [==>(Split 2)] [==>(Split 3)] [==>(Split 4)]	[1]
<p><i>Comments: The adopted SED corresponds to PoWR_35000_3.40_m6.52_Z0.14_smcbar_ebm_v0.08.fits: ~/box/ullyses_tech/ullyses_proposals/c28_mc/16371/AV186/AV186_adopted_sed.fits</i></p> <p><i>ETC estimates that SNR=30/resel is obtained at 1580 +/- 0.5 A in 1029.9840 s [COS.sp.1517330] This baseline exposure time was rounded to 1032 s (258 s per FP-POS). No ETC Warnings Count Rate (Total, Segment A, Segment B) = (3774.408, 840.641, 2933.767) cts/s Brightest Pixel: 0.051 cts/s at 1424.50 A BUFFER TIME: (ETC, ETC * 2/3, Optimized) = (624, 416, 416) s</i></p> <p><i>During orbit packing, the exposure time was decreased to 79% of the baseline value: 820 s total, 205 s per FP-POS. As a result, the *planned* SNR = 26.8/resel at 1580 A [COS.sp.1517629] The ETC run associated with the *planned* SNR is noted in the APT field.</i></p> <p><i>BOT: 15 safe, 0 unknown in the GSC II catalog.</i></p>						

Orbit Structure



Visit	<p>Proposal 16371, AV186-COS (1D), failed</p> <p>Diagnostic Status: No Diagnostics</p> <p>Scientific Instruments: COS/FUV</p> <p>Special Requirements: SCHED 100%</p> <p><i>Comments: vstatus; IC; AV186; P/COS approved for submission; P/AF 16/06/21 ; intrev: complete ; P/JRD 07/06/21</i></p> <p><i>vcheck; Enter targ name & Inst. & Resp. Sci.; AV186 ; COS ; AF</i></p> <p><i>vcheck; ETC numbers entered in APT?; Completed</i></p> <p><i>vcheck; Any screening violations?; None</i></p> <p><i>vcheck; S/N ETC calcs done & documented?; Completed</i></p> <p><i>vcheck; Field images checked & saved?; Yes - AV186_DSS.png and AV186_2MASS.png</i></p> <p><i>vcheck; Selected ACQ strategy?; Dispersed G130M/1291</i></p> <p><i>vcheck; Possible ACQ or Sci spoilers?; None</i></p> <p><i>vcheck; Field BOT clear?; Yes - 15 safe, 0 unknown</i></p> <p><i>vcheck; Visual BOT check for stars not in catalog?; Completed - no issues</i></p> <p><i>vcheck; Orbit packing finalized?; 3 orbits for G130M/1096: needed to reduce nominal exposure times and treat each G130M/1096 FP-POS exposure separately. See notes.</i></p> <p><i>vcheck; Verify visit grouping correct; Not applicable</i></p> <p><i>vcheck; Is visit ready for int. review?; Yes</i></p> <p><i>Allocated COS orbits = 4 (split into 2 visits, 1 + 3 orbits)</i></p>																																	
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Proposal 16371 - AV186-COS (1D) - ULLYSES SMC O8-O9 Stars COS

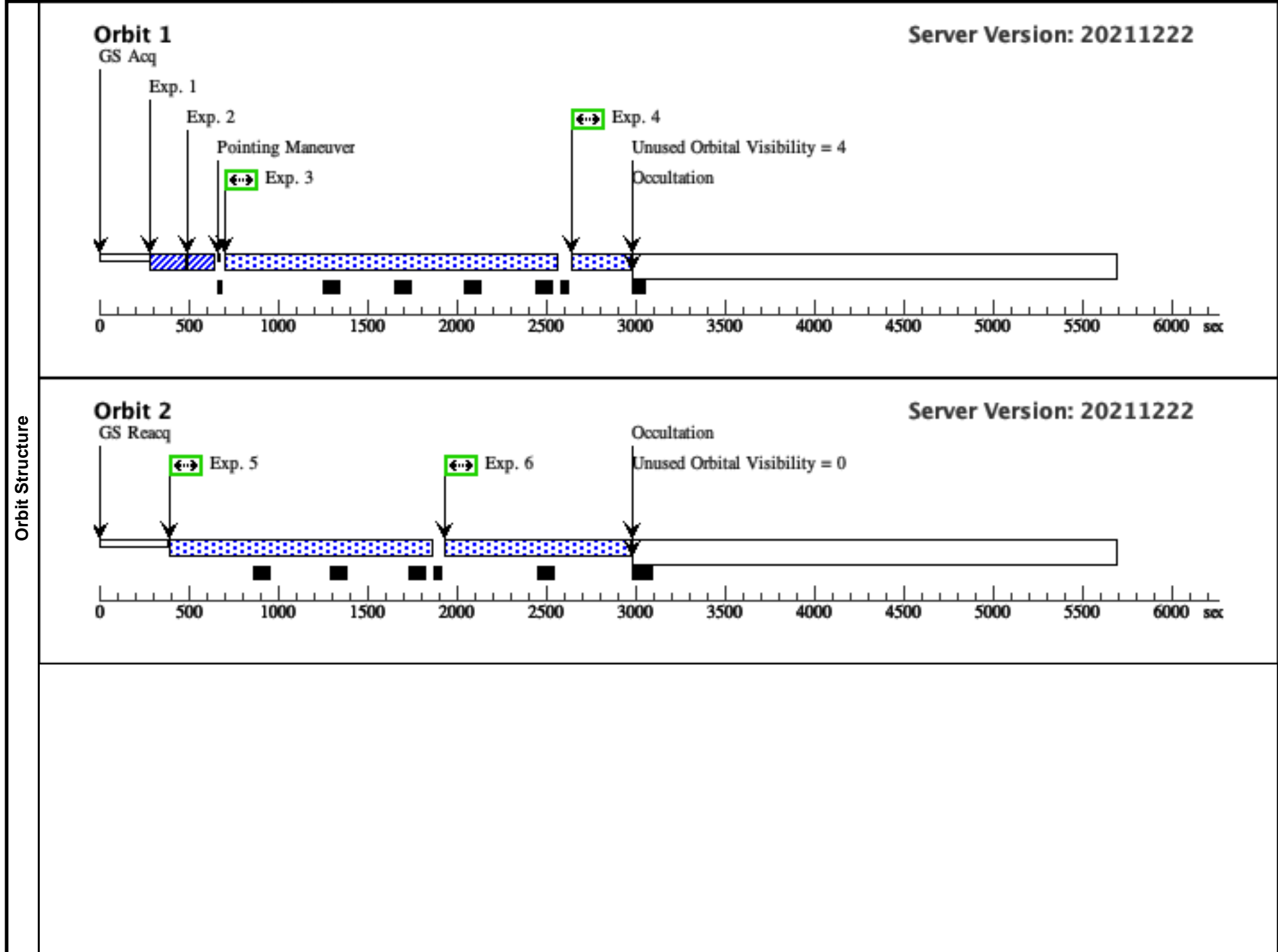
#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
Exposures	1	ACQ/PEAK (1) AV186 XD (COS.sa.151 7328)	COS/FUV, ACQ/PEAKXD, PSA	G130M 1291 A	CENTER=FLUX-W T; NUM-POS=3; STEP-SIZE=1.3; SEGMENT=BOTH			0.3 Secs (0.3 Secs) [==>]	[1]
	<p><i>Comments: TA in light dispersed by G130M/1291 was selected for efficiency.</i></p> <p><i>The adopted SED corresponds to PoWR_35000_3.40_m6.52_Z0.14_smobar_ebmv_0.08.fits: ~/box/ullyses_tech/ullyses_proposals/c28_mc/16371/AV186/AV186_adopted_sed.fits</i></p> <p><i>ETC estimates that SNR=40 is obtained for Segments A and B combined in 0.2551 s per dwell point; see COS.sa.1517328. This baseline exposure time was rounded up to 0.3 s per dwell point. No ETC Warnings</i></p> <p><i>BOT XD: 15 safe, 0 unknown in the GSC II catalog. BOT D: 20 safe, 0 unknown in the GSC II catalog. There are no spoiler stars within 43 arcsec of the center of the PSA: see ~/box/ullyses_tech/ullyses_proposals/c28_mc/16371/AV186/AV186_DSS.png ~/box/ullyses_tech/ullyses_proposals/c28_mc/16371/AV186/AV186_2MASS.png</i></p>								
	2	ACQ/PEAK (1) AV186 D (COS.sa.151 7328)	COS/FUV, ACQ/PEAKD, PSA	G130M 1291 A	CENTER=FLUX-W T-FLR; NUM-POS=5; STEP-SIZE=0.9; SEGMENT=BOTH			0.3 Secs (0.3 Secs) [==>]	[1]
<p><i>Comments: TA in light dispersed by G130M/1291 was selected for efficiency.</i></p> <p><i>The adopted SED corresponds to PoWR_35000_3.40_m6.52_Z0.14_smobar_ebmv_0.08.fits: ~/box/ullyses_tech/ullyses_proposals/c28_mc/16371/AV186/AV186_adopted_sed.fits</i></p> <p><i>ETC estimates that SNR=40 is obtained for Segments A and B combined in 0.2551 s per dwell point; see COS.sa.1517328. This baseline exposure time was rounded up to 0.3 s per dwell point. No ETC Warnings</i></p> <p><i>BOT XD: 15 safe, 0 unknown in the GSC II catalog. BOT D: 20 safe, 0 unknown in the GSC II catalog. There are no spoiler stars within 43 arcsec of the center of the PSA: see ~/box/ullyses_tech/ullyses_proposals/c28_mc/16371/AV186/AV186_DSS.png ~/box/ullyses_tech/ullyses_proposals/c28_mc/16371/AV186/AV186_2MASS.png</i></p>									
3	G130M/109 (1) AV186 6-1 (COS.sp.152 0312)	COS/FUV, TIME-TAG, PSA	G130M 1096 A	BUFFER-TIME=39 7; FP-POS=1			1696 Secs (1696 Secs) [==>]	[1]	
<p><i>Comments: The adopted SED corresponds to PoWR_35000_3.40_m6.52_Z0.14_smobar_ebmv_0.08.fits: ~/box/ullyses_tech/ullyses_proposals/c28_mc/16371/AV186/AV186_adopted_sed.fits</i></p> <p><i>ETC estimates that SNR=20/resel is obtained at 1080 +/- 0.5 A in 7472.6468 s [COS.sp.1517518] This baseline exposure time was rounded to 7480 s (1870 s per FP-POS) No ETC Warnings Count Rate (Total, Segment A, Segment B) = (3211.526, 3142.953, 68.574) cts/s Brightest Pixel: 0.106 cts/s at 1216.21 A BUFFER TIME: (ETC, ETC * 2/3, Optimized) = (734, 489, 440) s</i></p> <p><i>For efficient orbit packing, the 4 FP-POS positions were broken into exposures with different integration times. Additionally, the exposures at FP-POS=2 and FP-POS=3 were further sub-divided into exposures (2a, 2b) and (3a, 3b) to achieve optimal packing. The net integration times for (POS1, POS2, POS3, and POS4) are (1696, 1696, 1696, 1694) seconds, respectively, and are only modestly "unbalanced." The total exposure time is 6782 s, which is 91% of the baseline value. As a result, the *planned* SNR=19.0/resel at 1080 A [COS.sp.1520312]. The ETC run associated with the *planned* SNR is noted in the APT field.</i></p> <p><i>BOT: 15 safe, 0 unknown in the GSC II catalog.</i></p>									

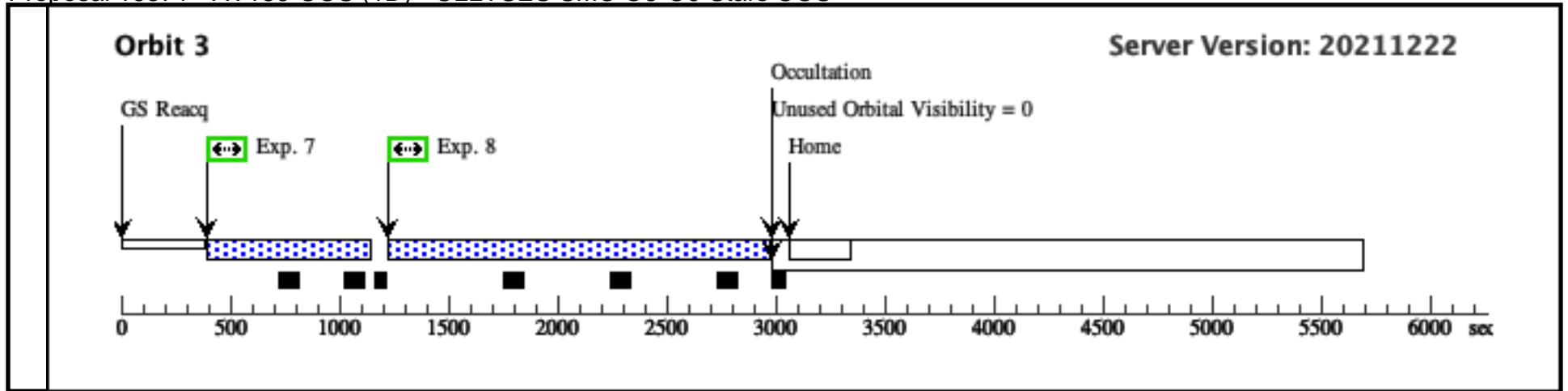
Proposal 16371 - AV186-COS (1D) - ULLYSES SMC O8-O9 Stars COS

4	G130M/109 (1) AV186 6-2a (COS.sp.152 0312)	COS/FUV, TIME-TAG, PSA	G130M 1096 A	BUFFER-TIME=48 9.; FP-POS=2	278 Secs (278 Secs)	[==>]	[1]
<p><i>Comments: The adopted SED corresponds to PoWR_35000_3.40_m6.52_Z0.14_smobar_ebmv_0.08.fits: ~/box/ullyses_tech/ullyses_proposals/c28_mc/16371/AV186/AV186_adopted_sed.fits</i></p> <p><i>ETC estimates that SNR=20/resel is obtained at 1080 +/- 0.5 A in 7472.6468 s [COS.sp.1517518] This baseline exposure time was rounded to 7480 s (1870 s per FP-POS) No ETC Warnings Count Rate (Total, Segment A, Segment B) = (3211.526, 3142.953, 68.574) cts/s Brightest Pixel: 0.106 cts/s at 1216.21 A BUFFER TIME: (ETC, ETC * 2/3, Optimized) = (734, 489, 440) s</i></p> <p><i>For efficient orbit packing, the 4 FP-POS positions were broken into exposures with different integration times. Additionally, the exposures at FP-POS=2 and FP-POS=3 were further sub-divided into exposures (2a, 2b) and (3a, 3b) to achieve optimal packing. The net integration times for (POS1, POS2, POS3, and POS4) are (1696, 1696, 1696, 1694) seconds, respectively, and are only modestly "unbalanced." The total exposure time is 6782 s, which is 91% of the baseline value. As a result, the *planned* SNR=19.0/resel at 1080 A [COS.sp.1520312]. The ETC run associated with the *planned* SNR is noted in the APT field.</i></p> <p><i>BOT: 15 safe, 0 unknown in the GSC II catalog.</i></p>							
5	G130M/109 (1) AV186 6-2b (COS.sp.152 0312)	COS/FUV, TIME-TAG, PSA	G130M 1096 A	BUFFER-TIME=43 6; FP-POS=2	1418 Secs (1418 Secs)	[==>]	[2]
<p><i>Comments: The adopted SED corresponds to PoWR_35000_3.40_m6.52_Z0.14_smobar_ebmv_0.08.fits: ~/box/ullyses_tech/ullyses_proposals/c28_mc/16371/AV186/AV186_adopted_sed.fits</i></p> <p><i>ETC estimates that SNR=20/resel is obtained at 1080 +/- 0.5 A in 7472.6468 s [COS.sp.1517518] This baseline exposure time was rounded to 7480 s (1870 s per FP-POS) No ETC Warnings Count Rate (Total, Segment A, Segment B) = (3211.526, 3142.953, 68.574) cts/s Brightest Pixel: 0.106 cts/s at 1216.21 A BUFFER TIME: (ETC, ETC * 2/3, Optimized) = (734, 489, 440) s</i></p> <p><i>For efficient orbit packing, the 4 FP-POS positions were broken into exposures with different integration times. Additionally, the exposures at FP-POS=2 and FP-POS=3 were further sub-divided into exposures (2a, 2b) and (3a, 3b) to achieve optimal packing. The net integration times for (POS1, POS2, POS3, and POS4) are (1696, 1696, 1696, 1694) seconds, respectively, and are only modestly "unbalanced." The total exposure time is 6782 s, which is 91% of the baseline value. As a result, the *planned* SNR=19.0/resel at 1080 A [COS.sp.1520312]. The ETC run associated with the *planned* SNR is noted in the APT field.</i></p> <p><i>BOT: 15 safe, 0 unknown in the GSC II catalog.</i></p>							
6	G130M/109 (1) AV186 6-3a (COS.sp.152 0312)	COS/FUV, TIME-TAG, PSA	G130M 1096 A	BUFFER-TIME=48 9.; FP-POS=3	991 Secs (991 Secs)	[==>]	[2]
<p><i>Comments: The adopted SED corresponds to PoWR_35000_3.40_m6.52_Z0.14_smobar_ebmv_0.08.fits: ~/box/ullyses_tech/ullyses_proposals/c28_mc/16371/AV186/AV186_adopted_sed.fits</i></p> <p><i>ETC estimates that SNR=20/resel is obtained at 1080 +/- 0.5 A in 7472.6468 s [COS.sp.1517518] This baseline exposure time was rounded to 7480 s (1870 s per FP-POS) No ETC Warnings Count Rate (Total, Segment A, Segment B) = (3211.526, 3142.953, 68.574) cts/s Brightest Pixel: 0.106 cts/s at 1216.21 A BUFFER TIME: (ETC, ETC * 2/3, Optimized) = (734, 489, 440) s</i></p> <p><i>For efficient orbit packing, the 4 FP-POS positions were broken into exposures with different integration times. Additionally, the exposures at FP-POS=2 and FP-POS=3 were further sub-divided into exposures (2a, 2b) and (3a, 3b) to achieve optimal packing. The net integration times for (POS1, POS2, POS3, and POS4) are (1696, 1696, 1696, 1694) seconds, respectively, and are only modestly "unbalanced." The total exposure time is 6782 s, which is 91% of the baseline value. As a result, the *planned* SNR=19.0/resel at 1080 A [COS.sp.1520312]. The ETC run associated with the *planned* SNR is noted in the APT field.</i></p> <p><i>BOT: 15 safe, 0 unknown in the GSC II catalog.</i></p>							

Proposal 16371 - AV186-COS (1D) - ULLYSES SMC O8-O9 Stars COS

7	G130M/109 (1) AV186 6-3b (COS.sp.152 0312)	COS/FUV, TIME-TAG, PSA	G130M 1096 A	BUFFER-TIME=29 8; FP-POS=3	705 Secs (705 Secs)	[3]
<p>Comments: The adopted SED corresponds to PoWR_35000_3.40_m6.52_Z0.14_smcbar_ebmv_0.08.fits: ~/box/ullyses_tech/ullyses_proposals/c28_mc/16371/AV186/AV186_adopted_sed.fits</p>						
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8	G130M/109 (1) AV186 6-4 (COS.sp.152 0312)	COS/FUV, TIME-TAG, PSA	G130M 1096 A	BUFFER-TIME=48 9.; FP-POS=4	1694 Secs (1694 Secs)	[3]
<p>Comments: The adopted SED corresponds to PoWR_35000_3.40_m6.52_Z0.14_smcbar_ebmv_0.08.fits: ~/box/ullyses_tech/ullyses_proposals/c28_mc/16371/AV186/AV186_adopted_sed.fits</p>						
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Visit	<p>Proposal 16371, AV186-COS (AD), failed</p> <p>Diagnostic Status: No Diagnostics</p> <p>Scientific Instruments: COS/FUV</p> <p>Special Requirements: SCHED 100%</p> <p><i>Comments: vstatus; IC; AV186; P/COS approved for submission; P/AF 16/06/21 ; intrev: complete ; P/JRD 07/06/21</i></p> <p><i>vcheck; Enter targ name & Inst. & Resp. Sci.; AV186 ; COS ; AF</i></p> <p><i>vcheck; ETC numbers entered in APT?; Completed</i></p> <p><i>vcheck; Any screening violations?; None</i></p> <p><i>vcheck; S/N ETC calcs done & documented?; Completed</i></p> <p><i>vcheck; Field images checked & saved?; Yes - AV186_DSS.png and AV186_2MASS.png</i></p> <p><i>vcheck; Selected ACQ strategy?; Dispersed G130M/1291</i></p> <p><i>vcheck; Possible ACQ or Sci spoilers?; None</i></p> <p><i>vcheck; Field BOT clear?; Yes - 15 safe, 0 unknown</i></p> <p><i>vcheck; Visual BOT check for stars not in catalog?; Completed - no issues</i></p> <p><i>vcheck; Orbit packing finalized?; 3 orbits for G130M/1096: needed to reduce nominal exposure times and treat each G130M/1096 FP-POS exposure separately. See notes.</i></p> <p><i>vcheck; Verify visit grouping correct; Not applicable</i></p> <p><i>vcheck; Is visit ready for int. review?; Yes</i></p> <p><i>Allocated COS orbits = 4 (split into 2 visits, 1 + 3 orbits)</i></p>																																	
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#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous																													
(1)	AV186	RA: 00 57 26.9409 (14.3622537d)		V=13.98	Reference Frame: ICRS																													
	Alt Name1: NGC330-13	Dec: -72 33 13.58 (-72.55377d)		SpT=O8.5 III((f)); E(B-V)=0.06;																														
	Alt Name2: NGC-330-ELS-013	Equinox: J2000		U=12.75,																														
				B=13.77; V=13.98; F1160=3.28e-13; F1360=2.65e-13; F1700=1.83e-13; F2200=1.05e-13																														

Proposal 16371 - AV186-COS (AD) - ULLYSES SMC O8-O9 Stars COS

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	ACQ/PEAK XD (COS.sa.151 7328)	(1) AV186	COS/FUV, ACQ/PEAKXD, PSA	G130M 1291 A	CENTER=FLUX-W T; NUM-POS=3; STEP-SIZE=1.3; SEGMENT=BOTH			0.3 Secs (0.3 Secs)	
								[==>]	[1]
<p><i>Comments: TA in light dispersed by G130M/1291 was selected for efficiency.</i></p> <p><i>The adopted SED corresponds to PoWR_35000_3.40_m6.52_Z0.14_smcbars_ebmvs_0.08.fits: ~/box/ullyses_tech/ullyses_proposals/c28_mc/16371/AV186/AV186_adopted_sed.fits</i></p> <p><i>ETC estimates that SNR=40 is obtained for Segments A and B combined in 0.2551 s per dwell point; see COS.sa.1517328. This baseline exposure time was rounded up to 0.3 s per dwell point. No ETC Warnings</i></p> <p><i>BOT XD: 15 safe, 0 unknown in the GSC II catalog. BOT D: 20 safe, 0 unknown in the GSC II catalog. There are no spoiler stars within 43 arcsec of the center of the PSA: see ~/box/ullyses_tech/ullyses_proposals/c28_mc/16371/AV186/AV186_DSS.png ~/box/ullyses_tech/ullyses_proposals/c28_mc/16371/AV186/AV186_2MASS.png</i></p>									
2	ACQ/PEAK D (COS.sa.151 7328)	(1) AV186	COS/FUV, ACQ/PEAKD, PSA	G130M 1291 A	CENTER=FLUX-W T-FLR; NUM-POS=5; STEP-SIZE=0.9; SEGMENT=BOTH			0.3 Secs (0.3 Secs)	
								[==>]	[1]
<p><i>Comments: TA in light dispersed by G130M/1291 was selected for efficiency.</i></p> <p><i>The adopted SED corresponds to PoWR_35000_3.40_m6.52_Z0.14_smcbars_ebmvs_0.08.fits: ~/box/ullyses_tech/ullyses_proposals/c28_mc/16371/AV186/AV186_adopted_sed.fits</i></p> <p><i>ETC estimates that SNR=40 is obtained for Segments A and B combined in 0.2551 s per dwell point; see COS.sa.1517328. This baseline exposure time was rounded up to 0.3 s per dwell point. No ETC Warnings</i></p> <p><i>BOT XD: 15 safe, 0 unknown in the GSC II catalog. BOT D: 20 safe, 0 unknown in the GSC II catalog. There are no spoiler stars within 43 arcsec of the center of the PSA: see ~/box/ullyses_tech/ullyses_proposals/c28_mc/16371/AV186/AV186_DSS.png ~/box/ullyses_tech/ullyses_proposals/c28_mc/16371/AV186/AV186_2MASS.png</i></p>									

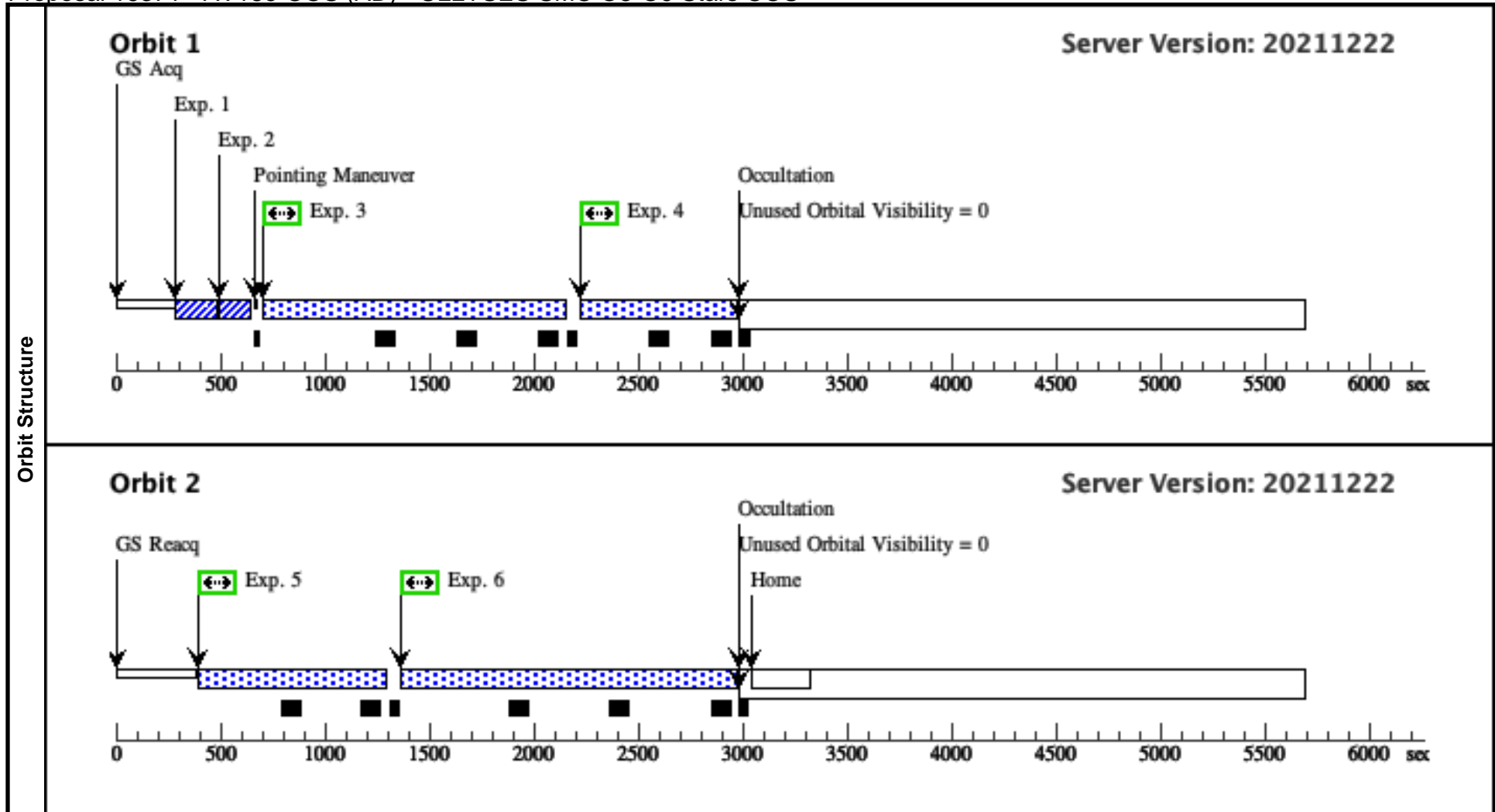
Exposures

Proposal 16371 - AV186-COS (AD) - ULLYSES SMC O8-O9 Stars COS

3	G130M/109 (1) AV186 6-2b (COS.sp.152 0312)	COS/FUV, TIME-TAG, PSA	G130M 1096 A	BUFFER-TIME=38 9; FP-POS=2	1277 Secs (1277 Secs)	[1]
<p>Comments: The adopted SED corresponds to PoWR_35000_3.40_m6.52_Z0.14_smobar_ebmv_0.08.fits: ~/box/ullyses_tech/ullyses_proposals/c28_mc/16371/AV186/AV186_adopted_sed.fits</p>					[==>]	
<p>ETC estimates that SNR=20/resel is obtained at 1080 +/- 0.5 A in 7472.6468 s [COS.sp.1517518] This baseline exposure time was rounded to 7480 s (1870 s per FP-POS) No ETC Warnings Count Rate (Total, Segment A, Segment B) = (3211.526, 3142.953, 68.574) cts/s Brightest Pixel: 0.106 cts/s at 1216.21 A BUFFER TIME: (ETC, ETC * 2/3, Optimized) = (734, 489, 389) s</p> <p>For efficient orbit packing, the 4 FP-POS positions were broken into exposures with different integration times. Additionally, the exposures at FP-POS=2 and FP-POS=3 were further sub-divided into exposures (2a, 2b) and (3a, 3b) to achieve optimal packing. The net integration times for (POS1, POS2, POS3, and POS4) are (1696, 1696, 1696, 1694) seconds, respectively, and are only modestly "unbalanced." The total exposure time is 6782 s, which is 91% of the baseline value. As a result, the *planned* SNR=19.0/resel at 1080 A [COS.sp.1520312]. The ETC run associated with the *planned* SNR is noted in the APT field.</p> <p>**Addendum for Visit AD (repeat of orbits 2 and 3 of Visit 1D): After including the need for a dispersed light TA, the durations of exposures G130M/1096-2b, -3a, -3b, and -4 were adjusted to achieve a net exposure of 1555s for FP-POS positions 2, 3, and 4. Consequently, the total exposure time in the 4 FP-POS is somewhat unbalanced, with the first (archived from Visit 1D) exposure having longer duration: (FP-POS1, FP-POS2, FP-POS3, FP-POS4) = (1696 s, 1555 s, 1555 s, 1555s). The total exposure time is 6361 s, which is 85% of the baseline exposure time. Consequently, the predicted S/N in the final combined product of Visit 1D + Visit AD is ~18.</p> <p>BOT: 15 safe, 0 unknown in the GSC II catalog.</p>						
4	G130M/109 (1) AV186 6-3a (COS.sp.152 0312)	COS/FUV, TIME-TAG, PSA	G130M 1096 A	BUFFER-TIME=29 6; FP-POS=3	701 Secs (701 Secs)	[1]
<p>Comments: The adopted SED corresponds to PoWR_35000_3.40_m6.52_Z0.14_smobar_ebmv_0.08.fits: ~/box/ullyses_tech/ullyses_proposals/c28_mc/16371/AV186/AV186_adopted_sed.fits</p>					[==>]	
<p>ETC estimates that SNR=20/resel is obtained at 1080 +/- 0.5 A in 7472.6468 s [COS.sp.1517518] This baseline exposure time was rounded to 7480 s (1870 s per FP-POS) No ETC Warnings Count Rate (Total, Segment A, Segment B) = (3211.526, 3142.953, 68.574) cts/s Brightest Pixel: 0.106 cts/s at 1216.21 A BUFFER TIME: (ETC, ETC * 2/3, Optimized) = (734, 489, 296) s</p> <p>For efficient orbit packing, the 4 FP-POS positions were broken into exposures with different integration times. Additionally, the exposures at FP-POS=2 and FP-POS=3 were further sub-divided into exposures (2a, 2b) and (3a, 3b) to achieve optimal packing. The net integration times for (POS1, POS2, POS3, and POS4) are (1696, 1696, 1696, 1694) seconds, respectively, and are only modestly "unbalanced." The total exposure time is 6782 s, which is 91% of the baseline value. As a result, the *planned* SNR=19.0/resel at 1080 A [COS.sp.1520312]. The ETC run associated with the *planned* SNR is noted in the APT field.</p> <p>**Addendum for Visit AD (repeat of orbits 2 and 3 of Visit 1D): After including the need for a dispersed light TA, the durations of exposures G130M/1096-2b, -3a, -3b, and -4 were adjusted to achieve a net exposure of 1555s for FP-POS positions 2, 3, and 4. Consequently, the total exposure time in the 4 FP-POS is somewhat unbalanced, with the first (archived from Visit 1D) exposure having longer duration: (FP-POS1, FP-POS2, FP-POS3, FP-POS4) = (1696 s, 1555 s, 1555 s, 1555s). The total exposure time is 6361 s, which is 85% of the baseline exposure time. Consequently, the predicted S/N in the final combined product of Visit 1D + Visit AD is ~18.</p> <p>BOT: 15 safe, 0 unknown in the GSC II catalog.</p>						

Proposal 16371 - AV186-COS (AD) - ULLYSES SMC O8-O9 Stars COS

<p>5 G130M/109 (1) AV186 COS/FUV, TIME-TAG, PSA G130M BUFFER-TIME=37 6-3b 1096 A 2; (COS.sp.152 FP-POS=3 0312)</p>	854 Secs (854 Secs)	
	[==>]	[2]
<p><i>Comments: The adopted SED corresponds to PoWR_35000_3.40_m6.52_Z0.14_smobar_ebmv_0.08.fits: ~/box/ullyses_tech/ullyses_proposals/c28_mc/16371/AV186/AV186_adopted_sed.fits</i></p> <p><i>ETC estimates that SNR=20/resel is obtained at 1080 +/- 0.5 A in 7472.6468 s [COS.sp.1517518] This baseline exposure time was rounded to 7480 s (1870 s per FP-POS) No ETC Warnings Count Rate (Total, Segment A, Segment B) = (3211.526, 3142.953, 68.574) cts/s Brightest Pixel: 0.106 cts/s at 1216.21 A BUFFER TIME: (ETC, ETC * 2/3, Optimized) = (734, 489, 372) s</i></p> <p><i>For efficient orbit packing, the 4 FP-POS positions were broken into exposures with different integration times. Additionally, the exposures at FP-POS=2 and FP-POS=3 were further sub-divided into exposures (2a, 2b) and (3a, 3b) to achieve optimal packing. The net integration times for (POS1, POS2, POS3, and POS4) are (1696, 1696, 1696, 1694) seconds, respectively, and are only modestly "unbalanced." The total exposure time is 6782 s, which is 91% of the baseline value. As a result, the *planned* SNR=19.0/resel at 1080 A [COS.sp.1520312]. The ETC run associated with the *planned* SNR is noted in the APT field.</i></p> <p><i>**Addendum for Visit AD (repeat of orbits 2 and 3 of Visit 1D): After including the need for a dispersed light TA, the durations of exposures G130M/1096-2b, -3a, -3b, and -4 were adjusted to achieve a net exposure of 1555s for FP-POS positions 2, 3, and 4. Consequently, the total exposure time in the 4 FP-POS is somewhat unbalanced, with the first (archived from Visit 1D) exposure having longer duration: (FP-POS1, FP-POS2, FP-POS3, FP-POS4) = (1696 s, 1555 s, 1555 s, 1555s). The total exposure time is 6361 s, which is 85% of the baseline exposure time. Consequently, the predicted S/N in the final combined product of Visit 1D + Visit AD is ~18.</i></p> <p><i>BOT: 15 safe, 0 unknown in the GSC II catalog.</i></p>		
<p>6 G130M/109 (1) AV186 COS/FUV, TIME-TAG, PSA G130M BUFFER-TIME=48 6-4 1096 A 2; (COS.sp.152 FP-POS=4 0312)</p>	1555 Secs (1555 Secs)	
	[==>]	[2]
<p><i>Comments: The adopted SED corresponds to PoWR_35000_3.40_m6.52_Z0.14_smobar_ebmv_0.08.fits: ~/box/ullyses_tech/ullyses_proposals/c28_mc/16371/AV186/AV186_adopted_sed.fits</i></p> <p><i>ETC estimates that SNR=20/resel is obtained at 1080 +/- 0.5 A in 7472.6468 s [COS.sp.1517518] This baseline exposure time was rounded to 7480 s (1870 s per FP-POS) No ETC Warnings Count Rate (Total, Segment A, Segment B) = (3211.526, 3142.953, 68.574) cts/s Brightest Pixel: 0.106 cts/s at 1216.21 A BUFFER TIME: (ETC, ETC * 2/3, Optimized) = (734, 489, 482) s</i></p> <p><i>For efficient orbit packing, the 4 FP-POS positions were broken into exposures with different integration times. Additionally, the exposures at FP-POS=2 and FP-POS=3 were further sub-divided into exposures (2a, 2b) and (3a, 3b) to achieve optimal packing. The net integration times for (POS1, POS2, POS3, and POS4) are (1696, 1696, 1696, 1694) seconds, respectively, and are only modestly "unbalanced." The total exposure time is 6782 s, which is 91% of the baseline value. As a result, the *planned* SNR=19.0/resel at 1080 A [COS.sp.1520312]. The ETC run associated with the *planned* SNR is noted in the APT field.</i></p> <p><i>**Addendum for Visit AD (repeat of orbits 2 and 3 of Visit 1D): After including the need for a dispersed light TA, the durations of exposures G130M/1096-2b, -3a, -3b, and -4 were adjusted to achieve a net exposure of 1555s for FP-POS positions 2, 3, and 4. Consequently, the total exposure time in the 4 FP-POS is somewhat unbalanced, with the first (archived from Visit 1D) exposure having longer duration: (FP-POS1, FP-POS2, FP-POS3, FP-POS4) = (1696 s, 1555 s, 1555 s, 1555s). The total exposure time is 6361 s, which is 85% of the baseline exposure time. Consequently, the predicted S/N in the final combined product of Visit 1D + Visit AD is ~18.</i></p> <p><i>BOT: 15 safe, 0 unknown in the GSC II catalog.</i></p>		



Visit	<p>Proposal 16371, AV186-COS (FD)</p> <p>Diagnostic Status: No Diagnostics</p> <p>Scientific Instruments: COS/FUV</p> <p>Special Requirements: SCHED 100%</p> <p><i>Comments: vstatus; IC; AV186; P/COS approved for submission; P/AF 16/06/21 ; intrev: complete ; P/JRD 07/06/21 vcheck; Enter targ name & Inst. & Resp. Sci.; AV186 ; COS ; AF vcheck; ETC numbers entered in APT?; Completed vcheck; Any screening violations?; None vcheck; S/N ETC calcs done & documented?; Completed vcheck; Field images checked & saved?; Yes - AV186_DSS.png and AV186_2MASS.png vcheck; Selected ACQ strategy?; Dispersed G130M/1291 vcheck; Possible ACQ or Sci spoilers?; None vcheck; Field BOT clear?; Yes - 15 safe, 0 unknown vcheck; Visual BOT check for stars not in catalog?; Completed - no issues vcheck; Orbit packing finalized?; 3 orbits for G130M/1096: needed to reduce nominal exposure times and treat each G130M/1096 FP-POS exposure separately. See notes. vcheck; Verify visit grouping correct; Not applicable vcheck; Is visit ready for int. review?; Yes Allocated COS orbits = 4 (split into 2 visits, 1 + 3 orbits)</i></p> <p><i>Notes for Visit FD.</i></p> <p><i>Visit FD was approved by the TTRB (HOPR 92173) as a repeat of the second orbit of Visit AD, which failed to reacquire guide stars. As a result, the COS shutter remaining closed for the COS G130M/1096 "top-up" sub-exposure planned for FP-POS=3 and the entire sub-exposure at FP-POS-4. Visit FD replans both sub-exposures with slightly reduced exposure times to accommodate the need for a dispersed-light target acquisition within a single orbit.</i></p>
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Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
	(1)	AV186 Alt Name1: NGC330-13 Alt Name2: NGC-330-ELS-013	RA: 00 57 26.9409 (14.3622537d) Dec: -72 33 13.58 (-72.55377d) Equinox: J2000		V=13.98 SpT=O8.5 III((f)); E(B-V)=0.06; U=12.75, B=13.77; V=13.98; F1160=3.28 e-13; F1360=2.65e-13; F1700=1.83e-13; F2200=1.05e-13	Reference Frame: ICRS
	<p><i>Comments: tstatus; AV186; P/COS approved for submission; S/ins not started; P/AF 4/06/21; S/xx DD/MM/YY tcheck; APT/SIMBAD target names: ; AV186, 'AzV 186' ... other aliases include 2dFS 1230, Cl* NGC330 ELS 13, M2002 SMC 40341 tcheck; Target info verification status?; OK ... The spectral type is from 2016ApJ...817..113L O8.5 III((f)). Updated the photometry to use to use photometry and reddening to use values from 2002ApJS..141...81M, which (together with the spectral type) imply E(B-V) = 0.06. tcheck; Coordinates & P.M. updated?; Yes, Gaia DR2 tcheck; Adopted SED compared to Observations?; Yes ... The selection of a model spectrum was based on the analysis of the optical spectrum of AV 186 by Mokiem et al. (2006A&A...456.1131M). Models with values of (Teff, log g) bracketing those determined by Mokiem et al. were selected from the PoWR grid for SMC metallicity (Z=0.14) and compared with the observational material, which consists of IUE spectra and UBV photometry. The model flux was scaled to the distance of the SMC and attenuated by an SMCbar extinction law with E(B-V) = 0.08. This reddening is slightly larger than the value of 0.06 implied by the photometry of Massey (2002ApJS..141...81M), but well within the uncertainties of the measurements. An additional flux scaling factor of 0.22 was required to get a good match with the available IUE spectra and UBV photometry. The need for this factor indicates that the luminosity of the model does not match the luminosity of AV 186. The adopted SED corresponds to the file PoWR_35000_3.40_m6.52_Z0.14_smcbar_ebmv_0.08_sed.fits. Adopted SED: ~/box/ullyses_tech/ullyses_proposals/c28_mc/16371/AV186/AV186_adopted_sed.fits Adopted SED illustrated: ~/box/ullyses_tech/ullyses_proposals/c28_mc/16371/AV186/AV186_adopted_sed_vs_IUE.png Alternate illustration: ~/box/ullyses_tech/ullyses_proposals/c28_mc/16371/AV186/AV186_model.pdf Category=EXT-STAR Description=[GIANT O, OF] Extended=NO</i></p>					

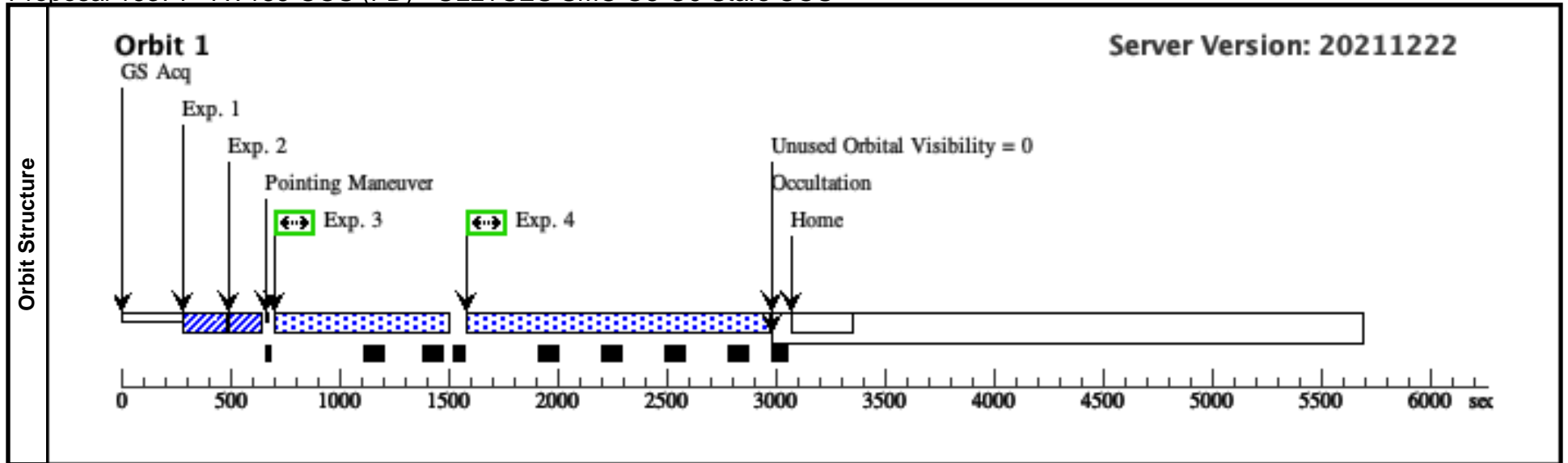
Proposal 16371 - AV186-COS (FD) - ULLYSES SMC O8-O9 Stars COS

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	ACQ/PEAK XD (COS.sa.151 7328)	(1) AV186	COS/FUV, ACQ/PEAKXD, PSA	G130M 1291 A	CENTER=FLUX-W T; NUM-POS=3; STEP-SIZE=1.3; SEGMENT=BOTH			0.3 Secs (0.3 Secs)	
								[==>]	[1]
<p><i>Comments: TA in light dispersed by G130M/1291 was selected for efficiency.</i></p> <p><i>The adopted SED corresponds to PoWR_35000_3.40_m6.52_Z0.14_smcbars_ebmvs_0.08.fits: ~/box/ullyses_tech/ullyses_proposals/c28_mc/16371/AV186/AV186_adopted_sed.fits</i></p> <p><i>ETC estimates that SNR=40 is obtained for Segments A and B combined in 0.2551 s per dwell point; see COS.sa.1517328. This baseline exposure time was rounded up to 0.3 s per dwell point. No ETC Warnings</i></p> <p><i>BOT XD: 15 safe, 0 unknown in the GSC II catalog. BOT D: 20 safe, 0 unknown in the GSC II catalog. There are no spoiler stars within 43 arcsec of the center of the PSA: see ~/box/ullyses_tech/ullyses_proposals/c28_mc/16371/AV186/AV186_DSS.png ~/box/ullyses_tech/ullyses_proposals/c28_mc/16371/AV186/AV186_2MASS.png</i></p>									
2	ACQ/PEAK D (COS.sa.151 7328)	(1) AV186	COS/FUV, ACQ/PEAKD, PSA	G130M 1291 A	CENTER=FLUX-W T-FLR; NUM-POS=5; STEP-SIZE=0.9; SEGMENT=BOTH			0.3 Secs (0.3 Secs)	
								[==>]	[1]
<p><i>Comments: TA in light dispersed by G130M/1291 was selected for efficiency.</i></p> <p><i>The adopted SED corresponds to PoWR_35000_3.40_m6.52_Z0.14_smcbars_ebmvs_0.08.fits: ~/box/ullyses_tech/ullyses_proposals/c28_mc/16371/AV186/AV186_adopted_sed.fits</i></p> <p><i>ETC estimates that SNR=40 is obtained for Segments A and B combined in 0.2551 s per dwell point; see COS.sa.1517328. This baseline exposure time was rounded up to 0.3 s per dwell point. No ETC Warnings</i></p> <p><i>BOT XD: 15 safe, 0 unknown in the GSC II catalog. BOT D: 20 safe, 0 unknown in the GSC II catalog. There are no spoiler stars within 43 arcsec of the center of the PSA: see ~/box/ullyses_tech/ullyses_proposals/c28_mc/16371/AV186/AV186_DSS.png ~/box/ullyses_tech/ullyses_proposals/c28_mc/16371/AV186/AV186_2MASS.png</i></p>									

Exposures

Proposal 16371 - AV186-COS (FD) - ULLYSES SMC O8-09 Stars COS

<p>3 G130M/109 (1) AV186 COS/FUV, TIME-TAG, PSA G130M BUFFER-TIME=26 6-3b 1096 A 2; (COS.sp.152 FP-POS=3 0312)</p>	<p>633 Secs (633 Secs)</p>	
	<p>[==>]</p>	<p>[1]</p>
<p>Comments: The adopted SED corresponds to PoWR_35000_3.40_m6.52_Z0.14_smobar_ebmv_0.08.fits: ~/box/ullyses_tech/ullyses_proposals/c28_mc/16371/AV186/AV186_adopted_sed.fits</p> <p>ETC estimates that SNR=20/resel is obtained at 1080 +/- 0.5 A in 7472.6468 s [COS.sp.1517518] This baseline exposure time was rounded to 7480 s (1870 s per FP-POS) No ETC Warnings Count Rate (Total, Segment A, Segment B) = (3211.526, 3142.953, 68.574) cts/s Brightest Pixel: 0.106 cts/s at 1216.21 A BUFFER TIME: (ETC, ETC * 2/3, Optimized) = (734, 489, 389) s</p> <p>For efficient orbit packing, the 4 FP-POS positions were broken into exposures with different integration times. Additionally, the exposures at FP-POS=2 and FP-POS=3 were further sub-divided into exposures (2a, 2b) and (3a, 3b) to achieve optimal packing. The net integration times for (POS1, POS2, POS3, and POS4) are (1696, 1696, 1696, 1694) seconds, respectively, and are only modestly "unbalanced." The total exposure time is 6782 s, which is 91% of the baseline value. As a result, the *planned* SNR=19.0/resel at 1080 A [COS.sp.1520312]. The ETC run associated with the *planned* SNR is noted in the APT field.</p> <p>**Addendum for Visit AD (repeat of orbits 2 and 3 of Visit ID): After including the need for a dispersed light TA, the durations of exposures G130M/1096-2b, -3a, -3b, and -4 were adjusted to achieve a net exposure of 1555s for FP-POS positions 2, 3, and 4. Consequently, the total exposure time in the 4 FP-POS is somewhat unbalanced, with the first (archived from Visit ID) exposure having longer duration: (FP-POS1, FP-POS2, FP-POS3, FP-POS4) = (1696 s, 1555 s, 1555 s, 1555s). The total exposure time is 6361 s, which is 85% of the baseline exposure time. Consequently, the predicted S/N in the final combined product of Visit ID + Visit AD is ~18.</p> <p>**Addendum for Visit FD (repeat of orbit 3 of Visit AD): After including the need for a dispersed light TA, the durations of exposures G130M/1096-3b and -4 were adjusted to achieve balanced exposure time for FP-POS3 and FP-POS4 of 1334 s. The buffer times were also adjusted to ensure efficient orbit packing. As a result of this replanning, the total exposure time is distributed unevenly across the 4 FP-POS positions. The contributions to the COS G103M/1096 spectrum from Visit ID, AD, and FD for (FP-POS1, FP-POS2, FP-POS3, FP-POS4) are, respectively (1696, 278, 0, 0) + (0, 1277, 701, 0) + (0, 0, 633, 1335) = (1696, 1555, 1334, 1335) seconds. The total exposure time is 5920 seconds, which is 79% of the baseline exposure time to achieve S/N = 20 at the fiducial wavelength (1170 Angstroms). Consequently, the estimated S/N in the final COS G130M/1096 data product from Visit ID + Visit AD + Visit FD is estimated to be $\sqrt{(79)*20} = 17.7$ per resel at 1070 Angstroms.</p> <p>BOT: 15 safe, 0 unknown in the GSC II catalog.</p>		
<p>4 G130M/109 (1) AV186 COS/FUV, TIME-TAG, PSA G130M BUFFER-TIME=29 6-4 1096 A 0; (COS.sp.152 FP-POS=4 0312)</p>	<p>1335 Secs (1335 Secs)</p>	
	<p>[==>]</p>	<p>[1]</p>
<p>Comments: The adopted SED corresponds to PoWR_35000_3.40_m6.52_Z0.14_smobar_ebmv_0.08.fits: ~/box/ullyses_tech/ullyses_proposals/c28_mc/16371/AV186/AV186_adopted_sed.fits</p> <p>ETC estimates that SNR=20/resel is obtained at 1080 +/- 0.5 A in 7472.6468 s [COS.sp.1517518] This baseline exposure time was rounded to 7480 s (1870 s per FP-POS) No ETC Warnings Count Rate (Total, Segment A, Segment B) = (3211.526, 3142.953, 68.574) cts/s Brightest Pixel: 0.106 cts/s at 1216.21 A BUFFER TIME: (ETC, ETC * 2/3, Optimized) = (734, 489, 296) s</p> <p>For efficient orbit packing, the 4 FP-POS positions were broken into exposures with different integration times. Additionally, the exposures at FP-POS=2 and FP-POS=3 were further sub-divided into exposures (2a, 2b) and (3a, 3b) to achieve optimal packing. The net integration times for (POS1, POS2, POS3, and POS4) are (1696, 1696, 1696, 1694) seconds, respectively, and are only modestly "unbalanced." The total exposure time is 6782 s, which is 91% of the baseline value. As a result, the *planned* SNR=19.0/resel at 1080 A [COS.sp.1520312]. The ETC run associated with the *planned* SNR is noted in the APT field.</p> <p>**Addendum for Visit AD (repeat of orbits 2 and 3 of Visit ID): After including the need for a dispersed light TA, the durations of exposures G130M/1096-2b, -3a, -3b, and -4 were adjusted to achieve a net exposure of 1555s for FP-POS positions 2, 3, and 4. Consequently, the total exposure time in the 4 FP-POS is somewhat unbalanced, with the first (archived from Visit ID) exposure having longer duration: (FP-POS1, FP-POS2, FP-POS3, FP-POS4) = (1696 s, 1555 s, 1555 s, 1555s). The total exposure time is 6361 s, which is 85% of the baseline exposure time. Consequently, the predicted S/N in the final combined product of Visit ID + Visit AD is ~18.</p> <p>**Addendum for Visit FD (repeat of orbit 3 of Visit AD): After including the need for a dispersed light TA, the durations of exposures G130M/1096-3b and -4 were adjusted to achieve balanced exposure time for FP-POS3 and FP-POS4 of 1334 s. The buffer times were also adjusted to ensure efficient orbit packing. As a result of this replanning, the total exposure time is distributed unevenly across the 4 FP-POS positions. The contributions to the COS G103M/1096 spectrum from Visit ID, AD, and FD for (FP-POS1, FP-POS2, FP-POS3, FP-POS4) are, respectively (1696, 278, 0, 0) + (0, 1277, 701, 0) + (0, 0, 633, 1335) = (1696, 1555, 1334, 1335) seconds. The total exposure time is 5920 seconds, which is 79% of the baseline exposure time to achieve S/N = 20 at the fiducial wavelength (1170 Angstroms). Consequently, the estimated S/N in the final COS G130M/1096 data product from Visit ID + Visit AD + Visit FD is estimated to be $\sqrt{(79)*20} = 17.7$ per resel at 1070 Angstroms.</p> <p>BOT: 15 safe, 0 unknown in the GSC II catalog.</p>		



Proposal 16371 - M2002-SMC-81469-COS (2C) - ULLYSES SMC O8-O9 Stars COS

Thu Mar 03 20:09:46 GMT 2022

Visit	<p>Proposal 16371, M2002-SMC-81469-COS (2C), completed</p> <p>Diagnostic Status: Warning</p> <p>Scientific Instruments: COS/FUV</p> <p>Special Requirements: SCHED 100%</p> <p><i>Comments: vstatus; 2C; M2002-SMC-81469; P/COS approved for submission; P/AF 7/06/21 ; intrev: complete ; P/JRD 07/06/21</i></p> <p><i>vcheck; Enter targ name & Inst. & Resp. Sci.; M2002-SMC-81469 ; COS ; AF</i></p> <p><i>vcheck; ETC numbers entered in APT?; Completed</i></p> <p><i>vcheck; Any screening violations?; None - ETC warning is benign for this star</i></p> <p><i>vcheck; S/N ETC calcs done & documented?; Completed</i></p> <p><i>vcheck; Field images checked & saved?; Yes - M2002-SMC-81469_DSS.png and M2002-SMC-81469_2MASS.png</i></p> <p><i>vcheck; Selected ACQ strategy?; Dispersed G130M/1291</i></p> <p><i>vcheck; Possible ACQ or Sci spoilers?; 1 possible ACQ spoiler, but unlikely to be an issue since ~3 times fainter than target</i></p> <p><i>vcheck; Field BOT clear?; Yes - 7 safe, 1 unknown in the GSC II catalog, Unknown star is in fact the target.</i></p> <p><i>vcheck; Visual BOT check for stars not in catalog?; Completed - no issues</i></p> <p><i>vcheck; Orbit packing finalized?; 3 orbits: 1 for G130M/1291 + G160M/1611 and 2 for G130M/1096</i></p> <p><i>vcheck; Buffer times optimized?; Yes</i></p> <p><i>vcheck; Verify visit grouping correct; Not applicable</i></p> <p><i>vcheck; Is visit ready for int. review?; Yes</i></p> <p><i>Allocated COS orbits = 3</i></p>					
	Diagnostics	<p>(M2002-SMC-81469-COS (2C)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN</p>				
Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
	(2)	M2002-SMC-81469 Alt Name1: SMCSGS-FS-90	RA: 01 24 27.9855 (21.1166062d) Dec: -73 14 14.96 (-73.23749d) Equinox: J2000		V=13.97 SpT=O9.7 V; E(B-V)=0.06; U=12.78; B=13.77; V=13.97	Reference Frame: ICRS
<p><i>Comments: tstatus; M2002-SMC-81469; P/COS approved for submission; S/ins not started; P/AF 4/06/21; S/xx DD/MM/YY</i></p> <p><i>tcheck; APT/SIMBAD target names: ; M2002-SMC-81469, 'M2002.SMC 81469' ...</i></p> <p><i>other aliases include [SMCSGS-FS] 90, 2MASS J01242798-7314150</i></p> <p><i>tcheck; Target info verification status?; OK ...</i></p> <p><i>The spectral type is from 2019A&A...625A.104R. The photometry is from 2002ApJS..141...81M.</i></p> <p><i>tcheck; Coordinates & P.M. updated?; Yes, Gaia DR2</i></p> <p><i>tcheck; Adopted SED compared to Observations?; Yes ...</i></p> <p><i>The selection of a model spectrum was based on the analysis of the optical spectrum of M2002 SMC 81469 = [SMCSGS-FS] 90 by Ramachandran et al. (2019A&A...625A.104R). A model with (Teff, log g) closest to the values determined by Ramachandran et al. was selected from the PoWR grid for SMC metallicity (Z=0.14) and compared with the available observational material, which consists only of UVB photometry. The model flux was scaled to the distance of the SMC and attenuated by an SMCbar extinction law with E(B-V) = 0.06. This reddening is identical to the value determined by the photometry of Massey (2002ApJS..141...81M). An additional flux scaling factor of 3.78 was required to get a good match with the UVB photometry. The need for this factor indicates that the luminosity of the model does not match the luminosity of M2002 SMC 81469. The adopted SED corresponds to the file PoWR_31000_4.00_m7.36_Z0.14_smcbar_ebmV_0.06_sed.fits</i></p> <p><i>Adopted SED: ~/box/ullyses_tech/ullyses_proposals/c28_mc/16371/M2002-SMC-81469/M2002-SMC-81469_adopted_sed.fits</i></p> <p><i>Adopted SED illustrated: ~/box/ullyses_tech/ullyses_proposals/c28_mc/16371/M2002-SMC-81469/M2002-SMC-81469_adopted_sed_vs_UBV.png</i></p> <p><i>Alternate illustration: ~/box/ullyses_tech/ullyses_proposals/c28_mc/16371/M2002-SMC-81469/M2002-SMC-81469_model.pdf</i></p> <p><i>Category=EXT-STAR</i></p> <p><i>Description=[MAIN SEQUENCE O]</i></p> <p><i>Extended=NO</i></p>						

Proposal 16371 - M2002-SMC-81469-COS (2C) - ULLYSES SMC O8-O9 Stars COS

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	ACQ/PEAK (2) M2002-SMC-814 XD 69 (COS.sa.151 7333)	(2) M2002-SMC-814	COS/FUV, ACQ/PEAKXD, PSA	G130M 1291 A	CENTER=FLUX-W T; NUM-POS=3; STEP-SIZE=1.3; SEGMENT=BOTH			0.4 Secs (0.4 Secs)	
								[==>]	[1]
<p>Comments: TA in light dispersed by G130M/1291 was selected for efficiency.</p> <p>The adopted SED corresponds to PoWR_31000_4.00_m7.36_Z0.14_smcbars_ebmvs_0.06_sed.fits: ~/box/ullyses_tech/ullyses_proposals/c28_mc/16371/M2002-SMC-81469/M2002-SMC-81469_adopted_sed.fits</p> <p>ETC estimates that SNR=40 is obtained for Segments A and B combined in 0.1754 s per dwell point; see COS.sa.1517333. This baseline exposure time was rounded up to 0.4 s per dwell point to allow for uncertainty in the UV flux caused by extrapolation from UVB photometry. The ETC Warning "Segment count rate exceeds limit for irregularly variable sources" is not applicable to M2002-SMC-81469.</p> <p>BOT XD: 7 safe, 1 unknown in the GSC II catalog. The "unknown" star is the science target, which is safe to observe. BOT D: 8 safe, 1 unknown in the GSC II catalog. The "unknown" star is the science target, which is safe to observe.</p> <p>There are 2 potential spoiler stars within 43 arcsec of the center of the PSA: see ~/box/ullyses_tech/ullyses_proposals/c28_mc/16371/M2002-SMC-81469/M2002-SMC-81469_DSS.png ~/box/ullyses_tech/ullyses_proposals/c28_mc/16371/M2002-SMC-81469/M2002-SMC-81469_2MASS.png</p> <p>Information from the Gaia EDR3 catalog (accessed graphically via ESASky) is as follows: Gaia EDR3 Sep(arcsec) PA(deg) G_BP G_BP-G_RP Target 4686450580031889536 0.0 14.21 -0.38 Spoiler 1 4686450580031890432 7.3 155 15.38 -0.35 Contributes ~34% of flux of the target in G_BP Spoiler 2 4686450575737692800 5.5 306 17.35 1.57 Possible red giant branch star; not a concern in UV</p> <p>Only "Spoiler 1" is a potential concern since it is also a "blue" object. However, since the target it ~3 times brighter in G_BP, a dispersed light acquisition should still be successful.</p>									
2	ACQ/PEAK (2) M2002-SMC-814 D 69 (COS.sa.151 7333)	(2) M2002-SMC-814	COS/FUV, ACQ/PEAKD, PSA	G130M 1291 A	CENTER=FLUX-W T-FLR; NUM-POS=5; STEP-SIZE=0.9; SEGMENT=BOTH			0.4 Secs (0.4 Secs)	
								[==>]	[1]
<p>Comments: TA in light dispersed by G130M/1291 was selected for efficiency.</p> <p>The adopted SED corresponds to PoWR_31000_4.00_m7.36_Z0.14_smcbars_ebmvs_0.06_sed.fits: ~/box/ullyses_tech/ullyses_proposals/c28_mc/16371/M2002-SMC-81469/M2002-SMC-81469_adopted_sed.fits</p> <p>ETC estimates that SNR=40 is obtained for Segments A and B combined in 0.1754 s per dwell point; see COS.sa.1517333. This baseline exposure time was rounded up to 0.4 s per dwell point to allow for uncertainty in the UV flux caused by extrapolation from UVB photometry. The ETC Warning "Segment count rate exceeds limit for irregularly variable sources" is not applicable to M2002-SMC-81469.</p> <p>BOT XD: 7 safe, 1 unknown in the GSC II catalog. The "unknown" star is the science target, which is safe to observe. BOT D: 8 safe, 1 unknown in the GSC II catalog. The "unknown" star is the science target, which is safe to observe.</p> <p>There are 2 potential spoiler stars within 43 arcsec of the center of the PSA: see ~/box/ullyses_tech/ullyses_proposals/c28_mc/16371/M2002-SMC-81469/M2002-SMC-81469_DSS.png ~/box/ullyses_tech/ullyses_proposals/c28_mc/16371/M2002-SMC-81469/M2002-SMC-81469_2MASS.png</p> <p>Information from the Gaia EDR3 catalog (accessed graphically via ESASky) is as follows: Gaia EDR3 Sep(arcsec) PA(deg) G_BP G_BP-G_RP Target 4686450580031889536 0.0 14.21 -0.38 Spoiler 1 4686450580031890432 7.3 155 15.38 -0.35 Contributes ~34% of flux of the target in G_BP Spoiler 2 4686450575737692800 5.5 306 17.35 1.57 Possible red giant branch star; not a concern in UV</p> <p>Only "Spoiler 1" is a potential concern since it is also a "blue" object. However, since the target it ~3 times brighter in G_BP, a dispersed light acquisition should still be successful.</p>									

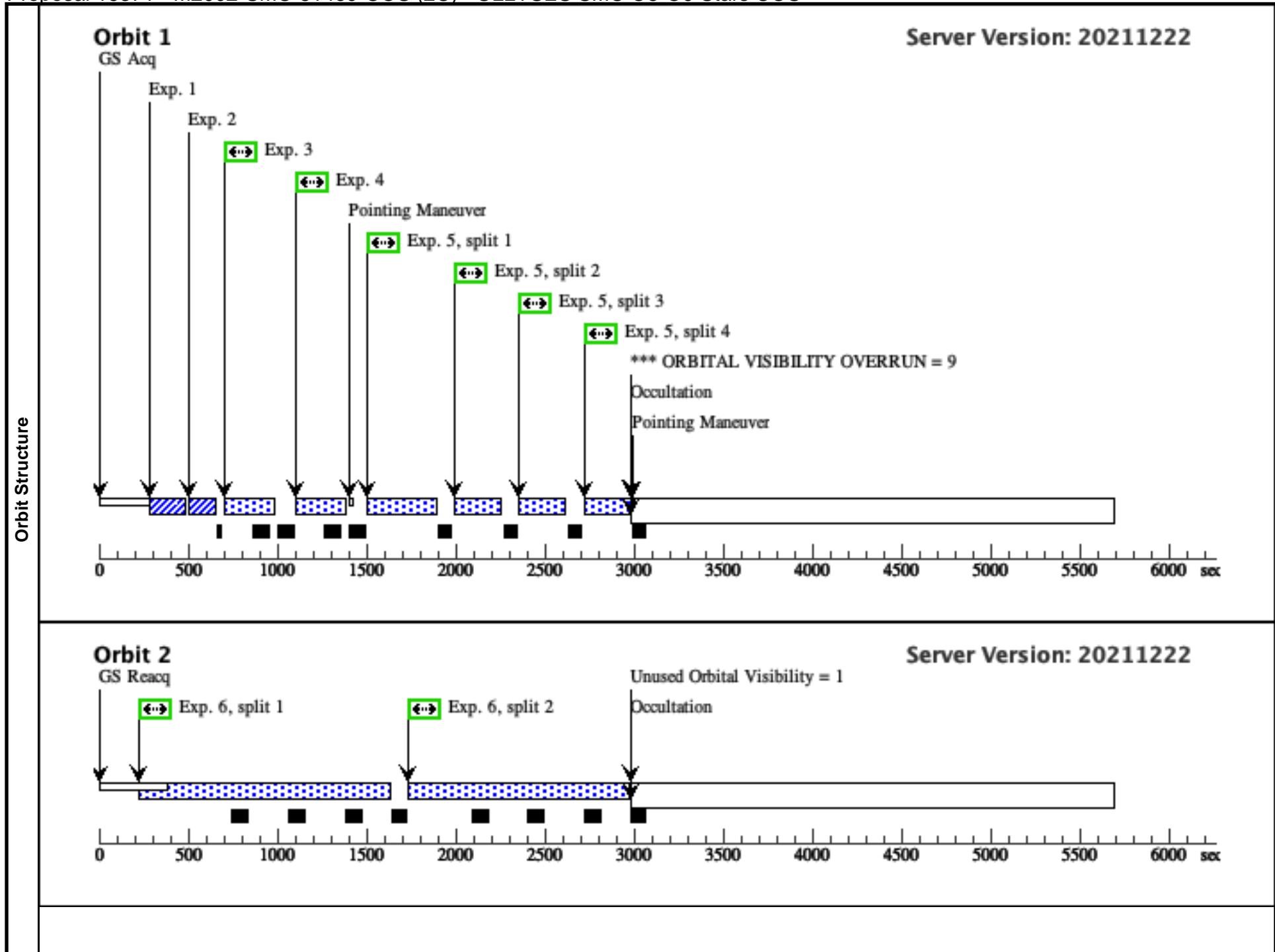
Exposures

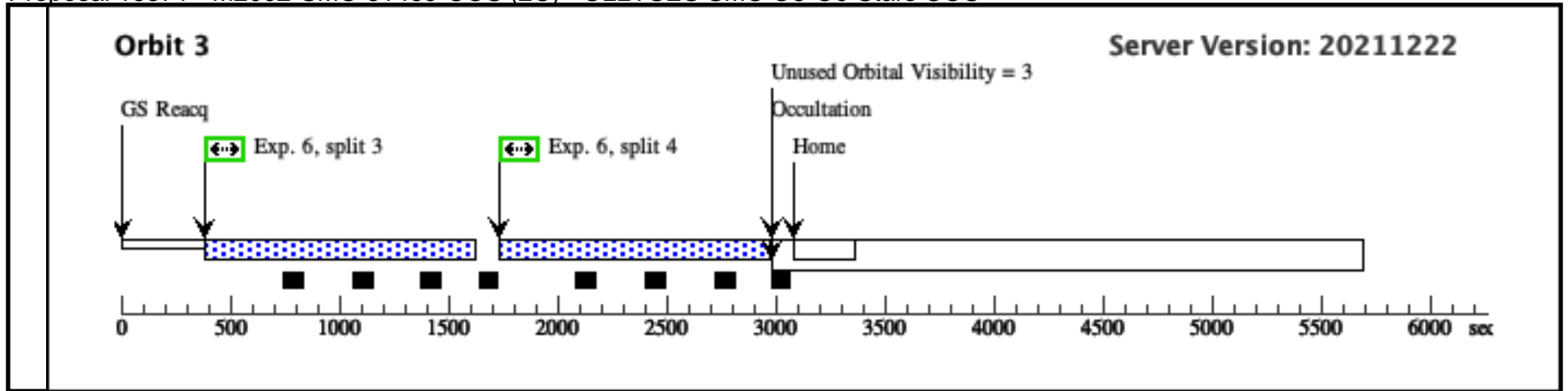
Proposal 16371 - M2002-SMC-81469-COS (2C) - ULLYSES SMC O8-O9 Stars COS

<p>3 G130M/129 (2) M2002-SMC-814 COS/FUV, TIME-TAG, PSA G130M BUFFER-TIME=12 1-3 69 1291 A 5; (COS.sp.151 FP-POS=3 9393)</p>	<p>231.0 Secs (231 Secs) [==>]</p>	<p>[1]</p>
<p>Comments: The adopted SED corresponds to PoWR_31000_4.00_m7.36_Z0.14_smobar_ebmv_0.06_sed.fits: ~/box/ullyses_tech/ullyses_proposals/c28_mc/16371/M2002-SMC-81469/M2002-SMC-81469_adopted_sed.fits</p> <p>ETC estimates that SNR=30/resel is obtained at 1150 +/- 0.5 A in 468.5958 s. [COS.sp.1517334] This baseline exposure time was rounded to 470 s (235 s per FP-POS) The ETC Warning "Segment count rate exceeds limit for irregularly variable sources" is not applicable to M2002-SMC-81469. Count Rate (Total, Segment A, Segment B) = (11672.281, 5013.182, 6659.100) cts/s Brightest Pixel: 0.139 cts/s at 1216.22 A BUFFER TIME: (ETC, ETC * 2/3, Optimized) = (202, 134, 125) s</p> <p>During orbit packing, the exposure time was decreased to 98% of the baseline: 462 s total, 231 s per FP-POS. As a result, the *planned* SNR = 29.8/resel at 1150 A [COS.sp.1519393] The ETC run associated with the *planned* SNR is noted in the APT field.</p> <p>BOT: 7 safe, 1 unknown in the GSC II catalog. The "unknown" star is the science target, which is safe to observe.</p>		
<p>4 G130M/129 (2) M2002-SMC-814 COS/FUV, TIME-TAG, PSA G130M BUFFER-TIME=12 1-4 69 1291 A 5.; (COS.sp.151 FP-POS=4 9393)</p>	<p>231.0 Secs (231 Secs) [==>]</p>	<p>[1]</p>
<p>Comments: The adopted SED corresponds to PoWR_31000_4.00_m7.36_Z0.14_smobar_ebmv_0.06_sed.fits: ~/box/ullyses_tech/ullyses_proposals/c28_mc/16371/M2002-SMC-81469/M2002-SMC-81469_adopted_sed.fits</p> <p>ETC estimates that SNR=30/resel is obtained at 1150 +/- 0.5 A in 468.5958 s. [COS.sp.1517334] This baseline exposure time was rounded to 470 s (235 s per FP-POS) The ETC Warning "Segment count rate exceeds limit for irregularly variable sources" is not applicable to M2002-SMC-81469. Count Rate (Total, Segment A, Segment B) = (11672.281, 5013.182, 6659.100) cts/s Brightest Pixel: 0.139 cts/s at 1216.22 A BUFFER TIME: (ETC, ETC * 2/3, Optimized) = (202, 134, 125) s</p> <p>During orbit packing, the exposure time was decreased to 99% of the baseline: 462 s total, 231 s per FP-POS. As a result, the *planned* SNR = 29.8/resel at 1150 A [COS.sp.1519393] The ETC run associated with the *planned* SNR is noted in the APT field.</p> <p>BOT: 7 safe, 1 unknown in the GSC II catalog. The "unknown" star is the science target, which is safe to observe.</p>		
<p>5 G160M/161 (2) M2002-SMC-814 COS/FUV, TIME-TAG, PSA G160M BUFFER-TIME=32 1 69 1611 A 6.0; (COS.sp.151 FP-POS=ALL 7335)</p>	<p>210 Secs (840 Secs) [==>(Split 1)] [==>(Split 2)] [==>(Split 3)] [==>(Split 4)]</p>	<p>[1]</p>
<p>Comments: The adopted SED corresponds to PoWR_31000_4.00_m7.36_Z0.14_smobar_ebmv_0.06_sed.fits: ~/box/ullyses_tech/ullyses_proposals/c28_mc/16371/M2002-SMC-81469/M2002-SMC-81469_adopted_sed.fits</p> <p>ETC estimates that SNR=30/resel is obtained at 1580 +/- 0.5 A in 834.2596 s [COS.sp.1517335] This baseline exposure time was rounded to 840 s (210 s per FP-POS). No ETC Warnings Count Rate (Total, Segment A, Segment B) = (4817.215, 1011.371, 3805.843) cts/s Brightest Pixel: 0.071 cts/s at 1424.50 A BUFFER TIME: (ETC, ETC * 2/3, Optimized) = (489, 326, 326) s</p> <p>BOT: 7 safe, 1 unknown in the GSC II catalog. The "unknown" star is the science target, which is safe to observe.</p>		

Proposal 16371 - M2002-SMC-81469-COS (2C) - ULLYSES SMC O8-O9 Stars COS

6	G130M/109 (2) M2002-SMC-814 COS/FUV, TIME-TAG, PSA 6 69 (COS.sp.151 8190)	G130M 1096 A	BUFFER-TIME=31 7; FP-POS=ALL	1184 Secs (4736 Secs)	[2]
				[==>(Split 1)]	[2]
				[==>(Split 2)]	[3]
				[==>(Split 3)]	[3]
				[==>(Split 4)]	[3]
<p><i>Comments: The adopted SED corresponds to PoWR_31000_4.00_m7.36_Z0.14_smobar_ebmv_0.06_sed.fits: ~/box/ullyses_tech/ullyses_proposals/c28_mc/16371/M2002-SMC-81469/M2002-SMC-81469_adopted_sed.fits</i></p>					
<p><i>ETC estimates that SNR=20/resel is obtained at 1080 +/- 0.5 A in 4228.3486 s [COS.sp.1517519] This baseline exposure time was rounded to 4240 s (1060 s per FP-POS) No ETC Warnings Count Rate (Total, Segment A, Segment B) = (4526.849, 4432.756, 94.093) cts/s Brightest Pixel: 0.102 cts/s at 1216.21 A BUFFER TIME: (ETC, ETC * 2/3, Optimized) = (521, 347, 317) s</i></p>					
<p><i>During orbit packing, the exposure time was increased to 112% of the baseline: 4736 s total, 1184 s per FP-POS. As a result, the *planned* SNR = 21.2/resel at 1080 A [COS.sp.1518190] The ETC run associated with the *planned* SNR is noted in the APT field.</i></p>					
<p><i>BOT: 7 safe, 1 unknown in the GSC II catalog. The "unknown" star is the science target, which is safe to observe.</i></p>					





Visit	<p>Proposal 16371, NGC346-ELS-13-COS (3C), completed</p> <p>Diagnostic Status: Warning</p> <p>Scientific Instruments: COS/FUV</p> <p>Special Requirements: SCHED 100%</p> <p><i>Comments: vstatus; 3C; NGC346-ELS-13; P/COS approved for submission; P/AF 7/06/21 ; intrev: complete ; P/JRD 07/06/21</i></p> <p><i>vcheck; Enter targ name & Inst. & Resp. Sci.; NGC346-ELS-13 ; COS ; AF</i></p> <p><i>vcheck; ETC numbers entered in APT?; Completed</i></p> <p><i>vcheck; Any screening violations?; None</i></p> <p><i>vcheck; S/N ETC calcs done & documented?; Completed</i></p> <p><i>vcheck; Field images checked & saved?; Yes - NGC346-ELS-13_DSS.png and NGC346-ELS-13_2MASS.png</i></p> <p><i>vcheck; Selected ACQ strategy?; Dispersed G130M/1291</i></p> <p><i>vcheck; Possible ACQ or Sci spoilers?; None</i></p> <p><i>vcheck; Field BOT clear?; BOT did not recognize any stars in the field. 5 marked as unknown, but all look OK.</i></p> <p><i>vcheck; Visual BOT check for stars not in catalog?; Completed - no issues</i></p> <p><i>vcheck; Orbit packing finalized?; 6 orbits: needed to reduce nominal exposure times and treat each G130M/1096 FP-POS exposure separately. See notes.</i></p> <p><i>vcheck; Buffer times optimized?; Done</i></p> <p><i>vcheck; Verify visit grouping correct; Not applicable</i></p> <p><i>vcheck; Is visit ready for int. review?; Yes</i></p> <p><i>Allocated COS orbits = 6</i></p>																													
	<p>Diagnosics</p> <p>(NGC346-ELS-13-COS (3C)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN</p>																													
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>(3)</td> <td>NGC346-ELS-13</td> <td>RA: 00 59 30.3883 (14.8766179d)</td> <td></td> <td>V=14.46</td> <td>Reference Frame: ICRS</td> </tr> <tr> <td></td> <td>Alt Name1: NGC346-ELS-013</td> <td>Dec: -72 09 9.65 (-72.15268d)</td> <td></td> <td>SpT=O9V+B1V; E(B-V)=0.09;</td> <td>U=13.36; B=14.28; V=14.46</td> </tr> <tr> <td></td> <td>Alt Name2: NGC346-MPG-782</td> <td>Equinox: J2000</td> <td></td> <td></td> <td></td> </tr> </tbody> </table> <p><i>Comments: tstatus; NGC346-ELS-13; P/COS approved for submission; S/ins not started; P/AF 4/06/21; S/xx DD/MM/YY</i></p> <p><i>tcheck; APT/SIMBAD target names: ; NGC346-ELS-13, 'Cl* NGC346 MPG 782' ...</i></p> <p><i>other aliases include OGLE SMC-ECL-4010, [M2002] SMC 46456</i></p> <p><i>tcheck; Target info verification status?; Yes ...</i></p> <p><i>The spectral type is 2012A&A...537A..29R, who specify the temperature class of the components as O9-9.5 and B1-1.5. The photometry of 1989AJ....98.1305M was preferred over the the values included in the auto-generated file, which seems to come from the compilation of 2010AJ....140..416B.</i></p> <p><i>tcheck; Coordinates & P.M. updated?; Yes, Gaia DR2</i></p> <p><i>tcheck; Adopted SED compared to Observations?; Yes ...</i></p> <p><i>NGC346-ELS-13 is a peculiar double-lined eclipsing binary that was discovered during the VLT-FLAMES survey. The selection of a model spectrum was based on the analysis of its optical spectrum by Ritchie et al. (2012A&A...537A..29R). A model with (Teff, log g) closest to the values determined by Ritchie et al. was selected from the PoWR grid for SMC metallicity (Z=0.14) and compared with the available observational material, which consists only of UBV photometry. The model flux was scaled to the distance of the SMC and attenuated by an SMCbar extinction law with E(B-V) = 0.10. This reddening is slightly larger than the value of 0.09 implied by the photometry of Massey et al. (1989AJ....98.1305M), but well within the uncertainties of the measurements. An additional flux scaling factor of 1.49 was required to get a good match with the UBV photometry. The need for this factor indicates that the luminosity of the model does not match the luminosity of NGC346-ELS-13 exactly. The adopted SED corresponds to the file PoWR_35000_4.00_m7.21_Z0.14_smcbar_ebmV_0.1_sed.fits.</i></p> <p><i>Adopted SED: ~/box/ullyses_tech/ullyses_proposals/c28_mc/16371/NGC346-ELS-13/NGC346-ELS-13_adopted_sed.fits</i></p> <p><i>Adopted SED illustrated: ~/box/ullyses_tech/ullyses_proposals/c28_mc/16371/NGC346-ELS-13/NGC346-ELS-13_adopted_sed_vs_UBV.png</i></p> <p><i>Alternate illustration: ~/box/ullyses_tech/ullyses_proposals/c28_mc/16371/NGC346-ELS-13/NGC346-ELS-13_model.pdf</i></p> <p><i>There is residual uncertainty in the UV fluxes because (a) they are extrapolated from UBV photometry, and (b) the star is only moderately reddened.</i></p> <p><i>Category=EXT-STAR</i></p> <p><i>Description=[MAIN SEQUENCE O]</i></p> <p><i>Extended=NO</i></p>						#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous	(3)	NGC346-ELS-13	RA: 00 59 30.3883 (14.8766179d)		V=14.46	Reference Frame: ICRS		Alt Name1: NGC346-ELS-013	Dec: -72 09 9.65 (-72.15268d)		SpT=O9V+B1V; E(B-V)=0.09;	U=13.36; B=14.28; V=14.46		Alt Name2: NGC346-MPG-782	Equinox: J2000			
	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous																								
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Proposal 16371 - NGC346-ELS-13-COS (3C) - ULLYSES SMC O8-O9 Stars COS

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	ACQ/PEAK XD (COS.sa.151 7338)	(3) NGC346-ELS-13	COS/FUV, ACQ/PEAKXD, PSA	G130M 1291 A	CENTER=FLUX-W T; NUM-POS=3; STEP-SIZE=1.3; SEGMENT=BOTH			1.0 Secs (1 Secs)	
								[==>]	[1]
<p><i>Comments: TA in light dispersed by G130M/1291 was selected for efficiency.</i></p> <p><i>The adopted SED corresponds to PoWR_35000_4.00_m7.21_Z0.14_smobar_ebmv_0.1_sed.fits: ~/box/ullyses_tech/ullyses_proposals/c28_mc/16371/NGC346-ELS-13/NGC346-ELS-13_adopted_sed.fits</i></p> <p><i>ETC estimates that SNR=40 is obtained for Segments A and B combined in 0.4282 s per dwell point; see COS.sa.1517338. This baseline exposure time was rounded up to 1.0 s per dwell point to allow for uncertainty in the UV flux caused by extrapolation from UBV photometry. No ETC Warnings.</i></p> <p><i>BOT XD: No stars are recognized in the GSC II catalog. 5 stars are marked as unknown, one of which is the science target. BOT D: No stars are recognized in the GSC II catalog. 8 stars are marked as unknown, one of which is the science target. There is no information available about the other stars that the BOT labels as unknown, all of which are significantly fainter than NGC346-ELS-13 in the DSS image. Since the target poses no health & safety risk to the COS detectors, the faint, unidentified stars in the field are not a concern.</i></p> <p><i>There are no spoiler stars within 43 arcsec of the center of the PSA: see ~/box/ullyses_tech/ullyses_proposals/c28_mc/16371/NGC346-ELS-13/NGC346-ELS-13_DSS.png ~/box/ullyses_tech/ullyses_proposals/c28_mc/16371/NGC346-ELS-13/NGC346-ELS-13_2MASS.png</i></p>									
2	ACQ/PEAK D (COS.sa.151 7338)	(3) NGC346-ELS-13	COS/FUV, ACQ/PEAKD, PSA	G130M 1291 A	CENTER=FLUX-W T-FLR; NUM-POS=5; STEP-SIZE=0.9; SEGMENT=BOTH			1.0 Secs (1 Secs)	
								[==>]	[1]
<p><i>Comments: TA in light dispersed by G130M/1291 was selected for efficiency.</i></p> <p><i>The adopted SED corresponds to PoWR_35000_4.00_m7.21_Z0.14_smobar_ebmv_0.1_sed.fits: ~/box/ullyses_tech/ullyses_proposals/c28_mc/16371/NGC346-ELS-13/NGC346-ELS-13_adopted_sed.fits</i></p> <p><i>ETC estimates that SNR=40 is obtained for Segments A and B combined in 0.4282 s per dwell point; see COS.sa.1517338. This baseline exposure time was rounded up to 1.0 s per dwell point to allow for uncertainty in the UV flux caused by extrapolation from UBV photometry. No ETC Warnings.</i></p> <p><i>BOT XD: No stars are recognized in the GSC II catalog. 5 stars are marked as unknown, one of which is the science target. BOT D: No stars are recognized in the GSC II catalog. 8 stars are marked as unknown, one of which is the science target. There is no information available about the other stars that the BOT labels as unknown, all of which are significantly fainter than NGC346-ELS-13 in the DSS image. Since the target poses no health & safety risk to the COS detectors, the faint, unidentified stars in the field are not a concern.</i></p> <p><i>There are no spoiler stars within 43 arcsec of the center of the PSA: see ~/box/ullyses_tech/ullyses_proposals/c28_mc/16371/NGC346-ELS-13/NGC346-ELS-13_DSS.png ~/box/ullyses_tech/ullyses_proposals/c28_mc/16371/NGC346-ELS-13/NGC346-ELS-13_2MASS.png</i></p>									

Exposures

Proposal 16371 - NGC346-ELS-13-COS (3C) - ULLYSES SMC O8-09 Stars COS

<p>3 G130M/129 (3) NGC346-ELS-13 COS/FUV, TIME-TAG, PSA G130M BUFFER-TIME=31 1-3 1291 A 6.0; (COS.sp.151 FP-POS=3 9394)</p>	<p>490.0 Secs (490 Secs)</p>	
<p>Comments: The adopted SED corresponds to PoWR_35000_4.00_m7.21_Z0.14_smobar_ebmv_0.1_sed.fits: ~/box/ullyses_tech/ullyses_proposals/c28_mc/16371/NGC346-ELS-13/NGC346-ELS-13_adopted_sed.fits</p> <p>ETC estimates that SNR=30/resel is obtained at 1150 +/- 0.5 A in 1259.1443 s [COS.sp.1517343] This baseline exposure time was rounded to 1260 s (630 s per FP-POS) No ETC Warnings Count Rate (Total, Segment A, Segment B) = (4973.532, 2220.365, 2753.167) cts/s Brightest Pixel: 0.118 cts/s at 1216.22 A BUFFER TIME: (ETC, ETC * 2/3, Optimized) = (474, 316, 260) s</p> <p>During orbit packing, the exposure time was decreased to 78% of the baseline: 980 s total, 490 s per FP-POS. As a result, the *planned* SNR = 26.5/resel at 1150 A [COS.sp.1519394] The ETC run associated with the *planned* SNR is noted in the APT field.</p> <p>BOT: No stars are recognized in the GSC II catalog. 5 stars are marked as unknown, one of which is the science target. There is no information available about the other stars that the BOT labels as unknown, all of which are significantly fainter than NGC346-ELS-13 in the DSS image. Since the target poses no health & safety risk to the COS detectors, the faint, unidentified stars in the field are not a concern.</p>	<p>[==>]</p>	<p>[1]</p>
<p>4 G130M/129 (3) NGC346-ELS-13 COS/FUV, TIME-TAG, PSA G130M BUFFER-TIME=31 1-4 1291 A 6.0; (COS.sp.151 FP-POS=4 9394)</p>	<p>490.0 Secs (490 Secs)</p>	
<p>Comments: The adopted SED corresponds to PoWR_35000_4.00_m7.21_Z0.14_smobar_ebmv_0.1_sed.fits: ~/box/ullyses_tech/ullyses_proposals/c28_mc/16371/NGC346-ELS-13/NGC346-ELS-13_adopted_sed.fits</p> <p>ETC estimates that SNR=30/resel is obtained at 1150 +/- 0.5 A in 1259.1443 s [COS.sp.1517343] This baseline exposure time was rounded to 1260 s (630 s per FP-POS) No ETC Warnings Count Rate (Total, Segment A, Segment B) = (4973.532, 2220.365, 2753.167) cts/s Brightest Pixel: 0.118 cts/s at 1216.22 A BUFFER TIME: (ETC, ETC * 2/3, Optimized) = (474, 316, 260) s</p> <p>During orbit packing, the exposure time was decreased to 78% of the baseline: 980 s total, 490 s per FP-POS. As a result, the *planned* SNR = 26.5/resel at 1150 A [COS.sp.1519394] The ETC run associated with the *planned* SNR is noted in the APT field.</p> <p>BOT: No stars are recognized in the GSC II catalog. 5 stars are marked as unknown, one of which is the science target. There is no information available about the other stars that the BOT labels as unknown, all of which are significantly fainter than NGC346-ELS-13 in the DSS image. Since the target poses no health & safety risk to the COS detectors, the faint, unidentified stars in the field are not a concern.</p>	<p>[==>]</p>	<p>[1]</p>
<p>5 G160M/161 (3) NGC346-ELS-13 COS/FUV, TIME-TAG, PSA G160M BUFFER-TIME=68 1 1611 A 1.0; (COS.sp.151 FP-POS=ALL 7643)</p>	<p>346.0 Secs (1384 Secs)</p>	
<p>Comments: The adopted SED corresponds to PoWR_35000_4.00_m7.21_Z0.14_smobar_ebmv_0.1_sed.fits: ~/box/ullyses_tech/ullyses_proposals/c28_mc/16371/NGC346-ELS-13/NGC346-ELS-13_adopted_sed.fits</p> <p>ETC estimates that SNR=30/resel is obtained at 1580 +/- 0.5 A in 1696.8498 s [COS.sp.1517345] This baseline exposure time was rounded to 1700 s (425 s per FP-POS). No ETC Warnings Count Rate (Total, Segment A, Segment B) = (2305.971, 515.647, 1790.324) cts/s Brightest Pixel: 0.032 cts/s at 1424.50 A BUFFER TIME: (ETC, ETC * 2/3, Optimized) = (1022, 681, 681) s</p> <p>During orbit packing, the exposure time was decreased to 81% of the baseline: 1384 s total, 346 s per FP-POS. As a result, the *planned* SNR = 27.1/resel at 1580 A [COS.sp.1517643] The ETC run associated with the *planned* SNR is noted in the APT field.</p> <p>BOT: No stars are recognized in the GSC II catalog. 5 stars are marked as unknown, one of which is the science target. There is no information available about the other stars that the BOT labels as unknown, all of which are significantly fainter than NGC346-ELS-13 in the DSS image. Since the target poses no health & safety risk to the COS detectors, the faint, unidentified stars in the field are not a concern.</p>	<p>[==>(Split 1)]</p>	<p>[1]</p>
	<p>[==>(Split 2)]</p>	
	<p>[==>(Split 3)]</p>	
	<p>[==>(Split 4)]</p>	<p>[2]</p>

Proposal 16371 - NGC346-ELS-13-COS (3C) - ULLYSES SMC O8-09 Stars COS

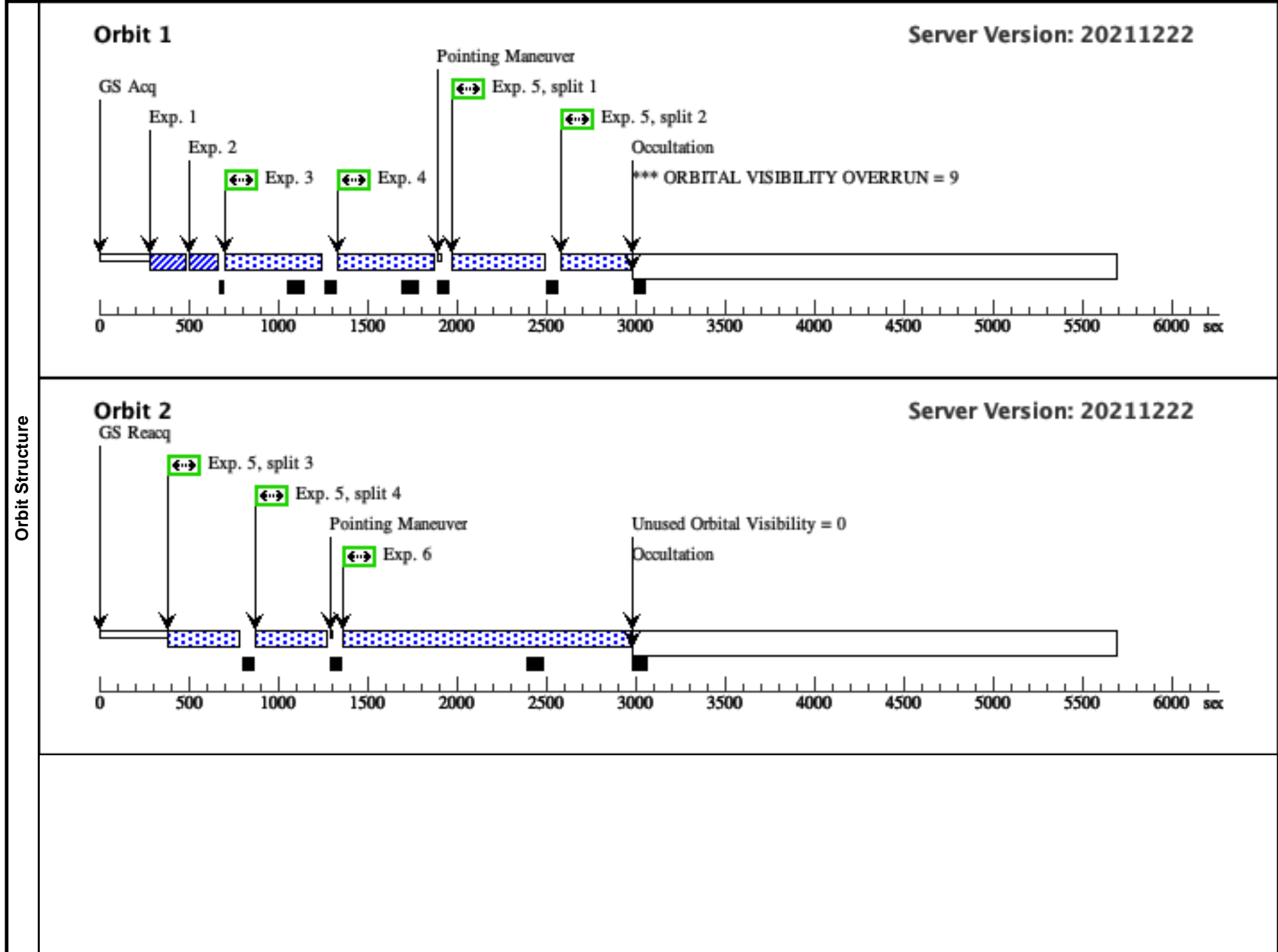
<p>6 G130M/109 (3) NGC346-ELS-13 COS/FUV, TIME-TAG, PSA G130M BUFFER-TIME=82 6-1a 1096 A 2.0; (COS.sp.151 FP-POS=1 7644)</p>	<p>1384.0 Secs (1384 Secs) [==>]</p>	<p>[2]</p>
<p>Comments: The adopted SED corresponds to PoWR_35000_4.00_m7.21_Z0.14_smobar_ebmv_0.1_sed.fits: ~/box/ullyses_tech/ullyses_proposals/c28_mc/16371/NGC346-ELS-13/NGC346-ELS-13_adopted_sed.fits</p> <p>ETC estimates that SNR=20/resel is obtained at 1080 +/- 0.5 A in 13397.388 s [COS.sp.1517517] This baseline exposure time was rounded to 13400 s (3350 s per FP-POS) No ETC Warnings Count Rate (Total, Segment A, Segment B) = (1912.663, 1861.140, 51.522) cts/s Brightest Pixel: 0.097 cts/s at 1216.21 A BUFFER TIME: (ETC, ETC * 2/3, Optimized) = (1233, 822, 810) s</p> <p>For efficient orbit packing, the exposures at the 4 FP-POS positions were sub-divided into two integrations labelled "a" and "b", each of which had different integration times. The net integration times for (POS1, POS2, POS3, and POS4) are (2760, 2760, 2760, 2806) seconds, respectively, and are only modestly "unbalanced." The total exposure time is 11086 s, which is 83% of the baseline value. As a result, the *planned* SNR =18.2/resel at 1080 A [COS.sp.1517644]. The ETC run associated with the *planned* SNR is noted in the APT field.</p> <p>BOT: No stars are recognized in the GSC II catalog. 5 stars are marked as unknown, one of which is the science target. There is no information available about the other stars that the BOT labels as unknown, all of which are significantly fainter than NGC346-ELS-13 in the DSS image. Since the target poses no health & safety risk to the COS detectors, the faint, unidentified stars in the field are not a concern.</p>		
<p>7 G130M/109 (3) NGC346-ELS-13 COS/FUV, TIME-TAG, PSA G130M BUFFER-TIME=82 6-1b 1096 A 2.0; (COS.sp.151 FP-POS=1 7644)</p>	<p>1376.0 Secs (1376 Secs) [==>]</p>	<p>[3]</p>
<p>Comments: The adopted SED corresponds to PoWR_35000_4.00_m7.21_Z0.14_smobar_ebmv_0.1_sed.fits: ~/box/ullyses_tech/ullyses_proposals/c28_mc/16371/NGC346-ELS-13/NGC346-ELS-13_adopted_sed.fits</p> <p>ETC estimates that SNR=20/resel is obtained at 1080 +/- 0.5 A in 13397.388 s [COS.sp.1517517] This baseline exposure time was rounded to 13400 s (3350 s per FP-POS) No ETC Warnings Count Rate (Total, Segment A, Segment B) = (1912.663, 1861.140, 51.522) cts/s Brightest Pixel: 0.097 cts/s at 1216.21 A BUFFER TIME: (ETC, ETC * 2/3, Optimized) = (1233, 822, 810) s</p> <p>For efficient orbit packing, the exposures at the 4 FP-POS positions were sub-divided into two integrations labelled "a" and "b", each of which had different integration times. The net integration times for (POS1, POS2, POS3, and POS4) are (2760, 2760, 2760, 2806) seconds, respectively, and are only modestly "unbalanced." The total exposure time is 11086 s, which is 83% of the baseline value. As a result, the *planned* SNR =18.2/resel at 1080 A [COS.sp.1517644]. The ETC run associated with the *planned* SNR is noted in the APT field.</p> <p>BOT: No stars are recognized in the GSC II catalog. 5 stars are marked as unknown, one of which is the science target. There is no information available about the other stars that the BOT labels as unknown, all of which are significantly fainter than NGC346-ELS-13 in the DSS image. Since the target poses no health & safety risk to the COS detectors, the faint, unidentified stars in the field are not a concern.</p>		
<p>8 G130M/109 (3) NGC346-ELS-13 COS/FUV, TIME-TAG, PSA G130M BUFFER-TIME=82 6-2a 1096 A 2.0; (COS.sp.151 FP-POS=2 7644)</p>	<p>995.0 Secs (995 Secs) [==>]</p>	<p>[3]</p>
<p>Comments: The adopted SED corresponds to PoWR_35000_4.00_m7.21_Z0.14_smobar_ebmv_0.1_sed.fits: ~/box/ullyses_tech/ullyses_proposals/c28_mc/16371/NGC346-ELS-13/NGC346-ELS-13_adopted_sed.fits</p> <p>ETC estimates that SNR=20/resel is obtained at 1080 +/- 0.5 A in 13397.388 s [COS.sp.1517517] This baseline exposure time was rounded to 13400 s (3350 s per FP-POS) No ETC Warnings Count Rate (Total, Segment A, Segment B) = (1912.663, 1861.140, 51.522) cts/s Brightest Pixel: 0.097 cts/s at 1216.21 A BUFFER TIME: (ETC, ETC * 2/3, Optimized) = (1233, 822, 810) s</p> <p>For efficient orbit packing, the exposures at the 4 FP-POS positions were sub-divided into two integrations labelled "a" and "b", each of which had different integration times. The net integration times for (POS1, POS2, POS3, and POS4) are (2760, 2760, 2760, 2806) seconds, respectively, and are only modestly "unbalanced." The total exposure time is 11086 s, which is 83% of the baseline value. As a result, the *planned* SNR =18.2/resel at 1080 A [COS.sp.1517644]. The ETC run associated with the *planned* SNR is noted in the APT field.</p> <p>BOT: No stars are recognized in the GSC II catalog. 5 stars are marked as unknown, one of which is the science target. There is no information available about the other stars that the BOT labels as unknown, all of which are significantly fainter than NGC346-ELS-13 in the DSS image. Since the target poses no health & safety risk to the COS detectors, the faint, unidentified stars in the field are not a concern.</p>		

Proposal 16371 - NGC346-ELS-13-COS (3C) - ULLYSES SMC O8-09 Stars COS

<p>9 G130M/109 (3) NGC346-ELS-13 COS/FUV, TIME-TAG, PSA G130M BUFFER-TIME=82 6-2b 1096 A 2.0; (COS.sp.151 FP-POS=2 7644)</p>	<p>1765.0 Secs (1765 Secs) [==>]</p>	<p>[4]</p>
<p>Comments: The adopted SED corresponds to PoWR_35000_4.00_m7.21_Z0.14_smobar_ebmv_0.1_sed.fits: ~/box/ullyses_tech/ullyses_proposals/c28_mc/16371/NGC346-ELS-13/NGC346-ELS-13_adopted_sed.fits</p> <p>ETC estimates that SNR=20/resel is obtained at 1080 +/- 0.5 A in 13397.388 s [COS.sp.1517517] This baseline exposure time was rounded to 13400 s (3350 s per FP-POS) No ETC Warnings Count Rate (Total, Segment A, Segment B) = (1912.663, 1861.140, 51.522) cts/s Brightest Pixel: 0.097 cts/s at 1216.21 A BUFFER TIME: (ETC, ETC * 2/3, Optimized) = (1233, 822, 810) s</p> <p>For efficient orbit packing, the exposures at the 4 FP-POS positions were sub-divided into two integrations labelled "a" and "b", each of which had different integration times. The net integration times for (POS1, POS2, POS3, and POS4) are (2760, 2760, 2760, 2806) seconds, respectively, and are only modestly "unbalanced." The total exposure time is 11086 s, which is 83% of the baseline value. As a result, the *planned* SNR =18.2/resel at 1080 A [COS.sp.1517644]. The ETC run associated with the *planned* SNR is noted in the APT field.</p> <p>BOT: No stars are recognized in the GSC II catalog. 5 stars are marked as unknown, one of which is the science target. There is no information available about the other stars that the BOT labels as unknown, all of which are significantly fainter than NGC346-ELS-13 in the DSS image. Since the target poses no health & safety risk to the COS detectors, the faint, unidentified stars in the field are not a concern.</p>		
<p>10 G130M/109 (3) NGC346-ELS-13 COS/FUV, TIME-TAG, PSA G130M BUFFER-TIME=82 6-3a 1096 A 2.0; (COS.sp.151 FP-POS=3 7644)</p>	<p>653.0 Secs (653 Secs) [==>]</p>	<p>[4]</p>
<p>Comments: The adopted SED corresponds to PoWR_35000_4.00_m7.21_Z0.14_smobar_ebmv_0.1_sed.fits: ~/box/ullyses_tech/ullyses_proposals/c28_mc/16371/NGC346-ELS-13/NGC346-ELS-13_adopted_sed.fits</p> <p>ETC estimates that SNR=20/resel is obtained at 1080 +/- 0.5 A in 13397.388 s [COS.sp.1517517] This baseline exposure time was rounded to 13400 s (3350 s per FP-POS) No ETC Warnings Count Rate (Total, Segment A, Segment B) = (1912.663, 1861.140, 51.522) cts/s Brightest Pixel: 0.097 cts/s at 1216.21 A BUFFER TIME: (ETC, ETC * 2/3, Optimized) = (1233, 822, 810) s</p> <p>For efficient orbit packing, the exposures at the 4 FP-POS positions were sub-divided into two integrations labelled "a" and "b", each of which had different integration times. The net integration times for (POS1, POS2, POS3, and POS4) are (2760, 2760, 2760, 2806) seconds, respectively, and are only modestly "unbalanced." The total exposure time is 11086 s, which is 83% of the baseline value. As a result, the *planned* SNR =18.2/resel at 1080 A [COS.sp.1517644]. The ETC run associated with the *planned* SNR is noted in the APT field.</p> <p>BOT: No stars are recognized in the GSC II catalog. 5 stars are marked as unknown, one of which is the science target. There is no information available about the other stars that the BOT labels as unknown, all of which are significantly fainter than NGC346-ELS-13 in the DSS image. Since the target poses no health & safety risk to the COS detectors, the faint, unidentified stars in the field are not a concern.</p>		
<p>11 G130M/109 (3) NGC346-ELS-13 COS/FUV, TIME-TAG, PSA G130M BUFFER-TIME=82 6-3b 1096 A 2.0; (COS.sp.151 FP-POS=3 7644)</p>	<p>2107.0 Secs (2107 Secs) [==>]</p>	<p>[5]</p>
<p>Comments: The adopted SED corresponds to PoWR_35000_4.00_m7.21_Z0.14_smobar_ebmv_0.1_sed.fits: ~/box/ullyses_tech/ullyses_proposals/c28_mc/16371/NGC346-ELS-13/NGC346-ELS-13_adopted_sed.fits</p> <p>ETC estimates that SNR=20/resel is obtained at 1080 +/- 0.5 A in 13397.388 s [COS.sp.1517517] This baseline exposure time was rounded to 13400 s (3350 s per FP-POS) No ETC Warnings Count Rate (Total, Segment A, Segment B) = (1912.663, 1861.140, 51.522) cts/s Brightest Pixel: 0.097 cts/s at 1216.21 A BUFFER TIME: (ETC, ETC * 2/3, Optimized) = (1233, 822, 810) s</p> <p>For efficient orbit packing, the exposures at the 4 FP-POS positions were sub-divided into two integrations labelled "a" and "b", each of which had different integration times. The net integration times for (POS1, POS2, POS3, and POS4) are (2760, 2760, 2760, 2806) seconds, respectively, and are only modestly "unbalanced." The total exposure time is 11086 s, which is 83% of the baseline value. As a result, the *planned* SNR =18.2/resel at 1080 A [COS.sp.1517644]. The ETC run associated with the *planned* SNR is noted in the APT field.</p> <p>BOT: No stars are recognized in the GSC II catalog. 5 stars are marked as unknown, one of which is the science target. There is no information available about the other stars that the BOT labels as unknown, all of which are significantly fainter than NGC346-ELS-13 in the DSS image. Since the target poses no health & safety risk to the COS detectors, the faint, unidentified stars in the field are not a concern.</p>		

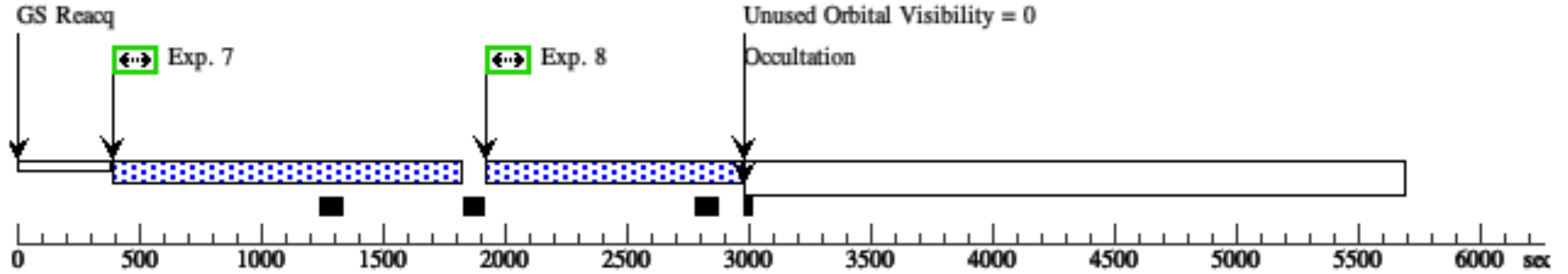
Proposal 16371 - NGC346-ELS-13-COS (3C) - ULLYSES SMC O8-09 Stars COS

12	G130M/109 (3) NGC346-ELS-13 COS/FUV, TIME-TAG, PSA 6-4a (COS.sp.151 7644)	G130M 1096 A	BUFFER-TIME=82 2.0; FP-POS=4	273.0 Secs (273 Secs)	[5]
<p><i>Comments: The adopted SED corresponds to PoWR_35000_4.00_m7.21_Z0.14_smobar_ebmv_0.1_sed.fits: ~/box/ullyses_tech/ullyses_proposals/c28_mc/16371/NGC346-ELS-13/NGC346-ELS-13_adopted_sed.fits</i></p> <p><i>ETC estimates that SNR=20/resel is obtained at 1080 +/- 0.5 A in 13397.388 s [COS.sp.1517517] This baseline exposure time was rounded to 13400 s (3350 s per FP-POS) No ETC Warnings Count Rate (Total, Segment A, Segment B) = (1912.663, 1861.140, 51.522) cts/s Brightest Pixel: 0.097 cts/s at 1216.21 A BUFFER TIME: (ETC, ETC * 2/3, Optimized) = (1233, 822, 810) s</i></p> <p><i>For efficient orbit packing, the exposures at the 4 FP-POS positions were sub-divided into two integrations labelled "a" and "b", each of which had different integration times. The net integration times for (POS1, POS2, POS3, and POS4) are (2760, 2760, 2760, 2806) seconds, respectively, and are only modestly "unbalanced." The total exposure time is 11086 s, which is 83% of the baseline value. As a result, the *planned* SNR = 18.2/resel at 1080 A [COS.sp.1517644]. The ETC run associated with the *planned* SNR is noted in the APT field.</i></p> <p><i>BOT: No stars are recognized in the GSC II catalog. 5 stars are marked as unknown, one of which is the science target. There is no information available about the other stars that the BOT labels as unknown, all of which are significantly fainter than NGC346-ELS-13 in the DSS image. Since the target poses no health & safety risk to the COS detectors, the faint, unidentified stars in the field are not a concern.</i></p>					
13	G130M/109 (3) NGC346-ELS-13 COS/FUV, TIME-TAG, PSA 6-4b (COS.sp.151 7644)	G130M 1096 A	BUFFER-TIME=82 2.0; FP-POS=4	2533.0 Secs (2533 Secs)	[6]
<p><i>Comments: The adopted SED corresponds to PoWR_35000_4.00_m7.21_Z0.14_smobar_ebmv_0.1_sed.fits: ~/box/ullyses_tech/ullyses_proposals/c28_mc/16371/NGC346-ELS-13/NGC346-ELS-13_adopted_sed.fits</i></p> <p><i>ETC estimates that SNR=20/resel is obtained at 1080 +/- 0.5 A in 13397.388 s [COS.sp.1517517] This baseline exposure time was rounded to 13400 s (3350 s per FP-POS) No ETC Warnings Count Rate (Total, Segment A, Segment B) = (1912.663, 1861.140, 51.522) cts/s Brightest Pixel: 0.097 cts/s at 1216.21 A BUFFER TIME: (ETC, ETC * 2/3, Optimized) = (1233, 822, 810) s</i></p> <p><i>For efficient orbit packing, the exposures at the 4 FP-POS positions were sub-divided into two integrations labelled "a" and "b", each of which had different integration times. The net integration times for (POS1, POS2, POS3, and POS4) are (2760, 2760, 2760, 2806) seconds, respectively, and are only modestly "unbalanced." The total exposure time is 11086 s, which is 83% of the baseline value. As a result, the *planned* SNR = 18.2/resel at 1080 A [COS.sp.1517644]. The ETC run associated with the *planned* SNR is noted in the APT field.</i></p> <p><i>BOT: No stars are recognized in the GSC II catalog. 5 stars are marked as unknown, one of which is the science target. There is no information available about the other stars that the BOT labels as unknown, all of which are significantly fainter than NGC346-ELS-13 in the DSS image. Since the target poses no health & safety risk to the COS detectors, the faint, unidentified stars in the field are not a concern.</i></p>					



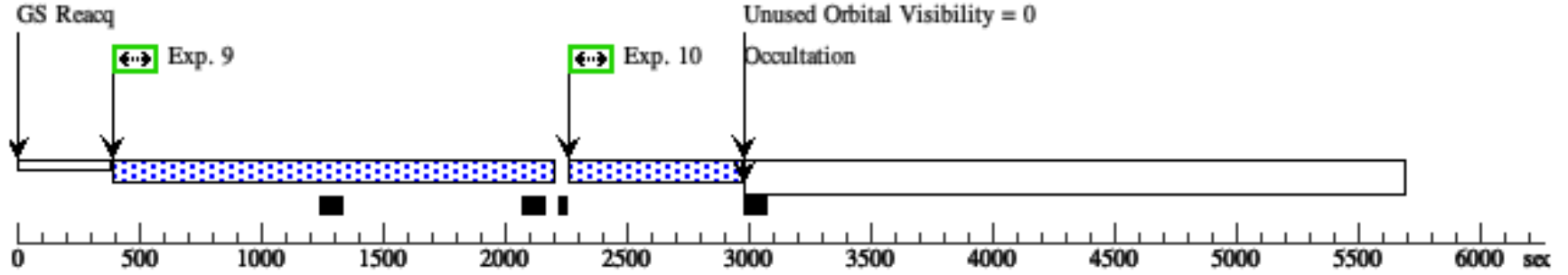
Orbit 3

Server Version: 20211222



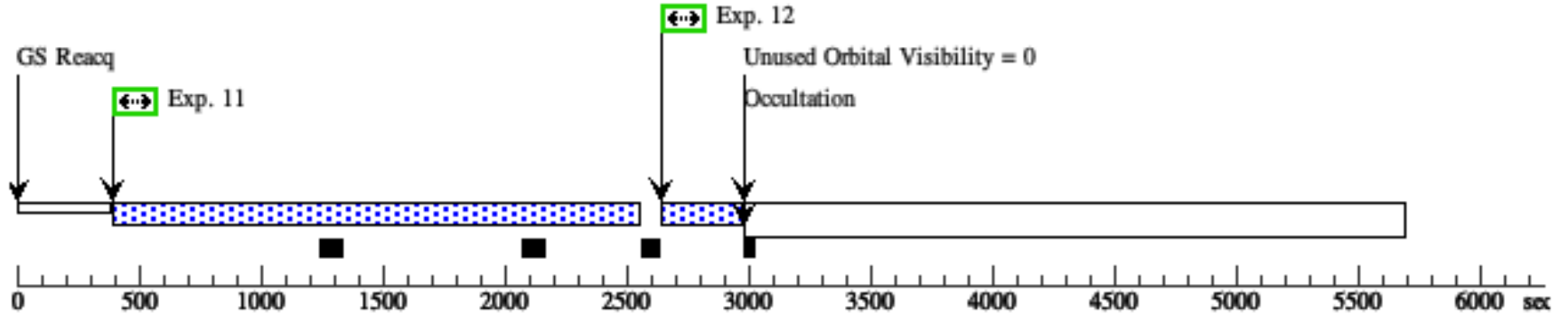
Orbit 4

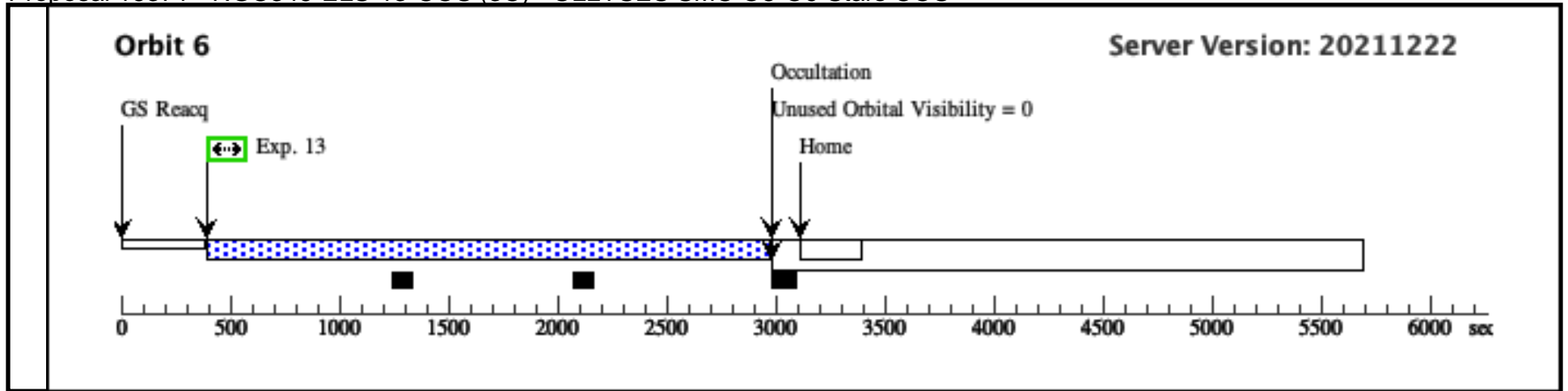
Server Version: 20211222



Orbit 5

Server Version: 20211222





Proposal 16371 - NGC346-ELS-25-COS (4C) - ULLYSES SMC O8-09 Stars COS

Thu Mar 03 20:09:46 GMT 2022

Visit	<p>Proposal 16371, NGC346-ELS-25-COS (4C), completed</p> <p>Diagnostic Status: Warning</p> <p>Scientific Instruments: COS/FUV</p> <p>Special Requirements: SCHED 100%</p> <p><i>Comments: vstatus; 4C; NGC346-ELS-25; P/COS approved for submission; P/AF 7/06/21 ; intrev: complete ; P/JRD 07/06/21</i></p> <p><i>vcheck; Enter targ name & Inst. & Resp. Sci.; NGC346-ELS-25; COS ; AF</i></p> <p><i>vcheck; ETC numbers entered in APT?; Completed</i></p> <p><i>vcheck; Any screening violations?; None</i></p> <p><i>vcheck; S/N ETC calcs done & documented?; Completed</i></p> <p><i>vcheck; Field images checked & saved?; Yes - NGC346-ELS-25_DSS.png and NGC346-ELS-25_2MASS.png</i></p> <p><i>vcheck; Selected ACQ strategy?; Dispersed G130M/1291</i></p> <p><i>vcheck; Possible ACQ or Sci spoilers?; None</i></p> <p><i>vcheck; Field BOT clear?; Yes - 1 safe, 7 unknown, all very faint, no concerns</i></p> <p><i>vcheck; Visual BOT check for stars not in catalog?; Completed - no issues</i></p> <p><i>vcheck; Orbit packing finalized?; 3 orbits; reduced nominal exposure times by 80%; 65% for G130M/1096. Treated G130M/1096 FP-POS exposures separately. See notes.</i></p> <p><i>vcheck; Buffer times optimized?; Done</i></p> <p><i>vcheck; Verify visit grouping correct; Not applicable</i></p> <p><i>vcheck; Is visit ready for int. review?; Yes</i></p> <p><i>Allocated COS orbits = 3</i></p>					
	Diagnostics	<p>(NGC346-ELS-25-COS (4C)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN</p>				
Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
	(4)	NGC346-ELS-25 Alt Name1: NGC346- MPG-848	RA: 00 59 52.9584 (14.9706600d) Dec: -72 10 49.16 (-72.18032d) Equinox: J2000		V=14.91 SpT=O9 V; E(B-V)=0.03; U=13 .67; B=14.67; V=14.91	Reference Frame: ICRS
	<p><i>Comments: tstatus; NGC346-ELS-25; P/COS approved for submission; S/ins not started; P/AF 4/06/21; S/xx DD/MM/YY</i></p> <p><i>tcheck; APT/SIMBAD target names: ; NGC346-ELS-25, 'CI* NGC346 ELS 25' ...</i></p> <p><i>other aliases include CI* NGC346 MPG 848, [M2002] SMC 47430, 2MASS J00595294-7210492</i></p> <p><i>tcheck; Target info verification status?; Yes ...</i></p> <p><i>Spectral type is from 2006A&A...456..623E. The photometry is from 989AJ....98.1305M.</i></p> <p><i>tcheck; Coordinates & P.M. updated?; Yes, Gaia DR2</i></p> <p><i>tcheck; Adopted SED compared to Observations?; Yes ...</i></p> <p><i>The selection of a model spectrum was based on the analysis of the optical spectrum of NGC346-ELS-25 by Mokiem et al. (2006A&A...456.1131M). A model with (Teff, log g) closest to the values determined by Mokiem et al. was selected from the PoWR grid for SMC metallicity (Z=0.14) and compared with the available observational material, which consists only of UBV photometry. The model flux was scaled to the distance of the SMC and attenuated by an SMCbar extinction law with E(B-V) = 0.04. This reddening is slightly larger than the value of 0.03 implied by the photometry of Evans et al. (2006A&A...456..623E), but well within the uncertainties of the measurements. An additional flux scaling factor of 0.745 was required to get a good match with the UBV photometry. The need for this factor indicates that the luminosity of the model does not match the luminosity of NGC346-ELS-25 exactly. The adopted SED corresponds to the file PoWR_36000_4.00_m7.17_Z0.14_smcbar_ebm_v_0.04_sed.fits.</i></p> <p><i>Adopted SED: ~/box/ullyses_tech/ullyses_proposals/c28_mc/16371/NGC346-ELS-25/NGC346-ELS-25_adopted_sed.fits</i></p> <p><i>Adopted SED illustrated: ~/box/ullyses_tech/ullyses_proposals/c28_mc/16371/NGC346-ELS-25/NGC346-ELS-25_adopted_sed_vs_UBV.png</i></p> <p><i>Alternate illustration: ~/box/ullyses_tech/ullyses_proposals/c28_mc/16371/NGC346-ELS-25/NGC346-ELS-25_model.pdf</i></p> <p><i>There is residual uncertainty in the UV fluxes because (a) they are extrapolated from UBV photometry, and (b) the star is evidently quite lightly reddened.</i></p> <p><i>Category=EXT-STAR</i></p> <p><i>Description=[MAIN SEQUENCE O]</i></p> <p><i>Extended=NO</i></p>					

Proposal 16371 - NGC346-ELS-25-COS (4C) - ULLYSES SMC O8-09 Stars COS

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	ACQ/PEAK XD (COS.sa.151 7350)	(4) NGC346-ELS-25	COS/FUV, ACQ/PEAKXD, PSA	G130M 1291 A	CENTER=FLUX-W T; NUM-POS=3; STEP-SIZE=1.3; SEGMENT=BOTH			0.8 Secs (0.8 Secs)	
								[==>]	[1]
<p><i>Comments: TA in light dispersed by G130M/1291 was selected for efficiency.</i></p> <p><i>The adopted SED corresponds to PoWR_36000_4.00_m7.17_Z0.14_smcbarebmv_0.04_sed.fits: ~/box/ullyses_tech/ullyses_proposals/c28_mc/16371/NGC346-ELS-25/NGC346-ELS-25_adopted_sed.fits</i></p> <p><i>ETC estimates that SNR=40 is obtained for Segments A and B combined in 0.2943 s per dwell point; see COS.sa.1517350. This baseline exposure time was rounded up to 0.8 s per dwell point to allow for uncertainty in the UV flux caused by extrapolation from UVB photometry. No ETC Warnings.</i></p> <p><i>BOT XD: 1 safe, 7 unknown in the the GSC II catalog. BOT D: 2 safe, 7 unknown in the the GSC II catalog.</i></p> <p><i>The brightest of the "unknown" targets is Gaia EDR3 Gaia EDR3 4690504994818106496, which is 6.3 arcsec from the target at PA = 148 degrees. It has G_BP = 17.19, which is 2.22 magnitudes fainter than the target (G_BP=14.91). Since the target poses no health & safety risk to the COS detectors, the faint, unidentified stars in the field are not a concern.</i></p> <p><i>There are no spoiler stars within 43 arcsec of the center of the PSA: see ~/box/ullyses_tech/ullyses_proposals/c28_mc/16371/NGC346-ELS-25/NGC346-ELS-25_DSS.png ~/box/ullyses_tech/ullyses_proposals/c28_mc/16371/NGC346-ELS-25/NGC346-ELS-25_2MASS.png</i></p>									
2	ACQ/PEAK D (COS.sa.151 7350)	(4) NGC346-ELS-25	COS/FUV, ACQ/PEAKD, PSA	G130M 1291 A	CENTER=FLUX-W T-FLR; NUM-POS=5; STEP-SIZE=0.9; SEGMENT=BOTH			0.8 Secs (0.8 Secs)	
								[==>]	[1]
<p><i>Comments: TA in light dispersed by G130M/1291 was selected for efficiency.</i></p> <p><i>The adopted SED corresponds to PoWR_36000_4.00_m7.17_Z0.14_smcbarebmv_0.04_sed.fits: ~/box/ullyses_tech/ullyses_proposals/c28_mc/16371/NGC346-ELS-25/NGC346-ELS-25_adopted_sed.fits</i></p> <p><i>ETC estimates that SNR=40 is obtained for Segments A and B combined in 0.2943 s per dwell point; see COS.sa.1517350. This baseline exposure time was rounded up to 0.8 s per dwell point to allow for uncertainty in the UV flux caused by extrapolation from UVB photometry. No ETC Warnings.</i></p> <p><i>BOT XD: 1 safe, 7 unknown in the the GSC II catalog. BOT D: 2 safe, 7 unknown in the the GSC II catalog.</i></p> <p><i>The brightest of the "unknown" targets is Gaia EDR3 Gaia EDR3 4690504994818106496, which is 6.3 arcsec from the target at PA = 148 degrees. It has G_BP = 17.19, which is 2.22 magnitudes fainter than the target (G_BP=14.91). Since the target poses no health & safety risk to the COS detectors, the faint, unidentified stars in the field are not a concern.</i></p> <p><i>There are no spoiler stars within 43 arcsec of the center of the PSA: see ~/box/ullyses_tech/ullyses_proposals/c28_mc/16371/NGC346-ELS-25/NGC346-ELS-25_DSS.png ~/box/ullyses_tech/ullyses_proposals/c28_mc/16371/NGC346-ELS-25/NGC346-ELS-25_2MASS.png</i></p>									

Exposures

Proposal 16371 - NGC346-ELS-25-COS (4C) - ULLYSES SMC O8-O9 Stars COS

<p>3 G130M/129 (4) NGC346-ELS-25 COS/FUV, TIME-TAG, PSA G130M BUFFER-TIME=17 1-3 8; (COS.sp.151 1291 A FP-POS=3 9103)</p>	<p>287 Secs (287 Secs)</p>	
	<p>[==>]</p>	<p>[1]</p>
<p><i>Comments: The adopted SED corresponds to PoWR_36000_4.00_m7.17_Z0.14_smobar_ebmv_0.04_sed.fits: ~/box/ullyses_tech/ullyses_proposals/c28_mc/16371/NGC346-ELS-25/NGC346-ELS-25_adopted_sed.fits</i></p> <p><i>ETC estimates that SNR=30/resel is obtained at 1150 +/- 0.5 A in 717.0908 s [COS.sp.1517351]</i> <i>This baseline exposure time was rounded to 720 s (360 s per FP-POS)</i> <i>No ETC Warnings</i> <i>Count Rate (Total, Segment A, Segment B) = (7062.612, 2890.997, 4171.616) cts/s</i> <i>Brightest Pixel: 0.132 cts/s at 1216.22 A</i> <i>BUFFER TIME: (ETC, ETC * 2/3, Optimized) = (334, 222, 125) s</i></p> <p><i>During orbit packing, the exposure time was decreased to 80% of the baseline value: 574 s total, 287 s per FP-POS.</i> <i>As a result, the *planned* SNR = 26.8 resel at 1150 A [COS.sp.1519395]</i> <i>The ETC run associated with the *planned* SNR is noted in the APT field.</i></p> <p><i>BOT: 1 safe, 7 unknown in the the GSC II catalog. The brightest of the "unknown" targets is Gaia EDR3 Gaia EDR3 4690504994818106496, which is 6.3 arcsec from the target at PA = 148 degrees. It has G_BP = 17.19, which is 2.22 magnitudes fainter than the target (G_BP=14.91). Since the target poses no health & safety risk to the COS detectors, the faint, unidentified stars in the field are not a concern.</i></p>		
<p>4 G130M/129 (4) NGC346-ELS-25 COS/FUV, TIME-TAG, PSA G130M BUFFER-TIME=17 1-4 8; (COS.sp.151 1291 A FP-POS=4 9395)</p>	<p>287 Secs (287 Secs)</p>	
	<p>[==>]</p>	<p>[1]</p>
<p><i>Comments: The adopted SED corresponds to PoWR_36000_4.00_m7.17_Z0.14_smobar_ebmv_0.04_sed.fits: ~/box/ullyses_tech/ullyses_proposals/c28_mc/16371/NGC346-ELS-25/NGC346-ELS-25_adopted_sed.fits</i></p> <p><i>ETC estimates that SNR=30/resel is obtained at 1150 +/- 0.5 A in 717.0908 s [COS.sp.1517351]</i> <i>This baseline exposure time was rounded to 720 s (360 s per FP-POS)</i> <i>No ETC Warnings</i> <i>Count Rate (Total, Segment A, Segment B) = (7062.612, 2890.997, 4171.616) cts/s</i> <i>Brightest Pixel: 0.132 cts/s at 1216.22 A</i> <i>BUFFER TIME: (ETC, ETC * 2/3, Optimized) = (334, 222, 125) s</i></p> <p><i>During orbit packing, the exposure time was decreased to 80% of the baseline value: 574 s total, 287 s per FP-POS.</i> <i>As a result, the *planned* SNR = 26.8 resel at 1150 A [COS.sp.1519395]</i> <i>The ETC run associated with the *planned* SNR is noted in the APT field.</i></p> <p><i>BOT: 1 safe, 7 unknown in the the GSC II catalog. The brightest of the "unknown" targets is Gaia EDR3 Gaia EDR3 4690504994818106496, which is 6.3 arcsec from the target at PA = 148 degrees. It has G_BP = 17.19, which is 2.22 magnitudes fainter than the target (G_BP=14.91). Since the target poses no health & safety risk to the COS detectors, the faint, unidentified stars in the field are not a concern.</i></p>		
<p>5 G160M/161 (4) NGC346-ELS-25 COS/FUV, TIME-TAG, PSA G160M BUFFER-TIME=58 1 8; (COS.sp.151 1611 A FP-POS=ALL 9104)</p>	<p>312 Secs (1248 Secs)</p>	
	<p>[==>(Split 1)]</p>	
	<p>[==>(Split 2)]</p>	<p>[1]</p>
	<p>[==>(Split 3)]</p>	
	<p>[==>(Split 4)]</p>	<p>[2]</p>
<p><i>Comments: The adopted SED corresponds to PoWR_36000_4.00_m7.17_Z0.14_smobar_ebmv_0.04_sed.fits: ~/box/ullyses_tech/ullyses_proposals/c28_mc/16371/NGC346-ELS-25/NGC346-ELS-25_adopted_sed.fits</i></p> <p><i>ETC estimates that SNR=30/resel is obtained at 1580 +/- 0.5 A in 1508.0795 s [COS.sp.1517355]</i> <i>This baseline exposure time was rounded to 1520 s (380 s per FP-POS).</i> <i>No ETC Warnings</i> <i>Count Rate (Total, Segment A, Segment B) = (2670.999, 550.486, 2120.513) cts/s</i> <i>Brightest Pixel: 0.039 cts/s at 1424.50 A</i> <i>BUFFER TIME: (ETC, ETC * 2/3, Optimized) = (883, 588, 588) s</i></p> <p><i>During orbit packing, the exposure time was decreased to 82% of the baseline value: 1248 s total, 312 s per FP-POS.</i> <i>As a result, the *planned* SNR = 27.3/resel at 1580 A [COS.sp.1519104]</i> <i>The ETC run associated with the *planned* SNR is noted in the APT field.</i></p> <p><i>BOT: 1 safe, 7 unknown in the the GSC II catalog. The brightest of the "unknown" targets is Gaia EDR3 Gaia EDR3 4690504994818106496, which is 6.3 arcsec from the target at PA = 148 degrees. It has G_BP = 17.19, which is 2.22 magnitudes fainter than the target (G_BP=14.91). Since the target poses no health & safety risk to the COS detectors, the faint, unidentified stars in the field are not a concern.</i></p>		

Proposal 16371 - NGC346-ELS-25-COS (4C) - ULLYSES SMC O8-O9 Stars COS

6	G130M/109 (4) NGC346-ELS-25 COS/FUV, TIME-TAG, PSA 6-1 (COS.sp.151 9105)	G130M 1096 A	BUFFER-TIME=44 5; FP-POS=1	1012 Secs (1012 Secs)	[2]
<p><i>Comments: The adopted SED corresponds to PoWR_36000_4.00_m7.17_Z0.14_smchar_ebmv_0.04_sed.fits: ~/box/ullyses_tech/ullyses_proposals/c28_mc/16371/NGC346-ELS-25/NGC346-ELS-25_adopted_sed.fits</i></p> <p><i>ETC estimates that SNR=20/resel is obtained at 1080 +/- 0.5 A in 6665.5569 s [COS.sp.1517521] This baseline exposure time was rounded to 6680 s (1670 s per FP-POS) No ETC Warnings Count Rate (Total, Segment A, Segment B) = (2993.743, 2916.870, 76.873) cts/s Brightest Pixel: 0.101 cts/s at 1216.21 A BUFFER TIME: (ETC, ETC * 2/3, Optimized) = (787, 524, 520) s</i></p> <p><i>For efficient orbit packing, the exposure at the FP-POS=2 was broken into two pieces, labelled "2a" and "2b", which had different integration times but maintained the same net exposure time as the other FP-splits. The total exposure time is 4048 s; 1012 s per FP-POS. This exposure time is 61% of the baseline value. Consequently, the *planned* SNR = 15.6/resel at 1080 A [COS.sp.1519105] The ETC run associated with the *planned* SNR is noted in the APT field.</i></p> <p><i>BOT: 1 safe, 7 unknown in the the GSC II catalog. The brightest of the "unknown" targets is Gaia EDR3 Gaia EDR3 4690504994818106496, which is 6.3 arcsec from the target at PA = 148 degrees. It has G_BP = 17.19, which is 2.22 magnitudes fainter than the target (G_BP=14.91). Since the target poses no health & safety risk to the COS detectors, the faint, unidentified stars in the field are not a concern.</i></p>					
7	G130M/109 (4) NGC346-ELS-25 COS/FUV, TIME-TAG, PSA 6-2a (COS.sp.151 9105)	G130M 1096 A	BUFFER-TIME=52 4; FP-POS=2	771 Secs (771 Secs)	[2]
<p><i>Comments: The adopted SED corresponds to PoWR_36000_4.00_m7.17_Z0.14_smchar_ebmv_0.04_sed.fits: ~/box/ullyses_tech/ullyses_proposals/c28_mc/16371/NGC346-ELS-25/NGC346-ELS-25_adopted_sed.fits</i></p> <p><i>ETC estimates that SNR=20/resel is obtained at 1080 +/- 0.5 A in 6665.5569 s [COS.sp.1517521] This baseline exposure time was rounded to 6680 s (1670 s per FP-POS) No ETC Warnings Count Rate (Total, Segment A, Segment B) = (2993.743, 2916.870, 76.873) cts/s Brightest Pixel: 0.101 cts/s at 1216.21 A BUFFER TIME: (ETC, ETC * 2/3, Optimized) = (787, 524, 520) s</i></p> <p><i>For efficient orbit packing, the exposure at the FP-POS=2 was broken into two pieces, labelled "2a" and "2b", which had different integration times but maintained the same net exposure time as the other FP-splits. The total exposure time is 4048 s; 1012 s per FP-POS. This exposure time is 61% of the baseline value. Consequently, the *planned* SNR = 15.6/resel at 1080 A [COS.sp.1519105] The ETC run associated with the *planned* SNR is noted in the APT field.</i></p> <p><i>BOT: 1 safe, 7 unknown in the the GSC II catalog. The brightest of the "unknown" targets is Gaia EDR3 Gaia EDR3 4690504994818106496, which is 6.3 arcsec from the target at PA = 148 degrees. It has G_BP = 17.19, which is 2.22 magnitudes fainter than the target (G_BP=14.91). Since the target poses no health & safety risk to the COS detectors, the faint, unidentified stars in the field are not a concern.</i></p>					
8	G130M/109 (4) NGC346-ELS-25 COS/FUV, TIME-TAG, PSA 6-2b (COS.sp.151 9105)	G130M 1096 A	BUFFER-TIME=52 4; FP-POS=2	241 Secs (241 Secs)	[3]
<p><i>Comments: The adopted SED corresponds to PoWR_36000_4.00_m7.17_Z0.14_smchar_ebmv_0.04_sed.fits: ~/box/ullyses_tech/ullyses_proposals/c28_mc/16371/NGC346-ELS-25/NGC346-ELS-25_adopted_sed.fits</i></p> <p><i>ETC estimates that SNR=20/resel is obtained at 1080 +/- 0.5 A in 6665.5569 s [COS.sp.1517521] This baseline exposure time was rounded to 6680 s (1670 s per FP-POS) No ETC Warnings Count Rate (Total, Segment A, Segment B) = (2993.743, 2916.870, 76.873) cts/s Brightest Pixel: 0.101 cts/s at 1216.21 A BUFFER TIME: (ETC, ETC * 2/3, Optimized) = (787, 524, 520) s</i></p> <p><i>For efficient orbit packing, the exposure at the FP-POS=2 was broken into two pieces, labelled "2a" and "2b", which had different integration times but maintained the same net exposure time as the other FP-splits. The total exposure time is 4048 s; 1012 s per FP-POS. This exposure time is 61% of the baseline value. Consequently, the *planned* SNR = 15.6/resel at 1080 A [COS.sp.1519105] The ETC run associated with the *planned* SNR is noted in the APT field.</i></p> <p><i>BOT: 1 safe, 7 unknown in the the GSC II catalog. The brightest of the "unknown" targets is Gaia EDR3 Gaia EDR3 4690504994818106496, which is 6.3 arcsec from the target at PA = 148 degrees. It has G_BP = 17.19, which is 2.22 magnitudes fainter than the target (G_BP=14.91). Since the target poses no health & safety risk to the COS detectors, the faint, unidentified stars in the field are not a concern.</i></p>					

Proposal 16371 - NGC346-ELS-25-COS (4C) - ULLYSES SMC O8-O9 Stars COS

9	G130M/109 (4) NGC346-ELS-25 COS/FUV, TIME-TAG, PSA 6-3 (COS.sp.151 9105)	G130M 1096 A	BUFFER-TIME=44 5; FP-POS=3	1012 Secs (1012 Secs)	[3]
<p>Comments: The adopted SED corresponds to PoWR_36000_4.00_m7.17_Z0.14_smobar_ebmv_0.04_sed.fits: ~/box/ullyses_tech/ullyses_proposals/c28_mc/16371/NGC346-ELS-25/NGC346-ELS-25_adopted_sed.fits</p>					
<p>ETC estimates that SNR=20/resel is obtained at 1080 +/- 0.5 A in 6665.5569 s [COS.sp.1517521] This baseline exposure time was rounded to 6680 s (1670 s per FP-POS) No ETC Warnings Count Rate (Total, Segment A, Segment B) = (2993.743, 2916.870, 76.873) cts/s Brightest Pixel: 0.101 cts/s at 1216.21 A BUFFER TIME: (ETC, ETC * 2/3, Optimized) = (787, 524, 520) s</p>					
<p>For efficient orbit packing, the exposure at the FP-POS=2 was broken into two pieces, labelled "2a" and "2b", which had different integration times but maintained the same net exposure time as the other FP-splits. The total exposure time is 4048 s; 1012 s per FP-POS. This exposure time is 61% of the baseline value. Consequently, the *planned* SNR = 15.6/resel at 1080 A [COS.sp.1519105] The ETC run associated with the *planned* SNR is noted in the APT field.</p>					
<p>BOT: 1 safe, 7 unknown in the the GSC II catalog. The brightest of the "unknown" targets is Gaia EDR3 Gaia EDR3 4690504994818106496, which is 6.3 arcsec from the target at PA = 148 degrees. It has G_BP = 17.19, which is 2.22 magnitudes fainter than the target (G_BP=14.91). Since the target poses no health & safety risk to the COS detectors, the faint, unidentified stars in the field are not a concern.</p>					
10	G130M/109 (4) NGC346-ELS-25 COS/FUV, TIME-TAG, PSA 6-4 (COS.sp.151 9105)	G130M 1096 A	BUFFER-TIME=52 4; FP-POS=4	1012 Secs (1012 Secs)	[3]
<p>Comments: The adopted SED corresponds to PoWR_36000_4.00_m7.17_Z0.14_smobar_ebmv_0.04_sed.fits: ~/box/ullyses_tech/ullyses_proposals/c28_mc/16371/NGC346-ELS-25/NGC346-ELS-25_adopted_sed.fits</p>					
<p>ETC estimates that SNR=20/resel is obtained at 1080 +/- 0.5 A in 6665.5569 s [COS.sp.1517521] This baseline exposure time was rounded to 6680 s (1670 s per FP-POS) No ETC Warnings Count Rate (Total, Segment A, Segment B) = (2993.743, 2916.870, 76.873) cts/s Brightest Pixel: 0.101 cts/s at 1216.21 A BUFFER TIME: (ETC, ETC * 2/3, Optimized) = (787, 524, 520) s</p>					
<p>For efficient orbit packing, the exposure at the FP-POS=2 was broken into two pieces, labelled "2a" and "2b", which had different integration times but maintained the same net exposure time as the other FP-splits. The total exposure time is 4048 s; 1012 s per FP-POS. This exposure time is 61% of the baseline value. Consequently, the *planned* SNR = 15.6/resel at 1080 A [COS.sp.1519105] The ETC run associated with the *planned* SNR is noted in the APT field.</p>					
<p>BOT: 1 safe, 7 unknown in the the GSC II catalog. The brightest of the "unknown" targets is Gaia EDR3 Gaia EDR3 4690504994818106496, which is 6.3 arcsec from the target at PA = 148 degrees. It has G_BP = 17.19, which is 2.22 magnitudes fainter than the target (G_BP=14.91). Since the target poses no health & safety risk to the COS detectors, the faint, unidentified stars in the field are not a concern.</p>					

