16103 - ULLYSES SMC O Stars COS 1096

Cycle: 27, Proposal Category: GO/DD

(Availability Mode: SUPPORTED)

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VISITS

Visit	*Targets used in Visit*	*Configurations used in Visit*	*Orbits Used*	*Last Orbit Planner Run*	*OP Current with Visit?*
1C	(1) AV307	COS/FUV	3	08-Sep-2020 15:00:26.0	yes
2C	(2) NGC346-ELS-28	COS/FUV	2	08-Sep-2020 15:00:27.0	yes
2D	(2) NGC346-ELS-28	COS/FUV	2	08-Sep-2020 15:00:28.0	yes
BC	(2) NGC346-ELS-28	COS/FUV	2	08-Sep-2020 15:00:29.0	yes
3C	(3) NGC346-ELS-50	COS/FUV	4	08-Sep-2020 15:00:30.0	yes
CC	(3) NGC346-ELS-50	COS/FUV	4	08-Sep-2020 15:00:31.0	yes
4C	(4) NGC346-ELS-51	COS/FUV	4	08-Sep-2020 15:00:32.0	yes
5C	(5) NGC346-MPG-368	COS/FUV	2	08-Sep-2020 15:00:33.0	yes

23 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. This particular program ID will obtain COS G130M c1096 of five O stars in the SMC for which there already are either STIS E140M or COS G130M+G160M observations at longer wavelengths. The stars included here are AV 307, SpT = O9 III; cl* NGC 346 ELS 28, SpT = OC6 Vz; cl* NGC 346 ELS 50, SpT = O8Vn; cl* NGC 346 ESL 51, SpT = O7 Vz; and cl* NGC 346 MPG 368 ,SpT = O5.5 V((f+)).

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.

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

Proposal 16103, AV307-COS (1C), completed Tue Sep 08 19:00:34 GMT 2020

Diagnostic Status: Warning

Scientific Instruments: COS/FUV

Special Requirements: SCHED 100%

Comments: vstatus; 1C; AV307; P/COS Approved for submission; P/CP 27/02/20 ; intrev: Complete ; P/WF 03/03/20
vcheck; Enter targ name & Inst. & Resp. Sci.; AV307 ; COS ; CP
vcheck; ETC numbers entered in APT?; Yes
vcheck; Any screening violations?; No
vcheck; S/N ETC calcs done & documented?; Yes
vcheck; Field images checked & saved?; Yes
vcheck; Selected ACQ strategy?; Dispersed 1291
vcheck; Possible ACQ or Sci spoilers?; None
vcheck; Field BOT clear?; 1 unknown that was verified with Zartisky as too be too faint to be of concern ...
Unknown Star 01:02:32.38 -72:39:37.0 has Zaritsky UBVI=18.146/18.983/19.01/17.593, well below limits for COS spectoscopic modes
"M2V star according to BOT" 01:02:35.85 -72:39:38.5 has Zaritsky UBVI=18.83/18.77/19.454/18.88 is in BOA region only
vcheck; Visual BOT check for stars not in catalog?; no objects of concern
vcheck; Orbit packing finalized?; yes ...
Total exposure time of 6948s vs 6400s requested fits into allocated 3 orbits
Did need to do FP-POS individualy and break FP-POS 2 and 3 into smaller pieces to keep equal exposure time
vcheck; Buffer times optimized?; Yes
vcheck; Verify visit grouping correct; NA
vcheck; Is visit ready for int. review?; Yes
Allocated COS orbits = 3, used=3

Diagnostics

(AV307-COS (1C)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN

(AV307-COS (1C)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	AV307	RA: 01 02 32.1837 (15.6340987d)		V=13.96	Reference Frame: ICRS
	Alt Name1: AV-307	Dec: -72 39 42.59 (-72.66183d)		SpT=O9 III; E(B-V)=0.10; U=12.8; B=13.8; V=14.0; F1160=3.03e-13; F1360=2.85e-13; F1700=1.80e-13; F2200=1.12e-13	
	Alt Name2: M2002-53902	Equinox: J2000			

Comments: AV307 : [M2002]_53902, AV 307, AzV 307
Previous name : AV 307
Input file: SMC_2020Feb20/input/SMC_all_do1_NewCoords_pids.csv
SIMBAD link (AzV 307): https://simbad.u-strasbg.fr/simbad/sim-id?Ident=AzV+307&submit=submit+id
SpT = O9 III
COS/G130M/c1096 : rn-max(WM-Basic(O9 III, Z=0.004, Teff=32359, log_lum=5.41, log_g=3.61) (extinction smcbar=0.100), flux1160 +- 30.0A flux=3e-13 Flam)
COS/G130M/c1291 : rn-max(WM-Basic(O9 III, Z=0.004, Teff=32359, log_lum=5.41, log_g=3.61) (extinction smcbar=0.100), flux1360 +- 30.0A flux=2.8e-13 Flam)
COS/G160M/c1611 : rn-max(WM-Basic(O9 III, Z=0.004, Teff=32359, log_lum=5.41, log_g=3.61) (extinction smcbar=0.100), flux1700 +- 5.0A flux=1.8e-13 Flam)
COS/G185M/c1921 : rn-max(WM-Basic(O9 III, Z=0.004, Teff=32359, log_lum=5.41, log_g=3.61) (extinction smcbar=0.100), flux1700 +- 5.0A flux=1.8e-13 Flam)
COS/G185M/c1953 : rn-max(WM-Basic(O9 III, Z=0.004, Teff=32359, log_lum=5.41, log_g=3.61) (extinction smcbar=0.100), flux1700 +- 5.0A flux=1.8e-13 Flam)
COS/G185M/c1986 : rn-max(WM-Basic(O9 III, Z=0.004, Teff=32359, log_lum=5.41, log_g=3.61) (extinction smcbar=0.100), flux2200 +- 5.0A flux=1.1e-13 Flam)
STIS/E140M/c1425 : rn-max(WM-Basic(O9 III, Z=0.004, Teff=32359, log_lum=5.41, log_g=3.61) (extinction smcbar=0.100), flux1360 +- 30.0A flux=2.8e-13 Flam)
STIS/E230M/c1978 : rn-max(WM-Basic(O9 III, Z=0.004, Teff=32359, log_lum=5.41, log_g=3.61) (extinction smcbar=0.100), flux2200 +- 5.0A flux=1.1e-13 Flam)
STIS/E230M/c2707 : rn-max(WM-Basic(O9 III, Z=0.004, Teff=32359, log_lum=5.41, log_g=3.61) (extinction smcbar=0.100), flux2200 +- 5.0A flux=1.1e-13 Flam)
Coordinate pedigree: Gaia
Calculation performed 2020-02-24T18:01:16, v0.4
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tstatus; AV307; P/COS Approved for submission; S/NA work started; P/CP 03/02/20; S/xx DD/MM/YY
tcheck; APT/SIMBAD target names: ; AV 307, AzV 307
tcheck; Target info verification status?; Complete
tcheck; Coordinates & P.M. updated?; Verified
tcheck; Adopted SED compared to Observations?; yes ...
Original fit poor; redid normalization and updated E(B-V) from 0.1 to 0.07 to give better fit to overall FUV flux and slope and observed optical fluxes
~/box/ullyses_tech/proposals/c27_mc/16103/av307/av307_adopted_sed_vs_data.png
~/box/ullyses_tech/proposals/c27_mc/16103/av307/wmbasic_O9III_unorm_ebv0.072.fits
Category=EXT-STAR
Description=[GIANT O]
Extended=NO

Exposures

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	ACQ/PEAKXD (COS.sa.1416225)	(1) AV307	COS/FUV, ACQ/PEAKXD, PSA	G130M 1291 A	CENTER=FLUX-WT; NUM-POS=3; STEP-SIZE=1.3; SEGMENT=BOTH			0.6 Secs (0.6 Secs) *[==>]*	***[1]***
2	ACQ/PEAKD (COS.sa.1416225)	(1) AV307	COS/FUV, ACQ/PEAKD, PSA	G130M 1291 A	CENTER=FLUX-WT-FLR; NUM-POS=5; STEP-SIZE=0.9; SEGMENT=BOTH			0.6 Secs (0.6 Secs) *[==>]*	***[1]***
3	G130M/1096 (COS.sp.1415308)	(1) AV307	COS/FUV, TIME-TAG, PSA	G130M 1096 A	BUFFER-TIME=545; FP-POS=1			1746.0 Secs (1746 Secs) *[==>]*	***[1]***

Comments: rn-max(WM-Basic(O9 III, Z=0.004, Teff=32359, log_lum=5.41, log_g=3.61) (extinction smcbar=0.100), flux1160 +- 30.0A flux=3e-13 Flam); cos,fuv,g130m,c1096,psa,mjd#59305; fp-pos=None, segment=None)
From file SMC_2020Feb20/input/SMC_all_do1_NewCoords_pids.csv
Spectral type: O9 III --> O9 III
SED = AV307_COS_G130M_c1096_sed.fits
For exptime=6399.8 s, spectral region:
1080.0 +- 0.5 A achieves SNR=20.0/resel
global countrate (brightest segment): 2778.0 cts/s/segment
brightest pixel: 0.053 cts/s/pix at 1237.0 A
Calculation performed 2020-02-24T18:01:25, v0.4

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
4	G130M/1096 (COS.sp.1415308)	(1) AV307	COS/FUV, TIME-TAG, PSA	G130M 1096 A	BUFFER-TIME=564.0; FP-POS=2			235 Secs (235 Secs) *[==>]*	***[1]***

Comments: rn-max(WM-Basic(O9 III, Z=0.004, Teff=32359, log_lum=5.41, log_g=3.61) (extinction smcbar=0.100), flux1160 +- 30.0A flux=3e-13 Flam); cos,fuv,g130m,c1096,psa,mjd#59305; fp-pos=None, segment=None)
From file SMC_2020Feb20/input/SMC_all_do1_NewCoords_pids.csv
Spectral type: O9 III --> O9 III
SED = AV307_COS_G130M_c1096_sed.fits
For exptime=6399.8 s, spectral region:
1080.0 +- 0.5 A achieves SNR=20.0/resel
global countrate (brightest segment): 2778.0 cts/s/segment
brightest pixel: 0.053 cts/s/pix at 1237.0 A
Calculation performed 2020-02-24T18:01:25, v0.4

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
5	G130M/1096 (COS.sp.1415308)	(1) AV307	COS/FUV, TIME-TAG, PSA	G130M 1096 A	BUFFER-TIME=467; FP-POS=2			1511 Secs (1511 Secs) *[==>]*	***[2]***

Comments: rn-max(WM-Basic(O9 III, Z=0.004, Teff=32359, log_lum=5.41, log_g=3.61) (extinction smcbar=0.100), flux1160 +- 30.0A flux=3e-13 Flam); cos,fuv,g130m,c1096,psa,mjd#59305; fp-pos=None, segment=None)
From file SMC_2020Feb20/input/SMC_all_do1_NewCoords_pids.csv
Spectral type: O9 III --> O9 III
SED = AV307_COS_G130M_c1096_sed.fits
For exptime=6399.8 s, spectral region:
1080.0 +- 0.5 A achieves SNR=20.0/resel
global countrate (brightest segment): 2778.0 cts/s/segment
brightest pixel: 0.053 cts/s/pix at 1237.0 A
Calculation performed 2020-02-24T18:01:25, v0.4

6	G130M/109 6 (COS.sp.141 5308)	(1) AV307	COS/FUV, TIME-TAG, PSA	G130M 1096 A	BUFFER-TIME=564.0; FP-POS=3	988 Secs (988 Secs) *[==>]*	***[2]***

Comments: rn-max(WM-Basic(O9 III, Z=0.004, Teff=32359, log_lum=5.41, log_g=3.61) (extinction smcbar=0.100), flux1160 +- 30.0A flux=3e-13 Flam); cos,fuv,g130m,c1096,psa,mjd#59305; fp-pos=None, segment=None)
From file SMC_2020Feb20/input/SMC_all_do1_NewCoords_pids.csv
Spectral type: O9 III --> O9 III
SED = AV307_COS_G130M_c1096_sed.fits
For exptime=6399.8 s, spectral region:
1080.0 +- 0.5 A achieves SNR=20.0/resel
global countrate (brightest segment): 2778.0 cts/s/segment
brightest pixel: 0.053 cts/s/pix at 1237.0 A
Calculation performed 2020-02-24T18:01:25, v0.4

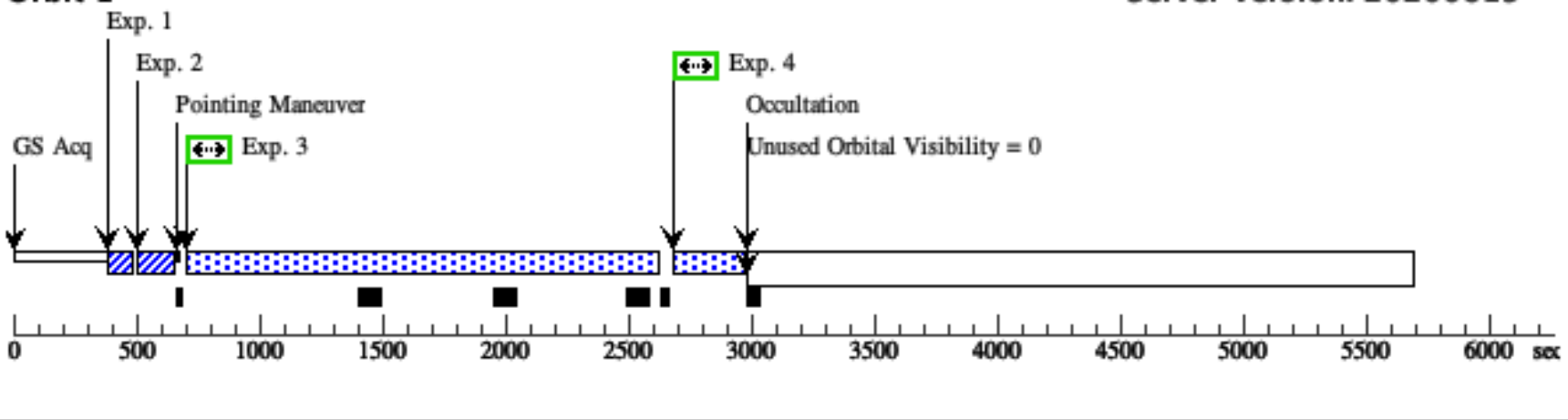
7	G130M/109 6 (COS.sp.141 5308)	(1) AV307	COS/FUV, TIME-TAG, PSA	G130M 1096 A	BUFFER-TIME=648; FP-POS=3	758 Secs (758 Secs) *[==>]*	***[3]***

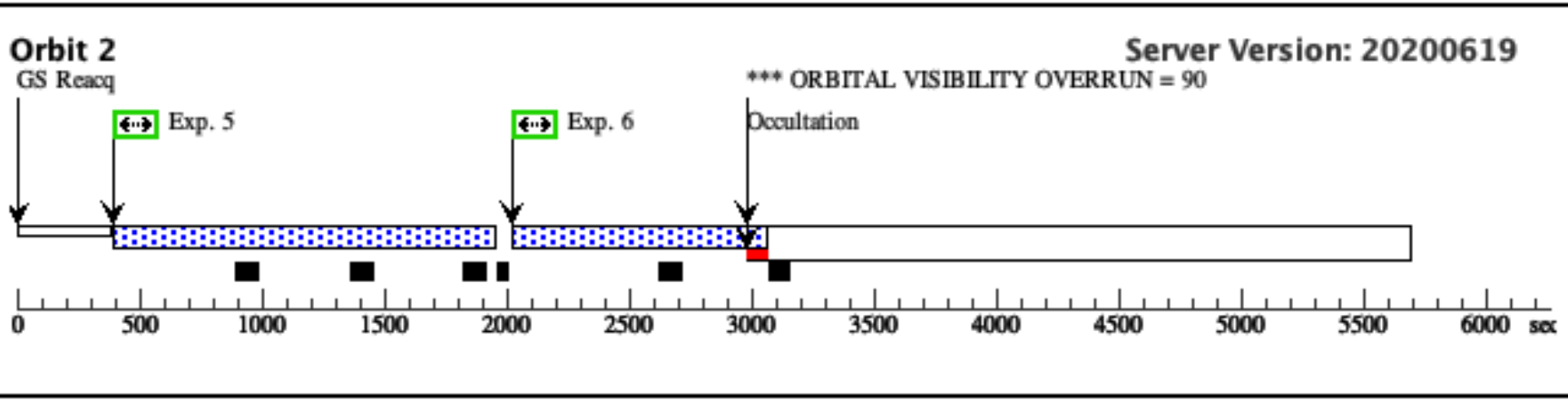
Comments: rn-max(WM-Basic(O9 III, Z=0.004, Teff=32359, log_lum=5.41, log_g=3.61) (extinction smcbar=0.100), flux1160 +- 30.0A flux=3e-13 Flam); cos,fuv,g130m,c1096,psa,mjd#59305; fp-pos=None, segment=None)
From file SMC_2020Feb20/input/SMC_all_do1_NewCoords_pids.csv
Spectral type: O9 III --> O9 III
SED = AV307_COS_G130M_c1096_sed.fits
For exptime=6399.8 s, spectral region:
1080.0 +- 0.5 A achieves SNR=20.0/resel
global countrate (brightest segment): 2778.0 cts/s/segment
brightest pixel: 0.053 cts/s/pix at 1237.0 A
Calculation performed 2020-02-24T18:01:25, v0.4

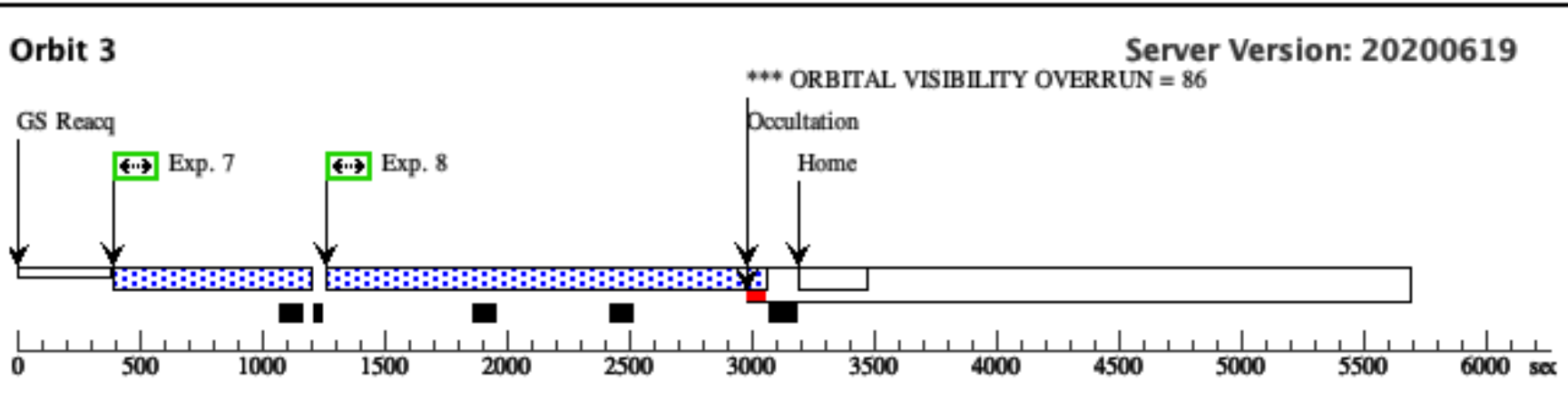
8	G130M/109 6 (COS.sp.141 5308)	(1) AV307	COS/FUV, TIME-TAG, PSA	G130M 1096 A	BUFFER-TIME=564.0; FP-POS=4	1746.0 Secs (1746 Secs) *[==>]*	***[3]***

Comments: rn-max(WM-Basic(O9 III, Z=0.004, Teff=32359, log_lum=5.41, log_g=3.61) (extinction smcbar=0.100), flux1160 +- 30.0A flux=3e-13 Flam); cos,fuv,g130m,c1096,psa,mjd#59305; fp-pos=None, segment=None)
From file SMC_2020Feb20/input/SMC_all_do1_NewCoords_pids.csv
Spectral type: O9 III --> O9 III
SED = AV307_COS_G130M_c1096_sed.fits
For exptime=6399.8 s, spectral region:
1080.0 +- 0.5 A achieves SNR=20.0/resel
global countrate (brightest segment): 2778.0 cts/s/segment
brightest pixel: 0.053 cts/s/pix at 1237.0 A
Calculation performed 2020-02-24T18:01:25, v0.4

Orbit Structure







Visit

Proposal 16103, NGC346-ELS-28-COS (2C), failed Tue Sep 08 19:00:34 GMT 2020

Diagnostic Status: Warning

Scientific Instruments: COS/FUV

Special Requirements: SCHED 100%

Comments: vstatus; 2C; NGC346-ELS-28; P/COS Approved for submission; P/CP DD/MM/YY; intrev: Complete ; P/WF 03/03/20
vcheck; Enter targ name & Inst. & Resp. Sci.; Cl NGC 346 ELS 028 ; COS ; CP*
vcheck; ETC numbers entered in APT?; yes ...
original normalization was underestimating observed flux by ~20%-30% over most of range. Adjusted normalization and E(B-V) to better match IUE SWP spectra (STIS E140M is similar shape but about 10% lower)
vcheck; Any screening violations?; no warnings or violations
vcheck; S/N ETC calcs done & documented?; see above
vcheck; Field images checked & saved?; yes
vcheck; Selected ACQ strategy?; dispersed c1291
vcheck; Possible ACQ or Sci spoilers?; No
vcheck; Field BOT clear?; yes but ...
BOT reports only 7 unknown GSC2 sourcces that show poor correlation with stars in image
Need to instead rely on Zaritsky catalog
Brightest field object in PSA macro aperture has
UBVI = 18.038, 18.409, 17.854, 17.441
Brightest objects in BOA marcro aprture have
UBVI=15.264, 16.125, 16.239, 16.279 & UBV = 15.240, 16.268, 16.301
These are all much fainter than the appropriate O star limits for c1291 and c1096
vcheck; Visual BOT check for stars not in catalog?; done ...
Zaritsky catalog, but not GSC2, does a good job of identifying all stars in GSC2 image so OK
vcheck; Orbit packing finalized?; yes ...
Broke into a pair of two orbit visits to allow ease of scheduling. Do FP-POS 1&3 in first vist, 2&4 in 2nd
Total science expo time between the two visits is 9438s or 1.06x requested, however, FP-POS 1 & 2 are a bit shorter than 3 & 4 to allow for the acquisition
vcheck; Buffer times optimized?; Yes ...
Since all science exposures end on a full orbit, there is no need to adjust the buffer time for efficiency
vcheck; Verify visit grouping correct; ???? need to decide policy
vcheck; Is visit ready for int. review?; Yes
Allocated COS orbits = 4; used 2+2

Diagnostics

(NGC346-ELS-28-COS (2C)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(2)	NGC346-ELS-28 Alt Name1: CL-NGC-346-ELS-028 Alt Name2: NGC346-28	RA: 00 58 31.7564 (14.6323183d) Dec: -72 10 57.98 (-72.18277d) Equinox: J2000		V=15.01 SpT=OC6 Vz; E(B-V)=0.02; B=14.8; V=15.0; F1160=1.88e-13; F1360=1.71e-13; F1700=1.16e-13	Reference Frame: ICRS

Comments: NGC346-ELS-28 : NGC 346-028, NGC346_28, Cl NGC 346 ELS 028*
Previous name : NGC 346-028
Input file: SMC_2020Feb20/input/SMC_all_do1_NewCoords_pids.csv
SIMBAD link (Cl NGC 346 ELS 028): https://simbad.u-strasbg.fr/simbad/sim-id?Ident=Cl*+NGC+346+ELS+028&submit=submit+id*
SpT = OC6 Vz
COS/G130M/c1096 : rn-max(WM-Basic(O7 V, Z=0.004, Teff=39811, log_lum=5.42, log_g=4.00) (extinction smcbar=0.020), flux1160 +- 30.0A flux=1.9e-13 Flam)
COS/G130M/c1291 : rn-max(WM-Basic(O7 V, Z=0.004, Teff=39811, log_lum=5.42, log_g=4.00) (extinction smcbar=0.020), flux1360 +- 30.0A flux=1.7e-13 Flam)
COS/G160M/c1611 : rn-max(WM-Basic(O7 V, Z=0.004, Teff=39811, log_lum=5.42, log_g=4.00) (extinction smcbar=0.020), flux1700 +- 5.0A flux=1.2e-13 Flam)
COS/G185M/c1921 : rn-max(WM-Basic(O7 V, Z=0.004, Teff=39811, log_lum=5.42, log_g=4.00) (extinction smcbar=0.020), flux1700 +- 5.0A flux=1.2e-13 Flam)
COS/G185M/c1953 : rn-max(WM-Basic(O7 V, Z=0.004, Teff=39811, log_lum=5.42, log_g=4.00) (extinction smcbar=0.020), flux1700 +- 5.0A flux=1.2e-13 Flam)
COS/G185M/c1986 : rn-max(WM-Basic(O7 V, Z=0.004, Teff=39811, log_lum=5.42, log_g=4.00) (extinction smcbar=0.020), flux1700 +- 5.0A flux=1.2e-13 Flam)
STIS/E140M/c1425 : rn-max(WM-Basic(O7 V, Z=0.004, Teff=39811, log_lum=5.42, log_g=4.00) (extinction smcbar=0.020), flux1360 +- 30.0A flux=1.7e-13 Flam)
STIS/E230M/c1978 : rn-max(WM-Basic(O7 V, Z=0.004, Teff=39811, log_lum=5.42, log_g=4.00) (extinction smcbar=0.020), flux1700 +- 5.0A flux=1.2e-13 Flam)
STIS/E230M/c2707 : rn-max(WM-Basic(O7 V, Z=0.004, Teff=39811, log_lum=5.42, log_g=4.00) (extinction smcbar=0.020), flux1700 +- 5.0A flux=1.2e-13 Flam)
Coordinate pedigree: Gaia
v sin i = 35
Calculation performed 2020-02-24T17:57:18, v0.4
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tstatus; NGC346-ELS-28; P/COS Approved for submission S/NA not started; P/CP 03/02/20; S/xx DD/MM/YY
tcheck; APT/SIMBAD target names: ; Cl NGC 346 ELS 28, Cl* NGC 346 MPG 113, [M2002] SMC 43668*
tcheck; Target info verification status?; Good
tcheck; Coordinates & P.M. updated?; Verified
tcheck; Adopted SED compared to Observations?; yes ...
original SED substantially understimated flux over much of range. Updated normalization and E(B-V) to better fit IUE observations see ...
~/box/ullyses_tech/proposals/c27_mc/16103/ngc346-els-28/els_28_adopted_sed_vs_STIS_IUE.png
~/box/ullyses_tech/proposals/c27_mc/16103/ngc346-els-28/NGC346-ELS-28EBV0.06_revised_sed.fits
Category=EXT-STAR
Description=[MAIN SEQUENCE O]
Extended=NO

Exposures

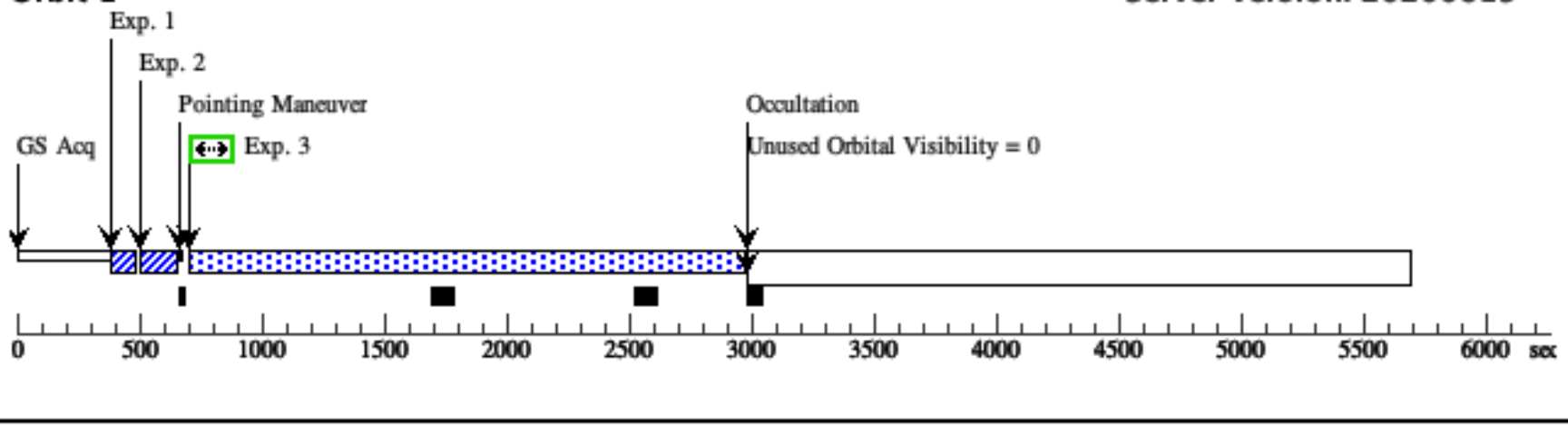
#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	ACQ/PEAKXD (COS.sa.1416942)	(2) NGC346-ELS-28	COS/FUV, ACQ/PEAKXD, PSA	G130M 1291 A	CENTER=FLUX-WT; NUM-POS=3; STEP-SIZE=1.3; SEGMENT=BOTH			0.5 Secs (0.5 Secs) *[==>]*	***[1]***
2	ACQ/PEAKD (COS.sa.1416942)	(2) NGC346-ELS-28	COS/FUV, ACQ/PEAKD, PSA	G130M 1291 A	CENTER=FLUX-WT-FLR; NUM-POS=5; STEP-SIZE=0.9; SEGMENT=BOTH			0.5 Secs (0.5 Secs) *[==>]*	***[1]***
3	G130M/1096 (COS.sp.1416951)	(2) NGC346-ELS-28	COS/FUV, TIME-TAG, PSA	G130M 1096 A	BUFFER-TIME=8299; FP-POS=1			2096 Secs (2096 Secs) *[==>]*	***[1]***

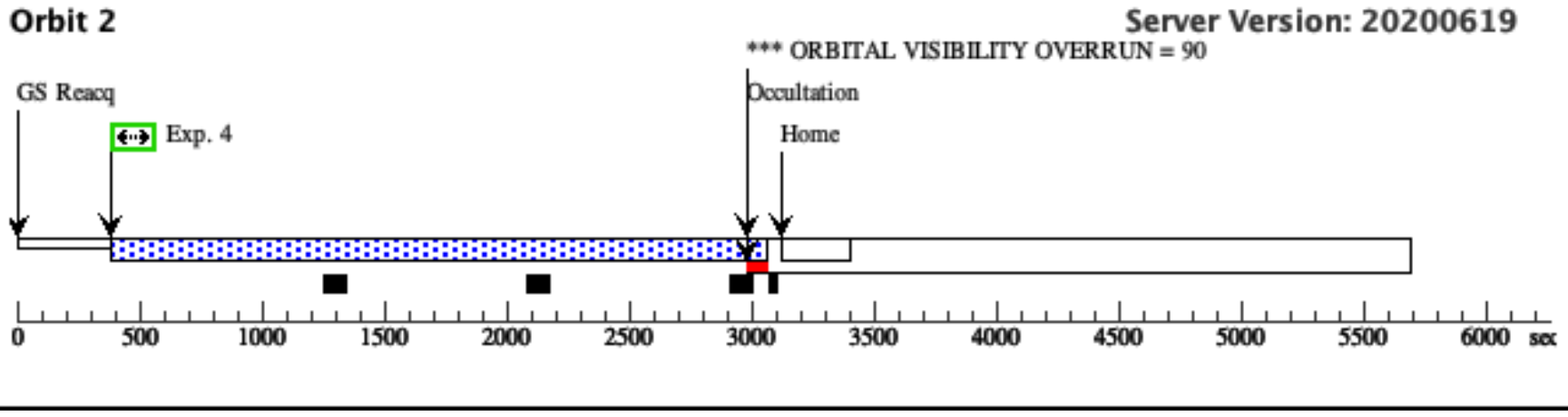
Comments: rn-max(WM-Basic(O7 V, Z=0.004, Teff=39811, log_lum=5.42, log_g=4.00) (extinction smcbar=0.020), flux1160 +- 30.0A flux=1.9e-13 Flam); cos,fuv,g130m,c1096,psa,mjd#59305; fp-pos=None, segment=None)
From file SMC_2020Feb20/input/SMC_all_do1_NewCoords_pids.csv
Spectral type: OC6 Vz --> O7 V
SED = NGC346-ELS-28_COS_G130M_c1096_sed.fits
For exptime=8842.0 s, spectral region:
1080.0 +- 0.5 A achieves SNR=20.0/resel
global countrate (brightest segment): 1575.9 cts/s/segment
brightest pixel: 0.023 cts/s/pix at 1205.0 A
Calculation performed 2020-02-24T17:57:27, v0.4

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
4	G130M/1096 (COS.sp.1416951)	(2) NGC346-ELS-28	COS/FUV, TIME-TAG, PSA	G130M 1096 A	BUFFER-TIME=8299; FP-POS=3			2623 Secs (2623 Secs) *[==>]*	***[2]***

Comments: rn-max(WM-Basic(O7 V, Z=0.004, Teff=39811, log_lum=5.42, log_g=4.00) (extinction smcbar=0.020), flux1160 +- 30.0A flux=1.9e-13 Flam); cos,fuv,g130m,c1096,psa,mjd#59305; fp-pos=None, segment=None)
From file SMC_2020Feb20/input/SMC_all_do1_NewCoords_pids.csv
Spectral type: OC6 Vz --> O7 V
SED = NGC346-ELS-28_COS_G130M_c1096_sed.fits
For exptime=8842.0 s, spectral region:
1080.0 +- 0.5 A achieves SNR=20.0/resel
global countrate (brightest segment): 1575.9 cts/s/segment
brightest pixel: 0.023 cts/s/pix at 1205.0 A
Calculation performed 2020-02-24T17:57:27, v0.4

Orbit Structure





Visit

Proposal 16103, NGC346-ELS-28-COS (2D), completed Tue Sep 08 19:00:34 GMT 2020

Diagnostic Status: No Diagnostics

Scientific Instruments: COS/FUV

Special Requirements: SCHED 100%

Comments: See visit 2C for details

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(2)	NGC346-ELS-28 Alt Name1: CL-NGC-346-ELS-028 Alt Name2: NGC346-28	RA: 00 58 31.7564 (14.6323183d) Dec: -72 10 57.98 (-72.18277d) Equinox: J2000		V=15.01 SpT=OC6 Vz; E(B-V)=0.02; B=14.8; V=15.0; F1160=1.88e-13; F1360=1.71e-13; F1700=1.16e-13	Reference Frame: ICRS

Comments: NGC346-ELS-28 : NGC 346-028, NGC346_28, Cl NGC 346 ELS 028*
Previous name : NGC 346-028
Input file: SMC_2020Feb20/input/SMC_all_do1_NewCoords_pids.csv
SIMBAD link (Cl NGC 346 ELS 028): https://simbad.u-strasbg.fr/simbad/sim-id?Ident=Cl*+NGC+346+ELS+028&submit=submit+id*
SpT = OC6 Vz
COS/G130M/c1096 : rn-max(WM-Basic(O7 V, Z=0.004, Teff=39811, log_lum=5.42, log_g=4.00) (extinction smcbar=0.020), flux1160 +- 30.0A flux=1.9e-13 Flam)
COS/G130M/c1291 : rn-max(WM-Basic(O7 V, Z=0.004, Teff=39811, log_lum=5.42, log_g=4.00) (extinction smcbar=0.020), flux1360 +- 30.0A flux=1.7e-13 Flam)
COS/G160M/c1611 : rn-max(WM-Basic(O7 V, Z=0.004, Teff=39811, log_lum=5.42, log_g=4.00) (extinction smcbar=0.020), flux1700 +- 5.0A flux=1.2e-13 Flam)
COS/G185M/c1921 : rn-max(WM-Basic(O7 V, Z=0.004, Teff=39811, log_lum=5.42, log_g=4.00) (extinction smcbar=0.020), flux1700 +- 5.0A flux=1.2e-13 Flam)
COS/G185M/c1953 : rn-max(WM-Basic(O7 V, Z=0.004, Teff=39811, log_lum=5.42, log_g=4.00) (extinction smcbar=0.020), flux1700 +- 5.0A flux=1.2e-13 Flam)
COS/G185M/c1986 : rn-max(WM-Basic(O7 V, Z=0.004, Teff=39811, log_lum=5.42, log_g=4.00) (extinction smcbar=0.020), flux1700 +- 5.0A flux=1.2e-13 Flam)
STIS/E140M/c1425 : rn-max(WM-Basic(O7 V, Z=0.004, Teff=39811, log_lum=5.42, log_g=4.00) (extinction smcbar=0.020), flux1360 +- 30.0A flux=1.7e-13 Flam)
STIS/E230M/c1978 : rn-max(WM-Basic(O7 V, Z=0.004, Teff=39811, log_lum=5.42, log_g=4.00) (extinction smcbar=0.020), flux1700 +- 5.0A flux=1.2e-13 Flam)
STIS/E230M/c2707 : rn-max(WM-Basic(O7 V, Z=0.004, Teff=39811, log_lum=5.42, log_g=4.00) (extinction smcbar=0.020), flux1700 +- 5.0A flux=1.2e-13 Flam)
Coordinate pedigree: Gaia
v sin i = 35
Calculation performed 2020-02-24T17:57:18, v0.4
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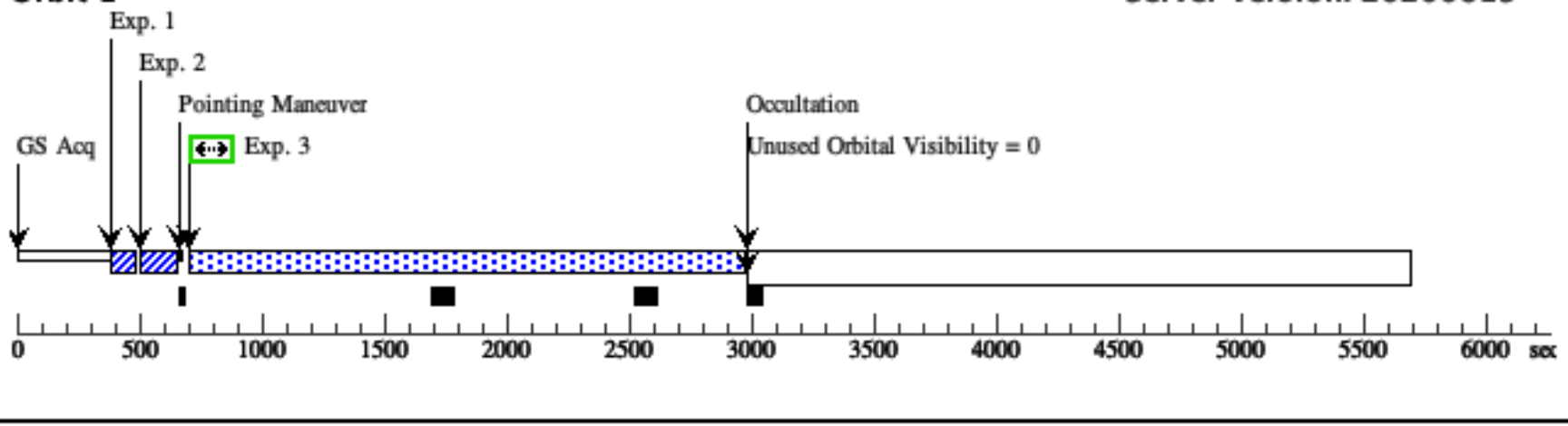
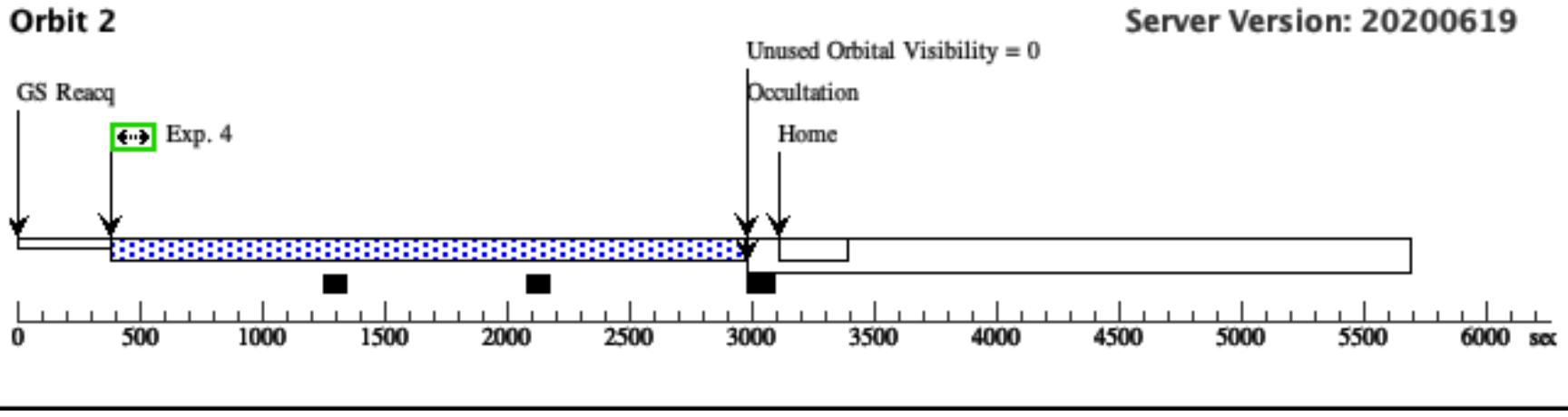
tstatus; NGC346-ELS-28; P/COS Approved for submission S/NA not started; P/CP 03/02/20; S/xx DD/MM/YY
tcheck; APT/SIMBAD target names: ; Cl NGC 346 ELS 28, Cl* NGC 346 MPG 113, [M2002] SMC 43668*
tcheck; Target info verification status?; Good
tcheck; Coordinates & P.M. updated?; Verified
tcheck; Adopted SED compared to Observations?; yes ...
original SED substantially understimated flux over much of range. Updated normalization and E(B-V) to better fit IUE observations see ...
~/box/ullyses_tech/proposals/c27_mc/16103/ngc346-els-28/els_28_adopted_sed_vs_STIS_IUE.png
~/box/ullyses_tech/proposals/c27_mc/16103/ngc346-els-28/NGC346-ELS-28EBV0.06_revised_sed.fits
Category=EXT-STAR
Description=[MAIN SEQUENCE O]
Extended=NO

Exposures

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	ACQ/PEAKXD (COS.sa.1416942)	(2) NGC346-ELS-28	COS/FUV, ACQ/PEAKXD, PSA	G130M 1291 A	CENTER=FLUX-WT; NUM-POS=3; STEP-SIZE=1.3; SEGMENT=BOTH			0.5 Secs (0.5 Secs) *[==>]*	***[1]***
2	ACQ/PEAKD (COS.sa.1416942)	(2) NGC346-ELS-28	COS/FUV, ACQ/PEAKD, PSA	G130M 1291 A	CENTER=FLUX-WT-FLR; NUM-POS=5; STEP-SIZE=0.9; SEGMENT=BOTH			0.5 Secs (0.5 Secs) *[==>]*	***[1]***
3	G130M/1096 (COS.sp.1416951)	(2) NGC346-ELS-28	COS/FUV, TIME-TAG, PSA	G130M 1096 A	BUFFER-TIME=8299; FP-POS=2			2096 Secs (2096 Secs) *[==>]*	***[1]***
	Comments: rn-max(WM-Basic(O7 V, Z=0.004, Teff=39811, log_lum=5.42, log_g=4.00) (extinction smcbar=0.020), flux1160 +- 30.0A flux=1.9e-13 Flam); cos,fuv,g130m,c1096,psa,mjd#59305; fp-pos=None, segment=None) *From file SMC_2020Feb20/input/SMC_all_do1_NewCoords_pids.csv* *Spectral type: OC6 Vz --> O7 V* *SED = NGC346-ELS-28_COS_G130M_c1096_sed.fits* *For exptime=8842.0 s, spectral region:* *1080.0 +- 0.5 A achieves SNR=20.0/resel* *global countrate (brightest segment): 1575.9 cts/s/segment* *brightest pixel: 0.023 cts/s/pix at 1205.0 A* *Calculation performed 2020-02-24T17:57:27, v0.4*								
4	G130M/1096 (COS.sp.1416951)	(2) NGC346-ELS-28	COS/FUV, TIME-TAG, PSA	G130M 1096 A	BUFFER-TIME=8299; FP-POS=4			2533 Secs (2533 Secs) *[==>]*	***[2]***
	Comments: rn-max(WM-Basic(O7 V, Z=0.004, Teff=39811, log_lum=5.42, log_g=4.00) (extinction smcbar=0.020), flux1160 +- 30.0A flux=1.9e-13 Flam); cos,fuv,g130m,c1096,psa,mjd#59305; fp-pos=None, segment=None) *From file SMC_2020Feb20/input/SMC_all_do1_NewCoords_pids.csv* *Spectral type: OC6 Vz --> O7 V* *SED = NGC346-ELS-28_COS_G130M_c1096_sed.fits* *For exptime=8842.0 s, spectral region:* *1080.0 +- 0.5 A achieves SNR=20.0/resel* *global countrate (brightest segment): 1575.9 cts/s/segment* *brightest pixel: 0.023 cts/s/pix at 1205.0 A* *Calculation performed 2020-02-24T17:57:27, v0.4*								

Orbit Structure





Visit

Proposal 16103, NGC346-ELS-28-COS (BC), completed Tue Sep 08 19:00:34 GMT 2020

Diagnostic Status: No Diagnostics

Scientific Instruments: COS/FUV

Special Requirements: SCHED 100%

Comments: vstatus; 2C; NGC346-ELS-28; P/COS Approved for submission; P/CP DD/MM/YY; intrev: Complete ; P/WF 03/03/20
vcheck; Enter targ name & Inst. & Resp. Sci.; Cl NGC 346 ELS 028 ; COS ; CP*
vcheck; ETC numbers entered in APT?; yes ...
original normalization was underestimating observed flux by ~20%-30% over most of range. Adjusted normalization and E(B-V) to better match IUE SWP spectra (STIS E140M is similar shape but about 10% lower)
vcheck; Any screening violations?; no warnings or violations
vcheck; S/N ETC calcs done & documented?; see above
vcheck; Field images checked & saved?; yes
vcheck; Selected ACQ strategy?; dispersed c1291
vcheck; Possible ACQ or Sci spoilers?; No
vcheck; Field BOT clear?; yes but ...
BOT reports only 7 unknown GSC2 sourcces that show poor correlation with stars in image
Need to instead rely on Zaritsky catalog
Brightest field object in PSA macro aperture has
UBVI = 18.038, 18.409, 17.854, 17.441
Brightest objects in BOA marcro aprture have
UBVI=15.264, 16.125, 16.239, 16.279 & UBV = 15.240, 16.268, 16.301
These are all much fainter than the appropriate O star limits for c1291 and c1096
vcheck; Visual BOT check for stars not in catalog?; done ...
Zaritsky catalog, but not GSC2, does a good job of identifying all stars in GSC2 image so OK
vcheck; Orbit packing finalized?; yes ...
Broke into a pair of two orbit visits to allow ease of scheduling. Do FP-POS 1&3 in first vist, 2&4 in 2nd
Total science expo time between the two visits is 9438s or 1.06x requested, however, FP-POS 1 & 2 are a bit shorter than 3 & 4 to allow for the acquisition
vcheck; Buffer times optimized?; Yes ...
Since all science exposures end on a full orbit, there is no need to adjust the buffer time for efficiency
vcheck; Verify visit grouping correct; ???? need to decide policy
vcheck; Is visit ready for int. review?; Yes
Allocated COS orbits = 4; used 2+2

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(2)	NGC346-ELS-28 Alt Name1: CL-NGC-346-ELS-028 Alt Name2: NGC346-28	RA: 00 58 31.7564 (14.6323183d) Dec: -72 10 57.98 (-72.18277d) Equinox: J2000		V=15.01 SpT=OC6 Vz; E(B-V)=0.02; B=14.8; V=15.0; F1160=1.88e-13; F1360=1.71e-13; F1700=1.16e-13	Reference Frame: ICRS

Comments: NGC346-ELS-28 : NGC 346-028, NGC346_28, Cl NGC 346 ELS 028*
Previous name : NGC 346-028
Input file: SMC_2020Feb20/input/SMC_all_do1_NewCoords_pids.csv
SIMBAD link (Cl NGC 346 ELS 028): https://simbad.u-strasbg.fr/simbad/sim-id?Ident=Cl*+NGC+346+ELS+028&submit=submit+id*
SpT = OC6 Vz
COS/G130M/c1096 : rn-max(WM-Basic(O7 V, Z=0.004, Teff=39811, log_lum=5.42, log_g=4.00) (extinction smcbar=0.020), flux1160 +- 30.0A flux=1.9e-13 Flam)
COS/G130M/c1291 : rn-max(WM-Basic(O7 V, Z=0.004, Teff=39811, log_lum=5.42, log_g=4.00) (extinction smcbar=0.020), flux1360 +- 30.0A flux=1.7e-13 Flam)
COS/G160M/c1611 : rn-max(WM-Basic(O7 V, Z=0.004, Teff=39811, log_lum=5.42, log_g=4.00) (extinction smcbar=0.020), flux1700 +- 5.0A flux=1.2e-13 Flam)
COS/G185M/c1921 : rn-max(WM-Basic(O7 V, Z=0.004, Teff=39811, log_lum=5.42, log_g=4.00) (extinction smcbar=0.020), flux1700 +- 5.0A flux=1.2e-13 Flam)
COS/G185M/c1953 : rn-max(WM-Basic(O7 V, Z=0.004, Teff=39811, log_lum=5.42, log_g=4.00) (extinction smcbar=0.020), flux1700 +- 5.0A flux=1.2e-13 Flam)
COS/G185M/c1986 : rn-max(WM-Basic(O7 V, Z=0.004, Teff=39811, log_lum=5.42, log_g=4.00) (extinction smcbar=0.020), flux1700 +- 5.0A flux=1.2e-13 Flam)
STIS/E140M/c1425 : rn-max(WM-Basic(O7 V, Z=0.004, Teff=39811, log_lum=5.42, log_g=4.00) (extinction smcbar=0.020), flux1360 +- 30.0A flux=1.7e-13 Flam)
STIS/E230M/c1978 : rn-max(WM-Basic(O7 V, Z=0.004, Teff=39811, log_lum=5.42, log_g=4.00) (extinction smcbar=0.020), flux1700 +- 5.0A flux=1.2e-13 Flam)
STIS/E230M/c2707 : rn-max(WM-Basic(O7 V, Z=0.004, Teff=39811, log_lum=5.42, log_g=4.00) (extinction smcbar=0.020), flux1700 +- 5.0A flux=1.2e-13 Flam)
Coordinate pedigree: Gaia
v sin i = 35
Calculation performed 2020-02-24T17:57:18, v0.4
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tstatus; NGC346-ELS-28; P/COS Approved for submission S/NA not started; P/CP 03/02/20; S/xx DD/MM/YY
tcheck; APT/SIMBAD target names: ; Cl NGC 346 ELS 28, Cl* NGC 346 MPG 113, [M2002] SMC 43668*
tcheck; Target info verification status?; Good
tcheck; Coordinates & P.M. updated?; Verified
tcheck; Adopted SED compared to Observations?; yes ...
original SED substantially understimated flux over much of range. Updated normalization and E(B-V) to better fit IUE observations see ...
~/box/ullyses_tech/proposals/c27_mc/16103/ngc346-els-28/els_28_adopted_sed_vs_STIS_IUE.png
~/box/ullyses_tech/proposals/c27_mc/16103/ngc346-els-28/NGC346-ELS-28EBV0.06_revised_sed.fits
Category=EXT-STAR
Description=[MAIN SEQUENCE O]
Extended=NO

Exposures

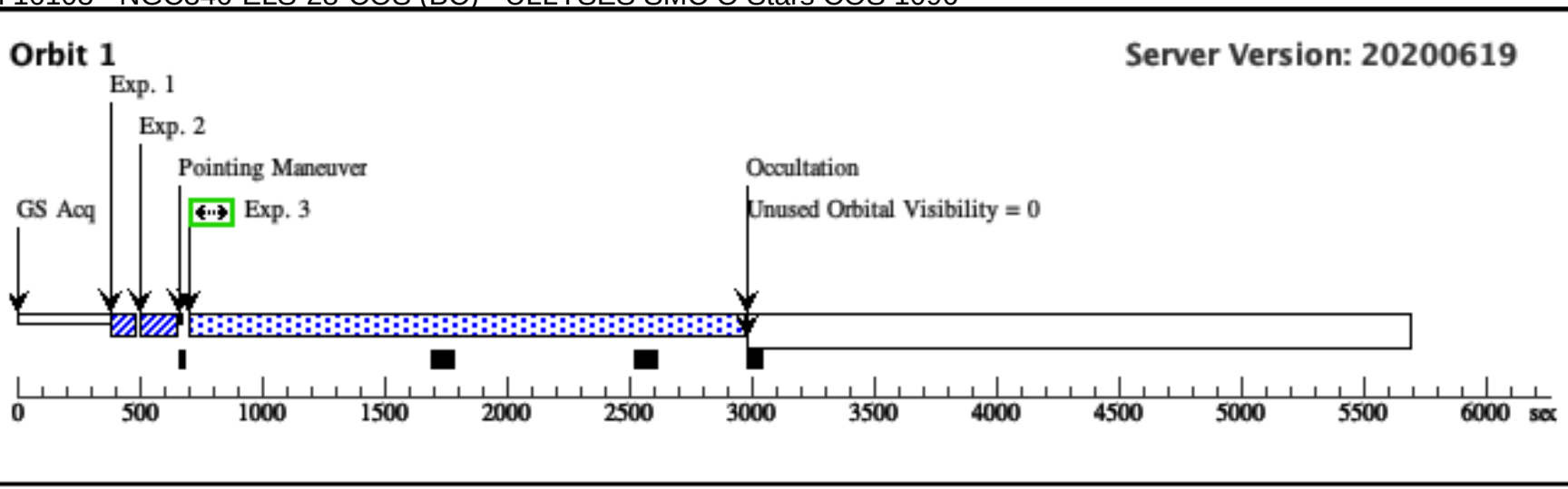
#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	ACQ/PEAKXD (COS.sa.1416942)	(2) NGC346-ELS-28	COS/FUV, ACQ/PEAKXD, PSA	G130M 1291 A	CENTER=FLUX-WT; NUM-POS=3; STEP-SIZE=1.3; SEGMENT=BOTH			0.5 Secs (0.5 Secs) *[==>]*	***[1]***
2	ACQ/PEAKD (COS.sa.1416942)	(2) NGC346-ELS-28	COS/FUV, ACQ/PEAKD, PSA	G130M 1291 A	CENTER=FLUX-WT-FLR; NUM-POS=5; STEP-SIZE=0.9; SEGMENT=BOTH			0.5 Secs (0.5 Secs) *[==>]*	***[1]***
3	G130M/1096 (COS.sp.1416951)	(2) NGC346-ELS-28	COS/FUV, TIME-TAG, PSA	G130M 1096 A	BUFFER-TIME=829; FP-POS=1			2096 Secs (2096 Secs) *[==>]*	***[1]***

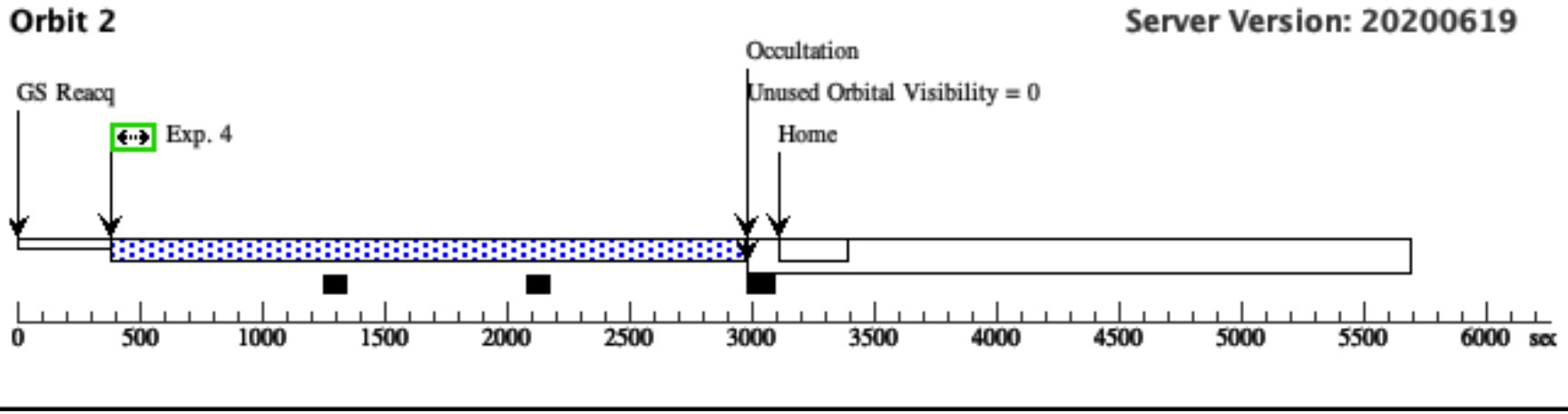
Comments: rn-max(WM-Basic(O7 V, Z=0.004, Teff=39811, log_lum=5.42, log_g=4.00) (extinction smcbar=0.020), flux1160 +- 30.0A flux=1.9e-13 Flam); cos,fuv,g130m,c1096,psa,mjd#59305; fp-pos=None, segment=None)
From file SMC_2020Feb20/input/SMC_all_do1_NewCoords_pids.csv
Spectral type: OC6 Vz --> O7 V
SED = NGC346-ELS-28_COS_G130M_c1096_sed.fits
For exptime=8842.0 s, spectral region:
1080.0 +- 0.5 A achieves SNR=20.0/resel
global countrate (brightest segment): 1575.9 cts/s/segment
brightest pixel: 0.023 cts/s/pix at 1205.0 A
Calculation performed 2020-02-24T17:57:27, v0.4

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
4	G130M/1096 (COS.sp.1416951)	(2) NGC346-ELS-28	COS/FUV, TIME-TAG, PSA	G130M 1096 A	BUFFER-TIME=829; FP-POS=3			2533 Secs (2533 Secs) *[==>]*	***[2]***

Comments: rn-max(WM-Basic(O7 V, Z=0.004, Teff=39811, log_lum=5.42, log_g=4.00) (extinction smcbar=0.020), flux1160 +- 30.0A flux=1.9e-13 Flam); cos,fuv,g130m,c1096,psa,mjd#59305; fp-pos=None, segment=None)
From file SMC_2020Feb20/input/SMC_all_do1_NewCoords_pids.csv
Spectral type: OC6 Vz --> O7 V
SED = NGC346-ELS-28_COS_G130M_c1096_sed.fits
For exptime=8842.0 s, spectral region:
1080.0 +- 0.5 A achieves SNR=20.0/resel
global countrate (brightest segment): 1575.9 cts/s/segment
brightest pixel: 0.023 cts/s/pix at 1205.0 A
Calculation performed 2020-02-24T17:57:27, v0.4

Orbit Structure





Visit

Proposal 16103, NGC346-ELS-50-COS (3C), failed Tue Sep 08 19:00:34 GMT 2020

Diagnostic Status: Warning

Scientific Instruments: COS/FUV

Special Requirements: SCHED 100%

Comments: vstatus; 3C; NGC346-ELS-50; P/COS Approved for submission; P/CP 02/29/20 ; intrev: Complete ; P/WF 03/03/20
vcheck; Enter targ name & Inst. & Resp. Sci.; NGC346-ELS-50 ; COS ; CP
vcheck; ETC numbers entered in APT?; Done ...
default spectrum is poor match to COS G130M/G160M spectra
but can get pretty good fit to SED by normalizing to B or V and adopting E(B-V)=0.04 SMCBAR
see ~/Box/ullyses_tech/proposals/c27_mc/16103/ngc346-els-50/O8V_bnorm_ebv0.04_vs_cos_data.png
vcheck; Any screening violations?; no
vcheck; S/N ETC calcs done & documented?; Yes, meets requirements
vcheck; Field images checked & saved?; Yes ...
~/Box/ullyses_tech/proposals/c27_mc/16103/ngc346-els-50/gsc-2-image-Zaritsky-overlaid.png
vcheck; Selected ACQ strategy?; dispersed c1291
vcheck; Possible ACQ or Sci spoilers?; -none----
vcheck; Field BOT clear?; yes ...
GSC3 BOT only finds 3 unknowns, but Zaritsky catalog has good coverage of the brightest stars.
Brightest field star in macro aperture (other than target) is onlly V=17.024, much fainter than the O3 star limit for this mode. Conclude that field is easily safe
vcheck; Visual BOT check for stars not in catalog?; OK
vcheck; Orbit packing finalized?; Yes ...
can get ~90% of requested time in four orbits; 9959s vs requested 10959.2s in allocated 5.
so save an orbit at cost of 10% of requested exposure time
vcheck; Buffer times optimized?; NA for full orbit exposures
vcheck; Verify visit grouping correct; NA
vcheck; Is visit ready for int. review?; Yes
Allocated COS orbits = 5; used 4 for 91% of requested time

Diagnostics

(NGC346-ELS-50-COS (3C)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN

(NGC346-ELS-50-COS (3C)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN

(NGC346-ELS-50-COS (3C)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(3)	NGC346-ELS-50	RA: 00 58 55.2230 (14.7300958d)		V=15.5	Reference Frame: ICRS
	Alt Name1: NGC346-50	Dec: -72 09 6.72 (-72.15187d)		SpT=O8 Vn; E(B-V)=-0.03; B=15.2; V=15.5; F1160=1.78e-13; F1360=1.41e-13; F1700=8.56e-14	
	Alt Name2: NGC-346-050	Equinox: J2000			

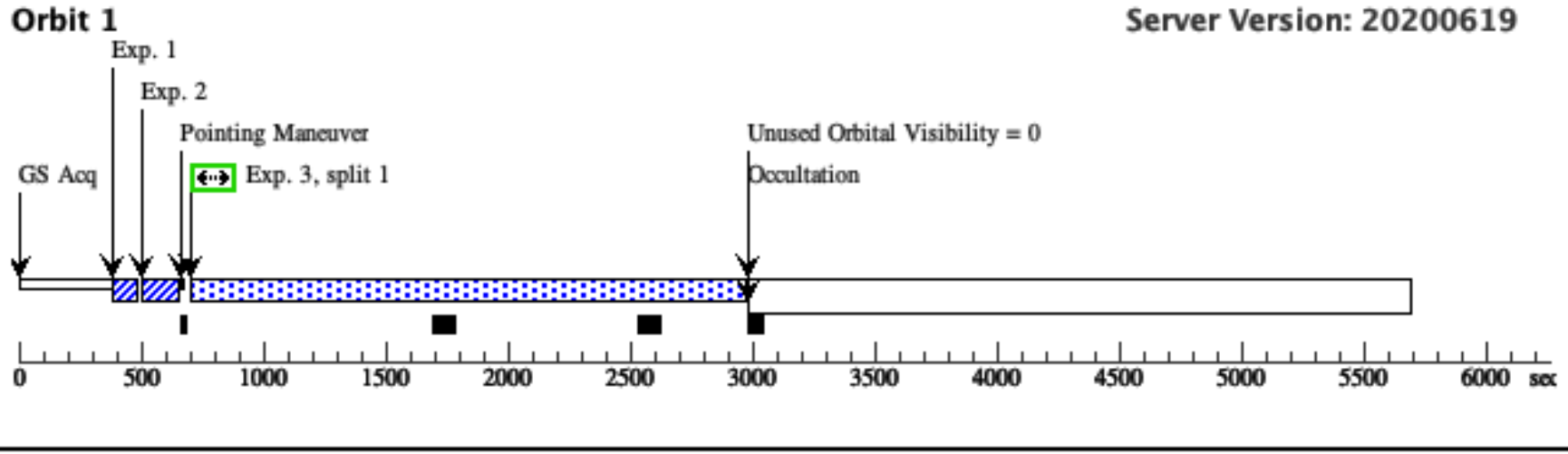
Comments: NGC346-ELS-50 : NGC 346-050, NGC346_50, Cl NGC 346 ELS 050*
Previous name : NGC 346-050
Input file: SMC_2020Feb20/input/SMC_all_do1_NewCoords_pids.csv
SIMBAD link (Cl NGC 346 ELS 050): https://simbad.u-strasbg.fr/simbad/sim-id?Ident=Cl*+NGC+346+ELS+050&submit=submit+id*
SpT = O8 Vn
COS/G130M/c1096 : rn-max(WM-Basic(O8 V, Z=0.004, Teff=34674, log_lum=5.14, log_g=4.00), flux1160 +- 30.0A flux=1.8e-13 Flam)
COS/G130M/c1291 : rn-max(WM-Basic(O8 V, Z=0.004, Teff=34674, log_lum=5.14, log_g=4.00), flux1360 +- 30.0A flux=1.4e-13 Flam)
COS/G160M/c1611 : rn-max(WM-Basic(O8 V, Z=0.004, Teff=34674, log_lum=5.14, log_g=4.00), flux1700 +- 5.0A flux=8.6e-14 Flam)
COS/G185M/c1921 : rn-max(WM-Basic(O8 V, Z=0.004, Teff=34674, log_lum=5.14, log_g=4.00), flux1700 +- 5.0A flux=8.6e-14 Flam)
COS/G185M/c1953 : rn-max(WM-Basic(O8 V, Z=0.004, Teff=34674, log_lum=5.14, log_g=4.00), flux1700 +- 5.0A flux=8.6e-14 Flam)
COS/G185M/c1986 : rn-max(WM-Basic(O8 V, Z=0.004, Teff=34674, log_lum=5.14, log_g=4.00), flux1700 +- 5.0A flux=8.6e-14 Flam)
STIS/E140M/c1425 : rn-max(WM-Basic(O8 V, Z=0.004, Teff=34674, log_lum=5.14, log_g=4.00), flux1360 +- 30.0A flux=1.4e-13 Flam)
STIS/E230M/c1978 : rn-max(WM-Basic(O8 V, Z=0.004, Teff=34674, log_lum=5.14, log_g=4.00), flux1700 +- 5.0A flux=8.6e-14 Flam)
STIS/E230M/c2707 : rn-max(WM-Basic(O8 V, Z=0.004, Teff=34674, log_lum=5.14, log_g=4.00), flux1700 +- 5.0A flux=8.6e-14 Flam)
Coordinate pedigree: Gaia
v sin i = 357
Calculation performed 2020-02-24T18:00:21, v0.4
---
tstatus; NGC346-ELS-50; P/COS Approved for submission; S/NA not started; P/CP 03/02/20; S/xx DD/MM/YY
*tcheck; APT/SIMBAD target names: ; Cl * NGC 346 ELS 50*
tcheck; Target info verification status?; Done
tcheck; Coordinates & P.M. updated?; Yes ...
GAIA DR2
tcheck; Adopted SED compared to Observations?; Yes
Category=EXT-STAR
Description=[MAIN SEQUENCE O]
Extended=NO

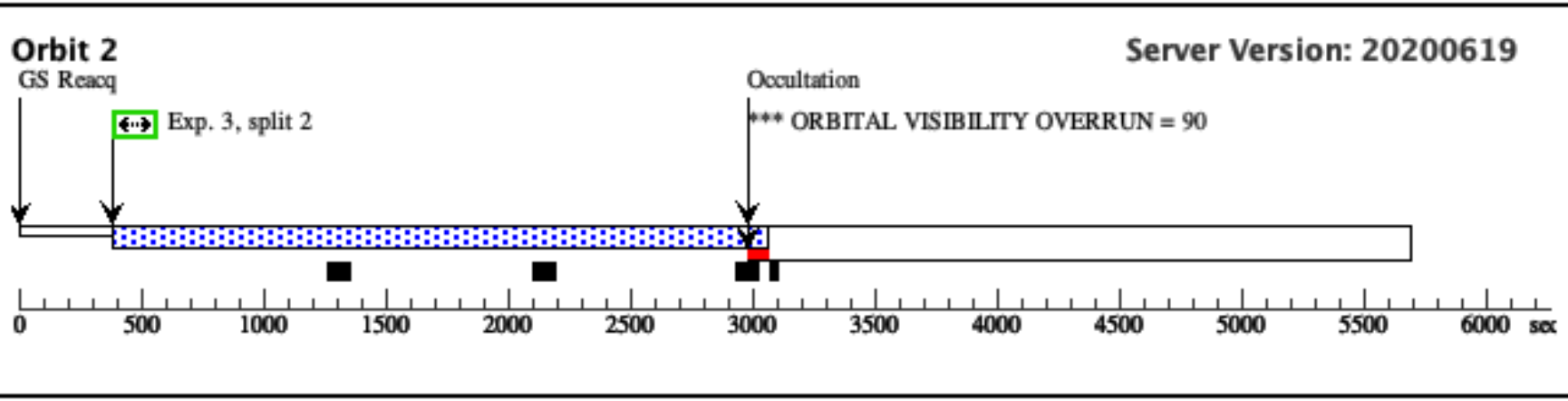
Exposures

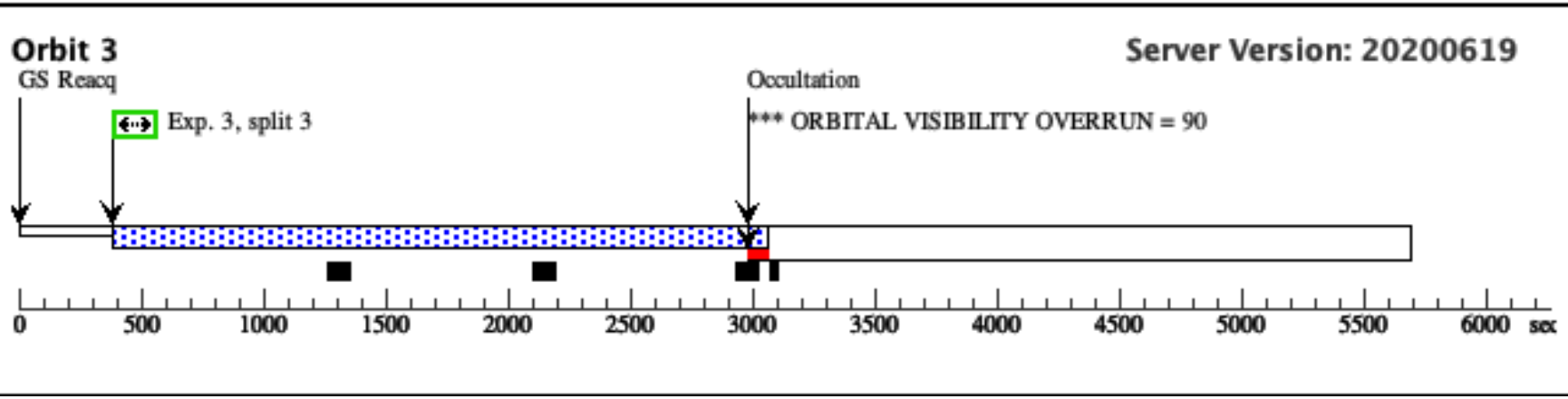
#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	ACQ/PEAKXD (COS.sa.1417345)	(3) NGC346-ELS-50	COS/FUV, ACQ/PEAKXD, PSA	G130M 1291 A	CENTER=FLUX-WT; NUM-POS=3; STEP-SIZE=1.3; SEGMENT=BOTH			0.6 Secs (0.6 Secs) *[==>]*	 ***[1]***
2	ACQ/PEAKD (COS.sa.1417345)	(3) NGC346-ELS-50	COS/FUV, ACQ/PEAKD, PSA	G130M 1291 A	CENTER=FLUX-WT-FLR; NUM-POS=5; STEP-SIZE=0.9; SEGMENT=BOTH			0.6 Secs (0.6 Secs) *[==>]*	 ***[1]***
3	G130M/1096 (COS.sp.1417354)	(3) NGC346-ELS-50	COS/FUV, TIME-TAG, PSA	G130M 1096 A	BUFFER-TIME=837; FP-POS=ALL			2623 Secs (9965 Secs) *[==>2096.0 Secs (Split 1)]* *[==>(Split 2)]* *[==>(Split 3)]* *[==>(Split 4)]*	 ***[1]*** ***[2]*** ***[3]*** ***[4]***

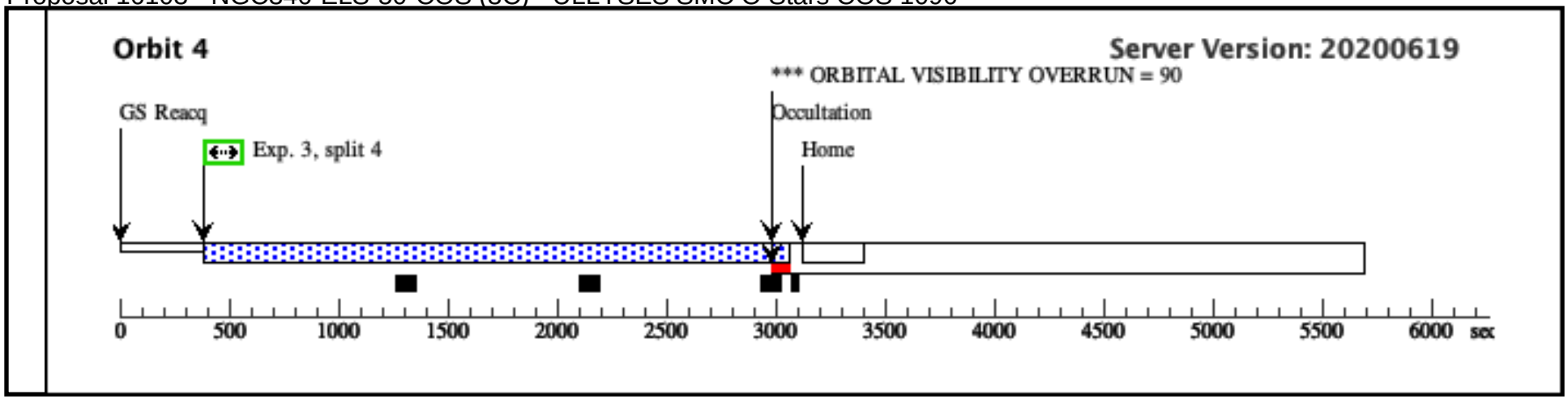
Comments: rn-max(WM-Basic(O8 V, Z=0.004, Teff=34674, log_lum=5.14, log_g=4.00), flux1160 +- 30.0A flux=1.8e-13 Flam); cos,fuv,g130m,c1096,psa,mjd#59305; fp-pos=None, segment=None)
From file SMC_2020Feb20/input/SMC_all_do1_NewCoords_pids.csv
Spectral type: O8 Vn --> O8 V
SED = NGC346-ELS-50_COS_G130M_c1096_sed.fits
For exptime=10959.2 s, spectral region:
1080.0 +- 0.5 A achieves SNR=20.0/resel
global countrate (brightest segment): 1275.4 cts/s/segment
brightest pixel: 0.020 cts/s/pix at 1237.0 A
Calculation performed 2020-02-24T18:00:30, v0.4

Orbit Structure








Orbit 4
Server Version: 20200619
*** ORBITAL VISIBILITY OVERRUN = 90
GS Reacq
Exp. 3, split 4
Occultation
Home
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
6000
sec

Visit

Proposal 16103, NGC346-ELS-50-COS-REPEAT (CC) Tue Sep 08 19:00:34 GMT 2020

Diagnostic Status: Warning

Scientific Instruments: COS/FUV

Special Requirements: SCHED 100%

Comments: vstatus; 3C; NGC346-ELS-50; P/COS Approved for submission; P/CP 02/29/20 ; intrev: Complete ; P/WF 03/03/20
vcheck; Enter targ name & Inst. & Resp. Sci.; NGC346-ELS-50 ; COS ; CP
vcheck; ETC numbers entered in APT?; Done ...
default spectrum is poor match to COS G130M/G160M spectra
but can get pretty good fit to SED by normalizing to B or V and adopting E(B-V)=0.04 SMCBAR
see ~/Box/ullyses_tech/proposals/c27_mc/16103/ngc346-els-50/O8V_bnorm_ebv0.04_vs_cos_data.png
vcheck; Any screening violations?; no
vcheck; S/N ETC calcs done & documented?; Yes, meets requirements
vcheck; Field images checked & saved?; Yes ...
~/Box/ullyses_tech/proposals/c27_mc/16103/ngc346-els-50/gsc-2-image-Zaritsky-overlaid.png
vcheck; Selected ACQ strategy?; dispersed c1291
vcheck; Possible ACQ or Sci spoilers?; -none----
vcheck; Field BOT clear?; yes ...
GSC3 BOT only finds 3 unknowns, but Zaritsky catalog has good coverage of the brightest stars.
Brightest field star in macro aperture (other than target) is onlly V=17.024, much fainter than the O3 star limit for this mode. Conclude that field is easily safe
vcheck; Visual BOT check for stars not in catalog?; OK
vcheck; Orbit packing finalized?; Yes ...
can get ~90% of requested time in four orbits; 9959s vs requested 10959.2s in allocated 5.
so save an orbit at cost of 10% of requested exposure time
vcheck; Buffer times optimized?; NA for full orbit exposures
vcheck; Verify visit grouping correct; NA
vcheck; Is visit ready for int. review?; Yes
Allocated COS orbits = 5; used 4 for 91% of requested time

Diagnostics

(NGC346-ELS-50-COS-REPEAT (CC)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN

(NGC346-ELS-50-COS-REPEAT (CC)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN

(NGC346-ELS-50-COS-REPEAT (CC)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(3)	NGC346-ELS-50	RA: 00 58 55.2230 (14.7300958d)		V=15.5	Reference Frame: ICRS
	Alt Name1: NGC346-50	Dec: -72 09 6.72 (-72.15187d)		SpT=O8 Vn; E(B-V)=-0.03; B=15.2; V=15.5; F1160=1.78e-13; F1360=1.41e-13; F1700=8.56e-14	
	Alt Name2: NGC-346-050	Equinox: J2000			

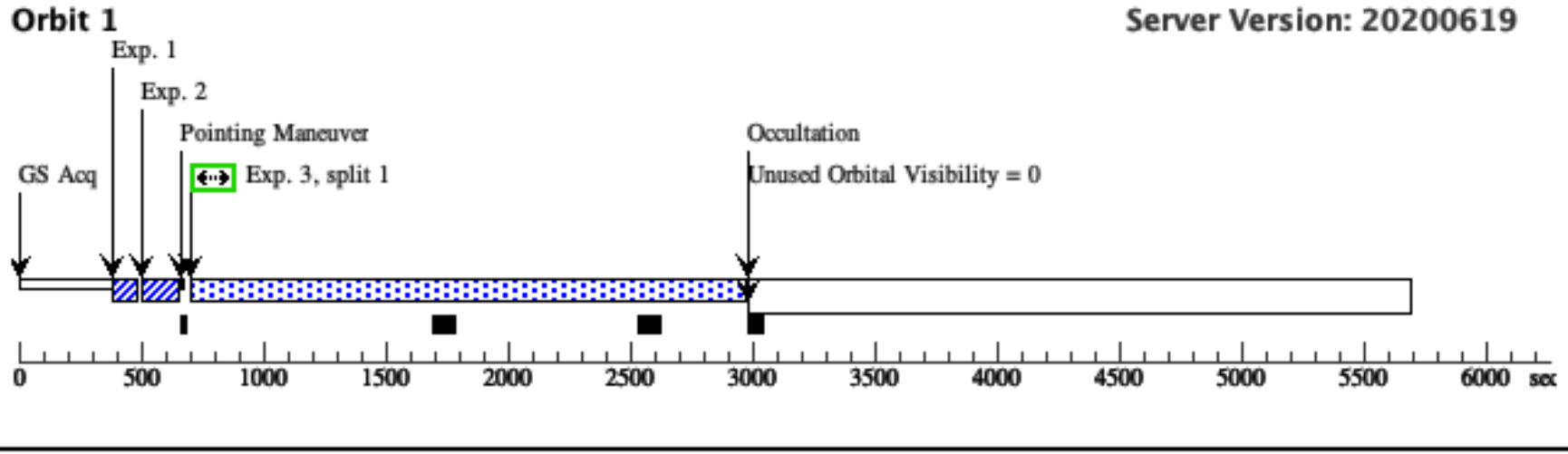
Comments: NGC346-ELS-50 : NGC 346-050, NGC346_50, Cl NGC 346 ELS 050*
Previous name : NGC 346-050
Input file: SMC_2020Feb20/input/SMC_all_do1_NewCoords_pids.csv
SIMBAD link (Cl NGC 346 ELS 050): https://simbad.u-strasbg.fr/simbad/sim-id?Ident=Cl*+NGC+346+ELS+050&submit=submit+id*
SpT = O8 Vn
COS/G130M/c1096 : rn-max(WM-Basic(O8 V, Z=0.004, Teff=34674, log_lum=5.14, log_g=4.00), flux1160 +- 30.0A flux=1.8e-13 Flam)
COS/G130M/c1291 : rn-max(WM-Basic(O8 V, Z=0.004, Teff=34674, log_lum=5.14, log_g=4.00), flux1360 +- 30.0A flux=1.4e-13 Flam)
COS/G160M/c1611 : rn-max(WM-Basic(O8 V, Z=0.004, Teff=34674, log_lum=5.14, log_g=4.00), flux1700 +- 5.0A flux=8.6e-14 Flam)
COS/G185M/c1921 : rn-max(WM-Basic(O8 V, Z=0.004, Teff=34674, log_lum=5.14, log_g=4.00), flux1700 +- 5.0A flux=8.6e-14 Flam)
COS/G185M/c1953 : rn-max(WM-Basic(O8 V, Z=0.004, Teff=34674, log_lum=5.14, log_g=4.00), flux1700 +- 5.0A flux=8.6e-14 Flam)
COS/G185M/c1986 : rn-max(WM-Basic(O8 V, Z=0.004, Teff=34674, log_lum=5.14, log_g=4.00), flux1700 +- 5.0A flux=8.6e-14 Flam)
STIS/E140M/c1425 : rn-max(WM-Basic(O8 V, Z=0.004, Teff=34674, log_lum=5.14, log_g=4.00), flux1360 +- 30.0A flux=1.4e-13 Flam)
STIS/E230M/c1978 : rn-max(WM-Basic(O8 V, Z=0.004, Teff=34674, log_lum=5.14, log_g=4.00), flux1700 +- 5.0A flux=8.6e-14 Flam)
STIS/E230M/c2707 : rn-max(WM-Basic(O8 V, Z=0.004, Teff=34674, log_lum=5.14, log_g=4.00), flux1700 +- 5.0A flux=8.6e-14 Flam)
Coordinate pedigree: Gaia
v sin i = 357
Calculation performed 2020-02-24T18:00:21, v0.4
---
tstatus; NGC346-ELS-50; P/COS Approved for submission; S/NA not started; P/CP 03/02/20; S/xx DD/MM/YY
*tcheck; APT/SIMBAD target names: ; Cl * NGC 346 ELS 50*
tcheck; Target info verification status?; Done
tcheck; Coordinates & P.M. updated?; Yes ...
GAIA DR2
tcheck; Adopted SED compared to Observations?; Yes
Category=EXT-STAR
Description=[MAIN SEQUENCE O]
Extended=NO

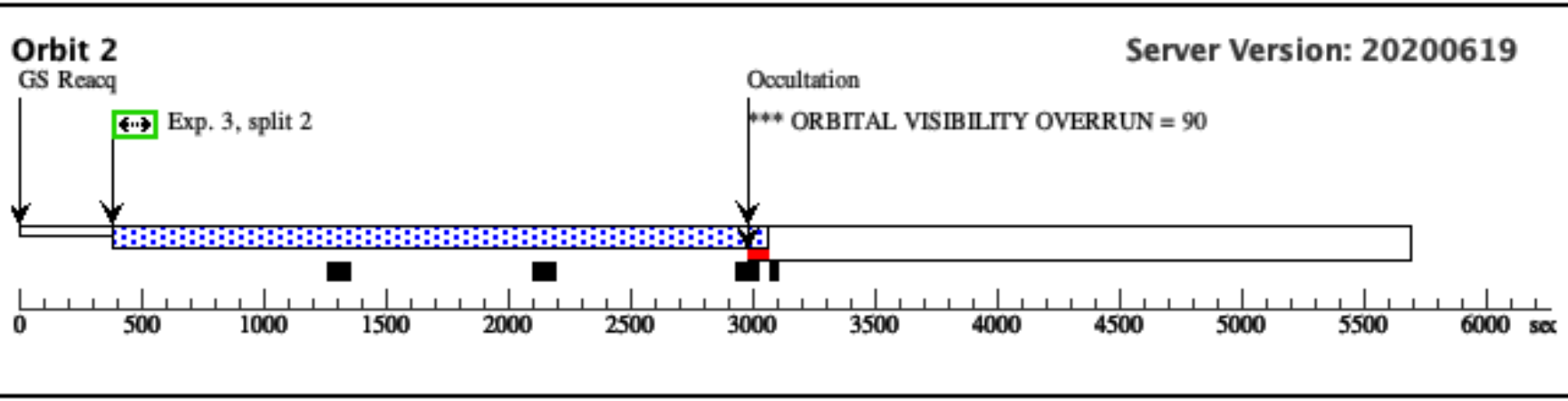
Exposures

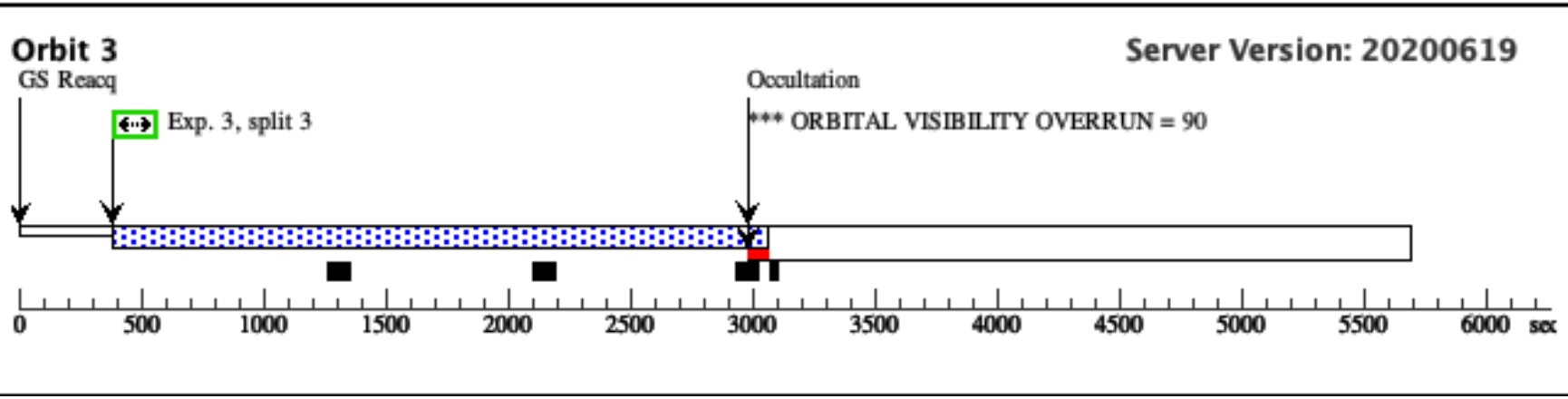
#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	ACQ/PEAKXD (COS.sa.1417345)	(3) NGC346-ELS-50	COS/FUV, ACQ/PEAKXD, PSA	G130M 1291 A	CENTER=FLUX-WT; NUM-POS=3; STEP-SIZE=1.3; SEGMENT=BOTH			0.6 Secs (0.6 Secs) *[==>]*	 ***[1]***
2	ACQ/PEAKD (COS.sa.1417345)	(3) NGC346-ELS-50	COS/FUV, ACQ/PEAKD, PSA	G130M 1291 A	CENTER=FLUX-WT-FLR; NUM-POS=5; STEP-SIZE=0.9; SEGMENT=BOTH			0.6 Secs (0.6 Secs) *[==>]*	 ***[1]***
3	G130M/1096 (COS.sp.1417354)	(3) NGC346-ELS-50	COS/FUV, TIME-TAG, PSA	G130M 1096 A	BUFFER-TIME=837; FP-POS=ALL			2623 Secs (9965 Secs) *[==>2096.0 Secs (Split 1)]* *[==>(Split 2)]* *[==>(Split 3)]* *[==>(Split 4)]*	 ***[1]*** ***[2]*** ***[3]*** ***[4]***

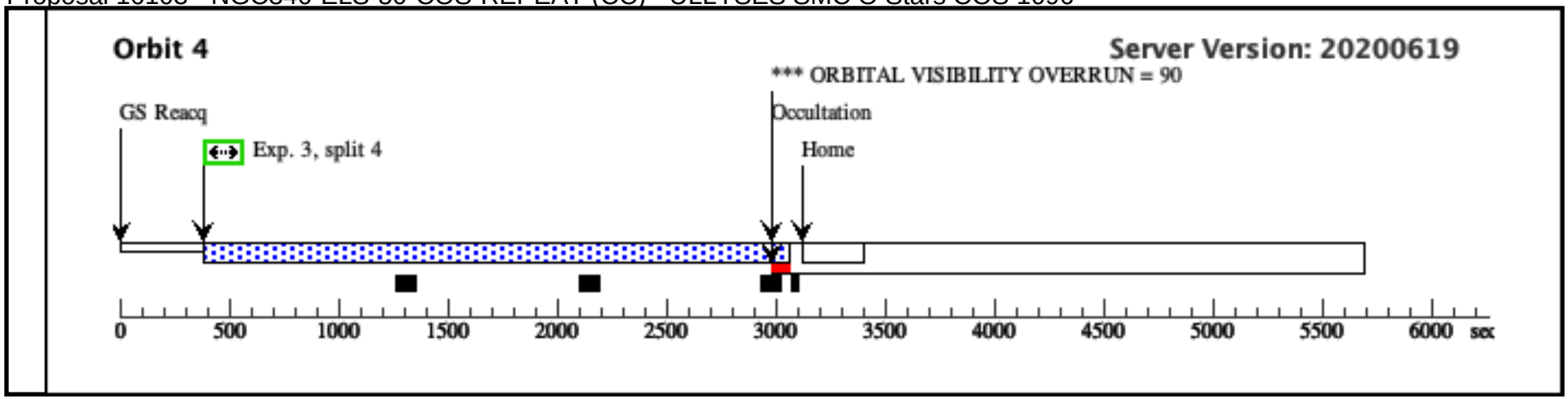
Comments: rn-max(WM-Basic(O8 V, Z=0.004, Teff=34674, log_lum=5.14, log_g=4.00), flux1160 +- 30.0A flux=1.8e-13 Flam); cos,fuv,g130m,c1096,psa,mjd#59305; fp-pos=None, segment=None)
From file SMC_2020Feb20/input/SMC_all_do1_NewCoords_pids.csv
Spectral type: O8 Vn --> O8 V
SED = NGC346-ELS-50_COS_G130M_c1096_sed.fits
For exptime=10959.2 s, spectral region:
1080.0 +- 0.5 A achieves SNR=20.0/resel
global countrate (brightest segment): 1275.4 cts/s/segment
brightest pixel: 0.020 cts/s/pix at 1237.0 A
Calculation performed 2020-02-24T18:00:30, v0.4

Orbit Structure








Orbit 4
Server Version: 20200619
*** ORBITAL VISIBILITY OVERRUN = 90
GS Reacq
Exp. 3, split 4
Occultation
Home
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
6000
sec

Visit

Proposal 16103, NGC346-ELS-51-COS (4C), completed Tue Sep 08 19:00:34 GMT 2020

Diagnostic Status: Warning

Scientific Instruments: COS/FUV

Special Requirements: SCHED 100%

Comments: vstatus; 4C; NGC346-ELS-51; P/COS Approved for submission; P/CP 29/02/20 ; intrev: IComplete ; P/WF 03/03/20
vcheck; Enter targ name & Inst. & Resp. Sci.; NGC346-ELS-51 ; COS ; CP
vcheck; ETC numbers entered in APT?; yes ...
for science COS.sp.1418673, S/N=19@1080A;
vcheck; Any screening violations?;no
vcheck; S/N ETC calcs done & documented?; same as above
vcheck; Field images checked & saved?; yes...
~/Box/ullyses_tech/proposals/c27_mc/16103/ngc346-els-51/ELS51-Zaritsky-PSA-overlay.png
vcheck; Selected ACQ strategy?; c1291/dispersed
vcheck; Possible ACQ or Sci spoilers?; none
vcheck; Field BOT clear?; yes but ....
GSC2 BOT results do not cover all stars and have to rely on Zaritsky which appears to mark brightest stars within 10.25" PSA macro aperture - brightest star other than target in PSA macroaperture has UBVI = 15.236, 16.360, 16.204, 16.737 well below BOP limits for any of the modes used. See ~/Box/ullyses_tech/proposals/c27_mc/16103/ngc346-els-51/ELS51-Zaritsky-PSA-overlay.png
Brightest stars in BOA region have V mags of 12 or fainter, also below O star limits with the BOA
vcheck; Visual BOT check for stars not in catalog?; OK ...
some regions in the edge of the BOA region are too crowded to resolve in GSC 2 image, but available HST photometry shows nothing brighter than 12 mag in this region. Would require ~ V=9.25 or brighter to be dangerous in BOA region for any of these gratings.
vcheck; Orbit packing finalized?; yes ...
had to shorten 1st FP-POS and lengthen others to fill four orbits
achieved 9953 vs requested 9599 or ~1.037x
vcheck; Buffer times optimized?; yes ...
no need since full orbit exposures only
vcheck; Verify visit grouping correct; NA
vcheck; Is visit ready for int. review?; Yes
Allocated COS orbits = 4, used 4

Diagnostics

(NGC346-ELS-51-COS (4C)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN

(NGC346-ELS-51-COS (4C)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN

(NGC346-ELS-51-COS (4C)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(4)	NGC346-ELS-51 Alt Name1: NGC-346-051 Alt Name2: CL-NGC-346-ELS-051	RA: 00 59 8.6989 (14.7862454d) Dec: -72 10 14.16 (-72.17060d) Equinox: J2000		V=15.51 SpT=O7 Vz; E(B-V)=0.01; B=15.2; V=15.5; F1160=1.69e-13; F1360=1.31e-13; F1700=8.23e-14	Reference Frame: ICRS

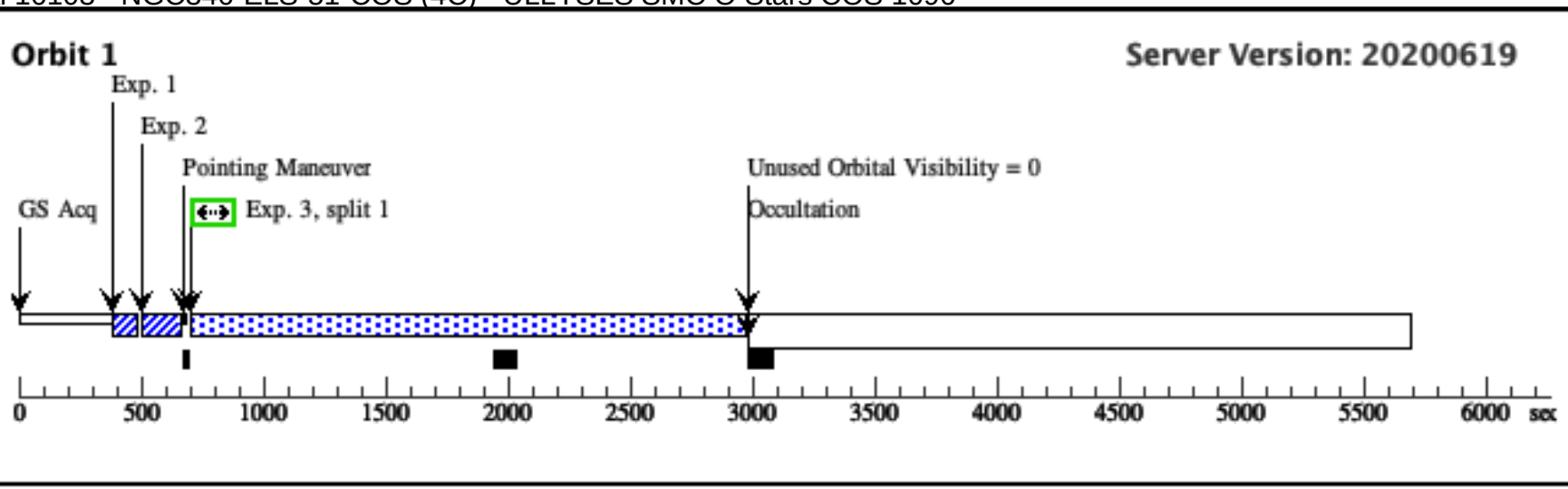
Comments: NGC346-ELS-51 : NGC 346-051, NGC346_51, Cl NGC 346 ELS 051*
Previous name : NGC 346-051
Input file: SMC_2020Feb20/input/SMC_all_do1_NewCoords_pids.csv
SIMBAD link (Cl NGC 346 ELS 051): https://simbad.u-strasbg.fr/simbad/sim-id?Ident=Cl*+NGC+346+ELS+051&submit=submit+id*
SpT = O7 Vz
COS/G130M/c1096 : rn-max(WM-Basic(O7 V, Z=0.004, Teff=39811, log_lum=5.42, log_g=4.00) (extinction smcbar=0.010), flux1160 +- 30.0A flux=1.7e-13 Flam)
COS/G130M/c1291 : rn-max(WM-Basic(O7 V, Z=0.004, Teff=39811, log_lum=5.42, log_g=4.00) (extinction smcbar=0.010), flux1360 +- 30.0A flux=1.3e-13 Flam)
COS/G160M/c1611 : rn-max(WM-Basic(O7 V, Z=0.004, Teff=39811, log_lum=5.42, log_g=4.00) (extinction smcbar=0.010), flux1700 +- 5.0A flux=8.2e-14 Flam)
COS/G185M/c1921 : rn-max(WM-Basic(O7 V, Z=0.004, Teff=39811, log_lum=5.42, log_g=4.00) (extinction smcbar=0.010), flux1700 +- 5.0A flux=8.2e-14 Flam)
COS/G185M/c1953 : rn-max(WM-Basic(O7 V, Z=0.004, Teff=39811, log_lum=5.42, log_g=4.00) (extinction smcbar=0.010), flux1700 +- 5.0A flux=8.2e-14 Flam)
COS/G185M/c1986 : rn-max(WM-Basic(O7 V, Z=0.004, Teff=39811, log_lum=5.42, log_g=4.00) (extinction smcbar=0.010), flux1700 +- 5.0A flux=8.2e-14 Flam)
STIS/E140M/c1425 : rn-max(WM-Basic(O7 V, Z=0.004, Teff=39811, log_lum=5.42, log_g=4.00) (extinction smcbar=0.010), flux1360 +- 30.0A flux=1.3e-13 Flam)
STIS/E230M/c1978 : rn-max(WM-Basic(O7 V, Z=0.004, Teff=39811, log_lum=5.42, log_g=4.00) (extinction smcbar=0.010), flux1700 +- 5.0A flux=8.2e-14 Flam)
STIS/E230M/c2707 : rn-max(WM-Basic(O7 V, Z=0.004, Teff=39811, log_lum=5.42, log_g=4.00) (extinction smcbar=0.010), flux1700 +- 5.0A flux=8.2e-14 Flam)
Coordinate pedigree: Gaia
v sin i = 18
Calculation performed 2020-02-24T17:58:55, v0.4
---
tstatus; NGC346-ELS-51; P/COS Approved for submission; S/NA not started; P/CP 03/02/20; S/xx DD/MM/YY
tcheck; APT/SIMBAD target names: ; NGC346-ELS-51/cl ngc 346 ELS 51*
tcheck; Target info verification status?; Verified
tcheck; Coordinates & P.M. updated?; Verified
tcheck; Adopted SED compared to Observations?; yes ...
adjusted E(B-V) from 0.01 to 0.045 to get better agreement with both FUV slope from COS data and BV magnitudes
~/Box/ullyses_tech/proposals/c27_mc/16103/ngc346-els-51/NGC346-ELS-51EBV0.045_revised_sed.fits
~/Box/ullyses_tech/proposals/c27_mc/16103/ngc346-els-51/NGC346-ELS-51_revised_sed_vs_cos_data.png
Category=EXT-STAR
Description=[MAIN SEQUENCE O]
Extended=NO

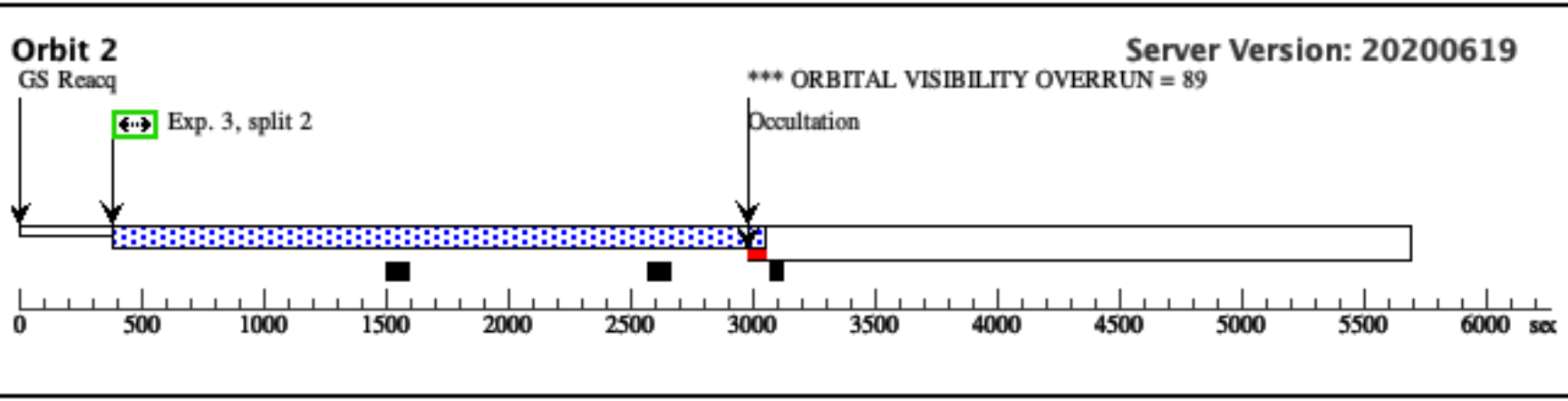
Exposures

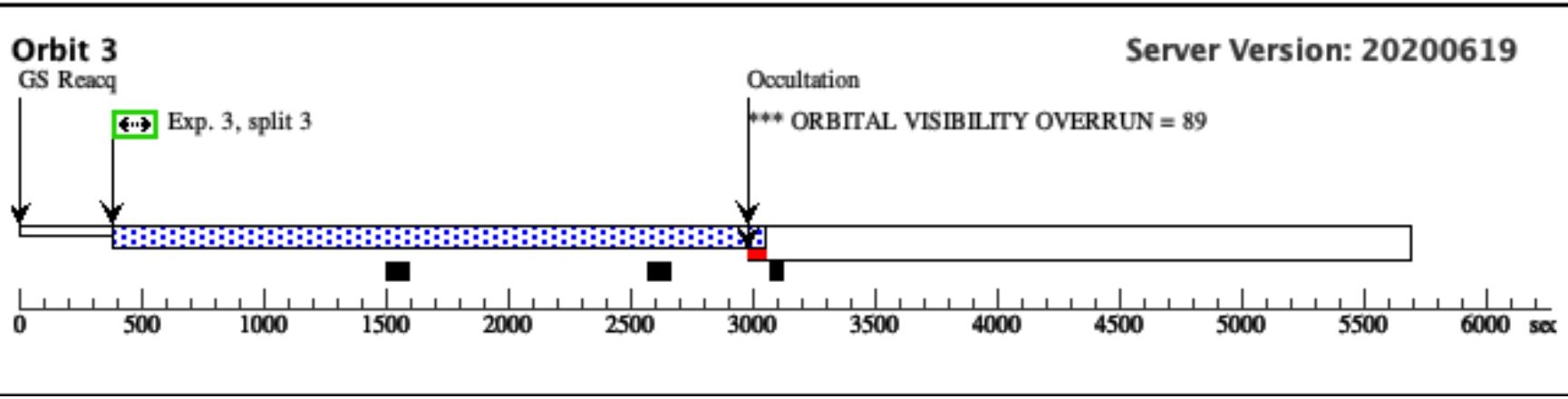
#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	ACQ/PEAKXD (COS.sa.1417888)	(4) NGC346-ELS-51	COS/FUV, ACQ/PEAKXD, PSA	G130M 1291 A	CENTER=FLUX-WT; NUM-POS=3; STEP-SIZE=1.3; SEGMENT=BOTH			0.9 Secs (0.9 Secs) *[==>]*	***[1]***
2	ACQ/PEAKD (COS.sa.1417888)	(4) NGC346-ELS-51	COS/FUV, ACQ/PEAKD, PSA	G130M 1291 A	CENTER=FLUX-WT-FLR; NUM-POS=5; STEP-SIZE=0.9; SEGMENT=BOTH			0.9 Secs (0.9 Secs) *[==>]*	***[1]***
3	G130M/1096 (COS.sp.1418673)	(4) NGC346-ELS-51	COS/FUV, TIME-TAG, PSA	G130M 1096 A	BUFFER-TIME=1075; FP-POS=ALL			2622 Secs (9959 Secs) *[==>2093.0 Secs (Split 1)]* *[==>(Split 2)]* *[==>(Split 3)]* *[==>(Split 4)]*	 ***[1]*** ***[2]*** ***[3]*** ***[4]***

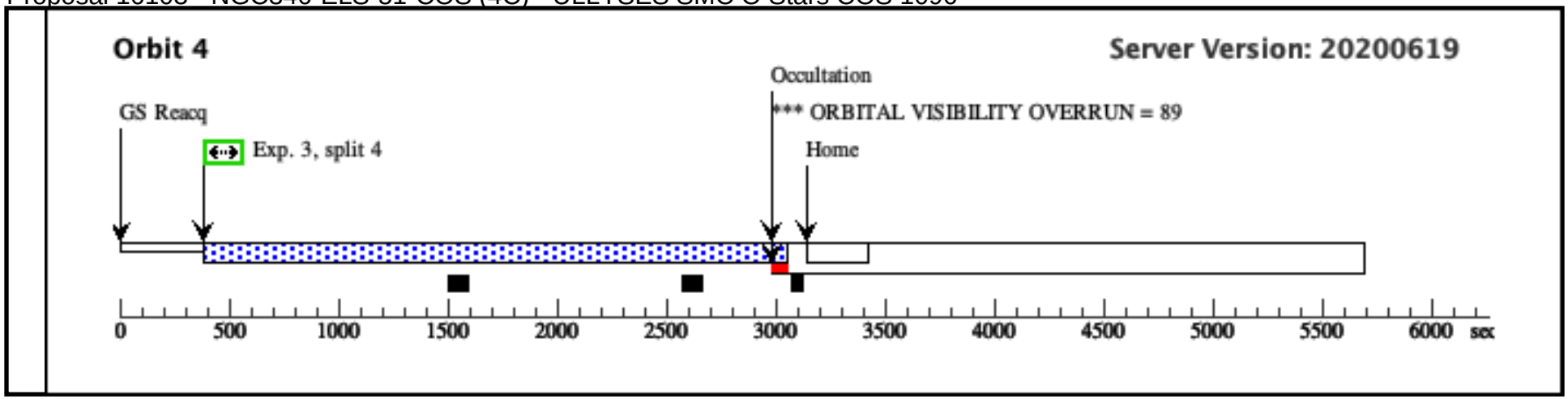
Comments: rn-max(WM-Basic(O7 V, Z=0.004, Teff=39811, log_lum=5.42, log_g=4.00) (extinction smcbar=0.010), flux1160 +- 30.0A flux=1.7e-13 Flam); cos,fuv,g130m,c1096,psa,mjd#59305; fp-pos=None, segment=None)
From file SMC_2020Feb20/input/SMC_all_do1_NewCoords_pids.csv
Spectral type: O7 Vz --> O7 V
SED = NGC346-ELS-51_COS_G130M_c1096_sed.fits
For exptime=9599.2 s, spectral region:
1080.0 +- 0.5 A achieves SNR=20.0/resel
global countrate (brightest segment): 1428.2 cts/s/segment
brightest pixel: 0.021 cts/s/pix at 1205.0 A
Calculation performed 2020-02-24T17:59:04, v0.4

Orbit Structure








Orbit 4
Server Version: 20200619
Occultation
GS Reacq
*** ORBITAL VISIBILITY OVERRUN = 89
Exp. 3, split 4
Home
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
6000
sec

Visit

Proposal 16103, NGC346-MPG-368-COS (5C), completed Tue Sep 08 19:00:34 GMT 2020

Diagnostic Status: Warning

Scientific Instruments: COS/FUV

Special Requirements: SCHED 100%

Comments: vstatus; 5C; NGC346-MPG-368; P/COS Approved for submission; P/CP 02/29/20 ; intrev: Complete ; P/WF 03/03/20
vcheck; Enter targ name & Inst. & Resp. Sci.; NGC346-MPG-368 ; COS ; CP
vcheck; ETC numbers entered in APT?; yes
COS.sa.1418588 checks TA against bright field star MPG 355
COS.sa.1418591 checks TA against target MPG 368 (needs 0.3 s)
COS.sp.1418604 checks c1096 science against bright field star MPG 355 (easily safe)
COS.sp.1418606 checks c1096 science against target MPG 368 (really needs 4477 s not initial request of about 1/2 that much) 2/3 buffer time = 457s
vcheck; Any screening violations?; no, although bright field star exceeds limits for irregular variables, but should not be a concern for that O2 III star.
vcheck; S/N ETC calcs done & documented?; yes ..
see above
vcheck; Field images checked & saved?; yes ...
~/Box/ullyses_tech/proposals/c27_mc/16103/ngc346-mpg-368/2MASS-Gaia-cat-overlay-brightest-stars-listed.png
vcheck; Selected ACQ strategy?; G160M dispersed
vcheck; Possible ACQ or Sci spoilers?; one star of concern ...
MPG 355 is brighter in the ACQ band, but at 5.75" distance should be just far enough away ?
vcheck; Field BOT clear?; complicated but resolved ...
GSC2 gives no values for this field
The three brightest stars, including the target, in the PSA macro aperture are
MPG 355 SpT=O2 III; UBV=11.46, 12.61,12.80@5.75" G,BpRp =13.46, 13.25, 13.63
Note that these UBV values for 355 can't be right since that would make V-G = -0.85 instead of expected diff ~ +0.03 to +0.04!!! So V should be close to 13.5, not 12.6!! Note that Sabbi et al 2007 HST data also finds that F555W=13.54 for this star, consistent with G mag, but not with Zaritsky, as are the UV spectra of this star
Actual UV measures are consistent with the fainter Gaia magnitudes rather than the brighter UBV ones from Zaritsky
MPG 368 SpT=O5.5V((f+)); UBV=12.8, 13.95,14.18 our target, G,Bp,Rp= 14.14, 13.90, 14.26
MPG 396 SpT=O7V; BV=14.17,14.39; @6.18", G,Bp,Rp = 14.39, 14.06, 14.41
All 3 were included in early STIS 52X2 observations centered on MPG 368, but the default extraction in those spectra instead gives the brightest of the three,
MPG 355, despite listing - Have extracted MPG368 and MPG355 spectra separately, (396 is obviously fainter at all wavelengths), and have used 355 for BOT and 368 for S/N
In BOA region, brightest star has G=12.55 but well outside PSA macro-aperture
vcheck; Visual BOT check for stars not in catalog?; Field is crowded, but GSC2 images + Gaia catalog shows no bright dangerous stars unlabeled
vcheck; Orbit packing finalized?; Yes, gets 4394 s in 2 orbits vs desired 4477 or 98%
vcheck; Buffer times optimized?; yes ...
on first orbit
vcheck; Verify visit grouping correct; NA
vcheck; Is visit ready for int. review?; Yes
Allocated COS orbits = 2, used 2

Diagnostics

(NGC346-MPG-368-COS (5C)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(5)	NGC346-MPG-368 Alt Name1: CL-NGC-346-MPG-368 Alt Name2: MPG-368	RA: 00 59 1.8207 (14.7575862d) Dec: -72 10 31.25 (-72.17535d) Equinox: J2000		V=14.04 SpT=O5.5V((f+)); E(B-V)=0.13; U=12.8; B=13.9; V=14.0; F1160=5.12e-13; F1360=3.51e-12; F1700=2.38e-13; F2200=1.15e-13	Reference Frame: ICRS

Comments: NGC346-MPG-368 : [MPG]-368, [MPG]_368, Cl NGC 346 MPG 368*
Previous name : [MPG]-368
Input file: SMC_2020Feb20/input/SMC_all_do1_NewCoords_pids.csv
SIMBAD link (Cl NGC 346 MPG 368): https://simbad.u-strasbg.fr/simbad/sim-id?Ident=Cl*+NGC+346+MPG+368&submit=submit+id*
SpT = O5.5V((f+))
COS/G130M/c1096 : rn-max(WM-Basic(O5 V, Z=0.004, Teff=42658, log_lum=5.52, log_g=4.00) (extinction smcbar=0.130), flux1160 +- 30.0A flux=1e-12 Flam)
COS/G130M/c1291 : rn-max(WM-Basic(O5 V, Z=0.004, Teff=42658, log_lum=5.52, log_g=4.00) (extinction smcbar=0.130), flux1360 +- 30.0A flux=7.9e-13 Flam)
COS/G160M/c1611 : rn-max(WM-Basic(O5 V, Z=0.004, Teff=42658, log_lum=5.52, log_g=4.00) (extinction smcbar=0.130), flux1700 +- 5.0A flux=5e-13 Flam)
COS/G185M/c1921 : rn-max(WM-Basic(O5 V, Z=0.004, Teff=42658, log_lum=5.52, log_g=4.00) (extinction smcbar=0.130), flux1700 +- 5.0A flux=5e-13 Flam)
COS/G185M/c1953 : rn-max(WM-Basic(O5 V, Z=0.004, Teff=42658, log_lum=5.52, log_g=4.00) (extinction smcbar=0.130), flux1700 +- 5.0A flux=5e-13 Flam)
COS/G185M/c1986 : rn-max(WM-Basic(O5 V, Z=0.004, Teff=42658, log_lum=5.52, log_g=4.00) (extinction smcbar=0.130), flux2200 +- 5.0A flux=2.8e-13 Flam)
STIS/E140M/c1425 : rn-max(WM-Basic(O5 V, Z=0.004, Teff=42658, log_lum=5.52, log_g=4.00) (extinction smcbar=0.130), flux1360 +- 30.0A flux=7.9e-13 Flam)
STIS/E230M/c1978 : rn-max(WM-Basic(O5 V, Z=0.004, Teff=42658, log_lum=5.52, log_g=4.00) (extinction smcbar=0.130), flux2200 +- 5.0A flux=2.8e-13 Flam)
STIS/E230M/c2707 : rn-max(WM-Basic(O5 V, Z=0.004, Teff=42658, log_lum=5.52, log_g=4.00) (extinction smcbar=0.130), flux2200 +- 5.0A flux=2.8e-13 Flam)
Coordinate pedigree: InputCatalog
v sin i = 60
Calculation performed 2020-02-24T17:56:35, v0.4
---
tstatus; NGC346-MPG-368; P/COS Approved for submission; S/NA not started; P/CP 03/02/20; S/xx DD/MM/YY
tcheck; APT/SIMBAD target names: ; NGC346-MPG-368 / Cl NGC 346 MPG 368*
tcheck; Target info verification status?;
OK, SIMBAD entry matches name and is close on photometry (B 13.95, V14.18 vs G=14.14)
tcheck; Coordinates & P.M. updated?; Updated to coords for Gaia DR2 4689015706360700288
SIMBAD entry does not use Gaia coordinates! Star is in Gaia DR2, but SIMBAD doesn't link to it. INput catalog coords are within 0.1" of Gaia coords, so we'll update to Gaia
tcheck; Adopted SED compared to Observations?; complicated but resolvable ...
Originally quoted UV fluxes appear to be for nearby MPG 355 which is about 2x brighter - STIS G140L long slit observations were for distortion cal and deliberately included three bright stars in the aperture - they give target name as MPG 368 which is at center, but extracted fluxes are mostly for 355, as calstis defaults to finding the brightest source.
Fluxes for MPG 355: F1160=1.00e-12; F1360=7.90e-13; F1700=5.00e-13; F2200=2.82e-13
Fluxes for MPG 368: F1160=5.12e-13; F1360=3.51e-12; F1700=2.38e-13; F2200=1.15e-13
Category=EXT-STAR
Description=[MAIN SEQUENCE O, OF]
Extended=NO

Exposures

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	ACQ/PEAKXD (COS.sa.1418052)	(5) NGC346-MPG-368	COS/FUV, ACQ/PEAKXD, PSA	G160M 1611 A	CENTER=FLUX-WT; NUM-POS=3; STEP-SIZE=1.3; SEGMENT=BOTH			0.6 Secs (0.6 Secs) *[==>]*	 ***[1]***
2	ACQ/PEAKD (COS.sa.1418052)	(5) NGC346-MPG-368	COS/FUV, ACQ/PEAKD, PSA	G160M 1611 A	CENTER=FLUX-WT-FLR; NUM-POS=5; STEP-SIZE=0.9; SEGMENT=BOTH			0.6 Secs (0.6 Secs) *[==>]*	 ***[1]***
3	G130M/1096 (COS.sp.1418044)	(5) NGC346-MPG-368	COS/FUV, TIME-TAG, PSA	G130M 1096 A	BUFFER-TIME=2881; FP-POS=ALL			953 Secs (4394 Secs) *[==>(Split 1)]* *[==>(Split 2)]* *[==>1244.0 Secs (Split 3)]* *[==>1244.0 Secs (Split 4)]*	 ***[1]*** ***[2]***

Comments: rn-max(WM-Basic(O5 V, Z=0.004, Teff=42658, log_lum=5.52, log_g=4.00) (extinction smcbar=0.130), flux1160 +- 30.0A flux=1e-12 Flam); cos,fuv,g130m,c1096,psa,mjd#59305; fp-pos=None, segment =None)
From file SMC_2020Feb20/input/SMC_all_do1_NewCoords_pids.csv
Spectral type: O5.5V((f+)) --> O5 V
SED = NGC346-MPG-368_COS_G130M_c1096_sed.fits
For exptime=2216.1 s, spectral region:
1080.0 +- 0.5 A achieves SNR=20.0/resel
global countrate (brightest segment): 7861.9 cts/s/segment
brightest pixel: 0.144 cts/s/pix at 1225.0 A
Calculation performed 2020-02-24T17:56:44, v0.4

Orbit Structure