16819 - ULLYSES LMC O9-B1 Bright Giants - COS

Cycle: 29, 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) SK-66D17	COS/FUV	1	20-Jul-2022 11:00:20.0	yes
AC	(1) SK-66D17	COS/FUV	1	20-Jul-2022 11:00:21.0	yes
2C	(2) SK-68D23A	COS/FUV	2	20-Jul-2022 11:00:22.0	yes
3C	(3) SK-69D178	COS/FUV	1	20-Jul-2022 11:00:24.0	yes
CC	(3) SK-69D178	COS/FUV	1	20-Jul-2022 11:00:25.0	yes
HC	(3) SK-69D178	COS/FUV	1	20-Jul-2022 11:00:26.0	yes
4C	(4) SK-71D35	COS/FUV	1	20-Jul-2022 11:00:27.0	yes

8 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.

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 16819, SK-66D17-COS (1C), failed Wed Jul 20 15:00:28 GMT 2022

Diagnostic Status: Warning

Scientific Instruments: COS/FUV

Special Requirements: SCHED 100%

Comments: vstatus; 1C; SK-66D17; P/COS approved for submission; P/JRD 20/12/21 ; intrev: complete ; P/AF 03/03/22
vcheck; Enter targ name & Inst. & Resp. Sci.; SK-66D17 ; COS ; JRD
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?; Yes
vcheck; Possible ACQ or Sci spoilers?; No
vcheck; Field BOT clear?; Yes
vcheck; Visual BOT check for stars not in catalog?; Yes
vcheck; Orbit packing finalized?; Yes
vcheck; Buffer times optimized?; Yes
vcheck; Verify visit grouping correct; NA
vcheck; Is visit ready for int. review?; Yes
Allocated COS orbits = 1

Diagnostics

(SK-66D17-COS (1C)) Warning (Form): For the best data quality, it is generally required to use all four FP-POS positions when observing at a given COS cenwave. See the COS Instrument Handbook for exceptions that may apply to observations with G130M/1291 or G160M.

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	SK-66D17	RA: 04 55 55.4980 (73.9812417d)		V=12.89	Reference Frame: ICRS
	Alt Name1: N11-011	Dec: -66 28 20.49 (-66.47236d)		SpT=OC9.5 II; E(B-V)=0.18; B =12.81; V=12.89	
	Alt Name2: ELS2006-N11-011	Equinox: J2000			

Comments: Available photometry in good agreement with the SED. no archival UV available.

SK-66D17 : N11-011, [ELS2006] N11 011
Previous name : N11-011
Input file: ULLYSES_Cycle29_MassiveStar_ProgramInput_v5.csv
SpT = OC9.5 II
COS/G130M/c1291 : rn(PoWR-OB-new(PoWR_30000_3.20_m7.00_Z0.50.fits, lmc-ob-i 30-32, Z=0.500 solar, Teff=30000, log_lum=5.72, log_g=3.20, log_mdot=-7.00) (extinction lmcavg=0.180), johnson B mag=12.810 vegamag)
COS/G160M/c1611 : rn(PoWR-OB-new(PoWR_30000_3.20_m7.00_Z0.50.fits, lmc-ob-i 30-32, Z=0.500 solar, Teff=30000, log_lum=5.72, log_g=3.20, log_mdot=-7.00) (extinction lmcavg=0.180), johnson B mag=12.810 vegamag)
Coordinate pedigree: Gaia DR2
Calculation performed 2021-10-25T00:58:45, v0.9
---
tstatus; SK-66D17; P/COS approved for submission; S/ins N/A; P/JRD 02/03/22; S/xx DD/MM/YY
tcheck; APT/SIMBAD target names: ; SK-66D17 ; Gaia DR2 4662154740348145408
tcheck; Target info verification status?; checked
tcheck; Coordinates & P.M. verified, epoch checked?; Yes
tcheck; Adopted SED compared to Observations?; Yes - SED normalized to U compared to photometry from Vizier photometry tool
Category=STAR
Description=[SUPERGIANT O]
Extended=NO

Exposures

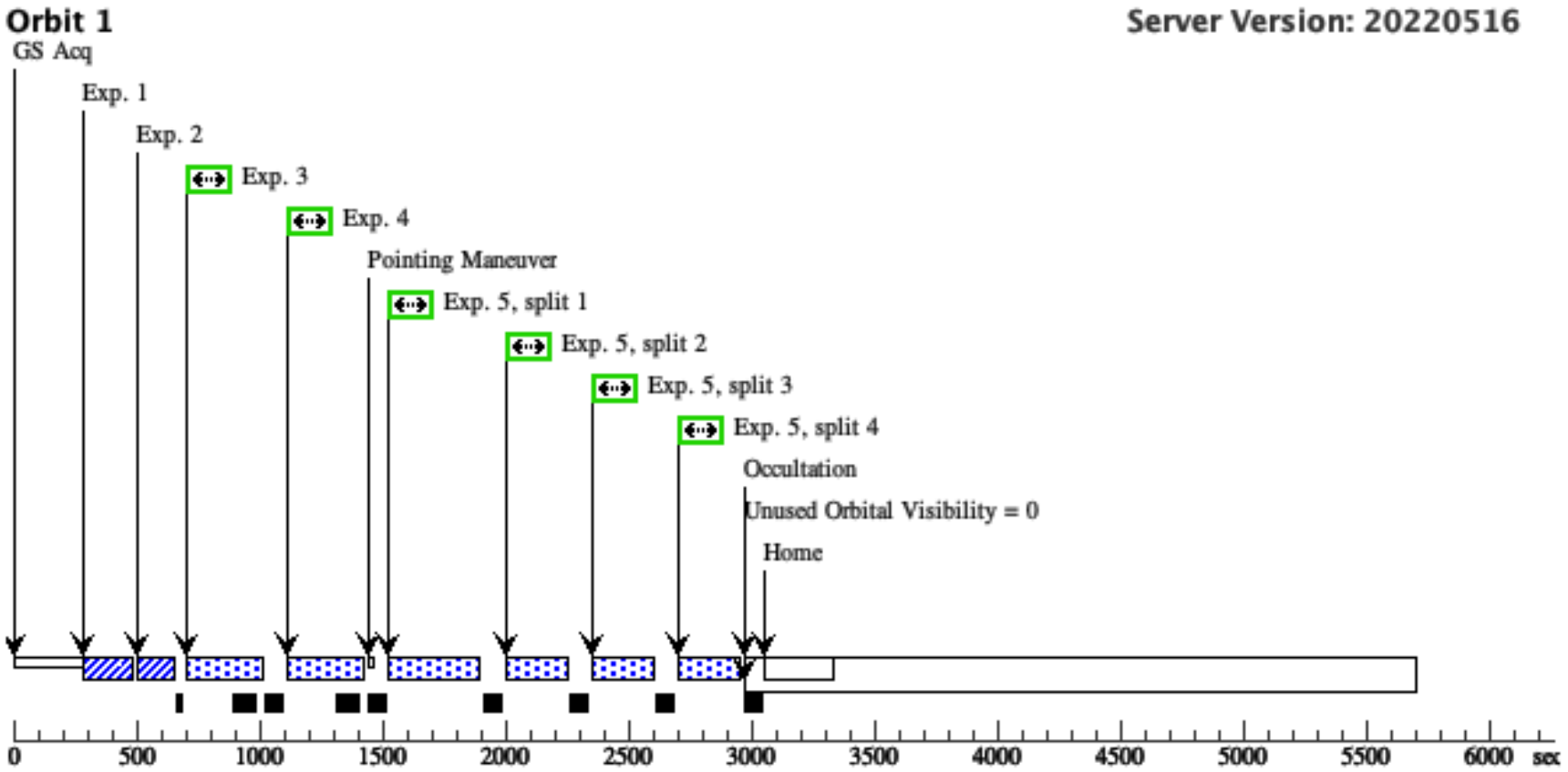
#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	FUV PEAK XD (COS.sa.1680276)	(1) SK-66D17	COS/FUV, ACQ/PEAKXD, PSA	G130M 1291 A	CENTER=FLUX-WT; NUM-POS=3; STEP-SIZE=1.3			0.4 Secs (0.4 Secs) *[==>]*	***[1]***
	Comments: One unknown star in the BOA field (the other unknown is the target, which can be cleared with the ETC ID above). The unknown star has U = 18.5, B = 18.7, V= 18.5. This clears with the ETC assuming the worst case scenario of an O5 (COS.sa.1680296).								
2	FUV PEAK D (COS.sa.1680276)	(1) SK-66D17	COS/FUV, ACQ/PEAKD, PSA	G130M 1291 A	CENTER=FLUX-WT-FLR; NUM-POS=5; STEP-SIZE=0.9			0.4 Secs (0.4 Secs) *[==>]*	***[1]***
	Comments: One unknown star in the BOA field (the other unknown is the target, which can be cleared with the ETC ID above). The unknown star has U = 18.5, B = 18.7, V= 18.5. This clears with the ETC assuming the worst case scenario of an O5 (COS.sa.1680296).								
3	G130M/1291-3 (COS.sp.1680281)	(1) SK-66D17	COS/FUV, TIME-TAG, PSA	G130M 1291 A	BUFFER-TIME=160; FP-POS=3			260 Secs (260 Secs) *[==>]*	***[1]***
	Comments: One unknown star in the BOA field (the other unknown is the target, which can be cleared with the ETC ID above). The unknown star has U = 18.5, B = 18.7, V= 18.5. This clears with the ETC assuming the worst case scenario of an O5 (COS.sp.1680297). *rn(PoWR-OB-new(PoWR_30000_3.20_m7.00_Z0.50.fits, lmc-ob-i 30-32, Z=0.500 solar, Teff=30000, log_lum=5.72, log_g=3.20, log_mdot=-7.00) (extinction lmcavg=0.180), johnson B mag=12.810 vegamag); cos,fuv,g130m,c1291,psa,mjd#59670; fp-pos=None, segment=None)* *From file ULLYSES_Cycle29_MassiveStar_ProgramInput_v5.csv* *Spectral type: OC9.5 II* *SED = SK-66D17_COS_G130M_c1291_sed.fits* *For exptime=521.8 s, spectral region:* *1150.0 +- 0.5 A achieves SNR=30.0/resel* *global countrate (brightest segment): 6574.1 cts/s/segment* *brightest pixel: 0.112 cts/s/pix at 1276.0 A* *Calculation performed 2021-10-25T00:58:48, v0.9*								
4	G130M/1291-4 (COS.sp.1680281)	(1) SK-66D17	COS/FUV, TIME-TAG, PSA	G130M 1291 A	BUFFER-TIME=160; FP-POS=4			260 Secs (260 Secs) *[==>]*	***[1]***
	Comments: One unknown star in the BOA field (the other unknown is the target, which can be cleared with the ETC ID above). The unknown star has U = 18.5, B = 18.7, V= 18.5. This clears with the ETC assuming the worst case scenario of an O5 (COS.sp.1680297). *rn(PoWR-OB-new(PoWR_30000_3.20_m7.00_Z0.50.fits, lmc-ob-i 30-32, Z=0.500 solar, Teff=30000, log_lum=5.72, log_g=3.20, log_mdot=-7.00) (extinction lmcavg=0.180), johnson B mag=12.810 vegamag); cos,fuv,g130m,c1291,psa,mjd#59670; fp-pos=None, segment=None)* *From file ULLYSES_Cycle29_MassiveStar_ProgramInput_v5.csv* *Spectral type: OC9.5 II* *SED = SK-66D17_COS_G130M_c1291_sed.fits* *For exptime=521.8 s, spectral region:* *1150.0 +- 0.5 A achieves SNR=30.0/resel* *global countrate (brightest segment): 6574.1 cts/s/segment* *brightest pixel: 0.112 cts/s/pix at 1276.0 A* *Calculation performed 2021-10-25T00:58:48, v0.9*								

5	G160M/1611 (COS.sp.1680291)	(1) SK-66D17	COS/FUV, TIME-TAG, PSA	G160M 1611 A	BUFFER-TIME=2988; FP-POS=ALL	198 Secs (792 Secs) *[==>(Split 1)]* *[==>(Split 2)]* *[==>(Split 3)]* *[==>(Split 4)]*	*[1]*

Comments: One unknown star in the BOA field (the other unknown is the target, which can be cleared with the ETC ID above). The unknown star has U = 18.5, B = 18.7, V= 18.5. This clears with the ETC assuming t he worst case scenario of an O5 (COS.sp.1680298).

rn(PoWR-OB-new(PoWR_30000_3.20_m7.00_Z0.50.fits, lmc-ob-i 30-32, Z=0.500 solar, Teff=30000, log_lum=5.72, log_g=3.20, log_mdot=-7.00) (extinction lmcavg=0.180), johnson B mag=12.810 vegamag); cos,f uv,g160m,c1611,psa,mjd#59670; fp-pos=None, segment=None)
From file ULLYSES_Cycle29_MassiveStar_ProgramInput_v5.csv
Spectral type: OC9.5 II
SED = SK-66D17_COS_G160M_c1611_sed.fits
For exptime=630.9 s, spectral region:
1590.0 +- 0.5 A achieves SNR=30.0/resel
global countrate (brightest segment): 4754.0 cts/s/segment
brightest pixel: 0.093 cts/s/pix at 1424.5 A
Calculation performed 2021-10-25T00:58:50, v0.9

Orbit Structure



Visit

Proposal 16819, SK-66D17-COS (AC), scheduled Wed Jul 20 15:00:28 GMT 2022

Diagnostic Status: No Diagnostics

Scientific Instruments: COS/FUV

Special Requirements: SCHED 100%

Comments: vstatus; 1C; SK-66D17; P/COS approved for submission; P/JRD 20/12/21 ; intrev: complete ; P/AF 03/03/22
vcheck; Enter targ name & Inst. & Resp. Sci.; SK-66D17 ; COS ; JRD
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?; Yes
vcheck; Possible ACQ or Sci spoilers?; No
vcheck; Field BOT clear?; Yes
vcheck; Visual BOT check for stars not in catalog?; Yes
vcheck; Orbit packing finalized?; Yes
vcheck; Buffer times optimized?; Yes
vcheck; Verify visit grouping correct; NA
vcheck; Is visit ready for int. review?; Yes
Allocated COS orbits = 1

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	SK-66D17	RA: 04 55 55.4980 (73.9812417d)		V=12.89	Reference Frame: ICRS
	Alt Name1: N11-011	Dec: -66 28 20.49 (-66.47236d)		SpT=OC9.5 II; E(B-V)=0.18; B =12.81; V=12.89	
	Alt Name2: ELS2006-N11-011	Equinox: J2000			

Comments: Available photometry in good agreement with the SED. no archival UV available.

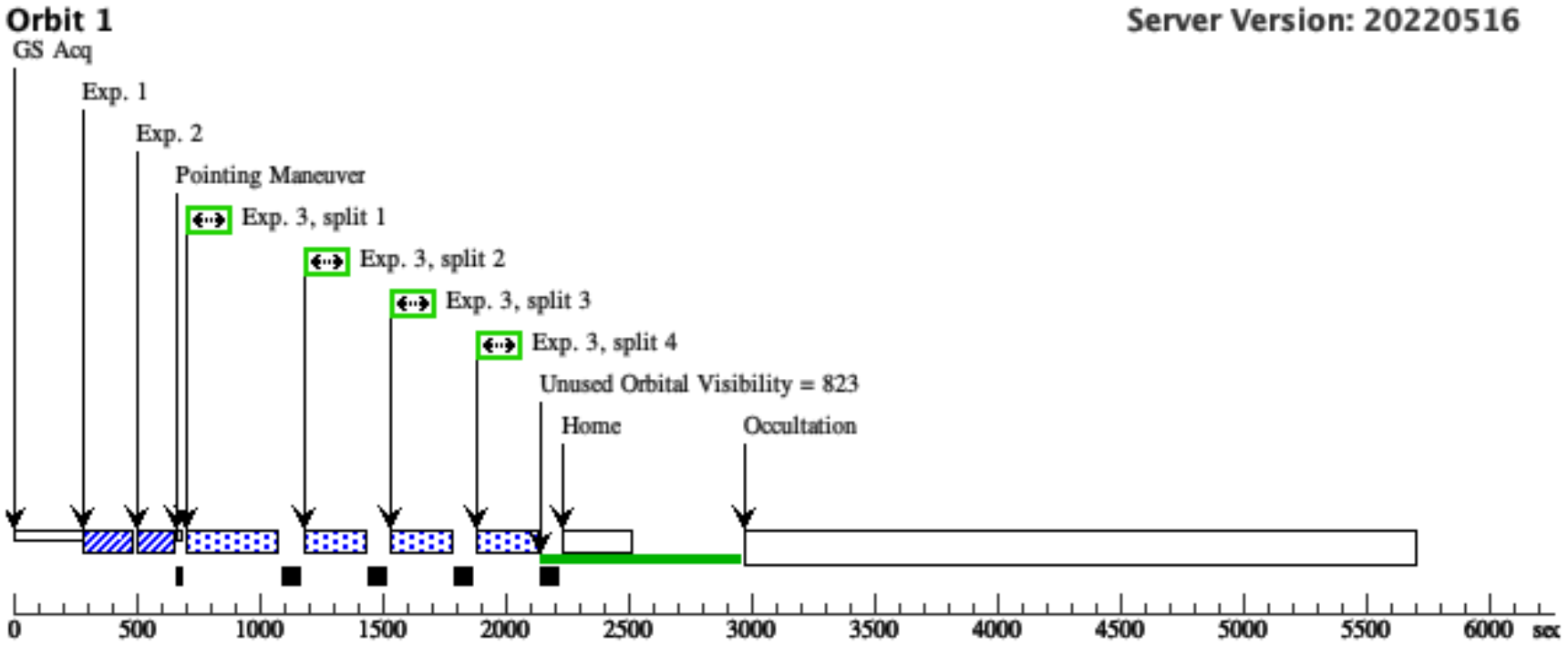
SK-66D17 : N11-011, [ELS2006] N11 011
Previous name : N11-011
Input file: ULLYSES_Cycle29_MassiveStar_ProgramInput_v5.csv
SpT = OC9.5 II
COS/G130M/c1291 : rn(PoWR-OB-new(PoWR_30000_3.20_m7.00_Z0.50.fits, lmc-ob-i 30-32, Z=0.500 solar, Teff=30000, log_lum=5.72, log_g=3.20, log_mdot=-7.00) (extinction lmcavg=0.180), johnson B mag=12.810 vegamag)
COS/G160M/c1611 : rn(PoWR-OB-new(PoWR_30000_3.20_m7.00_Z0.50.fits, lmc-ob-i 30-32, Z=0.500 solar, Teff=30000, log_lum=5.72, log_g=3.20, log_mdot=-7.00) (extinction lmcavg=0.180), johnson B mag=12.810 vegamag)
Coordinate pedigree: Gaia DR2
Calculation performed 2021-10-25T00:58:45, v0.9
---
tstatus; SK-66D17; P/COS approved for submission; S/ins N/A; P/JRD 02/03/22; S/xx DD/MM/YY
tcheck; APT/SIMBAD target names: ; SK-66D17 ; Gaia DR2 4662154740348145408
tcheck; Target info verification status?; checked
tcheck; Coordinates & P.M. verified, epoch checked?; Yes
tcheck; Adopted SED compared to Observations?; Yes - SED normalized to U compared to photometry from Vizier photometry tool
Category=STAR
Description=[SUPERGIANT O]
Extended=NO

Exposures

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	FUV PEAK XD (COS.sa.1680276)	(1) SK-66D17	COS/FUV, ACQ/PEAKXD, PSA	G130M 1291 A	CENTER=FLUX-WT; NUM-POS=3; STEP-SIZE=1.3			0.4 Secs (0.4 Secs) *[==>]*	***[1]***
	Comments: One unknown star in the BOA field (the other unknown is the target, which can be cleared with the ETC ID above). The unknown star has U = 18.5, B = 18.7, V= 18.5. This clears with the ETC assuming the worst case scenario of an O5 (COS.sa.1680296).								
2	FUV PEAK D (COS.sa.1680276)	(1) SK-66D17	COS/FUV, ACQ/PEAKD, PSA	G130M 1291 A	CENTER=FLUX-WT-FLR; NUM-POS=5; STEP-SIZE=0.9			0.4 Secs (0.4 Secs) *[==>]*	***[1]***
	Comments: One unknown star in the BOA field (the other unknown is the target, which can be cleared with the ETC ID above). The unknown star has U = 18.5, B = 18.7, V= 18.5. This clears with the ETC assuming the worst case scenario of an O5 (COS.sa.1680296).								
3	G160M/1611 (COS.sp.1680291)	(1) SK-66D17	COS/FUV, TIME-TAG, PSA	G160M 1611 A	BUFFER-TIME=298; FP-POS=ALL			198 Secs (792 Secs) *[==>(Split 1)]* *[==>(Split 2)]* *[==>(Split 3)]* *[==>(Split 4)]*	***[1]***
	Comments: One unknown star in the BOA field (the other unknown is the target, which can be cleared with the ETC ID above). The unknown star has U = 18.5, B = 18.7, V= 18.5. This clears with the ETC assuming the worst case scenario of an O5 (COS.sp.1680298).								

rn(PoWR-OB-new(PoWR_30000_3.20_m7.00_Z0.50.fits, lmc-ob-i 30-32, Z=0.500 solar, Teff=30000, log_lum=5.72, log_g=3.20, log_mdot=-7.00) (extinction lmcavg=0.180), johnson B mag=12.810 vegamag); cos,fuv,g160m,c1611,psa,mjd#59670; fp-pos=None, segment=None)
From file ULLYSES_Cycle29_MassiveStar_ProgramInput_v5.csv
Spectral type: OC9.5 II
SED = SK-66D17_COS_G160M_c1611_sed.fits
For exptime=630.9 s, spectral region:
1590.0 +- 0.5 A achieves SNR=30.0/resel
global countrate (brightest segment): 4754.0 cts/s/segment
brightest pixel: 0.093 cts/s/pix at 1424.5 A
Calculation performed 2021-10-25T00:58:50, v0.9

Orbit Structure



Visit

Proposal 16819, SK-68D23A-COS (2C), completed Wed Jul 20 15:00:28 GMT 2022

Diagnostic Status: Warning

Scientific Instruments: COS/FUV

Special Requirements: SCHED 100%

Comments: vstatus; 2C; SK-68D23A; P/COS approved for submission; P/JRD 20/12/21 ; intrev: complete ; P/AF 03/03/22
vcheck; Enter targ name & Inst. & Resp. Sci.; SK-68D23A; COS; JRD
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?; Yes
vcheck; Possible ACQ or Sci spoilers?; No
vcheck; Field BOT clear?; Yes
vcheck; Visual BOT check for stars not in catalog?; Yes
vcheck; Orbit packing finalized?; Yes
vcheck; Buffer times optimized?; Yes
vcheck; Verify visit grouping correct; NA
vcheck; Is visit ready for int. review?; Yes
Allocated COS orbits = 2

Diagnostics

(SK-68D23A-COS (2C)) Warning (Form): For the best data quality, it is generally required to use all four FP-POS positions when observing at a given COS cenwave. See the COS Instrument Handbook for exceptions that may apply to observations with G130M/1291 or G160M.

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(2)	SK-68D23A Alt Name1: M2002-48819 Alt Name2: SK-68-23A	RA: 05 00 48.2956 (75.2012317d) Dec: -68 05 58.46 (-68.09957d) Equinox: J2000		V=13.05 SpT=B1 III; E(B-V)=0.18; U=12.03; B=12.97; V=13.05	Reference Frame: ICRS

Comments: SK-68D23A : M2002-48819, SK -68 23A
Previous name : Sk -68 23A
Input file: ULLYSES_Cycle29_MassiveStar_ProgramInput_v5.csv
SpT = B1 III
COS/G130M/c1291 : rn(PoWR-OB-new(PoWR_24000_3.20_m7.00_Z0.50.fits, lmc-ob-i 24-32, Z=0.500 solar, Teff=24000, log_lum=4.99, log_g=3.20, log_mdot=-7.00) (extinction lmcavg=0.180), johnson U mag=12.030 vegamag)
COS/G160M/c1611 : rn(PoWR-OB-new(PoWR_24000_3.20_m7.00_Z0.50.fits, lmc-ob-i 24-32, Z=0.500 solar, Teff=24000, log_lum=4.99, log_g=3.20, log_mdot=-7.00) (extinction lmcavg=0.180), johnson U mag=12.030 vegamag)
Coordinate pedigree: Gaia DR2
Calculation performed 2021-10-25T00:58:55, v0.9
---
tstatus; SK-68D23A; P/COS approved for submission; S/ins N/A; P/JRD 02/03/22; S/xx DD/MM/YY
tcheck; APT/SIMBAD target names: ; SK-68D23A ; [M2002] LMC 48819 ; Gaia DR2 4661364225871120128
tcheck; Target info verification status?; Checked
tcheck; Coordinates & P.M. verified, epoch checked?; Yes
tcheck; Adopted SED compared to Observations?; Yes - SED normalized to U (no UV) and compared to photometry from Vizier photometry tool
Category=STAR
Description=[B0-B2 III-I]
Extended=NO

Exposures

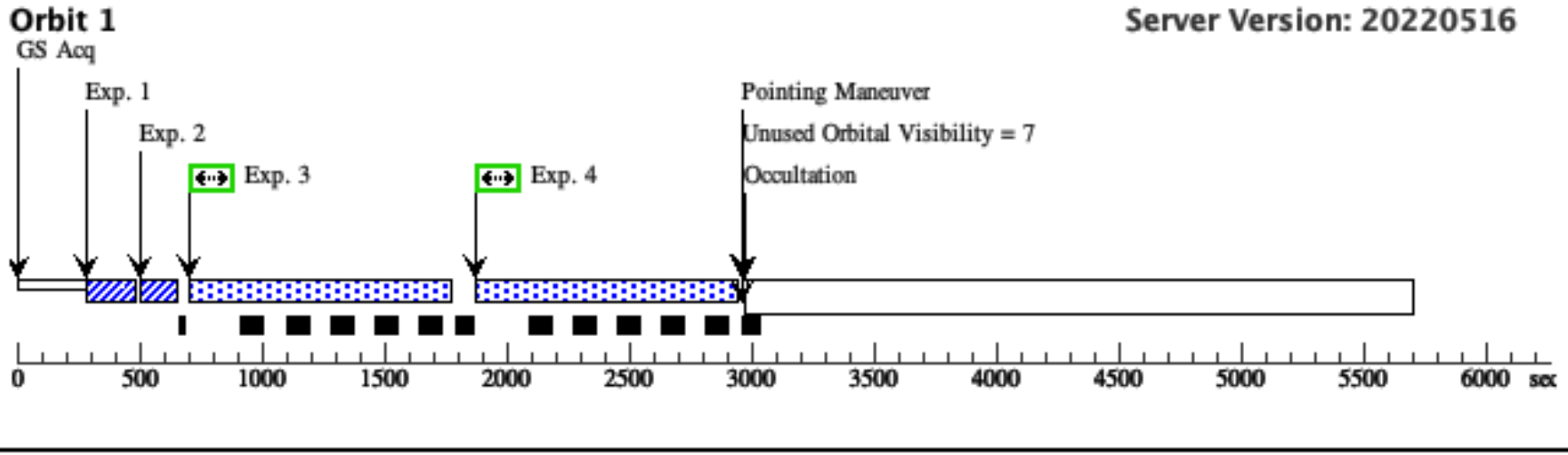
#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	FUV PEAKXD (COS.sa.1680303)	(2) SK-68D23A	COS/FUV, ACQ/PEAKXD, PSA	G130M 1291 A	CENTER=FLUX-WT; NUM-POS=3; STEP-SIZE=1.3			0.5 Secs (0.5 Secs) *[==>]*	***[1]***
	Comments: Exposure time not yet calculated.								
2	FUV PEAKD (COS.sa.1680303)	(2) SK-68D23A	COS/FUV, ACQ/PEAKD, PSA	G130M 1291 A	CENTER=FLUX-WT-FLR; NUM-POS=5; STEP-SIZE=0.9			0.5 Secs (0.5 Secs) *[==>]*	***[1]***
	Comments: Exposure time not yet calculated.								
3	G130M/1291-3 (COS.sp.1680304)	(2) SK-68D23A	COS/FUV, TIME-TAG, PSA	G130M 1291 A	BUFFER-TIME=1800; FP-POS=3			1020 Secs (1020 Secs) *[==>]*	***[1]***
	Comments: Only unknown in the field is the target, cleared with ETC above *Exposures expanded to fill orbit* *rn(PoWR-OB-new(PoWR_24000_3.20_m7.00_Z0.50.fits, lmc-ob-i 24-32, Z=0.500 solar, Teff=24000, log_lum=4.99, log_g=3.20, log_mdot=-7.00) (extinction lmcavg=0.180), johnson U mag=12.030 vegamag); cos,fuv,g130m,c1291,psa,mjd#59670; fp-pos=None, segment=None)* *From file ULLYSES_Cycle29_MassiveStar_ProgramInput_v5.csv* *Spectral type: B1 III* *SED = SK-68D23A_COS_G130M_c1291_sed.fits* *For exptime=728.3 s, spectral region:* *1150.0 +- 0.5 A achieves SNR=30.0/resel* *global countrate (brightest segment): 4653.3 cts/s/segment* *brightest pixel: 0.085 cts/s/pix at 1277.0 A* *Calculation performed 2021-10-25T00:58:58, v0.9*								
4	G130M/1291-4 (COS.sp.1680304)	(2) SK-68D23A	COS/FUV, TIME-TAG, PSA	G130M 1291 A	BUFFER-TIME=1800; FP-POS=4			1020 Secs (1020 Secs) *[==>]*	***[1]***
	Comments: Only unknown in the field is the target, cleared with ETC above *rn(PoWR-OB-new(PoWR_24000_3.20_m7.00_Z0.50.fits, lmc-ob-i 24-32, Z=0.500 solar, Teff=24000, log_lum=4.99, log_g=3.20, log_mdot=-7.00) (extinction lmcavg=0.180), johnson U mag=12.030 vegamag); cos,fuv,g130m,c1291,psa,mjd#59670; fp-pos=None, segment=None)* *From file ULLYSES_Cycle29_MassiveStar_ProgramInput_v5.csv* *Spectral type: B1 III* *SED = SK-68D23A_COS_G130M_c1291_sed.fits* *For exptime=728.3 s, spectral region:* *1150.0 +- 0.5 A achieves SNR=30.0/resel* *global countrate (brightest segment): 4653.3 cts/s/segment* *brightest pixel: 0.085 cts/s/pix at 1277.0 A* *Calculation performed 2021-10-25T00:58:58, v0.9*								

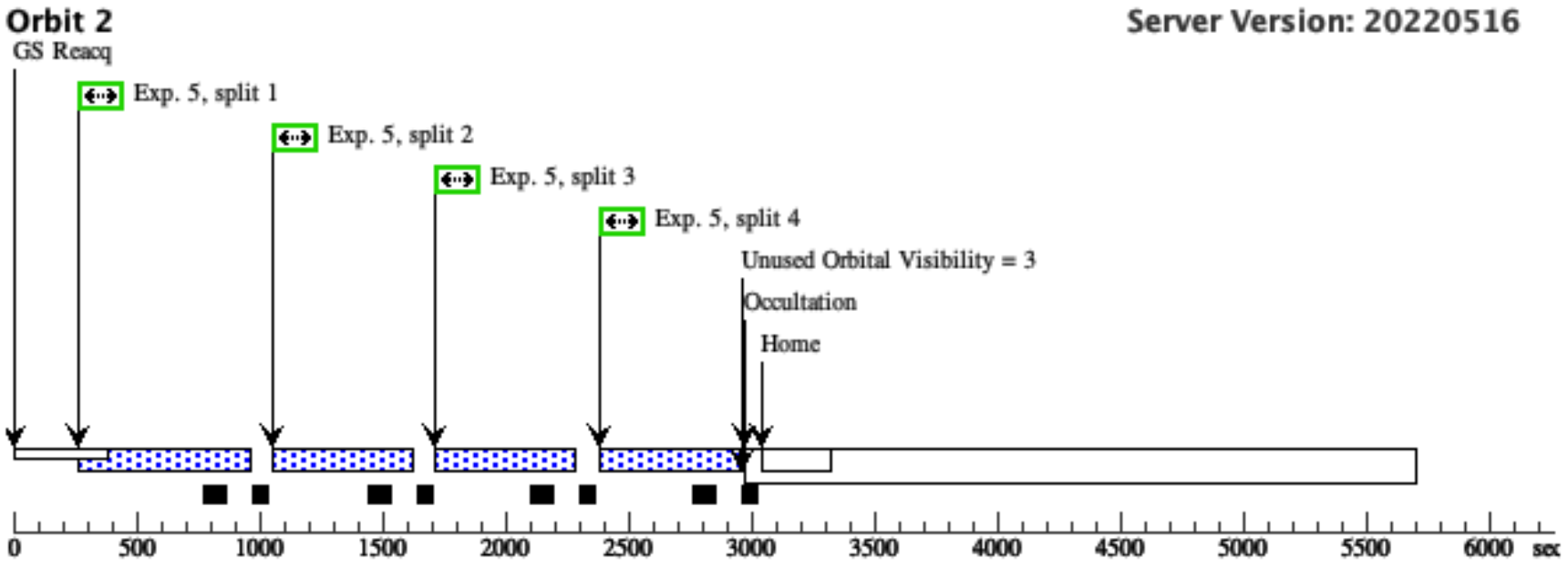
	5	G160M/1611 (COS.sp.1680305)	(2) SK-68D23A	COS/FUV, TIME-TAG, PSA	G160M 1611 A	BUFFER-TIME=350; FP-POS=ALL	520 Secs (2080 Secs) *[==>(Split 1)]* *[==>(Split 2)]* *[==>(Split 3)]* *[==>(Split 4)]*	***[2]***

Comments: Only unknown in the field is the target, cleared with ETC above

rn(PoWR-OB-new(PoWR_24000_3.20_m7.00_Z0.50.fits, lmc-ob-i 24-32, Z=0.500 solar, Teff=24000, log_lum=4.99, log_g=3.20, log_mdot=-7.00) (extinction lmcavg=0.180), johnson U mag=12.030 vegamag); cos,fuv,g160m,c1611,psa,mjd#59670; fp-pos=None, segment=None)
From file ULLYSES_Cycle29_MassiveStar_ProgramInput_v5.csv
Spectral type: B1 III
SED = SK-68D23A_COS_G160M_c1611_sed.fits
For exptime=1221.7 s, spectral region:
1590.0 +- 0.5 A achieves SNR=30.0/resel
global countrate (brightest segment): 3379.6 cts/s/segment
brightest pixel: 0.066 cts/s/pix at 1436.5 A
Calculation performed 2021-10-25T00:59:00, v0.9

Orbit Structure





Visit

Proposal 16819, SK-69D178-COS (3C), failed Wed Jul 20 15:00:28 GMT 2022

Diagnostic Status: Warning

Scientific Instruments: COS/FUV

Special Requirements: SCHED 100%

Comments: vstatus; 3C; SK-69D178; P/COS approved for submission; P/JRD 20/12/21 ; intrev: complete ; P/AF 03/03/22
vcheck; Enter targ name & Inst. & Resp. Sci.; SK-69D178 ; COS ; JRD
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?; Yes
vcheck; Possible ACQ or Sci spoilers?; No
vcheck; Field BOT clear?; Yes
vcheck; Visual BOT check for stars not in catalog?; Yes
vcheck; Orbit packing finalized?; Yes
vcheck; Buffer times optimized?; Yes
vcheck; Verify visit grouping correct; NA
vcheck; Is visit ready for int. review?; Yes
Allocated COS orbits = 1

Diagnostics

(SK-69D178-COS (3C)) Warning (Form): For the best data quality, it is generally required to use all four FP-POS positions when observing at a given COS cenwave. See the COS Instrument Handbook for exceptions that may apply to observations with G130M/1291 or G160M.

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(3)	SK-69D178 Alt Name1: AAOMEGA-105 Alt Name2: SK-69-178	RA: 05 31 53.9505 (82.9747937d) Dec: -69 33 30.27 (-69.55841d) Equinox: J2000		V=13.26 SpT=O9.2 II; E(B-V)=0.17; U=12.13; B=13.17; V=13.26	Reference Frame: ICRS

Comments: SK-69D178 : AAOMEGA-105, SK -69 178
Previous name : Sk-69 178
Input file: ULLYSES_Cycle29_MassiveStar_ProgramInput_v5.csv
SpT = O9.2 II
COS/G130M/c1291 : rn(PoWR-OB-new(PoWR_32000_3.60_m7.00_Z0.50.fits, lmc-ob-i 32-36, Z=0.500 solar, Teff=32000, log_lum=5.22, log_g=3.60, log_mdot=-7.00) (extinction lmcavg=0.170), johnson U mag=12.130 vegamag)
COS/G160M/c1611 : rn(PoWR-OB-new(PoWR_32000_3.60_m7.00_Z0.50.fits, lmc-ob-i 32-36, Z=0.500 solar, Teff=32000, log_lum=5.22, log_g=3.60, log_mdot=-7.00) (extinction lmcavg=0.170), johnson U mag=12.130 vegamag)
Coordinate pedigree: Gaia DR2
Calculation performed 2021-10-25T00:59:16, v0.9
---
tstatus; SK-69D178; P/COS approved for submission; S/ins N/A; P/JRD 02/03/22; S/xx DD/MM/YY
tcheck; APT/SIMBAD target names: ; SK-69D178; Gaia DR2 4658030747143470080
tcheck; Target info verification status?; Checked
tcheck; Coordinates & P.M. verified, epoch checked?; Yes
tcheck; Adopted SED compared to Observations?; Yes - SED normalized to U (no UV) and compared to photometry from Vizier photometry tool
Category=STAR
Description=[SUPERGIANT O]
Extended=NO

Exposures

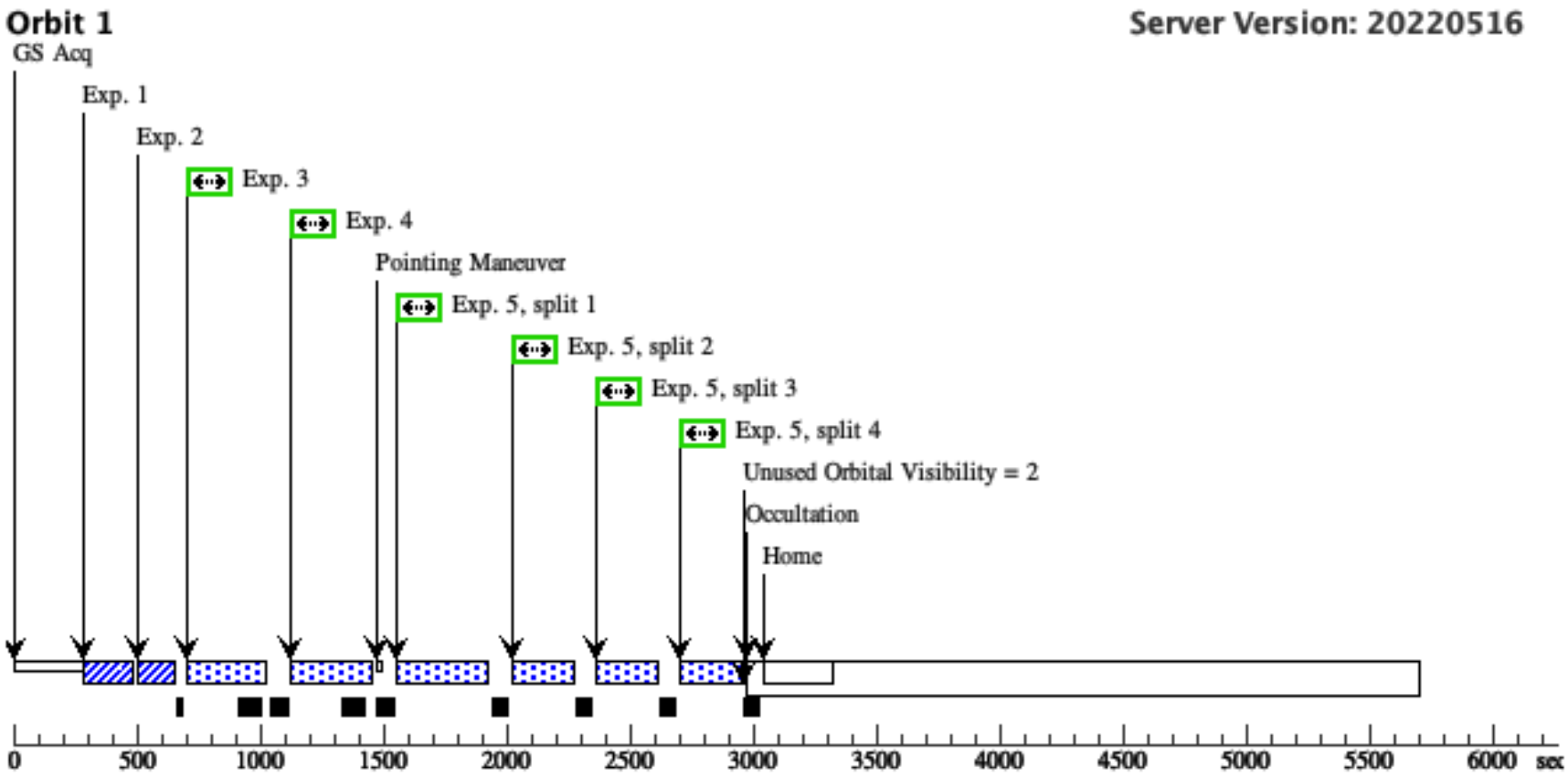
#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	FUV PEAKXD (COS.sa.1680307)	(3) SK-69D178	COS/FUV, ACQ/PEAKXD, PSA	G130M 1291 A	CENTER=FLUX-WT; NUM-POS=3; STEP-SIZE=1.3			0.4 Secs (0.4 Secs) *[==>]*	***[1]***
	Comments: Brightest star in the BOA field (from MCPS) has V = 18.1, U = 18.1. Not a concern with BOA, even assuming worst case scenario of O5 (COS.sa.1680309)								
2	FUV PEAKD (COS.sa.1680307)	(3) SK-69D178	COS/FUV, ACQ/PEAKD, PSA	G130M 1291 A	CENTER=FLUX-WT-FLR; NUM-POS=5; STEP-SIZE=0.9			0.4 Secs (0.4 Secs) *[==>]*	***[1]***
	Comments: Brightest star in the BOA field (from MCPS) has V = 18.1, U = 18.1. Not a concern with BOA, even assuming worst case scenario of O5 (COS.sa.1680309)								
3	G130M/1291-3 (COS.sp.1680310)	(3) SK-69D178	COS/FUV, TIME-TAG, PSA	G130M 1291 A	BUFFER-TIME=174; FP-POS=3			274 Secs (274 Secs) *[==>]*	***[1]***
	Comments: Brightest star in the BOA field (from MCPS) has V = 18.1, U = 18.1. Not a concern with BOA, even assuming worst case scenario of O5 (COS.sp.1680313)								
	rn(PoWR-OB-new(PoWR_32000_3.60_m7.00_Z0.50.fits, lmc-ob-i 32-36, Z=0.500 solar, Teff=32000, log_lum=5.22, log_g=3.60, log_mdot=-7.00) (extinction lmcavg=0.170), johnson U mag=12.130 vegamag); cos,fuv,g130m,c1291,psa,mjd#59670; fp-pos=None, segment=None) *From file ULLYSES_Cycle29_MassiveStar_ProgramInput_v5.csv* *Spectral type: O9.2 II* *SED = SK-69D178_COS_G130M_c1291_sed.fits* *For exptime=491.3 s, spectral region:* *1150.0 +- 0.5 A achieves SNR=30.0/resel* *global countrate (brightest segment): 6770.0 cts/s/segment* *brightest pixel: 0.116 cts/s/pix at 1276.0 A* *Calculation performed 2021-10-25T00:59:19, v0.9*								
4	G130M/1291-4 (COS.sp.1680310)	(3) SK-69D178	COS/FUV, TIME-TAG, PSA	G130M 1291 A	BUFFER-TIME=174; FP-POS=4			274 Secs (274 Secs) *[==>]*	***[1]***
	Comments: Brightest star in the BOA field (from MCPS) has V = 18.1, U = 18.1. Not a concern with BOA, even assuming worst case scenario of O5 (COS.sp.1680313)								
	rn(PoWR-OB-new(PoWR_32000_3.60_m7.00_Z0.50.fits, lmc-ob-i 32-36, Z=0.500 solar, Teff=32000, log_lum=5.22, log_g=3.60, log_mdot=-7.00) (extinction lmcavg=0.170), johnson U mag=12.130 vegamag); cos,fuv,g130m,c1291,psa,mjd#59670; fp-pos=None, segment=None) *From file ULLYSES_Cycle29_MassiveStar_ProgramInput_v5.csv* *Spectral type: O9.2 II* *SED = SK-69D178_COS_G130M_c1291_sed.fits* *For exptime=491.3 s, spectral region:* *1150.0 +- 0.5 A achieves SNR=30.0/resel* *global countrate (brightest segment): 6770.0 cts/s/segment* *brightest pixel: 0.116 cts/s/pix at 1276.0 A* *Calculation performed 2021-10-25T00:59:19, v0.9*								

5	G160M/1611 (COS.sp.1680311)	(3) SK-69D178	COS/FUV, TIME-TAG, PSA	G160M 1611 A	BUFFER-TIME=360; FP-POS=ALL	198 Secs (792 Secs) *[==>(Split 1)]* *[==>(Split 2)]* *[==>(Split 3)]* *[==>(Split 4)]*	*[1]*

Comments: Brightest star in the BOA field (from MCPS) has V = 18.1, U = 18.1. Not a concern with BOA, even assuming worst case scenario of O5 (COS.sp.1680312)

rn(PoWR-OB-new(PoWR_32000_3.60_m7.00_Z0.50.fits, lmc-ob-i 32-36, Z=0.500 solar, Teff=32000, log_lum=5.22, log_g=3.60, log_mdot=-7.00) (extinction lmcavg=0.170), johnson U mag=12.130 vegamag); cos,fuv,g160m,c1611,psa,mjd#59670; fp-pos=None, segment=None)
From file ULLYSES_Cycle29_MassiveStar_ProgramInput_v5.csv
Spectral type: O9.2 II
SED = SK-69D178_COS_G160M_c1611_sed.fits
For exptime=697.4 s, spectral region:
1590.0 +- 0.5 A achieves SNR=30.0/resel
global countrate (brightest segment): 4597.1 cts/s/segment
brightest pixel: 0.091 cts/s/pix at 1424.5 A
Calculation performed 2021-10-25T00:59:21, v0.9

Orbit Structure



Visit

Proposal 16819, SK-69D178-COS (CC), failed Wed Jul 20 15:00:28 GMT 2022

Diagnostic Status: Warning

Scientific Instruments: COS/FUV

Special Requirements: SCHED 100%

Comments: vstatus; 3C; SK-69D178; P/COS approved for submission; P/JRD 20/12/21 ; intrev: complete ; P/AF 03/03/22
vcheck; Enter targ name & Inst. & Resp. Sci.; SK-69D178 ; COS ; JRD
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?; Yes
vcheck; Possible ACQ or Sci spoilers?; No
vcheck; Field BOT clear?; Yes
vcheck; Visual BOT check for stars not in catalog?; Yes
vcheck; Orbit packing finalized?; Yes
vcheck; Buffer times optimized?; Yes
vcheck; Verify visit grouping correct; NA
vcheck; Is visit ready for int. review?; Yes
Allocated COS orbits = 1

Diagnostics

(SK-69D178-COS (CC)) Warning (Form): For the best data quality, it is generally required to use all four FP-POS positions when observing at a given COS cenwave. See the COS Instrument Handbook for exceptions that may apply to observations with G130M/1291 or G160M.

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(3)	SK-69D178 Alt Name1: AAOMEGA-105 Alt Name2: SK-69-178	RA: 05 31 53.9505 (82.9747937d) Dec: -69 33 30.27 (-69.55841d) Equinox: J2000		V=13.26 SpT=O9.2 II; E(B-V)=0.17; U=12.13; B=13.17; V=13.26	Reference Frame: ICRS

Comments: SK-69D178 : AAOMEGA-105, SK -69 178
Previous name : Sk-69 178
Input file: ULLYSES_Cycle29_MassiveStar_ProgramInput_v5.csv
SpT = O9.2 II
COS/G130M/c1291 : rn(PoWR-OB-new(PoWR_32000_3.60_m7.00_Z0.50.fits, lmc-ob-i 32-36, Z=0.500 solar, Teff=32000, log_lum=5.22, log_g=3.60, log_mdot=-7.00) (extinction lmcavg=0.170), johnson U mag=12.130 vegamag)
COS/G160M/c1611 : rn(PoWR-OB-new(PoWR_32000_3.60_m7.00_Z0.50.fits, lmc-ob-i 32-36, Z=0.500 solar, Teff=32000, log_lum=5.22, log_g=3.60, log_mdot=-7.00) (extinction lmcavg=0.170), johnson U mag=12.130 vegamag)
Coordinate pedigree: Gaia DR2
Calculation performed 2021-10-25T00:59:16, v0.9
---
tstatus; SK-69D178; P/COS approved for submission; S/ins N/A; P/JRD 02/03/22; S/xx DD/MM/YY
tcheck; APT/SIMBAD target names: ; SK-69D178; Gaia DR2 4658030747143470080
tcheck; Target info verification status?; Checked
tcheck; Coordinates & P.M. verified, epoch checked?; Yes
tcheck; Adopted SED compared to Observations?; Yes - SED normalized to U (no UV) and compared to photometry from Vizier photometry tool
Category=STAR
Description=[SUPERGIANT O]
Extended=NO

Exposures

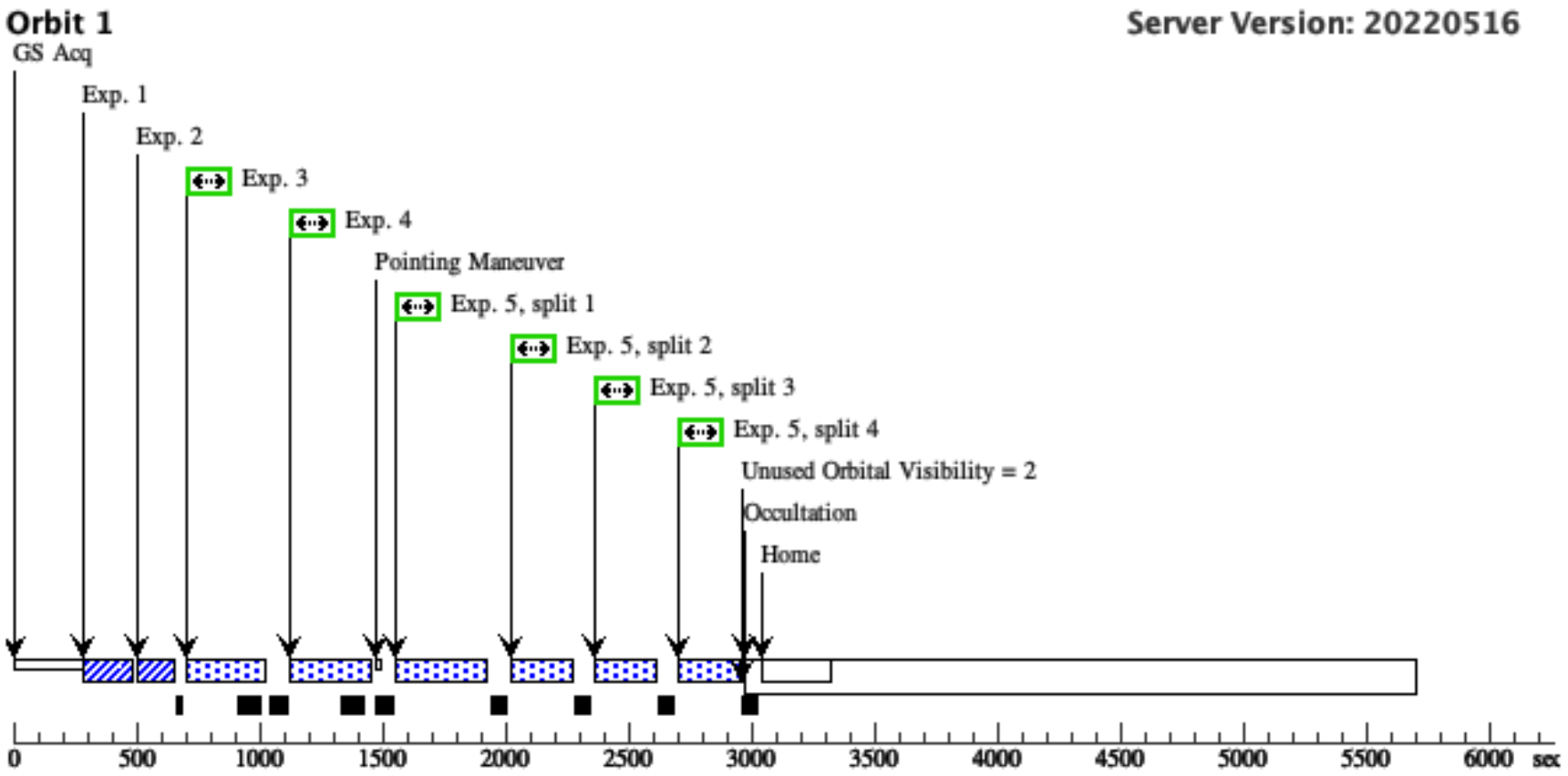
#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	FUV PEAK XD (COS.sa.1680307)	(3) SK-69D178	COS/FUV, ACQ/PEAKXD, PSA	G130M 1291 A	CENTER=FLUX-WT; NUM-POS=3; STEP-SIZE=1.3			0.4 Secs (0.4 Secs) *[==>]*	***[1]***
	Comments: Brightest star in the BOA field (from MCPS) has V = 18.1, U = 18.1. Not a concern with BOA, even assuming worst case scenario of O5 (COS.sa.1680309)								
2	FUV PEAK D (COS.sa.1680307)	(3) SK-69D178	COS/FUV, ACQ/PEAKD, PSA	G130M 1291 A	CENTER=FLUX-WT-FLR; NUM-POS=5; STEP-SIZE=0.9			0.4 Secs (0.4 Secs) *[==>]*	***[1]***
	Comments: Brightest star in the BOA field (from MCPS) has V = 18.1, U = 18.1. Not a concern with BOA, even assuming worst case scenario of O5 (COS.sa.1680309)								
3	G130M/1291-3 (COS.sp.1680310)	(3) SK-69D178	COS/FUV, TIME-TAG, PSA	G130M 1291 A	BUFFER-TIME=174; FP-POS=3			274 Secs (274 Secs) *[==>]*	***[1]***
	Comments: Brightest star in the BOA field (from MCPS) has V = 18.1, U = 18.1. Not a concern with BOA, even assuming worst case scenario of O5 (COS.sp.1680313)								
	rn(PoWR-OB-new(PoWR_32000_3.60_m7.00_Z0.50.fits, lmc-ob-i 32-36, Z=0.500 solar, Teff=32000, log_lum=5.22, log_g=3.60, log_mdot=-7.00) (extinction lmcavg=0.170), johnson U mag=12.130 vegamag); cos,fuv,g130m,c1291,psa,mjd#59670; fp-pos=None, segment=None) *From file ULLYSES_Cycle29_MassiveStar_ProgramInput_v5.csv* *Spectral type: O9.2 II* *SED = SK-69D178_COS_G130M_c1291_sed.fits* *For exptime=491.3 s, spectral region:* *1150.0 +- 0.5 A achieves SNR=30.0/resel* *global countrate (brightest segment): 6770.0 cts/s/segment* *brightest pixel: 0.116 cts/s/pix at 1276.0 A* *Calculation performed 2021-10-25T00:59:19, v0.9*								
4	G130M/1291-4 (COS.sp.1680310)	(3) SK-69D178	COS/FUV, TIME-TAG, PSA	G130M 1291 A	BUFFER-TIME=174; FP-POS=4			274 Secs (274 Secs) *[==>]*	***[1]***
	Comments: Brightest star in the BOA field (from MCPS) has V = 18.1, U = 18.1. Not a concern with BOA, even assuming worst case scenario of O5 (COS.sp.1680313)								
	rn(PoWR-OB-new(PoWR_32000_3.60_m7.00_Z0.50.fits, lmc-ob-i 32-36, Z=0.500 solar, Teff=32000, log_lum=5.22, log_g=3.60, log_mdot=-7.00) (extinction lmcavg=0.170), johnson U mag=12.130 vegamag); cos,fuv,g130m,c1291,psa,mjd#59670; fp-pos=None, segment=None) *From file ULLYSES_Cycle29_MassiveStar_ProgramInput_v5.csv* *Spectral type: O9.2 II* *SED = SK-69D178_COS_G130M_c1291_sed.fits* *For exptime=491.3 s, spectral region:* *1150.0 +- 0.5 A achieves SNR=30.0/resel* *global countrate (brightest segment): 6770.0 cts/s/segment* *brightest pixel: 0.116 cts/s/pix at 1276.0 A* *Calculation performed 2021-10-25T00:59:19, v0.9*								

5	G160M/1611 (COS.sp.1680311)	(3) SK-69D178	COS/FUV, TIME-TAG, PSA	G160M 1611 A	BUFFER-TIME=360; FP-POS=ALL	198 Secs (792 Secs) *[==>(Split 1)]* *[==>(Split 2)]* *[==>(Split 3)]* *[==>(Split 4)]*	***[1]***

Comments: Brightest star in the BOA field (from MCPS) has V = 18.1, U = 18.1. Not a concern with BOA, even assuming worst case scenario of O5 (COS.sp.1680312)

rn(PoWR-OB-new(PoWR_32000_3.60_m7.00_Z0.50.fits, lmc-ob-i 32-36, Z=0.500 solar, Teff=32000, log_lum=5.22, log_g=3.60, log_mdot=-7.00) (extinction lmcavg=0.170), johnson U mag=12.130 vegamag); cos,fuv,g160m,c1611,psa,mjd#59670; fp-pos=None, segment=None)
From file ULLYSES_Cycle29_MassiveStar_ProgramInput_v5.csv
Spectral type: O9.2 II
SED = SK-69D178_COS_G160M_c1611_sed.fits
For exptime=697.4 s, spectral region:
1590.0 +- 0.5 A achieves SNR=30.0/resel
global countrate (brightest segment): 4597.1 cts/s/segment
brightest pixel: 0.091 cts/s/pix at 1424.5 A
Calculation performed 2021-10-25T00:59:21, v0.9

Orbit Structure



Visit

Proposal 16819, SK-69D178-COS (HC) Wed Jul 20 15:00:28 GMT 2022

Diagnostic Status: Warning

Scientific Instruments: COS/FUV

Special Requirements: SCHED 100%

Comments: vstatus; 3C; SK-69D178; P/COS approved for submission; P/JRD 20/12/21 ; intrev: complete ; P/AF 03/03/22
vcheck; Enter targ name & Inst. & Resp. Sci.; SK-69D178 ; COS ; JRD
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?; Yes
vcheck; Possible ACQ or Sci spoilers?; No
vcheck; Field BOT clear?; Yes
vcheck; Visual BOT check for stars not in catalog?; Yes
vcheck; Orbit packing finalized?; Yes
vcheck; Buffer times optimized?; Yes
vcheck; Verify visit grouping correct; NA
vcheck; Is visit ready for int. review?; Yes
Allocated COS orbits = 1

Diagnostics

(SK-69D178-COS (HC)) Warning (Form): For the best data quality, it is generally required to use all four FP-POS positions when observing at a given COS cenwave. See the COS Instrument Handbook for exceptions that may apply to observations with G130M/1291 or G160M.

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(3)	SK-69D178 Alt Name1: AAOMEGA-105 Alt Name2: SK-69-178	RA: 05 31 53.9505 (82.9747937d) Dec: -69 33 30.27 (-69.55841d) Equinox: J2000		V=13.26 SpT=O9.2 II; E(B-V)=0.17; U=12.13; B=13.17; V=13.26	Reference Frame: ICRS

Comments: SK-69D178 : AAOMEGA-105, SK -69 178
Previous name : Sk-69 178
Input file: ULLYSES_Cycle29_MassiveStar_ProgramInput_v5.csv
SpT = O9.2 II
COS/G130M/c1291 : rn(PoWR-OB-new(PoWR_32000_3.60_m7.00_Z0.50.fits, lmc-ob-i 32-36, Z=0.500 solar, Teff=32000, log_lum=5.22, log_g=3.60, log_mdot=-7.00) (extinction lmcavg=0.170), johnson U mag=12.130 vegamag)
COS/G160M/c1611 : rn(PoWR-OB-new(PoWR_32000_3.60_m7.00_Z0.50.fits, lmc-ob-i 32-36, Z=0.500 solar, Teff=32000, log_lum=5.22, log_g=3.60, log_mdot=-7.00) (extinction lmcavg=0.170), johnson U mag=12.130 vegamag)
Coordinate pedigree: Gaia DR2
Calculation performed 2021-10-25T00:59:16, v0.9
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tstatus; SK-69D178; P/COS approved for submission; S/ins N/A; P/JRD 02/03/22; S/xx DD/MM/YY
tcheck; APT/SIMBAD target names: ; SK-69D178; Gaia DR2 4658030747143470080
tcheck; Target info verification status?; Checked
tcheck; Coordinates & P.M. verified, epoch checked?; Yes
tcheck; Adopted SED compared to Observations?; Yes - SED normalized to U (no UV) and compared to photometry from Vizier photometry tool
Category=STAR
Description=[SUPERGIANT O]
Extended=NO

Exposures

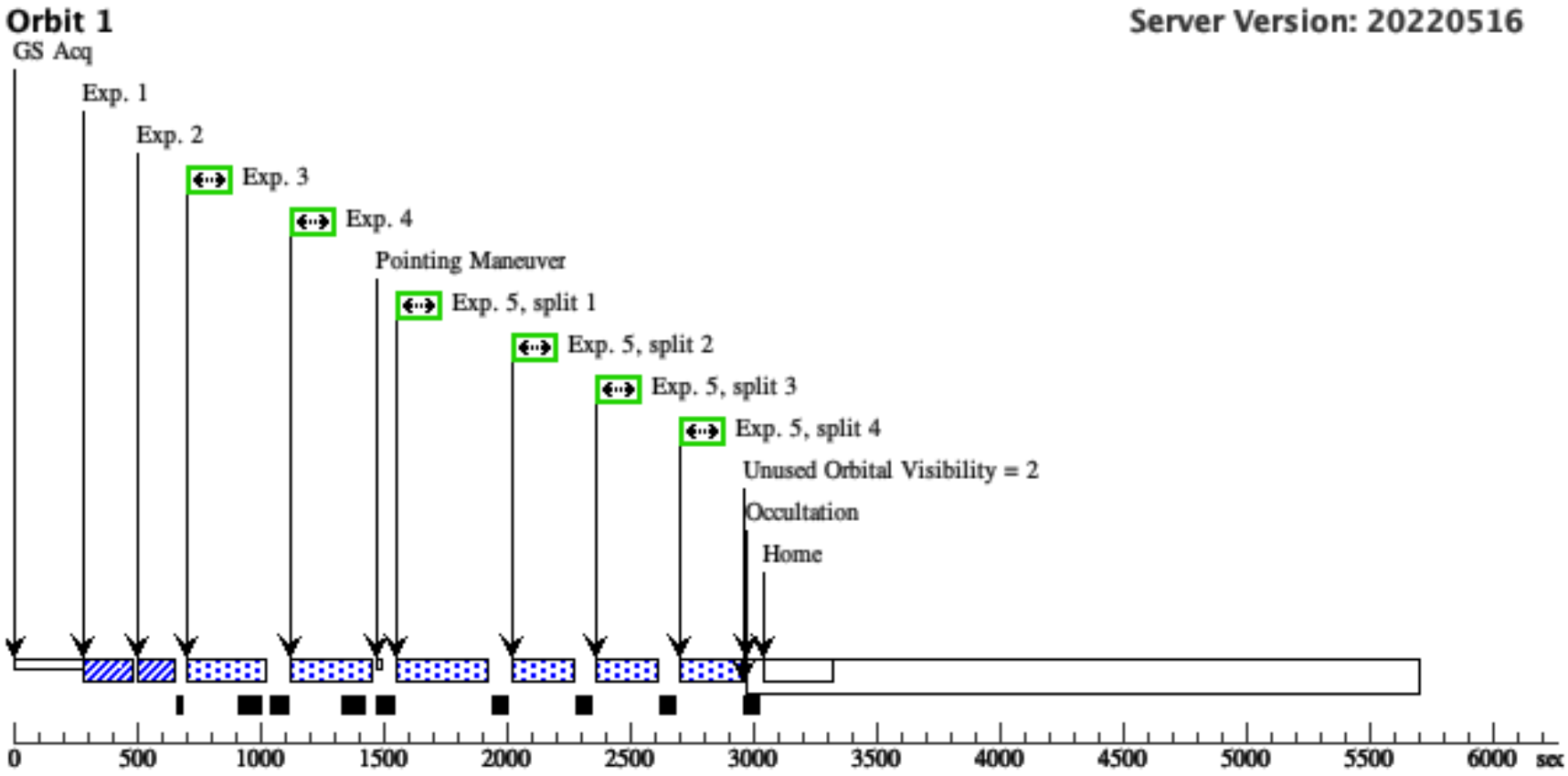
#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	FUV PEAKXD (COS.sa.1680307)	(3) SK-69D178	COS/FUV, ACQ/PEAKXD, PSA	G130M 1291 A	CENTER=FLUX-WT; NUM-POS=3; STEP-SIZE=1.3			0.4 Secs (0.4 Secs) *[==>]*	***[1]***
	Comments: Brightest star in the BOA field (from MCPS) has V = 18.1, U = 18.1. Not a concern with BOA, even assuming worst case scenario of O5 (COS.sa.1680309)								
2	FUV PEAKD (COS.sa.1680307)	(3) SK-69D178	COS/FUV, ACQ/PEAKD, PSA	G130M 1291 A	CENTER=FLUX-WT-FLR; NUM-POS=5; STEP-SIZE=0.9			0.4 Secs (0.4 Secs) *[==>]*	***[1]***
	Comments: Brightest star in the BOA field (from MCPS) has V = 18.1, U = 18.1. Not a concern with BOA, even assuming worst case scenario of O5 (COS.sa.1680309)								
3	G130M/1291-3 (COS.sp.1680310)	(3) SK-69D178	COS/FUV, TIME-TAG, PSA	G130M 1291 A	BUFFER-TIME=174; FP-POS=3			274 Secs (274 Secs) *[==>]*	***[1]***
	Comments: Brightest star in the BOA field (from MCPS) has V = 18.1, U = 18.1. Not a concern with BOA, even assuming worst case scenario of O5 (COS.sp.1680313) *rn(PoWR-OB-new(PoWR_32000_3.60_m7.00_Z0.50.fits, lmc-ob-i 32-36, Z=0.500 solar, Teff=32000, log_lum=5.22, log_g=3.60, log_mdot=-7.00) (extinction lmcavg=0.170), johnson U mag=12.130 vegamag); cos,fuv,g130m,c1291,psa,mjd#59670; fp-pos=None, segment=None)* *From file ULLYSES_Cycle29_MassiveStar_ProgramInput_v5.csv* *Spectral type: O9.2 II* *SED = SK-69D178_COS_G130M_c1291_sed.fits* *For exptime=491.3 s, spectral region:* *1150.0 +- 0.5 A achieves SNR=30.0/resel* *global countrate (brightest segment): 6770.0 cts/s/segment* *brightest pixel: 0.116 cts/s/pix at 1276.0 A* *Calculation performed 2021-10-25T00:59:19, v0.9*								
4	G130M/1291-4 (COS.sp.1680310)	(3) SK-69D178	COS/FUV, TIME-TAG, PSA	G130M 1291 A	BUFFER-TIME=174; FP-POS=4			274 Secs (274 Secs) *[==>]*	***[1]***
	Comments: Brightest star in the BOA field (from MCPS) has V = 18.1, U = 18.1. Not a concern with BOA, even assuming worst case scenario of O5 (COS.sp.1680313) *rn(PoWR-OB-new(PoWR_32000_3.60_m7.00_Z0.50.fits, lmc-ob-i 32-36, Z=0.500 solar, Teff=32000, log_lum=5.22, log_g=3.60, log_mdot=-7.00) (extinction lmcavg=0.170), johnson U mag=12.130 vegamag); cos,fuv,g130m,c1291,psa,mjd#59670; fp-pos=None, segment=None)* *From file ULLYSES_Cycle29_MassiveStar_ProgramInput_v5.csv* *Spectral type: O9.2 II* *SED = SK-69D178_COS_G130M_c1291_sed.fits* *For exptime=491.3 s, spectral region:* *1150.0 +- 0.5 A achieves SNR=30.0/resel* *global countrate (brightest segment): 6770.0 cts/s/segment* *brightest pixel: 0.116 cts/s/pix at 1276.0 A* *Calculation performed 2021-10-25T00:59:19, v0.9*								

5	G160M/1611 (COS.sp.1680311)	(3) SK-69D178	COS/FUV, TIME-TAG, PSA	G160M 1611 A	BUFFER-TIME=360; FP-POS=ALL	198 Secs (792 Secs) *[==>(Split 1)]* *[==>(Split 2)]* *[==>(Split 3)]* *[==>(Split 4)]*	*[1]*

Comments: Brightest star in the BOA field (from MCPS) has V = 18.1, U = 18.1. Not a concern with BOA, even assuming worst case scenario of O5 (COS.sp.1680312)

rn(PoWR-OB-new(PoWR_32000_3.60_m7.00_Z0.50.fits, lmc-ob-i 32-36, Z=0.500 solar, Teff=32000, log_lum=5.22, log_g=3.60, log_mdot=-7.00) (extinction lmcavg=0.170), johnson U mag=12.130 vegamag); cos,fuv,g160m,c1611,psa,mjd#59670; fp-pos=None, segment=None)
From file ULLYSES_Cycle29_MassiveStar_ProgramInput_v5.csv
Spectral type: O9.2 II
SED = SK-69D178_COS_G160M_c1611_sed.fits
For exptime=697.4 s, spectral region:
1590.0 +- 0.5 A achieves SNR=30.0/resel
global countrate (brightest segment): 4597.1 cts/s/segment
brightest pixel: 0.091 cts/s/pix at 1424.5 A
Calculation performed 2021-10-25T00:59:21, v0.9

Orbit Structure



Visit

Proposal 16819, SK-71D35-COS (4C), completed Wed Jul 20 15:00:28 GMT 2022

Diagnostic Status: Warning

Scientific Instruments: COS/FUV

Special Requirements: SCHED 100%

Comments: vstatus; 4C; SK-71D35; P/COS approved for submission; P/JRD 20/12/21 ; intrev: complete ; P/AF 03/03/22
vcheck; Enter targ name & Inst. & Resp. Sci.; SK-71D35 ; COS ; JRD
vcheck; ETC numbers entered in APT?; Yes
vcheck; Any screening violations?; Yes
vcheck; S/N ETC calcs done & documented?; Yes
vcheck; Field images checked & saved?; Yes
vcheck; Selected ACQ strategy?; Yes
vcheck; Possible ACQ or Sci spoilers?; No
vcheck; Field BOT clear?; Yes
vcheck; Visual BOT check for stars not in catalog?; Yes
vcheck; Orbit packing finalized?; Yes
vcheck; Buffer times optimized?; Yes
vcheck; Verify visit grouping correct; NA
vcheck; Is visit ready for int. review?; Yes
Allocated COS orbits = 1

Diagnostics

(SK-71D35-COS (4C)) Warning (Form): For the best data quality, it is generally required to use all four FP-POS positions when observing at a given COS cenwave. See the COS Instrument Handbook for exceptions that may apply to observations with G130M/1291 or G160M.

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(4)	SK-71D35	RA: 05 30 4.1834 (82.5174308d)		V=12.97	Reference Frame: ICRS
	Alt Name1: SK-71-35	Dec: -71 07 56.22 (-71.13228d)		SpT=B1 II; E(B-V)=0.12; U=11.94; B=12.88; V=12.97	
		Equinox: J2000			

Comments: SK-71D35 : SK -71 35
Previous name : Sk -71 35
Input file: ULLYSES_Cycle29_MassiveStar_ProgramInput_v5.csv
SpT = B1 II
COS/G130M/c1291 : rn(PoWR-OB-new(PoWR_23000_2.80_m7.00_Z0.50.fits, lmc-ob-i 23-28, Z=0.500 solar, Teff=23000, log_lum=5.54, log_g=2.80, log_mdot=-7.00) (extinction lmcavg=0.120), johnson U mag=11.940 vegamag)
COS/G160M/c1611 : rn(PoWR-OB-new(PoWR_23000_2.80_m7.00_Z0.50.fits, lmc-ob-i 23-28, Z=0.500 solar, Teff=23000, log_lum=5.54, log_g=2.80, log_mdot=-7.00) (extinction lmcavg=0.120), johnson U mag=11.940 vegamag)
Coordinate pedigree: Gaia DR2
Calculation performed 2021-10-25T00:59:05, v0.9
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tstatus; SK-71D35; P/COS approved for submission; S/ins N/A; P/JRD 02/03/22; S/xx DD/MM/YY
tcheck; APT/SIMBAD target names: ; SK-71D35 ; Gaia DR2 4651835961162249984
tcheck; Target info verification status?; Checked
tcheck; Coordinates & P.M. verified, epoch checked?; Yes
tcheck; Adopted SED compared to Observations?; Yes - SED normalized to U (no UV) and compared to photometry from Vizier photometry tool
Category=STAR
Description=[B0-B2 III-I]
Extended=NO

Exposures

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	FUV PEAK XD (COS.sa.1680339)	(4) SK-71D35	COS/FUV, ACQ/PEAKXD, PSA	G130M 1291 A	CENTER=FLUX-WT; NUM-POS=3; STEP-SIZE=1.3			0.5 Secs (0.5 Secs) *[==>]*	***[1]***

Comments: Unknown star in the field has U = 18.5 and V = 18, which passes under the most conservative O5 assumption (COS.sa.1680342)

target has screening violatation assuming O5 but clears with ETC

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
2	FUV PEAK D (COS.sa.1680339)	(4) SK-71D35	COS/FUV, ACQ/PEAKD, PSA	G130M 1291 A	CENTER=FLUX-WT-FLR; NUM-POS=5; STEP-SIZE=0.9			0.5 Secs (0.5 Secs) *[==>]*	***[1]***

Comments: Unknown star in the field has U = 18.5 and V = 18, which passes under the most conservative O5 assumption (COS.sa.1680342)
target has screening violatation assuming O5 but clears with ETC

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
3	G130M/1291-3 (COS.sp.1680346)	(4) SK-71D35	COS/FUV, TIME-TAG, PSA	G130M 1291 A	BUFFER-TIME=144; FP-POS=3			244 Secs (244 Secs) *[==>]*	***[1]***

Comments: Unknown star in the field has U = 18.5 and V = 18, which passes under the most conservative O5 assumption (COS.sp.1680343)

target has screening violatation assuming O5 but clears with ETC

rn(PoWR-OB-new(PoWR_23000_2.80_m7.00_Z0.50.fits, lmc-ob-i 23-28, Z=0.500 solar, Teff=23000, log_lum=5.54, log_g=2.80, log_mdot=-7.00) (extinction lmcavg=0.120), johnson U mag=11.940 vegamag); cos,fuv,g130m,c1291,psa,mjd#59670; fp-pos=None, segment=None)
From file ULLYSES_Cycle29_MassiveStar_ProgramInput_v5.csv
Spectral type: B1 II
SED = SK-71D35_COS_G130M_c1291_sed.fits
For exptime=526.0 s, spectral region:
1150.0 +- 0.5 A achieves SNR=30.0/resel
global countrate (brightest segment): 6091.5 cts/s/segment
brightest pixel: 0.107 cts/s/pix at 1275.5 A
Calculation performed 2021-10-25T00:59:09, v0.9

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
4	G130M/1291-4 (COS.sp.1680346)	(4) SK-71D35	COS/FUV, TIME-TAG, PSA	G130M 1291 A	BUFFER-TIME=144; FP-POS=4			244 Secs (244 Secs) *[==>]*	***[1]***

Comments: Unknown star in the field has U = 18.5 and V = 18, which passes under the most conservative O5 assumption (COS.sp.1680343)

target has screening violatation assuming O5 but clears with ETC

rn(PoWR-OB-new(PoWR_23000_2.80_m7.00_Z0.50.fits, lmc-ob-i 23-28, Z=0.500 solar, Teff=23000, log_lum=5.54, log_g=2.80, log_mdot=-7.00) (extinction lmcavg=0.120), johnson U mag=11.940 vegamag); cos,fuv,g130m,c1291,psa,mjd#59670; fp-pos=None, segment=None)
From file ULLYSES_Cycle29_MassiveStar_ProgramInput_v5.csv
Spectral type: B1 II
SED = SK-71D35_COS_G130M_c1291_sed.fits
For exptime=526.0 s, spectral region:
1150.0 +- 0.5 A achieves SNR=30.0/resel
global countrate (brightest segment): 6091.5 cts/s/segment
brightest pixel: 0.107 cts/s/pix at 1275.5 A
Calculation performed 2021-10-25T00:59:09, v0.9

5	G160M/1611 (COS.sp.1680345)	(4) SK-71D35	COS/FUV, TIME-TAG, PSA	G160M 1611 A	BUFFER-TIME=350; FP-POS=ALL	204 Secs (816 Secs) *[==>(Split 1)]* *[==>(Split 2)]* *[==>(Split 3)]* *[==>(Split 4)]*	***[1]***

Comments: Unknown star in the field has U = 18.5 and V = 18, which passes under the most conservative O5 assumption (COS.sp.1680344)

target has screening violatation assuming O5 but clears with ETC

rn(PoWR-OB-new(PoWR_23000_2.80_m7.00_Z0.50.fits, lmc-ob-i 23-28, Z=0.500 solar, Teff=23000, log_lum=5.54, log_g=2.80, log_mdot=-7.00) (extinction lmcavg=0.120), johnson U mag=11.940 vegamag); cos,fuv,g160m,c1611,psa,mjd#59670; fp-pos=None, segment=None)
From file ULLYSES_Cycle29_MassiveStar_ProgramInput_v5.csv
Spectral type: B1 II
SED = SK-71D35_COS_G160M_c1611_sed.fits
For exptime=964.5 s, spectral region:
1590.0 +- 0.5 A achieves SNR=30.0/resel
global countrate (brightest segment): 4092.0 cts/s/segment
brightest pixel: 0.078 cts/s/pix at 1436.5 A
Calculation performed 2021-10-25T00:59:10, v0.9

Orbit Structure