16809 - ULLYSES SMC OB Stars - COS and STIS

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) 2DFS-3780	COS/FUV	2	12-Jul-2022 10:01:30.0	yes
1S	(1) 2DFS-3780 WAVE	STIS/CCD STIS/FUV-MAMA	3	12-Jul-2022 10:01:31.0	yes
2C	(2) AV410	COS/FUV COS/NUV	2	12-Jul-2022 10:01:33.0	yes
2S	(2) AV410 WAVE	STIS/CCD STIS/FUV-MAMA	2	12-Jul-2022 10:01:34.0	yes
2T	(2) AV410 WAVE	STIS/CCD STIS/FUV-MAMA	2	12-Jul-2022 10:01:35.0	yes
3C	(3) SK187	COS/FUV	1	12-Jul-2022 10:01:36.0	yes
CC	(3) SK187	COS/FUV	1	12-Jul-2022 10:01:37.0	yes
3S	(3) SK187 WAVE	STIS/CCD STIS/FUV-MAMA	2	12-Jul-2022 10:01:38.0	yes

15 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 16809, 2DFS-3780-COS (1C), scheduling Tue Jul 12 14:01:38 GMT 2022

Diagnostic Status: No Diagnostics

Scientific Instruments: COS/FUV

Special Requirements: SCHED 100%

Comments: vstatus; 1C; 2DFS-3780; P/COS approved for submission; P/RS 22/01/22 ; intrev: complete ; C/JRD 12/03/22
vcheck; Enter targ name & Inst. & Resp. Sci.; 2DFS-3780 ; COS ; RS
vcheck; ETC numbers entered in APT?; Yes
vcheck; Any screening violations?; No ...
warning that the c1096 observation violates the irregular-variable limit on FUVA but the source is not an irregular variable
vcheck; S/N ETC calcs done & documented?; Yes
vcheck; Field images checked & saved?; Yes
vcheck; Selected ACQ strategy?; Yes ...
spectroscpoic ACQ G130M/1291 PSA ...
the imaging ACQ exposure shows a PSA warning for a field star which according to the Massey catalog has V=17.75 and B-V=0.24 and U-B=-0.75 ...
while the B-V indicates a later type that would be safe, the U-B makes it ambiguous so spectroscopic ACQ was chosen
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; N/A
vcheck; Is visit ready for int. review?; Yes
Allocated COS orbits = 2

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	2DFS-3780 Alt Name1: M2002-82322	RA: 01 26 35.2858 (21.6470242d) Dec: -73 15 16.28 (-73.25452d) Equinox: J2000	Proper Motion RA: 0.948 mas/yr Proper Motion Dec: -1.138 mas/yr Parallax: 0" Epoch of Position: 2000	V=14.37 SpT=O9.7 IV; E(B-V)=0.01; U=13.10; B=14.12; V=14.37	Reference Frame: ICRS

Comments: 2DFS-3780 : 2dFS 3780
Previous name : [2dFS]-3780
Input file: ULLYSES_Cycle29_MassiveStar_ProgramInput_v5.csv
SpT = O9.7 IV
COS/G130M/c1096 : rn(PoWR-OB-new(PoWR_32000_4.00_m7.32_Z0.14.fits, smc-ob-i 32-40, Z=0.140 solar, Teff=32000, log_lum=4.63, log_g=4.00, log_mdot=-7.32) (extinction smcbar=0.010), johnson U mag=13.100 vegamag)
Coordinate pedigree: Gaia DR2
Calculation performed 2021-10-25T00:54:50, v0.9
---
tstatus; 2DFS-3780; P/COS approved for submission; S/STIS approved for submission; P/RS 22/01/22; S/DW 24/01/22
tcheck; APT/SIMBAD target names: ; 2DFS-3780 '[M2002] SMC 82322'
tcheck; Target info verification status?; Ok ...
SIMBAD gives O9.5III which is close enough
tcheck; Coordinates & P.M. verified, epoch checked?; Yes
tcheck; Adopted SED compared to Observations?; Yes ...
only UBV photometry available. However 2DFS-3780_COS_G130M_c1096_sed.fits is okay, and well below the brightness limit
slight increase in E(B-V) (from 0.01 to 0.03 -- typical minimum foreground toward SMC) used for STIS observations
Category=STAR
Description=[MAIN SEQUENCE O]
Extended=NO

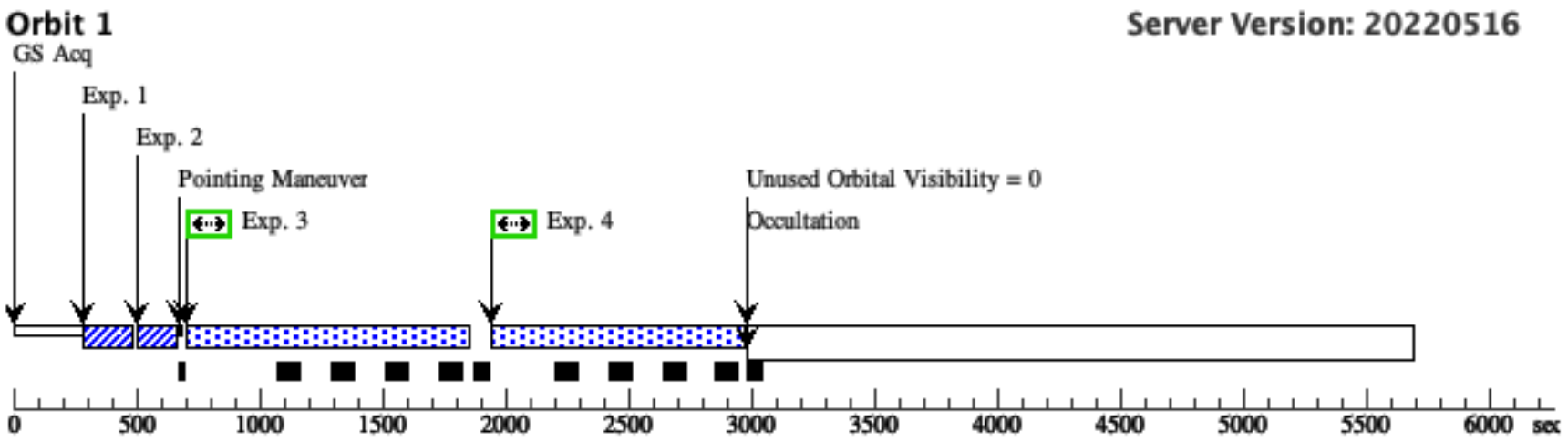
Exposures

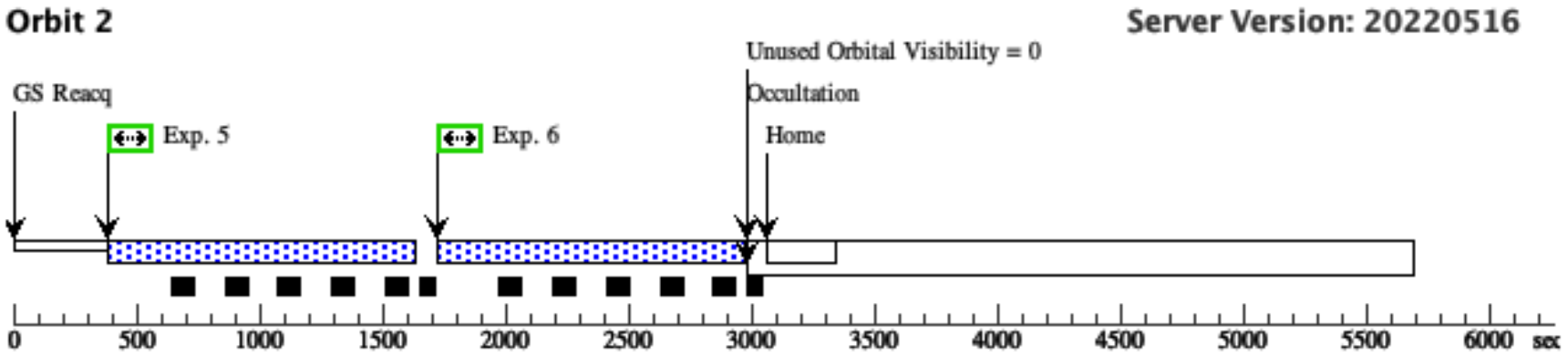
#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	FUV PEAK XD (COS.sa.1685193)	(1) 2DFS-3780	COS/FUV, ACQ/PEAKXD, PSA	G130M 1291 A	CENTER=FLUX-WT; NUM-POS=3; STEP-SIZE=1.3			1.0 Secs (1 Secs) *[==>]*	*[1]*
	Comments: Exposure time not yet calculated.								
2	FUV PEAK D (COS.sa.1685193)	(1) 2DFS-3780	COS/FUV, ACQ/PEAKD, PSA	G130M 1291 A	CENTER=FLUX-WT-FLR; NUM-POS=5; STEP-SIZE=0.9			1.0 Secs (1 Secs) *[==>]*	*[1]*
	Comments: Exposure time not yet calculated.								
3	G130M/1096-1 (COS.sp.1685191)	(1) 2DFS-3780	COS/FUV, TIME-TAG, PSA	G130M 1096 A	BUFFER-TIME=218; FP-POS=1			980 Secs (980 Secs) *[==>]*	*[1]*
	Comments: rn(PoWR-OB-new(PoWR_32000_4.00_m7.32_Z0.14.fits, smc-ob-i 32-40, Z=0.140 solar, Teff=32000, log_lum=4.63, log_g=4.00, log_mdot=-7.32) (extinction smcbar=0.010), johnson U mag=13.100 veg amag); cos,fuv,g130m,c1096,psa,mjd#59670; fp-pos=None, segment=None) *From file ULLYSES_Cycle29_MassiveStar_ProgramInput_v5.csv* *Spectral type: O9.7 IV* *SED = 2DFS-3780_COS_G130M_c1096_sed.fits* *For exptime=2526.3 s, spectral region:* *1080.0 +- 0.5 A achieves SNR=20.0/resel* *global countrate (brightest segment): 6320.6 cts/s/segment* *brightest pixel: 0.123 cts/s/pix at 1227.0 A* *Calculation performed 2021-10-25T00:54:58, v0.9*								
4	G130M/1096-2 (COS.sp.1685191)	(1) 2DFS-3780	COS/FUV, TIME-TAG, PSA	G130M 1096 A	BUFFER-TIME=218; FP-POS=2			974 Secs (974 Secs) *[==>]*	*[1]*
	Comments: rn(PoWR-OB-new(PoWR_32000_4.00_m7.32_Z0.14.fits, smc-ob-i 32-40, Z=0.140 solar, Teff=32000, log_lum=4.63, log_g=4.00, log_mdot=-7.32) (extinction smcbar=0.010), johnson U mag=13.100 veg amag); cos,fuv,g130m,c1096,psa,mjd#59670; fp-pos=None, segment=None) *From file ULLYSES_Cycle29_MassiveStar_ProgramInput_v5.csv* *Spectral type: O9.7 IV* *SED = 2DFS-3780_COS_G130M_c1096_sed.fits* *For exptime=2526.3 s, spectral region:* *1080.0 +- 0.5 A achieves SNR=20.0/resel* *global countrate (brightest segment): 6320.6 cts/s/segment* *brightest pixel: 0.123 cts/s/pix at 1227.0 A* *Calculation performed 2021-10-25T00:54:58, v0.9*								
5	G130M/1096-3 (COS.sp.1685191)	(1) 2DFS-3780	COS/FUV, TIME-TAG, PSA	G130M 1096 A	BUFFER-TIME=217; FP-POS=3			1194 Secs (1194 Secs) *[==>]*	*[2]*
	Comments: rn(PoWR-OB-new(PoWR_32000_4.00_m7.32_Z0.14.fits, smc-ob-i 32-40, Z=0.140 solar, Teff=32000, log_lum=4.63, log_g=4.00, log_mdot=-7.32) (extinction smcbar=0.010), johnson U mag=13.100 veg amag); cos,fuv,g130m,c1096,psa,mjd#59670; fp-pos=None, segment=None) *From file ULLYSES_Cycle29_MassiveStar_ProgramInput_v5.csv* *Spectral type: O9.7 IV* *SED = 2DFS-3780_COS_G130M_c1096_sed.fits* *For exptime=2526.3 s, spectral region:* *1080.0 +- 0.5 A achieves SNR=20.0/resel* *global countrate (brightest segment): 6320.6 cts/s/segment* *brightest pixel: 0.123 cts/s/pix at 1227.0 A* *Calculation performed 2021-10-25T00:54:58, v0.9*								

6	G130M/109 6-4 (COS.sp.168 5191)	(1) 2DFS-3780	COS/FUV, TIME-TAG, PSA	G130M 1096 A	BUFFER-TIME=217; FP-POS=4	1196 Secs (1196 Secs) [==>] / [2]

Comments: rn(PoWR-OB-new(PoWR_32000_4.00_m7.32_Z0.14.fits, smc-ob-i 32-40, Z=0.140 solar, Teff=32000, log_lum=4.63, log_g=4.00, log_mdot=-7.32) (extinction smcbar=0.010), johnson U mag=13.100 veg amag); cos,fuv,g130m,c1096,psa,mjd#59670; fp-pos=None, segment=None)
From file ULLYSES_Cycle29_MassiveStar_ProgramInput_v5.csv
Spectral type: O9.7 IV
SED = 2DFS-3780_COS_G130M_c1096_sed.fits
For exptime=2526.3 s, spectral region:
1080.0 +- 0.5 A achieves SNR=20.0/resel
global countrate (brightest segment): 6320.6 cts/s/segment
brightest pixel: 0.123 cts/s/pix at 1227.0 A
Calculation performed 2021-10-25T00:54:58, v0.9

Orbit Structure





Visit

Proposal 16809, 2DFS-3780-STIS (1S), scheduling Tue Jul 12 14:01:39 GMT 2022

Diagnostic Status: No Diagnostics

Scientific Instruments: STIS/CCD, STIS/FUV-MAMA

Special Requirements: SCHED 100%

Comments: vstatus; 1S; 2DFS-3780; S/STIS approved for submission; S/DW 24/01/22 ; intrev: complete ; S/JRD 12/03/22
vcheck; Enter targ name & Inst. & Resp. Sci.; 2DFS-3780 ; STIS ; DW
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 -- DSS, 2MASS, GALEX
vcheck; Selected ACQ strategy?; F28x50LP, 1s
vcheck; Possible ACQ or Sci spoilers?; no -- target appears single, isolated on DSS, 2MASS images
vcheck; Field BOT clear?; yes -- Gaia ERD3 has nearest star at 14.5", fainter by nearly 4 mag in G
vcheck; Visual BOT check for stars not in catalog?; yes -- Gaia EDR3
vcheck; Orbit packing finalized?; yes -- ETC predicts desired S/N in 3 orbits
*vcheck; Buffer times optimized?; yes -- minimum of values from old, new seds -- 0.8*831s=665s*
vcheck; Verify visit grouping correct; n/a
vcheck; Is visit ready for int. review?; yes
Allocated STIS orbits = 4 -- but can get desired S/N in 3 orbits

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	2DFS-3780	RA: 01 26 35.2858 (21.6470242d)	Proper Motion RA: 0.948 mas/yr	V=14.37	Reference Frame: ICRS
	Alt Name1: M2002-82322	Dec: -73 15 16.28 (-73.25452d)	Proper Motion Dec: -1.138 mas/yr	SpT=O9.7 IV; E(B-V)=0.01; U=13.10; B=14.12; V=14.37	
		Equinox: J2000	Parallax: 0"		
			Epoch of Position: 2000		

Comments: 2DFS-3780 : 2dFS 3780
Previous name : [2dFS]-3780
Input file: ULLYSES_Cycle29_MassiveStar_ProgramInput_v5.csv
SpT = O9.7 IV
COS/G130M/c1096 : rn(PoWR-OB-new(PoWR_32000_4.00_m7.32_Z0.14.fits, smc-ob-i 32-40, Z=0.140 solar, Teff=32000, log_lum=4.63, log_g=4.00, log_mdot=-7.32) (extinction smcbar=0.010), johnson U mag=13.100 vegamag)
Coordinate pedigree: Gaia DR2
Calculation performed 2021-10-25T00:54:50, v0.9
---
tstatus; 2DFS-3780; P/COS approved for submission; S/STIS approved for submission; P/RS 22/01/22; S/DW 24/01/22
tcheck; APT/SIMBAD target names: ; 2DFS-3780 '[M2002] SMC 82322'
tcheck; Target info verification status?; Ok ...
SIMBAD gives O9.5III which is close enough
tcheck; Coordinates & P.M. verified, epoch checked?; Yes
tcheck; Adopted SED compared to Observations?; Yes ...
only UBV photometry available. However 2DFS-3780_COS_G130M_c1096_sed.fits is okay, and well below the brightness limit
slight increase in E(B-V) (from 0.01 to 0.03 -- typical minimum foreground toward SMC) used for STIS observations
Category=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 (1685196)	(1) 2DFS-3780	STIS/CCD, ACQ, F28X50LP	MIRROR				1.0 Secs (1 Secs) *[==>]*	***[1]***
Comments: 1s yields predicted S/N~82, saturation in 40s									
2	E140M/1425 (1685276)	(1) 2DFS-3780	STIS/FUV-MAMA, TIME-TAG, 0.2X0.2	E140M 1425 A	WAVECAL=NO; BUFFER-TIME=665			2211 Secs (2211 Secs) *[==>]*	***[1]***
Comments: rn(PoWR-OB-new(PoWR_32000_4.00_m7.32_Z0.14.fits, smc-ob-i 32-40, Z=0.140 solar, Teff=32000, log_lum=4.63, log_g=4.00, log_mdot=-7.32) (extinction smcbar=0.010), johnson U mag=13.100 veg amag); stis,fuvmama,e140m,c1425,0.2x0.2,mjd#59670 *From file ULLYSES_Cycle29_MassiveStar_ProgramInput_v5.csv* *Spectral type: O9.7 IV* *SED = 2DFS-3780_STIS_E140M_c1425_sed.fits* *For exptime=9918.8 s, spectral region:* *1200.0 +- 0.5 A achieves SNR=20.0/resel* *global countrate (brightest segment): 2413.2 cts/s/segment* *brightest pixel: 0.027 cts/s/pix at 1298.0 A* *Calculation performed 2021-10-25T00:55:01, v0.9* *for 3 orbits (7345s total exposure)* *old sed: brightest pix 0.027 cts/s (1298.0A), entire detector 2.4k cts/s, buffer time 831s, S/N~21/31 at 1200/1250A (1685275)* *new sed: brightest pix 0.026 cts/s (1298.0A), entire detector 2.3k cts/s, buffer time 865s, S/N~20/30 at 1200/1250A (1685276)*									
3	E140M/1425 WAVECAL	WAVE	STIS/FUV-MAMA, ACCUM, 0.2X0.2	E140M 1425 A				*[==>]*	***[1]***
4	E140M/1425 (1685276)	(1) 2DFS-3780	STIS/FUV-MAMA, TIME-TAG, 0.2X0.2	E140M 1425 A	WAVECAL=NO; BUFFER-TIME=665			2567 Secs (2567 Secs) *[==>]*	***[2]***
Comments: rn(PoWR-OB-new(PoWR_32000_4.00_m7.32_Z0.14.fits, smc-ob-i 32-40, Z=0.140 solar, Teff=32000, log_lum=4.63, log_g=4.00, log_mdot=-7.32) (extinction smcbar=0.010), johnson U mag=13.100 veg amag); stis,fuvmama,e140m,c1425,0.2x0.2,mjd#59670 *From file ULLYSES_Cycle29_MassiveStar_ProgramInput_v5.csv* *Spectral type: O9.7 IV* *SED = 2DFS-3780_STIS_E140M_c1425_sed.fits* *For exptime=9918.8 s, spectral region:* *1200.0 +- 0.5 A achieves SNR=20.0/resel* *global countrate (brightest segment): 2413.2 cts/s/segment* *brightest pixel: 0.027 cts/s/pix at 1298.0 A* *Calculation performed 2021-10-25T00:55:01, v0.9* *for 3 orbits (7345s total exposure)* *old sed: brightest pix 0.027 cts/s (1298.0A), entire detector 2.4k cts/s, buffer time 831s, S/N~21/31 at 1200/1250A (1685275)* *new sed: brightest pix 0.026 cts/s (1298.0A), entire detector 2.3k cts/s, buffer time 865s, S/N~20/30 at 1200/1250A (1685276)*									
5	E140M/1425 WAVECAL	WAVE	STIS/FUV-MAMA, ACCUM, 0.2X0.2	E140M 1425 A				*[==>]*	***[2]***

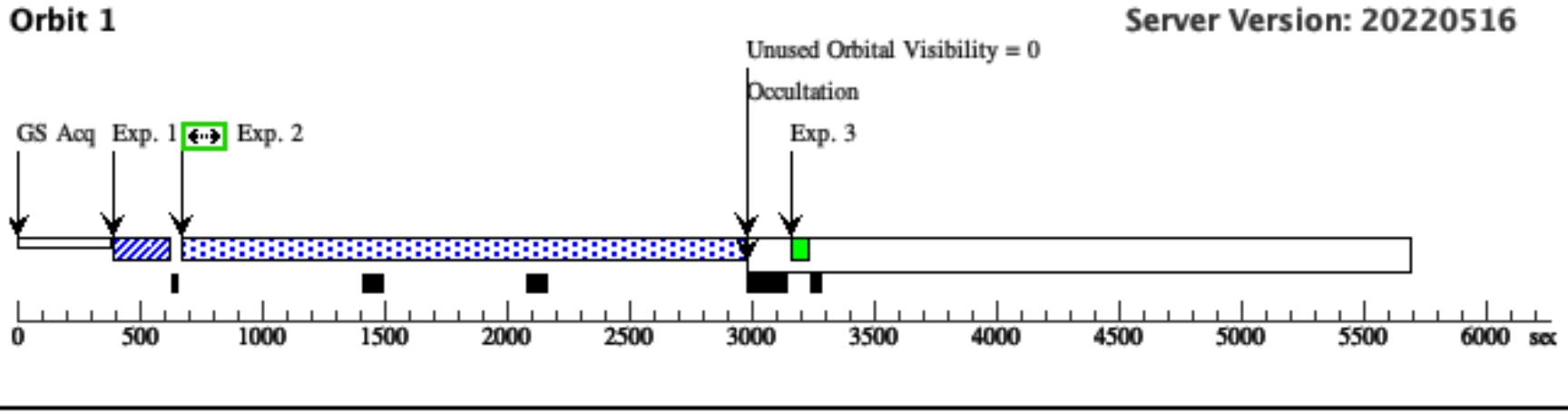
	6	E140M/1425 (1685276)	(1) 2DFS-3780	STIS/FUV-MAMA, TIME-TAG, 0.2X0.2	E140M 1425 A	WAVECAL=NO; BUFFER-TIME=665	2567 Secs (2567 Secs) *[==>]*	***[3]***

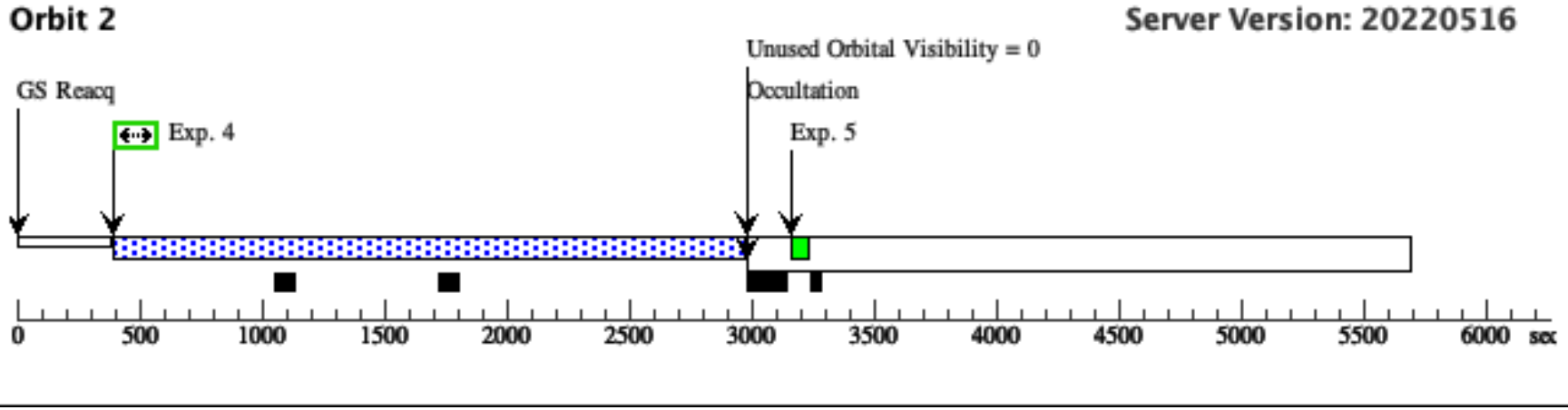
Comments: rn(PoWR-OB-new(PoWR_32000_4.00_m7.32_Z0.14.fits, smc-ob-i 32-40, Z=0.140 solar, Teff=32000, log_lum=4.63, log_g=4.00, log_mdot=-7.32) (extinction smcbar=0.010), johnson U mag=13.100 veg amag); stis,fuvmama,e140m,c1425,0.2x0.2,mjd#59670
From file ULLYSES_Cycle29_MassiveStar_ProgramInput_v5.csv
Spectral type: O9.7 IV
SED = 2DFS-3780_STIS_E140M_c1425_sed.fits
For exptime=9918.8 s, spectral region:
1200.0 +- 0.5 A achieves SNR=20.0/resel
global countrate (brightest segment): 2413.2 cts/s/segment
brightest pixel: 0.027 cts/s/pix at 1298.0 A
Calculation performed 2021-10-25T00:55:01, v0.9

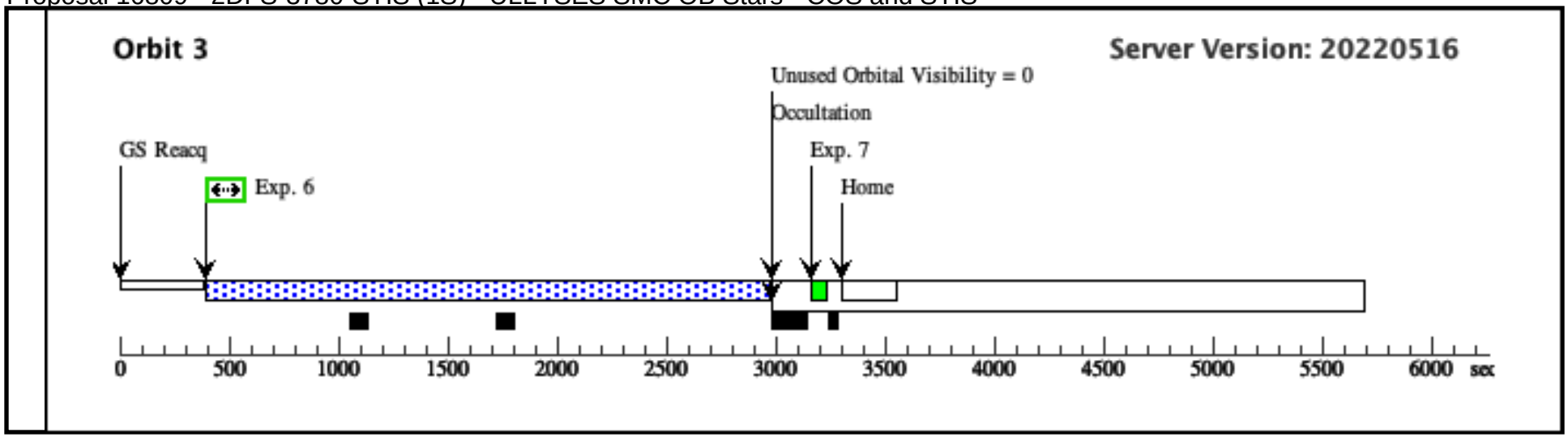
for 3 orbits (7345s total exposure)
old sed: brightest pix 0.027 cts/s (1298.0A), entire detector 2.4k cts/s, buffer time 831s, S/N~21/31 at 1200/1250A (1685275)
new sed: brightest pix 0.026 cts/s (1298.0A), entire detector 2.3k cts/s, buffer time 865s, S/N~20/30 at 1200/1250A (1685276)

	7	E140M/1425 WAVECAL	WAVE	STIS/FUV-MAMA, ACCUM, 0.2X0.2	E140M 1425 A		*[==>]*	***[3]***

Orbit Structure






Orbit 3
Server Version: 20220516
Unused Orbital Visibility = 0
Occultation
GS Reacq
Exp. 6
Exp. 7
Home
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
6000
sec

Visit

Proposal 16809, AV410-COS (2C), scheduling Tue Jul 12 14:01:39 GMT 2022

Diagnostic Status: No Diagnostics

Scientific Instruments: COS/FUV, COS/NUV

Special Requirements: SCHED 100%

Comments: vstatus; 2C; AV410; P/COS approved for submission; P/RS 22/01/22 ; intrev: complete ; C/JRD 12/03/22
vcheck; Enter targ name & Inst. & Resp. Sci.; AV410 ; COS ; RS
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 ...
NUV Imaging acquisition with MIRROR A and BOA and padded the time by factor of 2
vcheck; Possible ACQ or Sci spoilers?; No
vcheck; Field BOT clear?; Yes ...
warning is thrown for target due to O5V assumption and two unknown field sources flagged that could affect the PSA during ACQ
vcheck; Visual BOT check for stars not in catalog?; Ok ...
Zaritsky catalog shows that the two unknown stars have V=20.53, B=20.74 and V=21.85, B=22.47. Even an O5V star normalized to the brighter of these is safe (cos.ta.1724207)
vcheck; Orbit packing finalized?; Yes
vcheck; Buffer times optimized?; Yes
vcheck; Verify visit grouping correct; N/A
vcheck; Is visit ready for int. review?; Yes
Allocated COS orbits = 2

Fixed Targets

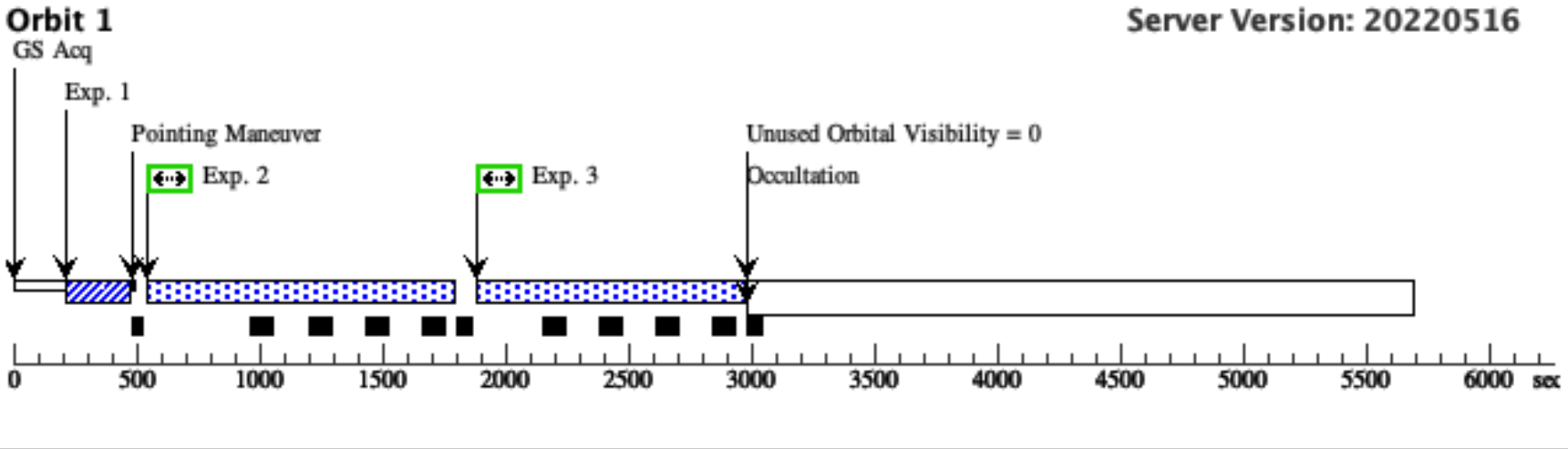
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(2)	AV410 Alt Name1: M2002-64588 Alt Name2: AZV-410	RA: 01 06 45.0916 (16.6878817d) Dec: -72 03 24.64 (-72.05684d) Equinox: J2000	Proper Motion RA: 0.727 mas/yr Proper Motion Dec: -1.183 mas/yr Parallax: 0" Epoch of Position: 2000	V=13.21 SpT=B0 III; E(B-V)=0.15; U=12.11; B=13.06; V=13.21; F1160=4.730e-13; F1360=4.950e-13; F1700=3.320e-13; F2200=1.770e-13	Reference Frame: ICRS

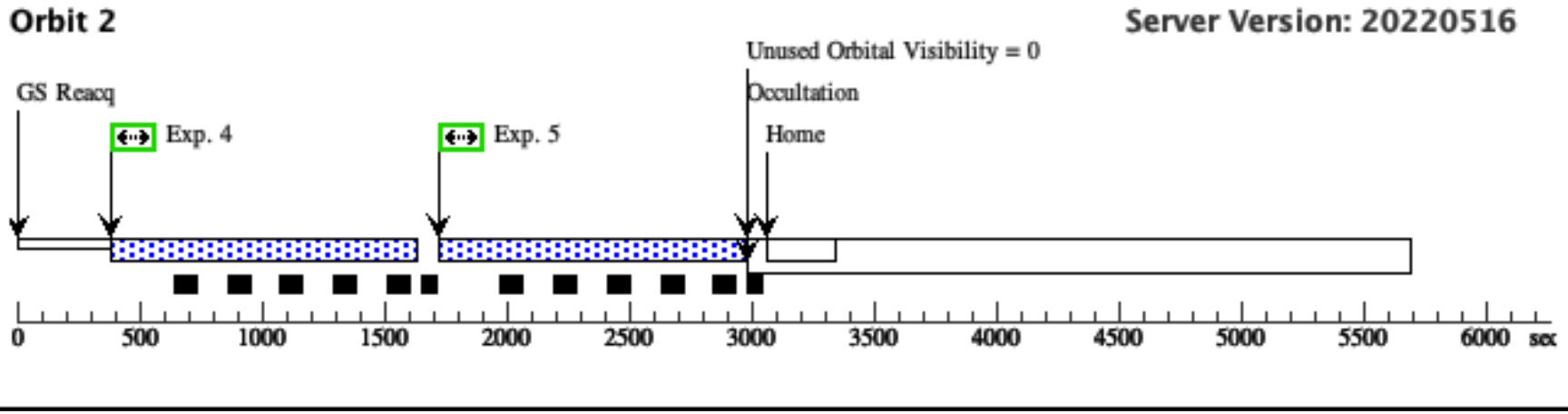
Comments: AV410 : M2002-64588, AzV 410
Previous name : AV 410
Input file: ULLYSES_Cycle29_MassiveStar_ProgramInput_v5.csv
SpT = B0 III
COS/G130M/c1096 : rn(PoWR-OB-new(PoWR_28000_3.40_m6.96_Z0.14.fits, smc-ob-i 28-34, Z=0.140 solar, Teff=28000, log_lum=5.12, log_g=3.40, log_mdot=-6.96) (extinction smcbar=0.150), flux1160 +-2.0A flux=4.7e-13 Flam)
Coordinate pedigree: Gaia DR2
Calculation performed 2021-10-25T00:54:41, v0.9
---
tstatus; AV410; P/COS approved for submission; S/STIS approved for submisison; P/RS 22/01/22; S/DW 24/01/22
tcheck; APT/SIMBAD target names: ; AV410 'AzV 410'
tcheck; Target info verification status?; Ok
tcheck; Coordinates & P.M. verified, epoch checked?; Yes
tcheck; Adopted SED compared to Observations?; Yes ...
a modified version of AV410_COS_G130M_c1096_sed.fts has been used, changing the original EBV=0.15 to EBV = 0.07 ...
which fits the IUE and photometry data correctly. The file is named av410_sed_new.fits.
The new SED fits IUE swp well, but is slightly higher than IUE lwp, STIS G230LB, and STIS 430L
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	ACQ/Image (COS.ta.1685633)	(2) AV410	COS/NUV, ACQ/IMAGE, BOA	MIRRORA				10.0 Secs (10 Secs) *[==>]*	*[1]*
	Comments: Two unknown stars flagged in the field. Zaritsky catalog shows that these have V=20.53, B=20.74 and V=21.85, B=22.47. Even an O5V star normalized to the brighter of these is safe (cos.ta.1724207).								
2	G130M/1096 (COS.sp.1685631)	(2) AV410	COS/FUV, TIME-TAG, PSA	G130M 1096 A	BUFFER-TIME=232; FP-POS=1			1039 Secs (1039 Secs) *[==>]*	*[1]*
	Comments: rn(PoWR-OB-new(PoWR_28000_3.40_m6.96_Z0.14.fits, smc-ob-i 28-34, Z=0.140 solar, Teff=28000, log_lum=5.12, log_g=3.40, log_mdot=-6.96) (extinction smcbar=0.150), flux1160 +- 2.0A flux=4.7e-13 Flam); cos,fuv,g130m,c1096,psa,mjd#59670; fp-pos=None, segment=None) *From file ULLYSES_Cycle29_MassiveStar_ProgramInput_v5.csv* *Spectral type: B0 III* *SED = AV410_COS_G130M_c1096_sed.fits* *For exptime=4706.3 s, spectral region:* *1080.0 +- 0.5 A achieves SNR=20.0/resel* *global countrate (brightest segment): 5540.9 cts/s/segment* *brightest pixel: 0.131 cts/s/pix at 1236.5 A* *Calculation performed 2021-10-25T00:54:47, v0.9*								
3	G130M/1096 (COS.sp.1685631)	(2) AV410	COS/FUV, TIME-TAG, PSA	G130M 1096 A	BUFFER-TIME=232; FP-POS=2			1040 Secs (1040 Secs) *[==>]*	*[1]*
	Comments: rn(PoWR-OB-new(PoWR_28000_3.40_m6.96_Z0.14.fits, smc-ob-i 28-34, Z=0.140 solar, Teff=28000, log_lum=5.12, log_g=3.40, log_mdot=-6.96) (extinction smcbar=0.150), flux1160 +- 2.0A flux=4.7e-13 Flam); cos,fuv,g130m,c1096,psa,mjd#59670; fp-pos=None, segment=None) *From file ULLYSES_Cycle29_MassiveStar_ProgramInput_v5.csv* *Spectral type: B0 III* *SED = AV410_COS_G130M_c1096_sed.fits* *For exptime=4706.3 s, spectral region:* *1080.0 +- 0.5 A achieves SNR=20.0/resel* *global countrate (brightest segment): 5540.9 cts/s/segment* *brightest pixel: 0.131 cts/s/pix at 1236.5 A* *Calculation performed 2021-10-25T00:54:47, v0.9*								
4	G130M/1096 (COS.sp.1685631)	(2) AV410	COS/FUV, TIME-TAG, PSA	G130M 1096 A	BUFFER-TIME=217; FP-POS=3			1194 Secs (1194 Secs) *[==>]*	*[2]*
	Comments: rn(PoWR-OB-new(PoWR_28000_3.40_m6.96_Z0.14.fits, smc-ob-i 28-34, Z=0.140 solar, Teff=28000, log_lum=5.12, log_g=3.40, log_mdot=-6.96) (extinction smcbar=0.150), flux1160 +- 2.0A flux=4.7e-13 Flam); cos,fuv,g130m,c1096,psa,mjd#59670; fp-pos=None, segment=None) *From file ULLYSES_Cycle29_MassiveStar_ProgramInput_v5.csv* *Spectral type: B0 III* *SED = AV410_COS_G130M_c1096_sed.fits* *For exptime=4706.3 s, spectral region:* *1080.0 +- 0.5 A achieves SNR=20.0/resel* *global countrate (brightest segment): 5540.9 cts/s/segment* *brightest pixel: 0.131 cts/s/pix at 1236.5 A* *Calculation performed 2021-10-25T00:54:47, v0.9*								
5	G130M/1096 (COS.sp.1685631)	(2) AV410	COS/FUV, TIME-TAG, PSA	G130M 1096 A	BUFFER-TIME=217; FP-POS=4			1196 Secs (1196 Secs) *[==>]*	*[2]*
	Comments: rn(PoWR-OB-new(PoWR_28000_3.40_m6.96_Z0.14.fits, smc-ob-i 28-34, Z=0.140 solar, Teff=28000, log_lum=5.12, log_g=3.40, log_mdot=-6.96) (extinction smcbar=0.150), flux1160 +- 2.0A flux=4.7e-13 Flam); cos,fuv,g130m,c1096,psa,mjd#59670; fp-pos=None, segment=None) *From file ULLYSES_Cycle29_MassiveStar_ProgramInput_v5.csv* *Spectral type: B0 III* *SED = AV410_COS_G130M_c1096_sed.fits* *For exptime=4706.3 s, spectral region:* *1080.0 +- 0.5 A achieves SNR=20.0/resel* *global countrate (brightest segment): 5540.9 cts/s/segment* *brightest pixel: 0.131 cts/s/pix at 1236.5 A* *Calculation performed 2021-10-25T00:54:47, v0.9*								

Orbit Structure





Visit

Proposal 16809, AV410-STIS (2S), scheduling Tue Jul 12 14:01:39 GMT 2022

Diagnostic Status: No Diagnostics

Scientific Instruments: STIS/CCD, STIS/FUV-MAMA

Special Requirements: SCHED 100%

Comments: vstatus; 2S; AV410; S/STIS approved for submission; S/DW 24/01/22; intrev: complete ; S/JRD 12/03/22
vcheck; Enter targ name & Inst. & Resp. Sci.; AV410 ; STIS ; DW
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 -- DSS, 2MASS
vcheck; Selected ACQ strategy?; yes -- F28x50LP, 1s
vcheck; Possible ACQ or Sci spoilers?; no -- Gaia EDR3 has nothing else brighter than G=18 within 25"
vcheck; Field BOT clear?; yes
vcheck; Visual BOT check for stars not in catalog?; yes -- Gaia EDR3
vcheck; Orbit packing finalized?; yes -- two 2-orbit visits
*vcheck; Buffer times optimized?; yes -- to minimum of values for IUE and old, new seds -- 0.8*735s=588s*
vcheck; Verify visit grouping correct; n/a
vcheck; Is visit ready for int. review?; yes
Allocated STIS orbits = 6 -- but appear able to get desired S/N in 4 orbits

Fixed Targets

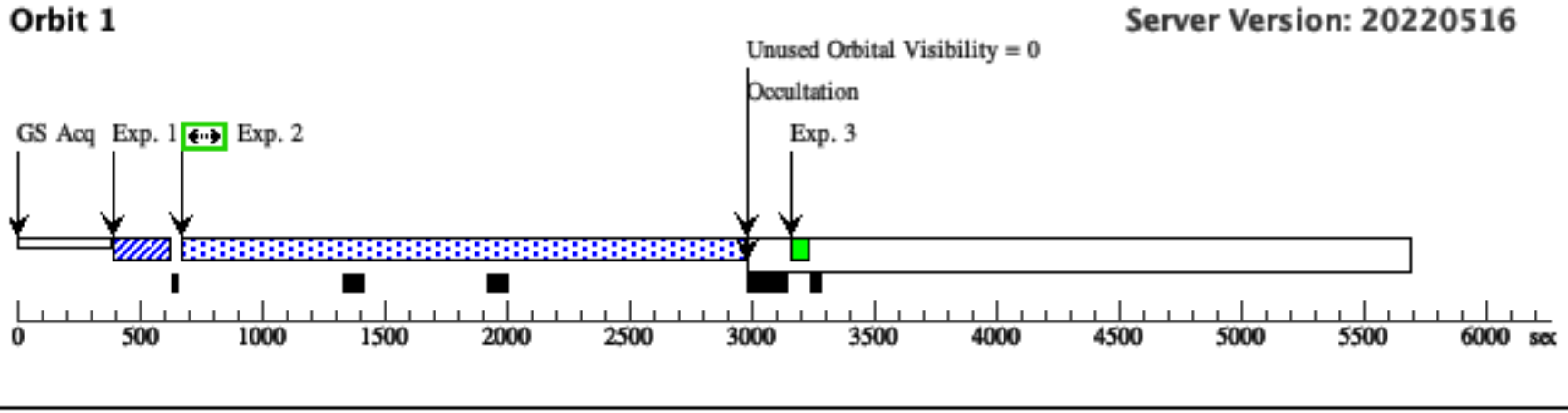
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(2)	AV410 Alt Name1: M2002-64588 Alt Name2: AZV-410	RA: 01 06 45.0916 (16.6878817d) Dec: -72 03 24.64 (-72.05684d) Equinox: J2000	Proper Motion RA: 0.727 mas/yr Proper Motion Dec: -1.183 mas/yr Parallax: 0" Epoch of Position: 2000	V=13.21 SpT=B0 III; E(B-V)=0.15; U=12.11; B=13.06; V=13.21; F1160=4.730e-13; F1360=4.950e-13; F1700=3.320e-13; F2200=1.770e-13	Reference Frame: ICRS

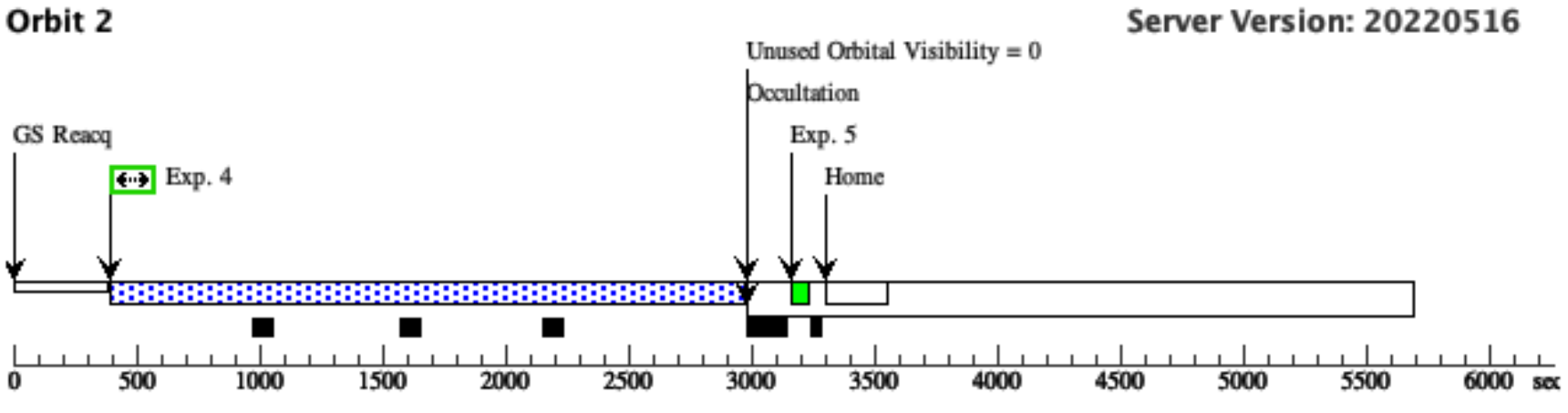
Comments: AV410 : M2002-64588, AzV 410
Previous name : AV 410
Input file: ULLYSES_Cycle29_MassiveStar_ProgramInput_v5.csv
SpT = B0 III
COS/G130M/c1096 : rn(PoWR-OB-new(PoWR_28000_3.40_m6.96_Z0.14.fits, smc-ob-i 28-34, Z=0.140 solar, Teff=28000, log_lum=5.12, log_g=3.40, log_mdot=-6.96) (extinction smcbar=0.150), flux1160 +-2.0A flux=4.7e-13 Flam)
Coordinate pedigree: Gaia DR2
Calculation performed 2021-10-25T00:54:41, v0.9
---
tstatus; AV410; P/COS approved for submission; S/STIS approved for submisison; P/RS 22/01/22; S/DW 24/01/22
tcheck; APT/SIMBAD target names: ; AV410 'AzV 410'
tcheck; Target info verification status?; Ok
tcheck; Coordinates & P.M. verified, epoch checked?; Yes
tcheck; Adopted SED compared to Observations?; Yes ...
a modified version of AV410_COS_G130M_c1096_sed.fts has been used, changing the original EBV=0.15 to EBV = 0.07 ...
which fits the IUE and photometry data correctly. The file is named av410_sed_new.fits.
The new SED fits IUE swp well, but is slightly higher than IUE lwp, STIS G230LB, and STIS 430L
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	ACQ (1685194)	(2) AV410	STIS/CCD, ACQ, F28X50LP	MIRROR				1.0 Secs (1 Secs) *[==>]*	***[1]***
Comments: 1s yields predicted S/N~148, saturation in 13s									
2	E140M/1425 (1685260)	(2) AV410	STIS/FUV-MAMA, TIME-TAG, 0.2X0.2	E140M 1425 A	WAVECAL=NO; BUFFER-TIME=588			2211 Secs (2211 Secs) *[==>]*	***[1]***
Comments: rn(PoWR-OB-new(PoWR_28000_3.40_m6.96_Z0.14.fits, smc-ob-i 28-34, Z=0.140 solar, Teff=28000, log_lum=5.12, log_g=3.40, log_mdot=-6.96) (extinction smcbar=0.150), flux1360 +- 2.0A flux=5e-13 Flam); stis,fuvmama,e140m,c1425,0.2x0.2,mjd#59670 *From file ULLYSES_Cycle29_MassiveStar_ProgramInput_v5.csv* *Spectral type: B0 III* *SED = AV410_STIS_E140M_c1425_sed.fits* *For exptime=15537.4 s, spectral region:* *1200.0 +- 0.5 A achieves SNR=20.0/resel* *global countrate (brightest segment): 2641.7 cts/s/segment* *brightest pixel: 0.035 cts/s/pix at 1394.5 A* *Calculation performed 2021-10-25T00:54:49, v0.9* *for 3 orbits (7345s):* *old sed: brightest pix 0.035 cts/s(1394.5A), entire detector 2.6k cts/s, buf time=759s, S/N~17/28 at 1200/1250A (1685256)* *new sed: brightest pix 0.036 cts/s (1394.5A), entire detector 2.7k cts/s, buf time=735s, S/N~20/31 at 1200/1250A (1685257)* *IUE: brightest pix 0.032 cts/s (1296.4A), entire detector 2.7k cts/s, buf time=747s, S/N~17/30 at 1200/1250A (1685258)* *for 2+2 orbits (9556s):* *IUE: S/N~19/34 at 1200/1250A (1685260)*									
3	E140M/1425 WAVECAL	WAVE	STIS/FUV-MAMA, ACCUM, 0.2X0.2	E140M 1425 A				*[==>]*	***[1]***
4	E140M/1425 (1685260)	(2) AV410	STIS/FUV-MAMA, TIME-TAG, 0.2X0.2	E140M 1425 A	WAVECAL=NO; BUFFER-TIME=588			2567 Secs (2567 Secs) *[==>]*	***[2]***
Comments: rn(PoWR-OB-new(PoWR_28000_3.40_m6.96_Z0.14.fits, smc-ob-i 28-34, Z=0.140 solar, Teff=28000, log_lum=5.12, log_g=3.40, log_mdot=-6.96) (extinction smcbar=0.150), flux1360 +- 2.0A flux=5e-13 Flam); stis,fuvmama,e140m,c1425,0.2x0.2,mjd#59670 *From file ULLYSES_Cycle29_MassiveStar_ProgramInput_v5.csv* *Spectral type: B0 III* *SED = AV410_STIS_E140M_c1425_sed.fits* *For exptime=15537.4 s, spectral region:* *1200.0 +- 0.5 A achieves SNR=20.0/resel* *global countrate (brightest segment): 2641.7 cts/s/segment* *brightest pixel: 0.035 cts/s/pix at 1394.5 A* *Calculation performed 2021-10-25T00:54:49, v0.9* *for 3 orbits (7345s):* *old sed: brightest pix 0.035 cts/s(1394.5A), entire detector 2.6k cts/s, buf time=759s, S/N~17/28 at 1200/1250A (1685256)* *new sed: brightest pix 0.036 cts/s (1394.5A), entire detector 2.7k cts/s, buf time=735s, S/N~20/31 at 1200/1250A (1685257)* *IUE: brightest pix 0.032 cts/s (1296.4A), entire detector 2.7k cts/s, buf time=747s, S/N~17/30 at 1200/1250A (1685258)* *for 2+2 orbits (9556s):* *IUE: S/N~19/34 at 1200/1250A (1685260)*									
5	E140M/1425 WAVECAL	WAVE	STIS/FUV-MAMA, ACCUM, 0.2X0.2	E140M 1425 A				*[==>]*	***[2]***

Orbit Structure





Visit

Proposal 16809, AV410-STIS (2T), scheduling Tue Jul 12 14:01:39 GMT 2022

Diagnostic Status: No Diagnostics

Scientific Instruments: STIS/CCD, STIS/FUV-MAMA

Special Requirements: SCHED 100%

Comments: vstatus; 2T; AV410; S/STIS approved for submission; S/DW 24/01/22 ; intrev: complete ; S/JRD 12/03/22
vcheck; Enter targ name & Inst. & Resp. Sci.; AV410 ; STIS ; DW
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 -- DSS, 2MASS
vcheck; Selected ACQ strategy?; yes -- F28x50LP, 1s
vcheck; Possible ACQ or Sci spoilers?; no -- Gaia EDR3 has nothing else brighter than G=18 within 25"
vcheck; Field BOT clear?; yes
vcheck; Visual BOT check for stars not in catalog?; yes -- Gaia EDR3
vcheck; Orbit packing finalized?; yes -- two 2-orbit visits
*vcheck; Buffer times optimized?; yes -- to minimum of values for IUE and old, new seds -- 0.8*735s=588s*
vcheck; Verify visit grouping correct; n/a
vcheck; Is visit ready for int. review?; yes
Allocated STIS orbits = 6 -- but appear able to get desired S/N in 4 orbits

Fixed Targets

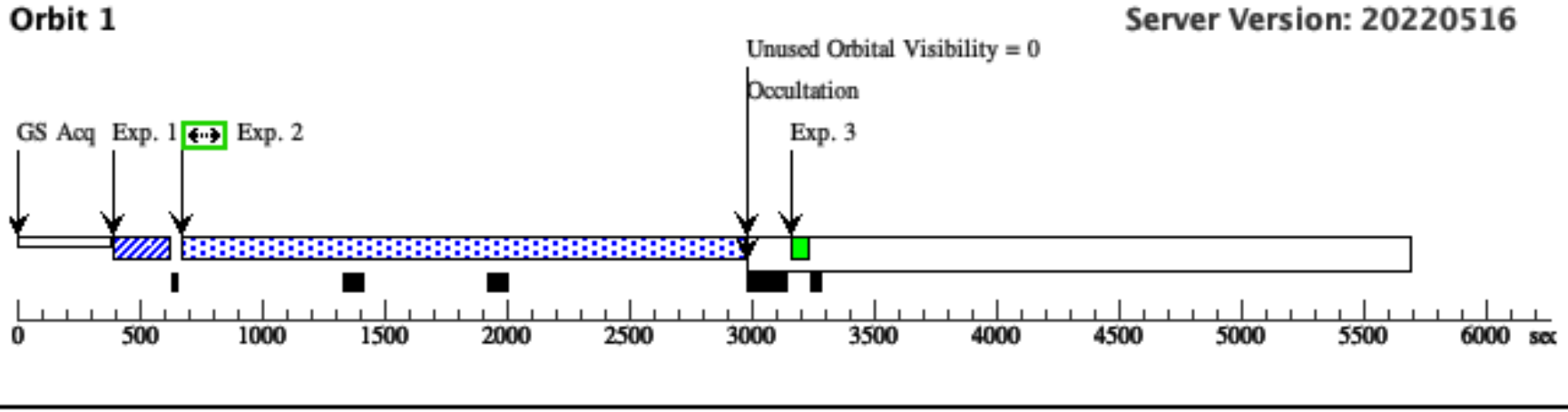
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(2)	AV410 Alt Name1: M2002-64588 Alt Name2: AZV-410	RA: 01 06 45.0916 (16.6878817d) Dec: -72 03 24.64 (-72.05684d) Equinox: J2000	Proper Motion RA: 0.727 mas/yr Proper Motion Dec: -1.183 mas/yr Parallax: 0" Epoch of Position: 2000	V=13.21 SpT=B0 III; E(B-V)=0.15; U=12.11; B=13.06; V=13.21; F1160=4.730e-13; F1360=4.950e-13; F1700=3.320e-13; F2200=1.770e-13	Reference Frame: ICRS

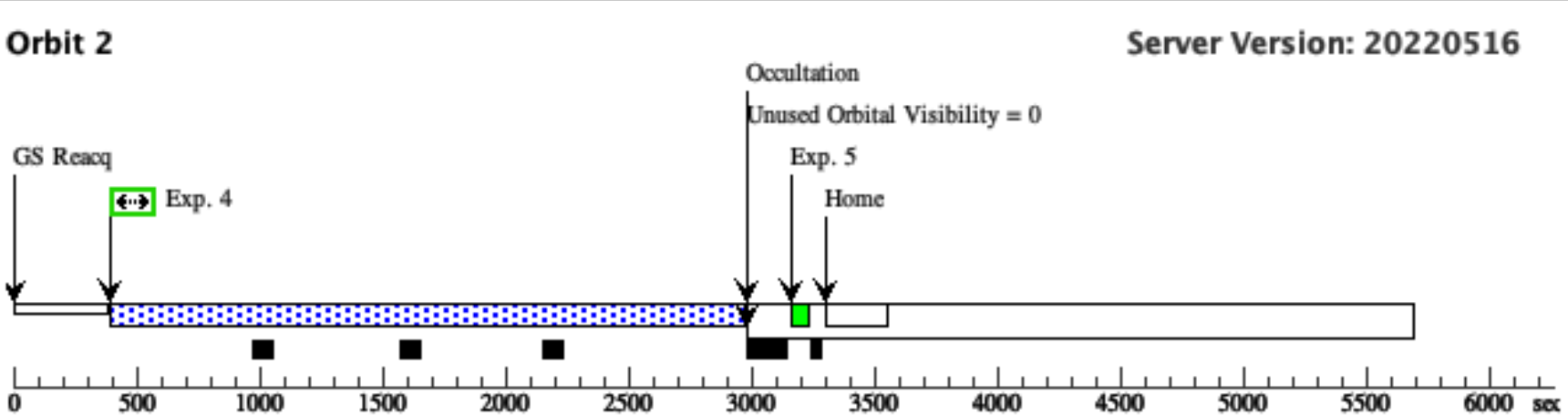
Comments: AV410 : M2002-64588, AzV 410
Previous name : AV 410
Input file: ULLYSES_Cycle29_MassiveStar_ProgramInput_v5.csv
SpT = B0 III
COS/G130M/c1096 : rn(PoWR-OB-new(PoWR_28000_3.40_m6.96_Z0.14.fits, smc-ob-i 28-34, Z=0.140 solar, Teff=28000, log_lum=5.12, log_g=3.40, log_mdot=-6.96) (extinction smcbar=0.150), flux1160 +-2.0A flux=4.7e-13 Flam)
Coordinate pedigree: Gaia DR2
Calculation performed 2021-10-25T00:54:41, v0.9
---
tstatus; AV410; P/COS approved for submission; S/STIS approved for submisison; P/RS 22/01/22; S/DW 24/01/22
tcheck; APT/SIMBAD target names: ; AV410 'AzV 410'
tcheck; Target info verification status?; Ok
tcheck; Coordinates & P.M. verified, epoch checked?; Yes
tcheck; Adopted SED compared to Observations?; Yes ...
a modified version of AV410_COS_G130M_c1096_sed.fts has been used, changing the original EBV=0.15 to EBV = 0.07 ...
which fits the IUE and photometry data correctly. The file is named av410_sed_new.fits.
The new SED fits IUE swp well, but is slightly higher than IUE lwp, STIS G230LB, and STIS 430L
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	ACQ (1685194)	(2) AV410	STIS/CCD, ACQ, F28X50LP	MIRROR				1.0 Secs (1 Secs) *[==>]*	***[1]***
Comments: 1s yields predicted S/N~148, saturation in 13s									
2	E140M/1425 (1685260)	(2) AV410	STIS/FUV-MAMA, TIME-TAG, 0.2X0.2	E140M 1425 A	WAVECAL=NO; BUFFER-TIME=588			2211 Secs (2211 Secs) *[==>]*	***[1]***
Comments: rn(PoWR-OB-new(PoWR_28000_3.40_m6.96_Z0.14.fits, smc-ob-i 28-34, Z=0.140 solar, Teff=28000, log_lum=5.12, log_g=3.40, log_mdot=-6.96) (extinction smcbar=0.150), flux1360 +- 2.0A flux=5e-13 Flam); stis,fuvmama,e140m,c1425,0.2x0.2,mjd#59670 *From file ULLYSES_Cycle29_MassiveStar_ProgramInput_v5.csv* *Spectral type: B0 III* *SED = AV410_STIS_E140M_c1425_sed.fits* *For exptime=15537.4 s, spectral region:* *1200.0 +- 0.5 A achieves SNR=20.0/resel* *global countrate (brightest segment): 2641.7 cts/s/segment* *brightest pixel: 0.035 cts/s/pix at 1394.5 A* *Calculation performed 2021-10-25T00:54:49, v0.9* *for 3 orbits (7345s):* *old sed: brightest pix 0.035 cts/s(1394.5A), entire detector 2.6k cts/s, buf time=759s, S/N~17/28 at 1200/1250A (1685256)* *new sed: brightest pix 0.036 cts/s (1394.5A), entire detector 2.7k cts/s, buf time=735s, S/N~20/31 at 1200/1250A (1685257)* *IUE: brightest pix 0.032 cts/s (1296.4A), entire detector 2.7k cts/s, buf time=747s, S/N~17/30 at 1200/1250A (1685258)* *for 2+2 orbits (9556s):* *IUE: S/N~19/34 at 1200/1250A (1685260)*									
3	E140M/1425 WAVECAL	WAVE	STIS/FUV-MAMA, ACCUM, 0.2X0.2	E140M 1425 A				*[==>]*	***[1]***
4	E140M/1425 (1685260)	(2) AV410	STIS/FUV-MAMA, TIME-TAG, 0.2X0.2	E140M 1425 A	WAVECAL=NO; BUFFER-TIME=588			2567 Secs (2567 Secs) *[==>]*	***[2]***
Comments: rn(PoWR-OB-new(PoWR_28000_3.40_m6.96_Z0.14.fits, smc-ob-i 28-34, Z=0.140 solar, Teff=28000, log_lum=5.12, log_g=3.40, log_mdot=-6.96) (extinction smcbar=0.150), flux1360 +- 2.0A flux=5e-13 Flam); stis,fuvmama,e140m,c1425,0.2x0.2,mjd#59670 *From file ULLYSES_Cycle29_MassiveStar_ProgramInput_v5.csv* *Spectral type: B0 III* *SED = AV410_STIS_E140M_c1425_sed.fits* *For exptime=15537.4 s, spectral region:* *1200.0 +- 0.5 A achieves SNR=20.0/resel* *global countrate (brightest segment): 2641.7 cts/s/segment* *brightest pixel: 0.035 cts/s/pix at 1394.5 A* *Calculation performed 2021-10-25T00:54:49, v0.9* *for 3 orbits (7345s):* *old sed: brightest pix 0.035 cts/s(1394.5A), entire detector 2.6k cts/s, buf time=759s, S/N~17/28 at 1200/1250A (1685256)* *new sed: brightest pix 0.036 cts/s (1394.5A), entire detector 2.7k cts/s, buf time=735s, S/N~20/31 at 1200/1250A (1685257)* *IUE: brightest pix 0.032 cts/s (1296.4A), entire detector 2.7k cts/s, buf time=747s, S/N~17/30 at 1200/1250A (1685258)* *for 2+2 orbits (9556s):* *IUE: S/N~19/34 at 1200/1250A (1685260)*									
5	E140M/1425 WAVECAL	WAVE	STIS/FUV-MAMA, ACCUM, 0.2X0.2	E140M 1425 A				*[==>]*	***[2]***

Orbit Structure





Visit

Proposal 16809, SK187-COS (3C), completed Tue Jul 12 14:01:39 GMT 2022

Diagnostic Status: No Diagnostics

Scientific Instruments: COS/FUV

Special Requirements: SCHED 100%

Comments: vstatus; 3C; SK187; P/COS approved for submission; P/RS 22/01/2 2; intrev: complete ; C/JRD 12/03/22
vcheck; Enter targ name & Inst. & Resp. Sci.; SK187 ; COS ; RS
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 ...
spectroscopic ACQ COS FUV G160M/1577 PSA ...
G130M/1291 spectroscopic ACQ has count rate close to the 15000 cts/s limit on segment A (COS.sa.1685645) ...
ACQ IMAGE with BOA threw a health and safety warning for a field star, which was found to have V=17.55, B-V=0, U-B=-0.19 in the Massey catalog and would be unsafe for PSA
vcheck; Possible ACQ or Sci spoilers?; No
vcheck; Field BOT clear?; Yes ...
vcheck; Visual BOT check for stars not in catalog?; Ok
vcheck; Orbit packing finalized?; Yes
vcheck; Buffer times optimized?; Yes
vcheck; Verify visit grouping correct; N/A
vcheck; Is visit ready for int. review?; Yes
Allocated COS orbits = 1

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(3)	SK187 Alt Name1: M2002-83678	RA: 01 30 50.2522 (22.7093842d) Dec: -73 22 58.91 (-73.38303d) Equinox: J2000	Proper Motion RA: 1.173 mas/yr Proper Motion Dec: -1.222 mas/yr Parallax: 0" Epoch of Position: 2000	V=13.18 SpT=O8.5 III; E(B-V)=0.08; U=11.93; B=12.99; V=13.18; F1160=1.100e-12; F1360=7.690e-13; F1700=4.990e-13; F2200=3.240e-13	Reference Frame: ICRS

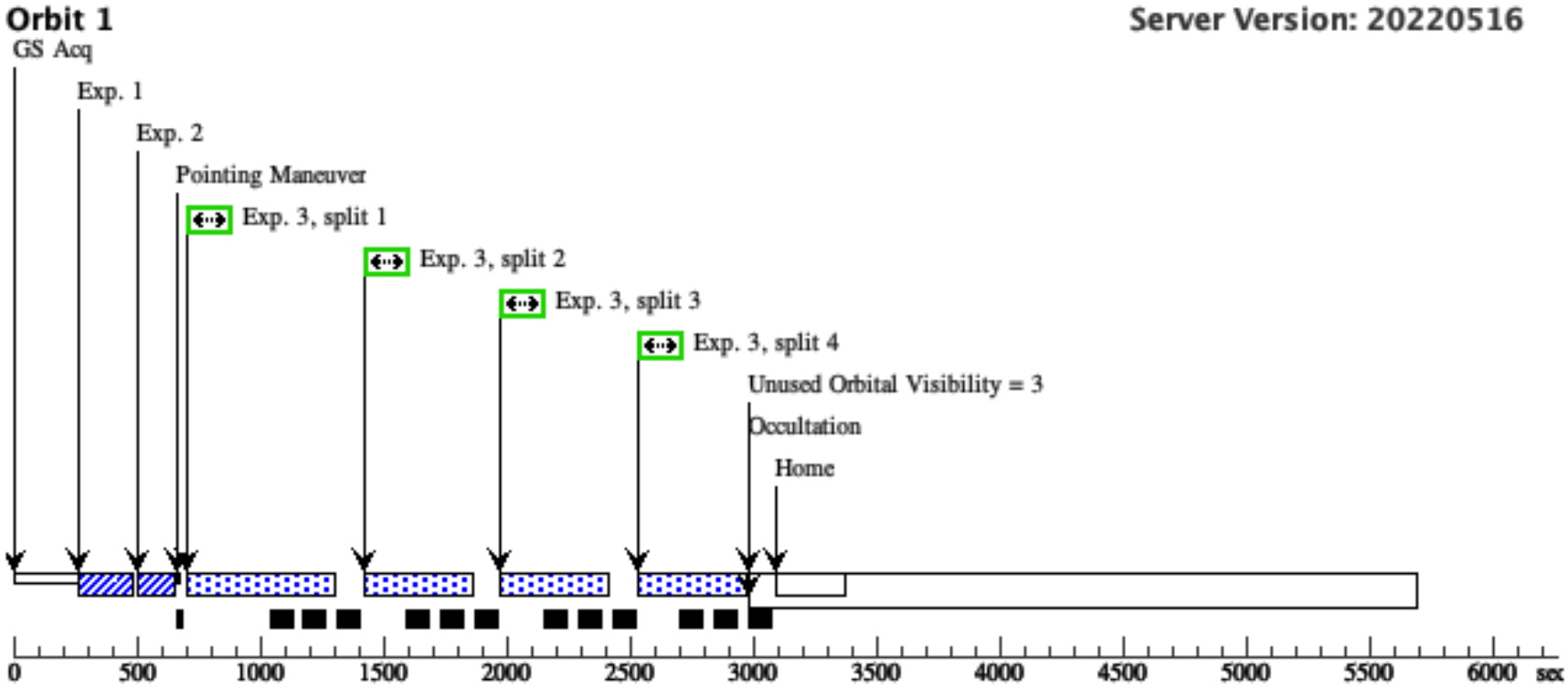
Comments: SK187 : M2002-83678, SK 187
Previous name : Sk 187
Input file: ULLYSES_Cycle29_MassiveStar_ProgramInput_v5.csv
SpT = O8.5 III
COS/G130M/c1096 : rn(PoWR-OB-new(PoWR_32000_3.60_m6.97_Z0.14.fits, smc-ob-i 32-36, Z=0.140 solar, Teff=32000, log_lum=5.21, log_g=3.60, log_mdot=-6.97) (extinction smcbar=0.080), flux1160 +-2.0A flux=1.1e-12 Flam)
Coordinate pedigree: Gaia DR2
Calculation performed 2021-10-25T00:55:02, v0.9
---
tstatus; SK187; P/COS approved for submission; S/STIS approved for submission; P/RS 22/01/22; S/DW 24/01/22
tcheck; APT/SIMBAD target names: ; SK187 'SK 187' ...
'[M2002] SMC 83678'
tcheck; Target info verification status?; Ok
tcheck; Coordinates & P.M. verified, epoch checked?; Yes
tcheck; Adopted SED compared to Observations?; Yes ...
a modified version of SK187_COS_G130M_c1096_sed.fts has been used, changing the original EBV=0.08 to EBV = 0.04 ...
which fits the IUE and photometry data correctly. The file is named sk187_sed_new.fits
Category=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	FUV PEAK XD (COS.sa.1724908)	(3) SK187	COS/FUV, ACQ/PEAKXD, PSA	G160M 1577 A	CENTER=FLUX-WT; NUM-POS=3; STEP-SIZE=1.3			1.0 Secs (1 Secs) *[==>]*	 ***[1]***
2	FUV PEAK D (COS.sa.1724908)	(3) SK187	COS/FUV, ACQ/PEAKD, PSA	G160M 1577 A	CENTER=FLUX-WT-FLR; NUM-POS=5; STEP-SIZE=0.9			1.0 Secs (1 Secs) *[==>]*	 ***[1]***
Comments: Exposure time not yet calculated.									
3	G130M/1096 (COS.sp.1685641)	(3) SK187	COS/FUV, TIME-TAG, PSA	G130M 1096 A	BUFFER-TIME=137; FP-POS=ALL			384 Secs (1536 Secs) *[==>(Split 1)]* *[==>(Split 2)]* *[==>(Split 3)]* *[==>(Split 4)]*	 ***[1]***

Comments: rn(PoWR-OB-new(PoWR_32000_3.60_m6.97_Z0.14.fits, smc-ob-i 32-36, Z=0.140 solar, Teff=32000, log_lum=5.21, log_g=3.60, log_mdot=-6.97) (extinction smcbar=0.080), flux1160 +- 2.0A flux=1.1e-12 Flam); cos,fuv,g130m,c1096,psa,mjd#59670; fp-pos=None, segment=None)
From file ULLYSES_Cycle29_MassiveStar_ProgramInput_v5.csv
Spectral type: O8.5 III
SED = SK187_COS_G130M_c1096_sed.fits
For exptime=1709.0 s, spectral region:
1080.0 +- 0.5 A achieves SNR=20.0/resel
global countrate (brightest segment): 12075.0 cts/s/segment
brightest pixel: 0.254 cts/s/pix at 1236.5 A
Calculation performed 2021-10-25T00:55:08, v0.9

Orbit Structure



Visit

Proposal 16809, SK187-COS (CC) Tue Jul 12 14:01:39 GMT 2022

Diagnostic Status: No Diagnostics

Scientific Instruments: COS/FUV

Special Requirements: SCHED 100%

Comments: vstatus; 3C; SK187; P/COS approved for submission; P/RS 22/01/2 2; intrev: complete ; C/JRD 12/03/22
vcheck; Enter targ name & Inst. & Resp. Sci.; SK187 ; COS ; RS
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 ...
spectroscopic ACQ COS FUV G160M/1577 PSA ...
G130M/1291 spectroscopic ACQ has count rate close to the 15000 cts/s limit on segment A (COS.sa.1685645) ...
ACQ IMAGE with BOA threw a health and safety warning for a field star, which was found to have V=17.55, B-V=0, U-B=-0.19 in the Massey catalog and would be unsafe for PSA
vcheck; Possible ACQ or Sci spoilers?; No
vcheck; Field BOT clear?; Yes ...
vcheck; Visual BOT check for stars not in catalog?; Ok
vcheck; Orbit packing finalized?; Yes
vcheck; Buffer times optimized?; Yes
vcheck; Verify visit grouping correct; N/A
vcheck; Is visit ready for int. review?; Yes
Allocated COS orbits = 1

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(3)	SK187 Alt Name1: M2002-83678	RA: 01 30 50.2522 (22.7093842d) Dec: -73 22 58.91 (-73.38303d) Equinox: J2000	Proper Motion RA: 1.173 mas/yr Proper Motion Dec: -1.222 mas/yr Parallax: 0" Epoch of Position: 2000	V=13.18 SpT=O8.5 III; E(B-V)=0.08; U=11.93; B=12.99; V=13.18; F1160=1.100e-12; F1360=7.690e-13; F1700=4.990e-13; F2200=3.240e-13	Reference Frame: ICRS

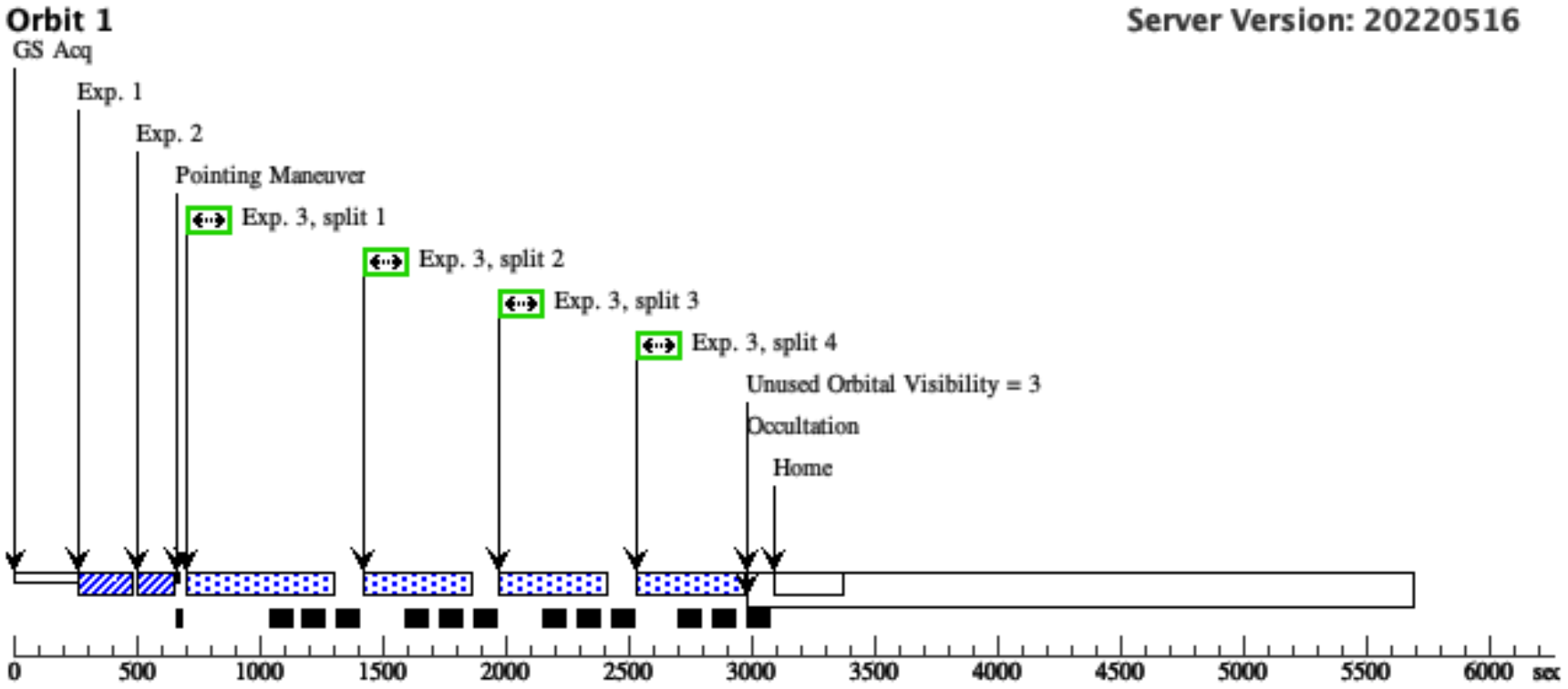
Comments: SK187 : M2002-83678, SK 187
Previous name : Sk 187
Input file: ULLYSES_Cycle29_MassiveStar_ProgramInput_v5.csv
SpT = O8.5 III
COS/G130M/c1096 : rn(PoWR-OB-new(PoWR_32000_3.60_m6.97_Z0.14.fits, smc-ob-i 32-36, Z=0.140 solar, Teff=32000, log_lum=5.21, log_g=3.60, log_mdot=-6.97) (extinction smcbar=0.080), flux1160 +-2.0A flux=1.1e-12 Flam)
Coordinate pedigree: Gaia DR2
Calculation performed 2021-10-25T00:55:02, v0.9
---
tstatus; SK187; P/COS approved for submission; S/STIS approved for submission; P/RS 22/01/22; S/DW 24/01/22
tcheck; APT/SIMBAD target names: ; SK187 'SK 187' ...
'[M2002] SMC 83678'
tcheck; Target info verification status?; Ok
tcheck; Coordinates & P.M. verified, epoch checked?; Yes
tcheck; Adopted SED compared to Observations?; Yes ...
a modified version of SK187_COS_G130M_c1096_sed.fts has been used, changing the original EBV=0.08 to EBV = 0.04 ...
which fits the IUE and photometry data correctly. The file is named sk187_sed_new.fits
Category=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	FUV PEAK XD (COS.sa.1724908)	(3) SK187	COS/FUV, ACQ/PEAKXD, PSA	G160M 1577 A	CENTER=FLUX-WT; NUM-POS=3; STEP-SIZE=1.3			1.0 Secs (1 Secs) *[==>]*	***[1]***
2	FUV PEAK D (COS.sa.1724908)	(3) SK187	COS/FUV, ACQ/PEAKD, PSA	G160M 1577 A	CENTER=FLUX-WT-FLR; NUM-POS=5; STEP-SIZE=0.9			1.0 Secs (1 Secs) *[==>]*	***[1]***
	Comments: Exposure time not yet calculated.								
3	G130M/1096 (COS.sp.1685641)	(3) SK187	COS/FUV, TIME-TAG, PSA	G130M 1096 A	BUFFER-TIME=137; FP-POS=ALL			384 Secs (1536 Secs) *[==>(Split 1)]* *[==>(Split 2)]* *[==>(Split 3)]* *[==>(Split 4)]*	***[1]***

Comments: rn(PoWR-OB-new(PoWR_32000_3.60_m6.97_Z0.14.fits, smc-ob-i 32-36, Z=0.140 solar, Teff=32000, log_lum=5.21, log_g=3.60, log_mdot=-6.97) (extinction smcbar=0.080), flux1160 +- 2.0A flux=1.1e-12 Flam); cos,fuv,g130m,c1096,psa,mjd#59670; fp-pos=None, segment=None)
From file ULLYSES_Cycle29_MassiveStar_ProgramInput_v5.csv
Spectral type: O8.5 III
SED = SK187_COS_G130M_c1096_sed.fits
For exptime=1709.0 s, spectral region:
1080.0 +- 0.5 A achieves SNR=20.0/resel
global countrate (brightest segment): 12075.0 cts/s/segment
brightest pixel: 0.254 cts/s/pix at 1236.5 A
Calculation performed 2021-10-25T00:55:08, v0.9

Orbit Structure



Visit

Proposal 16809, SK187-STIS (3S), scheduling Tue Jul 12 14:01:39 GMT 2022

Diagnostic Status: No Diagnostics

Scientific Instruments: STIS/CCD, STIS/FUV-MAMA

Special Requirements: SCHED 100%

Comments: vstatus; 3S; SK187; S/STIS approved for submission; S/DW 24/01/22 ; intrev: complete ; S/JRD 12/03/22
vcheck; Enter targ name & Inst. & Resp. Sci.; SK187 ; STIS ; DW
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 -- DSS, 2MASS, GALEX
vcheck; Selected ACQ strategy?; yes -- F28x50LP, 1s
vcheck; Possible ACQ or Sci spoilers?; no -- nothing else brighter than G=17.5 within 30 " in Gaia EDR3
vcheck; Field BOT clear?; yes
vcheck; Visual BOT check for stars not in catalog?; yes -- Gaia EDR3
vcheck; Orbit packing finalized?; yes
*vcheck; Buffer times optimized?; yes -- use minimum of values from IUE, old, new seds -- 0.8*448s=358s*
vcheck; Verify visit grouping correct; n/a
vcheck; Is visit ready for int. review?; yes
Allocated STIS orbits = 3 -- but appear able to obtain desired S/N in 2 orbits

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(3)	SK187	RA: 01 30 50.2522 (22.7093842d)	Proper Motion RA: 1.173 mas/yr	V=13.18	Reference Frame: ICRS
	Alt Name1: M2002-83678	Dec: -73 22 58.91 (-73.38303d)	Proper Motion Dec: -1.222 mas/yr	SpT=O8.5 III; E(B-V)=0.08; U=11.93; B=12.99; V=13.18; F1160=1.100e-12; F1360=7.690e-13; F1700=4.990e-13; F2200=3.240e-13	
		Equinox: J2000	Parallax: 0"		
			Epoch of Position: 2000		

Comments: SK187 : M2002-83678, SK 187
Previous name : Sk 187
Input file: ULLYSES_Cycle29_MassiveStar_ProgramInput_v5.csv
SpT = O8.5 III
COS/G130M/c1096 : rn(PoWR-OB-new(PoWR_32000_3.60_m6.97_Z0.14.fits, smc-ob-i 32-36, Z=0.140 solar, Teff=32000, log_lum=5.21, log_g=3.60, log_mdot=-6.97) (extinction smcbar=0.080), flux1160 +-2.0A flux=1.1e-12 Flam)
Coordinate pedigree: Gaia DR2
Calculation performed 2021-10-25T00:55:02, v0.9
---
tstatus; SK187; P/COS approved for submission; S/STIS approved for submission; P/RS 22/01/22; S/DW 24/01/22
tcheck; APT/SIMBAD target names: ; SK187 'SK 187' ...
'[M2002] SMC 83678'
tcheck; Target info verification status?; Ok
tcheck; Coordinates & P.M. verified, epoch checked?; Yes
tcheck; Adopted SED compared to Observations?; Yes ...
a modified version of SK187_COS_G130M_c1096_sed.fts has been used, changing the original EBV=0.08 to EBV = 0.04 ...
which fits the IUE and photometry data correctly. The file is named sk187_sed_new.fits
Category=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 (1685195)	(3) SK187	STIS/CCD, ACQ, F28X50LP	MIRROR				1.0 Secs (1 Secs) *[==>]*	***[1]***
Comments: 1s yields predicted S/N~148, saturation in 13s									
2	E140M/1425 (1685268)	(3) SK187	STIS/FUV-MAMA, TIME-TAG, 0.2X0.2	E140M 1425 A	WAVECAL=NO; BUFFER-TIME=358			2211 Secs (2211 Secs) *[==>]*	***[1]***
Comments: rn(PoWR-OB-new(PoWR_32000_3.60_m6.97_Z0.14.fits, smc-ob-i 32-36, Z=0.140 solar, Teff=32000, log_lum=5.21, log_g=3.60, log_mdot=-6.97) (extinction smcbar=0.080), flux1360 +- 2.0A flux=7.7e -13 Flam); stis,fuvmama,e140m,c1425,0.2x0.2,mjd#59670 *From file ULLYSES_Cycle29_MassiveStar_ProgramInput_v5.csv* *Spectral type: O8.5 III* *SED = SK187_STIS_E140M_c1425_sed.fits* *For exptime=7012.2 s, spectral region:* *1200.0 +- 0.5 A achieves SNR=20.0/resel* *global countrate (brightest segment): 4167.4 cts/s/segment* *brightest pixel: 0.045 cts/s/pix at 1344.5 A* *Calculation performed 2021-10-25T00:55:11, v0.9* *for 2 orbits (4788s):* *old sed: brightest pix 0.045 cts/s (1344.5A), entire detector 4.2k cts/s, buf time=481s, S/N~20/31 at 1200/1250A (1685267)* *new sed: brightest pix 0.049 cts/s (1344.5A), entire detector 4.5k cts/s, buf time=448s, S/N~22/33 at 1200/1250A (1685268)* *IUE: brightest pix 0.058 cts/s (1301.6A), entire detector 4.2k, buf time=472s, S/N~18/31 at 1200/1250A (1685269)*									
3	E140M/1425 WAVECAL	WAVE	STIS/FUV-MAMA, ACCUM, 0.2X0.2	E140M 1425 A				*[==>]*	***[1]***
4	E140M/1425 (1685268)	(3) SK187	STIS/FUV-MAMA, TIME-TAG, 0.2X0.2	E140M 1425 A	WAVECAL=NO; BUFFER-TIME=358			2567 Secs (2567 Secs) *[==>]*	***[2]***
Comments: rn(PoWR-OB-new(PoWR_32000_3.60_m6.97_Z0.14.fits, smc-ob-i 32-36, Z=0.140 solar, Teff=32000, log_lum=5.21, log_g=3.60, log_mdot=-6.97) (extinction smcbar=0.080), flux1360 +- 2.0A flux=7.7e -13 Flam); stis,fuvmama,e140m,c1425,0.2x0.2,mjd#59670 *From file ULLYSES_Cycle29_MassiveStar_ProgramInput_v5.csv* *Spectral type: O8.5 III* *SED = SK187_STIS_E140M_c1425_sed.fits* *For exptime=7012.2 s, spectral region:* *1200.0 +- 0.5 A achieves SNR=20.0/resel* *global countrate (brightest segment): 4167.4 cts/s/segment* *brightest pixel: 0.045 cts/s/pix at 1344.5 A* *Calculation performed 2021-10-25T00:55:11, v0.9* *for 2 orbits (4788s):* *old sed: brightest pix 0.045 cts/s (1344.5A), entire detector 4.2k cts/s, buf time=481s, S/N~20/31 at 1200/1250A (1685267)* *new sed: brightest pix 0.049 cts/s (1344.5A), entire detector 4.5k cts/s, buf time=448s, S/N~22/33 at 1200/1250A (1685268)* *IUE: brightest pix 0.058 cts/s (1301.6A), entire detector 4.2k, buf time=472s, S/N~18/31 at 1200/1250A (1685269)*									
5	E140M/1425 WAVECAL	WAVE	STIS/FUV-MAMA, ACCUM, 0.2X0.2	E140M 1425 A				*[==>]*	***[2]***

Orbit Structure