16373 - ULLYSES SMC B1.5, B2 stars COS

Cycle: 28, 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-3689	COS/FUV COS/NUV	3	20-May-2021 14:06:43.0	yes
2C	(2) 2DFS-3947	COS/FUV	2	20-May-2021 14:06:45.0	yes
3C	(3) AV374	COS/FUV COS/NUV	2	20-May-2021 14:06:47.0	yes
4C	(4) AV472	COS/FUV COS/NUV	1	20-May-2021 14:06:49.0	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 16373, 2DFS-3689-COS (1C), implementation Thu May 20 18:06:49 GMT 2021

Diagnostic Status: No Diagnostics

Scientific Instruments: COS/FUV, COS/NUV

Special Requirements: SCHED 100%

Comments: vstatus; 1C; 2DFS-3689; P/COS approved for submission; P/DS 13/01/21 ; intrev: started ; P/RS 02/02/21
vcheck; Enter targ name & Inst. & Resp. Sci.; 2DFS-3689 'SV HV 2226'; COS; DS*
vcheck; ETC numbers entered in APT?; completed
vcheck; Any screening violations?; None
vcheck; S/N ETC calcs done & documented?; N/A
vcheck; Field images checked & saved?; yes 2DFS-3689_gsc2.png 2DFS-3689_2mass.png
vcheck; Selected ACQ strategy?; COS BOA MIRRORA 35s
vcheck; Possible ACQ or Sci spoilers?; None
vcheck; Field BOT clear?; 1 H&S found and resolved
vcheck; Visual BOT check for stars not in catalog?; OK
vcheck; Orbit packing finalized?; 3 orbits
vcheck; Buffer times optimized?; yes
vcheck; Verify visit grouping correct; none needed
vcheck; Is visit ready for int. review?; yes
Allocated COS orbits = 3

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	2DFS-3689	RA: 01 24 31.7400 (21.1322500d)	Proper Motion RA: 1.016 mas/yr	V=15.25	Reference Frame: ICRS
	Alt Name1: SMCSGS-FS-96	Dec: -73 21 49.25 (-73.36368d)	Proper Motion Dec: -1.329 mas/yr	SpT=B1.5 V; E(B-V)=0.11; U=14.1; B=15.1; V=15.2; F1160=1.10e-13; F1360=9.60e-14; F1700=6.10e-14; F2200=3.61e-14	
		Equinox: J2000	Epoch of Position: 2000		

Comments: 2DFS-3689 : [SMCSGS-FS]-96, [SMCSGS-FS]_96, 2dFS 3689
Previous name : [SMCSGS-FS]-96
Input file: SMC_2020Feb20/input/SMC_all_do1_NewCoords_pids.csv
SIMBAD link (2dFS 3689): https://simbad.u-strasbg.fr/simbad/sim-id?Ident=2dFS+3689&submit=submit+id
SpT = B1.5 V
COS/G130M/c1096 : rn-max(WM-Basic(B1.5 V, Z=0.004, Teff=24547, log_lum=4.42, log_g=4.00) (extinction smcbar=0.110), flux1160 +- 30.0A flux=1.1e-13 Flam)
COS/G130M/c1291 : rn-max(WM-Basic(B1.5 V, Z=0.004, Teff=24547, log_lum=4.42, log_g=4.00) (extinction smcbar=0.110), flux1360 +- 30.0A flux=9.6e-14 Flam)
COS/G160M/c1611 : rn-max(WM-Basic(B1.5 V, Z=0.004, Teff=24547, log_lum=4.42, log_g=4.00) (extinction smcbar=0.110), flux1700 +- 5.0A flux=6.1e-14 Flam)
COS/G185M/c1921 : rn-max(WM-Basic(B1.5 V, Z=0.004, Teff=24547, log_lum=4.42, log_g=4.00) (extinction smcbar=0.110), flux1700 +- 5.0A flux=6.1e-14 Flam)
COS/G185M/c1953 : rn-max(WM-Basic(B1.5 V, Z=0.004, Teff=24547, log_lum=4.42, log_g=4.00) (extinction smcbar=0.110), flux1700 +- 5.0A flux=6.1e-14 Flam)
COS/G185M/c1986 : rn-max(WM-Basic(B1.5 V, Z=0.004, Teff=24547, log_lum=4.42, log_g=4.00) (extinction smcbar=0.110), flux2200 +- 5.0A flux=3.6e-14 Flam)
STIS/E140M/c1425 : rn-max(WM-Basic(B1.5 V, Z=0.004, Teff=24547, log_lum=4.42, log_g=4.00) (extinction smcbar=0.110), flux1360 +- 30.0A flux=9.6e-14 Flam)
STIS/E230M/c1978 : rn-max(WM-Basic(B1.5 V, Z=0.004, Teff=24547, log_lum=4.42, log_g=4.00) (extinction smcbar=0.110), flux2200 +- 5.0A flux=3.6e-14 Flam)
STIS/E230M/c2707 : rn-max(WM-Basic(B1.5 V, Z=0.004, Teff=24547, log_lum=4.42, log_g=4.00) (extinction smcbar=0.110), flux2200 +- 5.0A flux=3.6e-14 Flam)
Coordinate pedigree: Gaia
v sin i = 250
Calculation performed 2020-02-24T17:51:31, v0.4
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tstatus; 2DFS-3689; P/COS approved for submission; S/ins not started; P/DS 23/10/20; S/xx DD/MM/YY
tcheck; APT/SIMBAD target names: ; 2DFS-3689 'SV HV 2226'*
tcheck; Target info verification status?; OK
tcheck; Coordinates & P.M. updated?; yes - Gaia coords - PM updated from Gaia
tcheck; Adopted SED compared to Observations?; OK - separately matches 1291 and 1611 SEDs in the appropriate bands.
Category=EXT-STAR
Description=[B0-B2 V-IV]
Extended=NO

Exposures

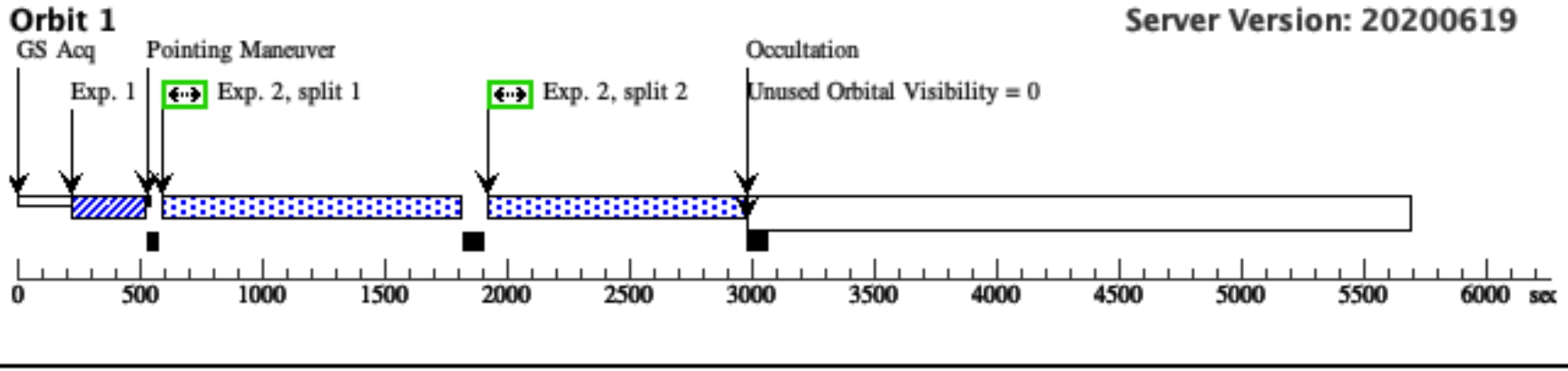
#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	ACQ/Image (COS.ta.1470198)	(1) 2DFS-3689	COS/NUV, ACQ/IMAGE, BOA	MIRRORA				35 Secs (35 Secs) *[==>]*	*[1]*
2	G160M/1611 (COS.sp.1470210)	(1) 2DFS-3689	COS/FUV, TIME-TAG, PSA	G160M 1611 A	BUFFER-TIME=1291; FP-POS=ALL			998.1 Secs (4344.4 Secs) *[==>997.1 Secs (Split 1)]* *[==>997.1 Secs (Split 2)]* *[==>1175.1 Secs (Split 3)]* *[==>1175.1 Secs (Split 4)]*	*[1]* *[2]*
3	G130M/1291-3 (COS.sp.1470209)	(1) 2DFS-3689	COS/FUV, TIME-TAG, PSA	G130M 1291 A	BUFFER-TIME=363; FP-POS=3			1203 Secs (1203 Secs) *[==>]*	*[3]*
4	G130M/1291-4 (COS.sp.1470209)	(1) 2DFS-3689	COS/FUV, TIME-TAG, PSA	G130M 1291 A	BUFFER-TIME=363; FP-POS=4			1203 Secs (1203 Secs) *[==>]*	*[3]*

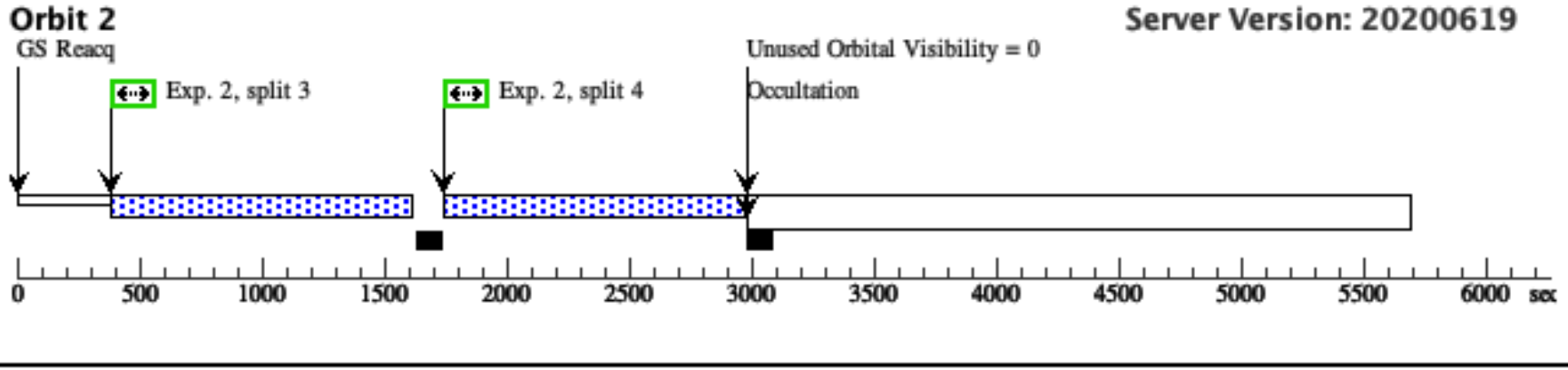
Comments: rn-max(WM-Basic(B1.5 V, Z=0.004, Teff=24547, log_lum=4.42, log_g=4.00) (extinction smcbar=0.110), flux1700 +- 5.0A flux=6.1e-14 Flam); cos,fuv,g160m,c1611,psa,mjd#59305; fp-pos=None, segment=None)
From file SMC_2020Feb20/input/SMC_all_do1_NewCoords_pids.csv
Spectral type: B1.5 V --> B1.5 V
SED = 2DFS-3689_COS_G160M_c1611_sed.fits
For exptime=3992.4 s, spectral region:
1590.0 +- 0.5 A achieves SNR=30.0/resel
global countrate (brightest segment): 900.6 cts/s/segment
brightest pixel: 0.014 cts/s/pix at 1435.0 A
Calculation performed 2020-02-24T17:51:37, v0.4

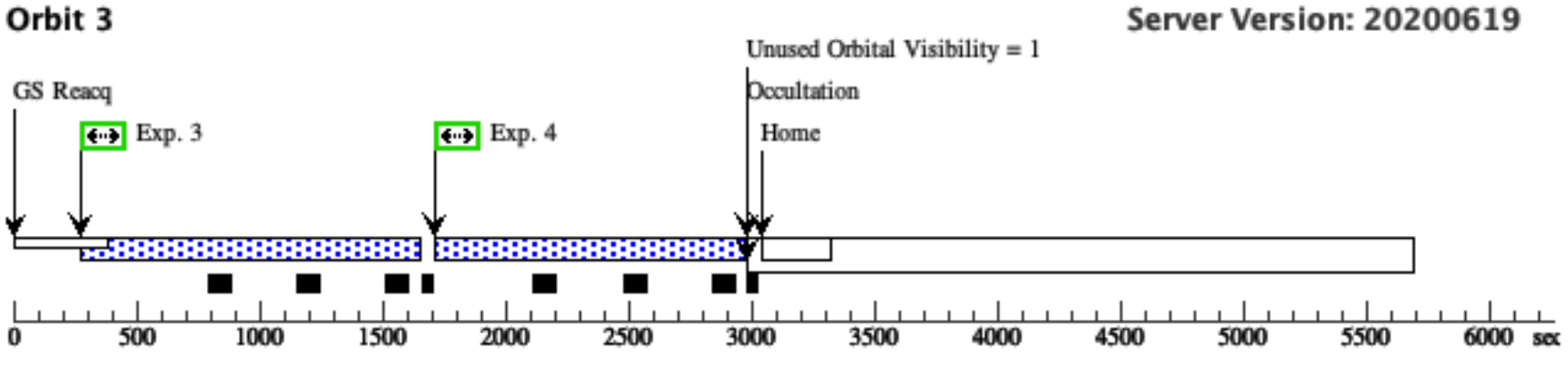
Comments: rn-max(WM-Basic(B1.5 V, Z=0.004, Teff=24547, log_lum=4.42, log_g=4.00) (extinction smcbar=0.110), flux1360 +- 30.0A flux=9.6e-14 Flam); cos,fuv,g130m,c1291,psa,mjd#59305; fp-pos=None, segment=None)
From file SMC_2020Feb20/input/SMC_all_do1_NewCoords_pids.csv
Spectral type: B1.5 V --> B1.5 V
SED = 2DFS-3689_COS_G130M_c1291_sed.fits
For exptime=2839.0 s, spectral region:
1150.0 +- 0.5 A achieves SNR=30.0/resel
global countrate (brightest segment): 1691.8 cts/s/segment
brightest pixel: 0.026 cts/s/pix at 1268.5 A
Calculation performed 2020-02-24T17:51:34, v0.4

Comments: rn-max(WM-Basic(B1.5 V, Z=0.004, Teff=24547, log_lum=4.42, log_g=4.00) (extinction smcbar=0.110), flux1360 +- 30.0A flux=9.6e-14 Flam); cos,fuv,g130m,c1291,psa,mjd#59305; fp-pos=None, segment=None)
From file SMC_2020Feb20/input/SMC_all_do1_NewCoords_pids.csv
Spectral type: B1.5 V --> B1.5 V
SED = 2DFS-3689_COS_G130M_c1291_sed.fits
For exptime=2839.0 s, spectral region:
1150.0 +- 0.5 A achieves SNR=30.0/resel
global countrate (brightest segment): 1691.8 cts/s/segment
brightest pixel: 0.026 cts/s/pix at 1268.5 A
Calculation performed 2020-02-24T17:51:34, v0.4

Orbit Structure







Visit

Proposal 16373, 2DFS-3947-COS (2C), implementation Thu May 20 18:06:50 GMT 2021

Diagnostic Status: No Diagnostics

Scientific Instruments: COS/FUV

Special Requirements: SCHED 100%

Comments: vstatus; 2C; 2DFS-3947; P/COS approved for submission; P/DS 13/01/21 ; intrev: started ; P/RS 02/02/21
vcheck; Enter targ name & Inst. & Resp. Sci.; 2DFS-3947 '2dFS 3947'; COS; DS
vcheck; ETC numbers entered in APT?; completed
vcheck; Any screening violations?; None
vcheck; S/N ETC calcs done & documented?; N/A
vcheck; Field images checked & saved?; yes 2DFS-3947_gsc2.png
vcheck; Selected ACQ strategy?; COS PSA G130M/1291 1 s
vcheck; Possible ACQ or Sci spoilers?; None
vcheck; Field BOT clear?; clear
vcheck; Visual BOT check for stars not in catalog?; OK
vcheck; Orbit packing finalized?; 2 orbits
vcheck; Buffer times optimized?; yes
vcheck; Verify visit grouping correct; none needed
vcheck; Is visit ready for int. review?; yes
Allocated COS orbits = 2

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(2)	2DFS-3947	RA: 01 30 37.1813 (22.6549221d)	Proper Motion RA: 1.253 mas/yr	V=14.99	Reference Frame: ICRS
	Alt Name1: SMCSGS-FS-284	Dec: -73 25 14.37 (-73.42066d)	Proper Motion Dec: -1.245 mas/yr	SpT=B1.5 IV; E(B-V)=0.02; U=13.8; B=14.8; V=15.0; F1160=2.30e-13; F1360=1.50e-13; F1700=8.40e-14; F2200=4.01e-14	
		Equinox: J2000	Epoch of Position: 2000		

Comments: 2DFS-3947 : [SMCSGS-FS]-284, [SMCSGS-FS]_284, 2dFS 3947
Previous name : [SMCSGS-FS]-284
Input file: SMC_2020Feb20/input/SMC_all_do1_NewCoords_pids.csv
SIMBAD link (2dFS 3947): https://simbad.u-strasbg.fr/simbad/sim-id?Ident=2dFS+3947&submit=submit+id
SpT = B1.5 IV
COS/G130M/c1096 : rn-max(WM-Basic(B1.5 V, Z=0.004, Teff=24547, log_lum=4.42, log_g=4.00) (extinction smcbar=0.020), flux1160 +- 30.0A flux=2.3e-13 Flam)
COS/G130M/c1291 : rn-max(WM-Basic(B1.5 V, Z=0.004, Teff=24547, log_lum=4.42, log_g=4.00) (extinction smcbar=0.020), flux1360 +- 30.0A flux=1.5e-13 Flam)
COS/G160M/c1611 : rn-max(WM-Basic(B1.5 V, Z=0.004, Teff=24547, log_lum=4.42, log_g=4.00) (extinction smcbar=0.020), flux1700 +- 5.0A flux=8.4e-14 Flam)
COS/G185M/c1921 : rn-max(WM-Basic(B1.5 V, Z=0.004, Teff=24547, log_lum=4.42, log_g=4.00) (extinction smcbar=0.020), flux1700 +- 5.0A flux=8.4e-14 Flam)
COS/G185M/c1953 : rn-max(WM-Basic(B1.5 V, Z=0.004, Teff=24547, log_lum=4.42, log_g=4.00) (extinction smcbar=0.020), flux1700 +- 5.0A flux=8.4e-14 Flam)
COS/G185M/c1986 : rn-max(WM-Basic(B1.5 V, Z=0.004, Teff=24547, log_lum=4.42, log_g=4.00) (extinction smcbar=0.020), flux2200 +- 5.0A flux=4e-14 Flam)
STIS/E140M/c1425 : rn-max(WM-Basic(B1.5 V, Z=0.004, Teff=24547, log_lum=4.42, log_g=4.00) (extinction smcbar=0.020), flux1360 +- 30.0A flux=1.5e-13 Flam)
STIS/E230M/c1978 : rn-max(WM-Basic(B1.5 V, Z=0.004, Teff=24547, log_lum=4.42, log_g=4.00) (extinction smcbar=0.020), flux2200 +- 5.0A flux=4e-14 Flam)
STIS/E230M/c2707 : rn-max(WM-Basic(B1.5 V, Z=0.004, Teff=24547, log_lum=4.42, log_g=4.00) (extinction smcbar=0.020), flux2200 +- 5.0A flux=4e-14 Flam)
Coordinate pedigree: Gaia
v sin i = 140
Calculation performed 2020-02-24T17:51:17, v0.4
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tstatus; 2DFS-3947; P/COS approved for submission; S/ins not started; P/DS 05/01/21; S/xx DD/MM/YY
tcheck; APT/SIMBAD target names: ; 2DFS-3947 '2dFS 3947'
tcheck; Target info verification status?; OK
tcheck; Coordinates & P.M. updated?; yes - Gaia coords - PM updated from Gaia
tcheck; Adopted SED compared to Observations?; OK - good match to IUE, FOS, U/B/V
Category=EXT-STAR
Description=[B0-B2 V-IV]
Extended=NO

Exposures

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	ACQ/PEAKXD (COS.sa.1473829)	(2) 2DFS-3947	COS/FUV, ACQ/PEAKXD, PSA	G130M 1291 A	CENTER=FLUX-WT; NUM-POS=3; STEP-SIZE=1.3; SEGMENT=BOTH			1 Secs (1 Secs) *[==>]*	***[1]***
2	ACQ/PEAKD (COS.sa.1473829)	(2) 2DFS-3947	COS/FUV, ACQ/PEAKD, PSA	G130M 1291 A	CENTER=FLUX-WT-FLR; NUM-POS=5; STEP-SIZE=0.9; SEGMENT=BOTH			1 Secs (1 Secs) *[==>]*	***[1]***
3	G130M/1291-3 (COS.sp.1473830)	(2) 2DFS-3947	COS/FUV, TIME-TAG, PSA	G130M 1291 A	BUFFER-TIME=247; FP-POS=3			604 Secs (629 Secs) *[==>629.0 Secs]*	***[1]***

Comments: rn-max(WM-Basic(B1.5 V, Z=0.004, Teff=24547, log_lum=4.42, log_g=4.00) (extinction smcbar=0.020), flux1360 +- 30.0A flux=1.5e-13 Flam); cos,fuv,g130m,c1291,psa,mjd#59305; fp-pos=None, segment=None)
From file SMC_2020Feb20/input/SMC_all_do1_NewCoords_pids.csv
Spectral type: B1.5 IV --> B1.5 V
SED = 2DFS-3947_COS_G130M_c1291_sed.fits
For exptime=1197.2 s, spectral region:
1150.0 +- 0.5 A achieves SNR=30.0/resel
global countrate (brightest segment): 3153.4 cts/s/segment
brightest pixel: 0.047 cts/s/pix at 1265.0 A
Calculation performed 2020-02-24T17:51:20, v0.4

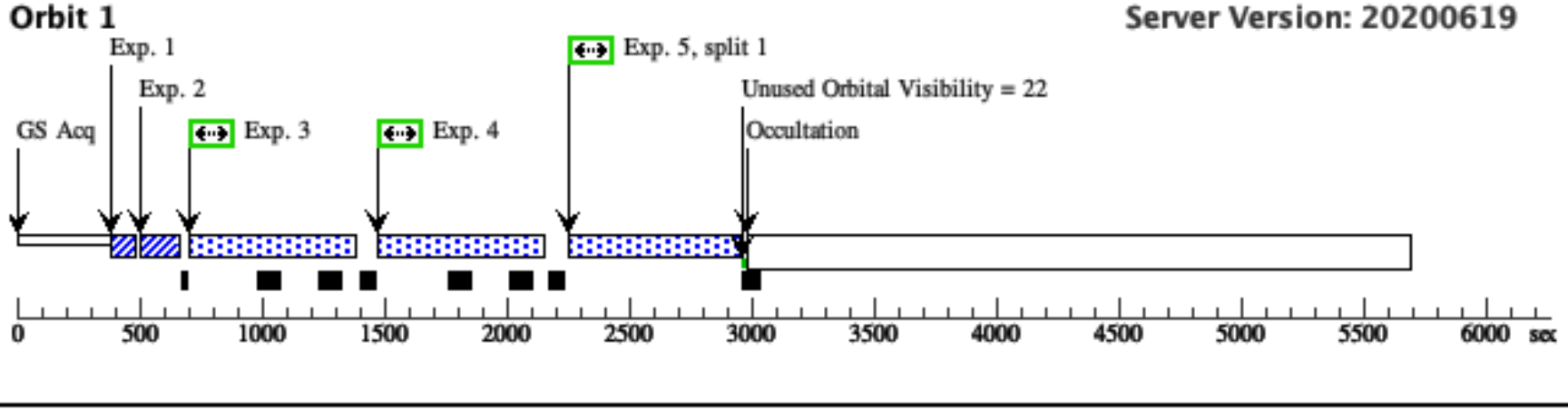
4	G130M/1291-4 (COS.sp.1473830)	(2) 2DFS-3947	COS/FUV, TIME-TAG, PSA	G130M 1291 A	BUFFER-TIME=247; FP-POS=4			604 Secs (629 Secs) *[==>629.0 Secs]*	***[1]***

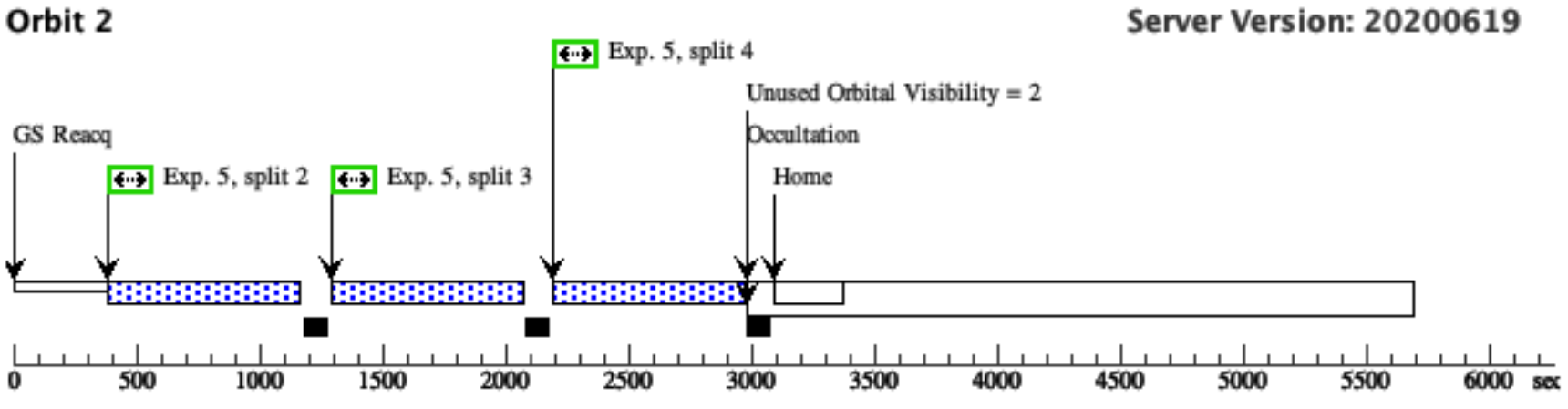
Comments: rn-max(WM-Basic(B1.5 V, Z=0.004, Teff=24547, log_lum=4.42, log_g=4.00) (extinction smcbar=0.020), flux1360 +- 30.0A flux=1.5e-13 Flam); cos,fuv,g130m,c1291,psa,mjd#59305; fp-pos=None, segment=None)
From file SMC_2020Feb20/input/SMC_all_do1_NewCoords_pids.csv
Spectral type: B1.5 IV --> B1.5 V
SED = 2DFS-3947_COS_G130M_c1291_sed.fits
For exptime=1197.2 s, spectral region:
1150.0 +- 0.5 A achieves SNR=30.0/resel
global countrate (brightest segment): 3153.4 cts/s/segment
brightest pixel: 0.047 cts/s/pix at 1265.0 A
Calculation performed 2020-02-24T17:51:20, v0.4

5	G160M/1611 (COS.sp.1473831)	(2) 2DFS-3947	COS/FUV, TIME-TAG, PSA	G160M 1611 A	BUFFER-TIME=844; FP-POS=ALL			510 Secs (2722 Secs) *[==>535.0 Secs (Split 1)]* *[==>729.0 Secs (Split 2)]* *[==>729.0 Secs (Split 3)]* *[==>729.0 Secs (Split 4)]*	***[1]*** ***[2]***

Comments: rn-max(WM-Basic(B1.5 V, Z=0.004, Teff=24547, log_lum=4.42, log_g=4.00) (extinction smcbar=0.020), flux1700 +- 5.0A flux=8.4e-14 Flam); cos,fuv,g160m,c1611,psa,mjd#59305; fp-pos=None, segment=None)
From file SMC_2020Feb20/input/SMC_all_do1_NewCoords_pids.csv
Spectral type: B1.5 IV --> B1.5 V
SED = 2DFS-3947_COS_G160M_c1611_sed.fits
For exptime=2682.1 s, spectral region:
1590.0 +- 0.5 A achieves SNR=30.0/resel
global countrate (brightest segment): 1448.9 cts/s/segment
brightest pixel: 0.024 cts/s/pix at 1435.0 A
Calculation performed 2020-02-24T17:51:23, v0.4

Orbit Structure





Visit

Proposal 16373, AV374-COS (3C), implementation Thu May 20 18:06:50 GMT 2021

Diagnostic Status: No Diagnostics

Scientific Instruments: COS/FUV, COS/NUV

Special Requirements: SCHED 100%

Comments: vstatus; 3C; AV374; P/COS approved for submission; P/DS 13/01/21 ; intrev: started ; P/RS 02/02/21
vcheck; Enter targ name & Inst. & Resp. Sci.; AV374 'AzV 374'; COS; DS
vcheck; ETC numbers entered in APT?; Completed
vcheck; Any screening violations?; None
vcheck; S/N ETC calcs done & documented?; N/A
vcheck; Field images checked & saved?; yes AV374_gsc2.png
vcheck; Selected ACQ strategy?; COS PSA G130M/1291 1 s
vcheck; Possible ACQ or Sci spoilers?; None
vcheck; Field BOT clear?; yes - 1291 cleared with Zaritsky catalog
vcheck; Visual BOT check for stars not in catalog?; OK
vcheck; Orbit packing finalized?; 2 orbits
vcheck; Buffer times optimized?; yes
vcheck; Verify visit grouping correct; none needed
vcheck; Is visit ready for int. review?; yes
Allocated COS orbits = 2

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(3)	AV374	RA: 01 05 1.8632 (16.2577633d)	Proper Motion RA: 0.824 mas/yr	V=13.1	Reference Frame: ICRS
	Alt Name1: AV-374	Dec: -72 26 53.79 (-72.44828d)	Proper Motion Dec: -1.130 mas/yr	SpT=B2Ib; E(B-V)=0.02; U=12.0; B=13.0; V=13.1; F1160=3.39e-13; F1360=3.56e-13; F1700=2.51e-13; F2200=1.44e-13	
	Alt Name2: AZV374	Equinox: J2000	Epoch of Position: 2000		

Comments: AV374 : AV_374, AzV374, AzV 374
Previous name : AzV374
Input file: SMC_2020Feb20/input/SMC_all_do1_NewCoords_pids.csv
SIMBAD link (AzV 374): https://simbad.u-strasbg.fr/simbad/sim-id?Ident=AzV+374&submit=submit+id
SpT = B2Ib
COS/G130M/c1096 : rn-max(ck04models(B2I,Teff=21040,metallicity=0.004,logG=3) (extinction smcbar=0.020), flux1160 +- 30.0A flux=3.4e-13 Flam)
COS/G130M/c1291 : rn-max(ck04models(B2I,Teff=21040,metallicity=0.004,logG=3) (extinction smcbar=0.020), flux1360 +- 30.0A flux=3.6e-13 Flam)
COS/G160M/c1611 : rn-max(ck04models(B2I,Teff=21040,metallicity=0.004,logG=3) (extinction smcbar=0.020), flux1700 +- 5.0A flux=2.5e-13 Flam)
COS/G185M/c1921 : rn-max(ck04models(B2I,Teff=21040,metallicity=0.004,logG=3) (extinction smcbar=0.020), flux1700 +- 5.0A flux=2.5e-13 Flam)
COS/G185M/c1953 : rn-max(ck04models(B2I,Teff=21040,metallicity=0.004,logG=3) (extinction smcbar=0.020), flux1700 +- 5.0A flux=2.5e-13 Flam)
COS/G185M/c1986 : rn-max(ck04models(B2I,Teff=21040,metallicity=0.004,logG=3) (extinction smcbar=0.020), flux2200 +- 5.0A flux=1.4e-13 Flam)
STIS/E140M/c1425 : rn-max(ck04models(B2I,Teff=21040,metallicity=0.004,logG=3) (extinction smcbar=0.020), flux1360 +- 30.0A flux=3.6e-13 Flam)
STIS/E230M/c1978 : rn-max(ck04models(B2I,Teff=21040,metallicity=0.004,logG=3) (extinction smcbar=0.020), flux2200 +- 5.0A flux=1.4e-13 Flam)
STIS/E230M/c2707 : rn-max(ck04models(B2I,Teff=21040,metallicity=0.004,logG=3) (extinction smcbar=0.020), flux2200 +- 5.0A flux=1.4e-13 Flam)
Coordinate pedigree: Gaia
v sin i = 73|47
Calculation performed 2020-02-24T17:53:12, v0.4
---
tstatus; AV374; P/COS approved for submission; S/ins not started; P/DS 05/01/21; S/xx DD/MM/YY
tcheck; APT/SIMBAD target names: ; AV374 'AzV 374'
tcheck; Target info verification status?; OK
tcheck; Coordinates & P.M. updated?; yes - Gaia coords - PM updated from Gaia
tcheck; Adopted SED compared to Observations?; OK - good match
Category=EXT-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/PEAKXD (COS.sa.1473834)	(3) AV374	COS/FUV, ACQ/PEAKXD, PSA	G130M 1291 A	CENTER=FLUX-WT; NUM-POS=3; STEP-SIZE=1.3; SEGMENT=BOTH			1 Secs (1 Secs) *[==>]*	***[1]***
2	ACQ/PEAKD (COS.sa.1473834)	(3) AV374	COS/FUV, ACQ/PEAKD, PSA	G130M 1291 A	CENTER=FLUX-WT-FLR; NUM-POS=5; STEP-SIZE=0.9; SEGMENT=BOTH			1 Secs (1 Secs) *[==>]*	***[1]***
3	G130M/1291-3 (COS.sp.1473835)	(3) AV374	COS/FUV, TIME-TAG, PSA	G130M 1291 A	BUFFER-TIME=141; FP-POS=3			200 Secs (200 Secs) *[==>]*	***[1]***

Comments: rn-max(ck04models(B2I,Teff=21040,metallicity=0.004,logG=3) (extinction smcbar=0.020), flux1360 +- 30.0A flux=3.6e-13 Flam); cos,fuv,g130m,c1291,psa,mjd#59305; fp-pos=None, segment=None)
From file SMC_2020Feb20/input/SMC_all_do1_NewCoords_pids.csv
Spectral type: B2Ib --> B2 I
SED = AV374_COS_G130M_c1291_sed.fits
For exptime=451.0 s, spectral region:
1150.0 +- 0.5 A achieves SNR=30.0/resel
global countrate (brightest segment): 6384.4 cts/s/segment
brightest pixel: 0.106 cts/s/pix at 1275.0 A
Calculation performed 2020-02-24T17:53:16, v0.4

#	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.1473835)	(3) AV374	COS/FUV, TIME-TAG, PSA	G130M 1291 A	BUFFER-TIME=141; FP-POS=4			200 Secs (200 Secs) *[==>]*	***[1]***

Comments: rn-max(ck04models(B2I,Teff=21040,metallicity=0.004,logG=3) (extinction smcbar=0.020), flux1360 +- 30.0A flux=3.6e-13 Flam); cos,fuv,g130m,c1291,psa,mjd#59305; fp-pos=None, segment=None)
From file SMC_2020Feb20/input/SMC_all_do1_NewCoords_pids.csv
Spectral type: B2Ib --> B2 I
SED = AV374_COS_G130M_c1291_sed.fits
For exptime=451.0 s, spectral region:
1150.0 +- 0.5 A achieves SNR=30.0/resel
global countrate (brightest segment): 6384.4 cts/s/segment
brightest pixel: 0.106 cts/s/pix at 1275.0 A
Calculation performed 2020-02-24T17:53:16, v0.4

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
5	G160M/1611 (COS.sp.1473836)	(3) AV374	COS/FUV, TIME-TAG, PSA	G160M 1611 A	BUFFER-TIME=311; FP-POS=ALL			200 Secs (800 Secs) *[==>(Split 1)]* *[==>(Split 2)]* *[==>(Split 3)]* *[==>(Split 4)]*	***[1]***

Comments: rn-max(ck04models(B2I,Teff=21040,metallicity=0.004,logG=3) (extinction smcbar=0.020), flux1700 +- 5.0A flux=2.5e-13 Flam); cos,fuv,g160m,c1611,psa,mjd#59305; fp-pos=None, segment=None)
From file SMC_2020Feb20/input/SMC_all_do1_NewCoords_pids.csv
Spectral type: B2Ib --> B2 I
SED = AV374_COS_G160M_c1611_sed.fits
For exptime=915.0 s, spectral region:
1590.0 +- 0.5 A achieves SNR=30.0/resel
global countrate (brightest segment): 3916.7 cts/s/segment
brightest pixel: 0.064 cts/s/pix at 1442.0 A
Calculation performed 2020-02-24T17:53:19, v0.4

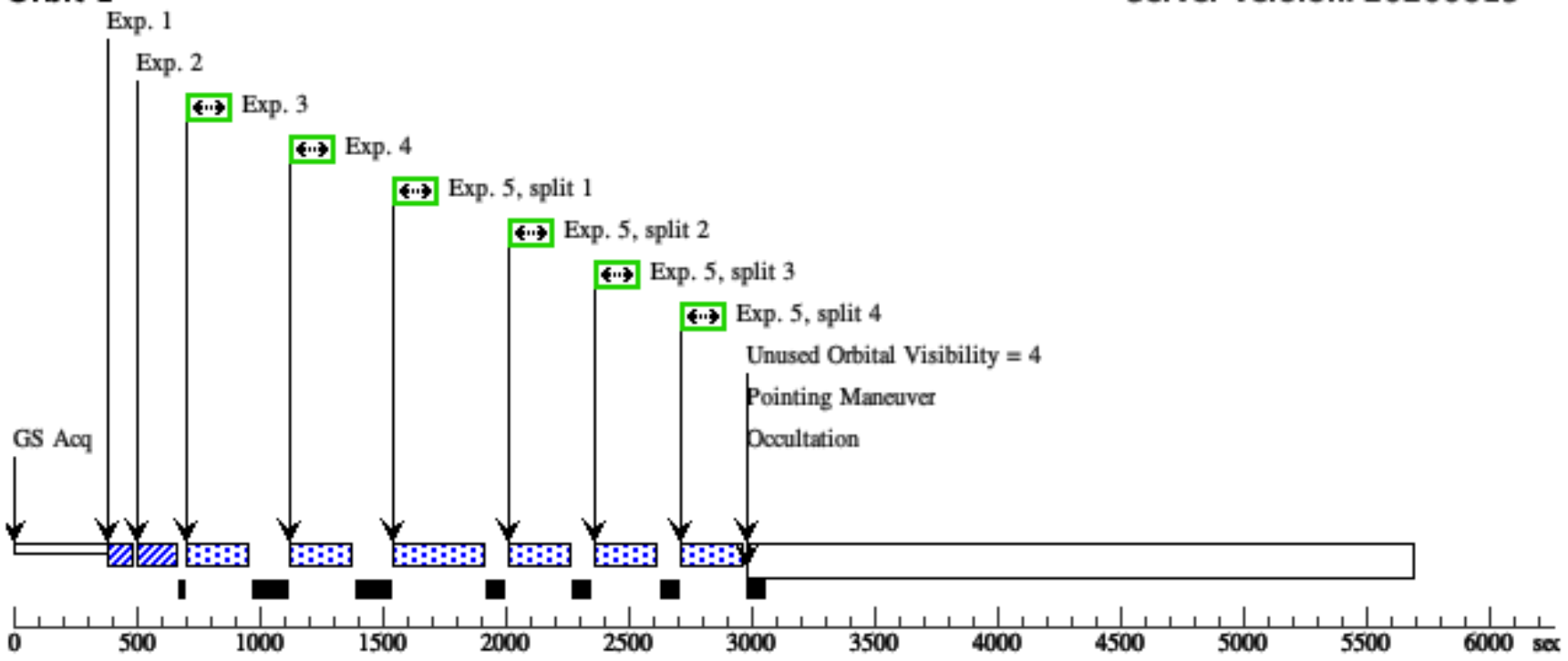
6	G185M/195 (3) AV374 3 (COS.sp.147 3837)	COS/NUV, TIME-TAG, PSA	G185M 1953 A	BUFFER-TIME=688; FP-POS=ALL	209 Secs (836 Secs) *[==>(Split 1)]* *[==>(Split 2)]* *[==>(Split 3)]* *[==>(Split 4)]*	***[2]***

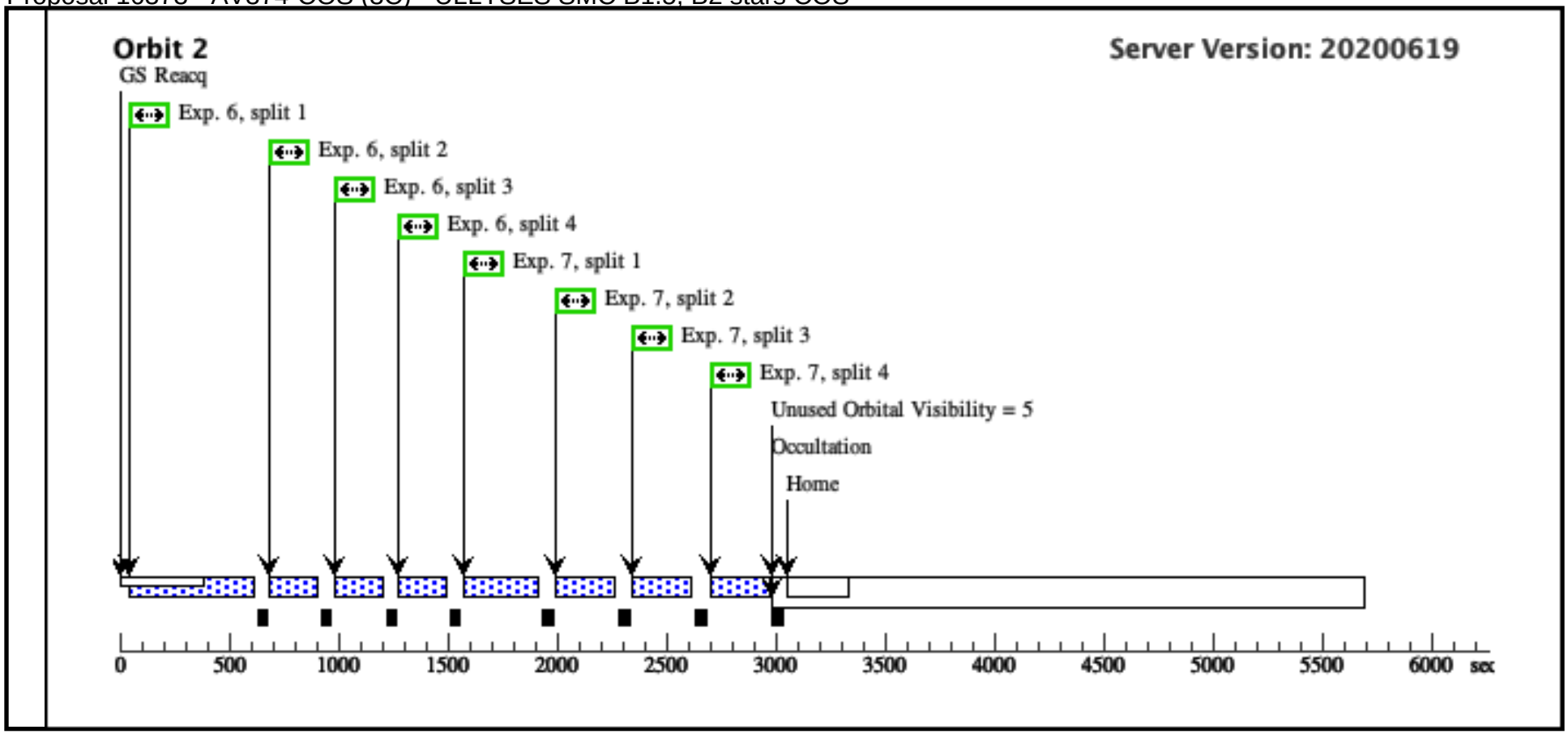
Comments: rn-max(ck04models(B2I,Teff=21040,metallicity=0.004,logG=3) (extinction smcbar=0.020), flux1700 +- 5.0A flux=2.5e-13 Flam); cos,nuv,g185m,c1953,psa,mjd#59305
From file SMC_2020Feb20/input/SMC_all_do1_NewCoords_pids.csv
Spectral type: B2Ib --> B2 I
SED = AV374_COS_G185M_c1953_sed.fits
For exptime=780.0 s, spectral region:
1860.0 +- 0.5 A achieves SNR=30.0/resel
global countrate (brightest segment): 2035.3 cts/s/segment
brightest pixel: 0.204 cts/s/pix at 1872.0 A
Calculation performed 2020-02-24T17:53:22, v0.4

7	G185M/198 (3) AV374 6 (COS.sp.147 3838)	COS/NUV, TIME-TAG, PSA	G185M 1986 A	BUFFER-TIME=738; FP-POS=ALL	254 Secs (1016 Secs) *[==>(Split 1)]* *[==>(Split 2)]* *[==>(Split 3)]* *[==>(Split 4)]*	***[2]***

Comments: rn-max(ck04models(B2I,Teff=21040,metallicity=0.004,logG=3) (extinction smcbar=0.020), flux2200 +- 5.0A flux=1.4e-13 Flam); cos,nuv,g185m,c1986,psa,mjd#59305
From file SMC_2020Feb20/input/SMC_all_do1_NewCoords_pids.csv
Spectral type: B2Ib --> B2 I
SED = AV374_COS_G185M_c1986_sed.fits
For exptime=957.4 s, spectral region:
1980.0 +- 0.5 A achieves SNR=30.0/resel
global countrate (brightest segment): 1877.6 cts/s/segment
brightest pixel: 0.182 cts/s/pix at 1875.0 A
Calculation performed 2020-02-24T17:53:22, v0.4

Orbit Structure




Orbit 2
Server Version: 20200619
GS Reacq
Exp. 6, split 1
Exp. 6, split 2
Exp. 6, split 3
Exp. 6, split 4
Exp. 7, split 1
Exp. 7, split 2
Exp. 7, split 3
Exp. 7, split 4
Unused Orbital Visibility = 5
Occultation
Home
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
6000
sec

Visit

Proposal 16373, AV472-COS (4C), implementation Thu May 20 18:06:50 GMT 2021

Diagnostic Status: No Diagnostics

Scientific Instruments: COS/FUV, COS/NUV

Special Requirements: SCHED 100%

Comments: vstatus; 4C; AV472; P/COS approved for submission; P/DS 13/01/21 ; intrev: started ; P/RS 02/02/21
vcheck; Enter targ name & Inst. & Resp. Sci.; AV472 'AzV 472'; COS; DS
vcheck; ETC numbers entered in APT?; completed
vcheck; Any screening violations?; None
vcheck; S/N ETC calcs done & documented?; N/A
vcheck; Field images checked & saved?; yes AV472_gsc2.png
vcheck; Selected ACQ strategy?;COS BOA MIRRORA 3.6 s
vcheck; Possible ACQ or Sci spoilers?; None
vcheck; Field BOT clear?; yes
vcheck; Visual BOT check for stars not in catalog?; OK
vcheck; Orbit packing finalized?; 1 orbit
vcheck; Buffer times optimized?; yes
vcheck; Verify visit grouping correct; none needed
vcheck; Is visit ready for int. review?; yes
Allocated COS orbits = 1

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(4)	AV472	RA: 01 13 1.8747 (18.2578112d)	Proper Motion RA: 1.057 mas/yr	V=12.62	Reference Frame: ICRS
	Alt Name1: AZV-472	Dec: -72 45 48.45 (-72.76346d)	Proper Motion Dec: -0.922 mas/yr	SpT=B1.5 II; E(B-V)=0.11; U=1 1.6; B=12.5; V=12.6; F1160=5.5 1e-13; F1360=4.47e-13; F1700= 3.39e-13; F2200=2.20e-13	
	Alt Name2: 2DFS-2907	Equinox: J2000	Epoch of Position: 2000		

Comments: AV472 : [2dFS]_2907, AV 472, AzV 472
Previous name : AV 472
Input file: SMC_2020Feb20/input/SMC_all_do1_NewCoords_pids.csv
SIMBAD link (AzV 472): https://simbad.u-strasbg.fr/simbad/sim-id?Ident=AzV+472&submit=submit+id
SpT = B1.5 II
COS/G130M/c1096 : rn-max(ck04models(B1.5I,Teff=22280,metallicity=0.004,logG=3) (extinction smcbar=0.110), flux1160 +- 30.0A flux=5.5e-13 Flam)
COS/G130M/c1291 : rn-max(ck04models(B1.5I,Teff=22280,metallicity=0.004,logG=3) (extinction smcbar=0.110), flux1360 +- 30.0A flux=4.5e-13 Flam)
COS/G160M/c1611 : rn-max(ck04models(B1.5I,Teff=22280,metallicity=0.004,logG=3) (extinction smcbar=0.110), flux1700 +- 5.0A flux=3.4e-13 Flam)
COS/G185M/c1921 : rn-max(ck04models(B1.5I,Teff=22280,metallicity=0.004,logG=3) (extinction smcbar=0.110), flux1700 +- 5.0A flux=3.4e-13 Flam)
COS/G185M/c1953 : rn-max(ck04models(B1.5I,Teff=22280,metallicity=0.004,logG=3) (extinction smcbar=0.110), flux1700 +- 5.0A flux=3.4e-13 Flam)
COS/G185M/c1986 : rn-max(ck04models(B1.5I,Teff=22280,metallicity=0.004,logG=3) (extinction smcbar=0.110), flux2200 +- 5.0A flux=2.2e-13 Flam)
STIS/E140M/c1425 : rn-max(ck04models(B1.5I,Teff=22280,metallicity=0.004,logG=3) (extinction smcbar=0.110), flux1360 +- 30.0A flux=4.5e-13 Flam)
STIS/E230M/c1978 : rn-max(ck04models(B1.5I,Teff=22280,metallicity=0.004,logG=3) (extinction smcbar=0.110), flux2200 +- 5.0A flux=2.2e-13 Flam)
STIS/E230M/c2707 : rn-max(ck04models(B1.5I,Teff=22280,metallicity=0.004,logG=3) (extinction smcbar=0.110), flux2200 +- 5.0A flux=2.2e-13 Flam)
Coordinate pedigree: Gaia
Calculation performed 2020-02-24T17:50:30, v0.4
---
tstatus; AV472; P/COS approved for submission; S/ins not started; P/DS 05/01/21; S/xx DD/MM/YY
tcheck; APT/SIMBAD target names: ; AV472 'AzV 472'
'SK 150'
tcheck; Target info verification status?; OK
tcheck; Coordinates & P.M. updated?; yes - Gaia coords - PM updated from Gaia
tcheck; Adopted SED compared to Observations?; OK - good match below 1700 A, and slightly below out to ~2000 A
Category=EXT-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.1473839)	(4) AV472	COS/NUV, ACQ/IMAGE, BOA	MIRRORA				3.6 Secs (3.6 Secs) *[==>]*	***[1]***
2	G130M/1291-3 (COS.sp.1473841)	(4) AV472	COS/FUV, TIME-TAG, PSA	G130M 1291 A	BUFFER-TIME=127; FP-POS=3			268 Secs (268 Secs) *[==>]*	***[1]***
	Comments: rn-max(ck04models(B1.5I,Teff=22280,metallicity=0.004,logG=3) (extinction smcbar=0.110), flux1360 +- 30.0A flux=4.5e-13 Flam); cos,fuv,g130m,c1291,psa,mjd#59305; fp-pos=None, segment=None) *From file SMC_2020Feb20/input/SMC_all_do1_NewCoords_pids.csv* *Spectral type: B1.5 II --> B1.5 I* *SED = AV472_COS_G130M_c1291_sed.fits* *For exptime=529.0 s, spectral region:* *1150.0 +- 0.5 A achieves SNR=30.0/resel* *global countrate (brightest segment): 6330.4 cts/s/segment* *brightest pixel: 0.115 cts/s/pix at 1275.0 A* *Calculation performed 2020-02-24T17:50:35, v0.4*									
3	G130M/1291-4 (COS.sp.1473841)	(4) AV472	COS/FUV, TIME-TAG, PSA	G130M 1291 A	BUFFER-TIME=127; FP-POS=4			268 Secs (268 Secs) *[==>]*	***[1]***
	Comments: rn-max(ck04models(B1.5I,Teff=22280,metallicity=0.004,logG=3) (extinction smcbar=0.110), flux1360 +- 30.0A flux=4.5e-13 Flam); cos,fuv,g130m,c1291,psa,mjd#59305; fp-pos=None, segment=None) *From file SMC_2020Feb20/input/SMC_all_do1_NewCoords_pids.csv* *Spectral type: B1.5 II --> B1.5 I* *SED = AV472_COS_G130M_c1291_sed.fits* *For exptime=529.0 s, spectral region:* *1150.0 +- 0.5 A achieves SNR=30.0/resel* *global countrate (brightest segment): 6330.4 cts/s/segment* *brightest pixel: 0.115 cts/s/pix at 1275.0 A* *Calculation performed 2020-02-24T17:50:35, v0.4*									
4	G160M/1611 (COS.sp.1473842)	(4) AV472	COS/FUV, TIME-TAG, PSA	G160M 1611 A	BUFFER-TIME=261; FP-POS=ALL			184 Secs (736 Secs) *[==>(Split 1)]* *[==>(Split 2)]* *[==>(Split 3)]* *[==>(Split 4)]*	***[1]***
	Comments: rn-max(ck04models(B1.5I,Teff=22280,metallicity=0.004,logG=3) (extinction smcbar=0.110), flux1700 +- 5.0A flux=3.4e-13 Flam); cos,fuv,g160m,c1611,psa,mjd#59305; fp-pos=None, segment=None) *From file SMC_2020Feb20/input/SMC_all_do1_NewCoords_pids.csv* *Spectral type: B1.5 II --> B1.5 I* *SED = AV472_COS_G160M_c1611_sed.fits* *For exptime=730.3 s, spectral region:* *1590.0 +- 0.5 A achieves SNR=30.0/resel* *global countrate (brightest segment): 4498.0 cts/s/segment* *brightest pixel: 0.069 cts/s/pix at 1442.0 A* *Calculation performed 2020-02-24T17:50:39, v0.4*									

Orbit Structure