16102 - ULLYSES SMC B2 to B4 Supergiants COS/STIS

Cycle: 27, Proposal Category: GO/DD

(Availability Mode: SUPPORTED)

INVESTIGATORS

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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) AV187	COS/FUV	1	19-Oct-2020 10:00:57.0	yes
1S	(1) AV187 WAVE	STIS/CCD STIS/NUV-MAMA	2	19-Oct-2020 10:00:59.0	yes
2C	(2) AV234	COS/FUV	2	19-Oct-2020 10:01:00.0	yes
2S	(2) AV234 WAVE	STIS/CCD STIS/NUV-MAMA	2	19-Oct-2020 10:01:02.0	yes
2T	(2) AV234 WAVE	STIS/CCD STIS/NUV-MAMA	2	19-Oct-2020 10:01:03.0	yes
3C	(3) AV324	COS/FUV	2	19-Oct-2020 10:01:04.0	yes
3D	(3) AV324	COS/NUV	2	19-Oct-2020 10:01:06.0	yes
3S	(3) AV324 WAVE	STIS/CCD STIS/NUV-MAMA	1	19-Oct-2020 10:01:07.0	yes
4C	(4) AV393	COS/FUV	1	19-Oct-2020 10:01:08.0	yes
4S	(4) AV393 WAVE	STIS/CCD STIS/NUV-MAMA	1	19-Oct-2020 10:01:10.0	yes

16 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 16102, AV187-COS (1C), completed Mon Oct 19 14:01:10 GMT 2020

Diagnostic Status: No Diagnostics

Scientific Instruments: COS/FUV

Special Requirements: SCHED 100%

Comments: vstatus; 1C; AV187; P/COS Approved for submission; P/CP 12/03/20; intrev: complete; P/WF 12/05/20
vcheck; Enter targ name & Inst. & Resp. Sci.; AV 187 ; COS ; Charles Proffitt
vcheck; ETC numbers entered in APT?; Done
vcheck; Any screening violations?; No ...
Adopted E(B-V)=0.06 with normalization in the U band for baseline calculations (see av187_adopted_vs_iue_fuse.png)
Some warning that irregulary variable limit exceeded, but have IUE and FUSE data so flux secure.
Also checked IUE spectrum directly against c1291 observation to verify safety of broad emission line, see COS.sp.1431878
vcheck; S/N ETC calcs done & documented?; Yes
vcheck; Field images checked & saved?; yes av187_gsc2_field_cos.png
vcheck; Selected ACQ strategy?; Dispersed ...
One bright star at edge of field prevents BOA MIRRORA imaging ACQ, so falling back to dispersed light acq
vcheck; Possible ACQ or Sci spoilers?; none
vcheck; Field BOT clear?; yes ...
Only GSC2 BOT violation is for the target, which defaults to an unreddened O star, but our detailed SED and spectral type (B3 I) supercede this
vcheck; Visual BOT check for stars not in catalog?; OK all bright stars in image have GSC2 entries
vcheck; Orbit packing finalized?; Yes ...
c1291 expo time increased by 30% above request, c1611 by 55%
vcheck; Buffer times optimized?; Yes ...
due to relatively high count rates, c1291 buffer time set to about 71% of ETC estimate
vcheck; Verify visit grouping correct; NA
vcheck; Is visit ready for int. review?; Yes
Allocated COS orbits = 1, used=1

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	AV187	RA: 00 57 31.7329 (14.3822204d)		V=12.06	Reference Frame: ICRS
	Alt Name1: SK68	Dec: -71 19 59.29 (-71.33314d)		SpT=B3Ia; E(B-V)=0.03; U=11.2; B=12.0; V=12.1; F1160=5.08e-13; F1360=5.30e-13; F1700=4.70e-13	
	Alt Name2: 2MASS-J00573171-7119592	Equinox: J2000			

Comments: AV187 : AV_187, AzV 187
Previous name : AV187
Input file: SMC_2020Feb20/input/SMC_all_do1_NewCoords_pids.csv
SIMBAD link (AzV 187): https://simbad.u-strasbg.fr/simbad/sim-id?Ident=AzV+187&submit=submit+id
SpT = B3Ia
COS/G130M/c1096 : rn-max(ck04models(B3I,Teff=18560,metallicity=0.004,logG=2.6) (extinction smcbar=0.030), flux1160 +- 30.0A flux=5.1e-13 Flam)
COS/G130M/c1291 : rn-max(ck04models(B3I,Teff=18560,metallicity=0.004,logG=2.6) (extinction smcbar=0.030), flux1360 +- 30.0A flux=5.3e-13 Flam)
COS/G160M/c1611 : rn-max(ck04models(B3I,Teff=18560,metallicity=0.004,logG=2.6) (extinction smcbar=0.030), flux1700 +- 5.0A flux=4.7e-13 Flam)
COS/G185M/c1921 : rn-max(ck04models(B3I,Teff=18560,metallicity=0.004,logG=2.6) (extinction smcbar=0.030), flux1700 +- 5.0A flux=4.7e-13 Flam)
COS/G185M/c1953 : rn-max(ck04models(B3I,Teff=18560,metallicity=0.004,logG=2.6) (extinction smcbar=0.030), flux1700 +- 5.0A flux=4.7e-13 Flam)
COS/G185M/c1986 : rn-max(ck04models(B3I,Teff=18560,metallicity=0.004,logG=2.6) (extinction smcbar=0.030), flux1700 +- 5.0A flux=4.7e-13 Flam)
STIS/E140M/c1425 : rn-max(ck04models(B3I,Teff=18560,metallicity=0.004,logG=2.6) (extinction smcbar=0.030), flux1360 +- 30.0A flux=5.3e-13 Flam)
STIS/E230M/c1978 : rn-max(ck04models(B3I,Teff=18560,metallicity=0.004,logG=2.6) (extinction smcbar=0.030), flux1700 +- 5.0A flux=4.7e-13 Flam)
STIS/E230M/c2707 : rn-max(ck04models(B3I,Teff=18560,metallicity=0.004,logG=2.6) (extinction smcbar=0.030), flux1700 +- 5.0A flux=4.7e-13 Flam)
Coordinate pedigree: Gaia
Calculation performed 2020-02-24T17:53:41, v0.4
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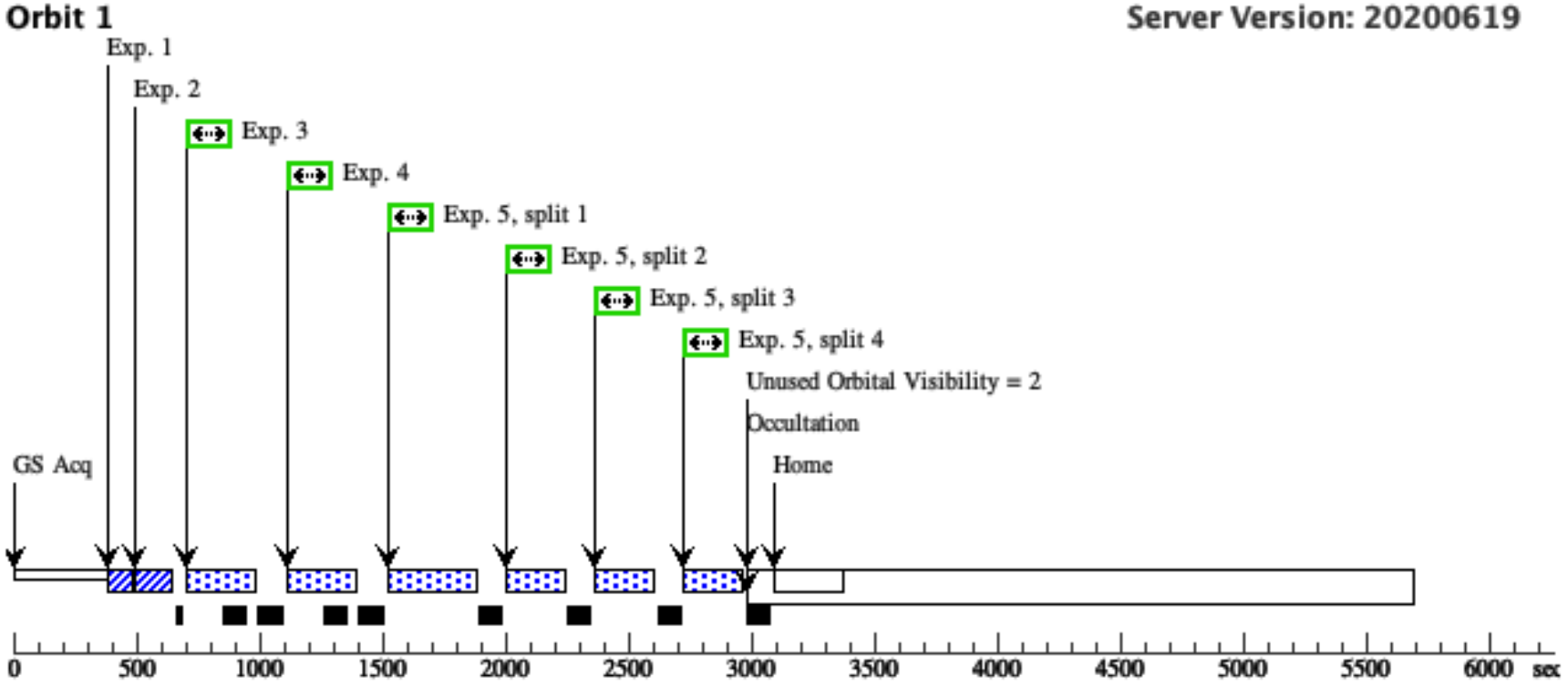
tstatus; AV187; P/COS Approved for submission; S/STIS ready for internal review; P/CP 25/02/20; S/CP DD/MM/YY
tcheck; APT/SIMBAD target names: ; aka SK 68
tcheck; Target info verification status?; complete ...
SIMBAD gives SpT=B2.5Ia, SIMBAD photometry close to our results.
tcheck; Coordinates & P.M. updated?; Yes ...
coordinates from Gaia agree with SIMBAD - proper motion corrections not needed
tcheck; Adopted SED compared to Observations?; Yes ...
suggests slightly steeper spectrum - perhaps E(B-V)=0.06 rather than 0.03
c160040100000nvo4ttagfcal_vo.fits lwp12385mxlo_vo.fits swp32626mxlo_vo.fits
Category=EXT-STAR
Description=[B3-B5 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.1414505)	(1) AV187	COS/FUV, ACQ/PEAKXD, PSA	G130M 1291 A	CENTER=FLUX-WT; NUM-POS=3; STEP-SIZE=1.3; SEGMENT=BOTH			0.3 Secs (0.3 Secs) *[==>]*	*[1]*
2	ACQ/PEAKD (COS.sa.1414505)	(1) AV187	COS/FUV, ACQ/PEAKD, PSA	G130M 1291 A	CENTER=FLUX-WT-FLR; NUM-POS=5; STEP-SIZE=0.9; SEGMENT=BOTH			0.3 Secs (0.3 Secs) *[==>]*	*[1]*
3	G130M/1291-3 (COS.sp.1414492)	(1) AV187	COS/FUV, TIME-TAG, PSA	G130M 1291 A	BUFFER-TIME=119; FP-POS=3			228.9 Secs (228.9 Secs) *[==>]*	*[1]*
	Comments: Updated SED to better fit the overall shape - updated E(B-V) to 0.06 and normalized to U Band *rn-max(ck04models(B3I,Teff=18560,metallicity=0.004,logG=2.6) (extinction smcbar=0.030), flux1360 +- 30.0A flux=5.3e-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: B3Ia --> B3 I* *SED = AV187_COS_G130M_c1291_sed.fits* *For exptime=351.9 s, spectral region:* *1150.0 Angstroms +/-0.5 Angstroms achieves SNR=30.0/resel* *global countrate (brightest segment): 8546.6 cts/s/segment* *brightest pixel: 0.153 cts/s/pix at 1275.0 Angstroms* *Calculation performed 2020-02-24T17:53:46, v0.4*								
4	G130M/1291-4 (COS.sp.1414492)	(1) AV187	COS/FUV, TIME-TAG, PSA	G130M 1291 A	BUFFER-TIME=119; FP-POS=4			228.9 Secs (228.9 Secs) *[==>]*	*[1]*
	Comments: rn-max(ck04models(B3I,Teff=18560,metallicity=0.004,logG=2.6) (extinction smcbar=0.030), flux1360 +- 30.0A flux=5.3e-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: B3Ia --> B3 I* *SED = AV187_COS_G130M_c1291_sed.fits* *For exptime=351.9 s, spectral region:* *1150.0 +/- 0.5 Angstroms achieves SNR=30.0/resel* *global countrate (brightest segment): 8546.6 cts/s/segment* *brightest pixel: 0.153 cts/s/pix at 1275.0 angstroms* *Calculation performed 2020-02-24T17:53:46, v0.4*								
5	G160M/1611 (COS.sp.1414499)	(1) AV187	COS/FUV, TIME-TAG, PSA	G160M 1611 A	BUFFER-TIME=226.0; FP-POS=ALL			191.4 Secs (765.6 Secs) *[==>(Split 1)]* *[==>(Split 2)]* *[==>(Split 3)]* *[==>(Split 4)]*	*[1]*
	Comments: Updated SED to better fit the overall shape - updated E(B-V) to 0.06 and normalized to U Band *rn-max(ck04models(B3I,Teff=18560,metallicity=0.004,logG=2.6) (extinction smcbar=0.030), flux1700 +- 5.0A flux=4.7e-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: B3Ia --> B3 I* *SED = AV187_COS_G160M_c1611_sed.fits* *For exptime=493.7 s, spectral region:* *1590.0 +/- 0.5 Angstroms achieves SNR=30.0/resel* *global countrate (brightest segment): 6915.7 cts/s/segment* *brightest pixel: 0.110 cts/s/pix at 1442.0 Angstroms* *Calculation performed 2020-02-24T17:53:48, v0.4*								

Orbit Structure



Visit

Proposal 16102, AV187-STIS (1S), completed Mon Oct 19 14:01:10 GMT 2020

Diagnostic Status: Warning

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

Special Requirements: SCHED 100%

Comments: vstatus; 1S; AV187; S/STIS Approved for submission; P/CP 12/03/20 ; intrev: complete; P/TS 15/05/20
vcheck; Enter targ name & Inst. & Resp. Sci.; AV 187 ; STIS ; Charles Proffitt
vcheck; ETC numbers entered in APT?; Yes
vcheck; Any screening violations?; No
vcheck; S/N ETC calcs done & documented?; Yes
for adopted SED see av187_adopted_vs_iue_fuse.png
vcheck; Field images checked & saved?; Yes av187_gsc2_field_cos.png
vcheck; Selected ACQ strategy?; F28X50LP, S/N=120
vcheck; Possible ACQ or Sci spoilers?; None
vcheck; Field BOT clear?; Yes
vcheck; Visual BOT check for stars not in catalog?; Yes - all stars have GSC2 values, so field BOT clear
vcheck; Orbit packing finalized?; Yes - 1 orbit would give only 68% of requested time; 2 orbits gives 152% so used 2 orbits
vcheck; Buffer times optimized?; Yes
vcheck; Verify visit grouping correct; NA
vcheck; Is visit ready for int. review?; Yes
Allocated STIS orbits = 2, used = 2

Diagnostics

(AV187-STIS (1S)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	AV187	RA: 00 57 31.7329 (14.3822204d)		V=12.06	Reference Frame: ICRS
	Alt Name1: SK68	Dec: -71 19 59.29 (-71.33314d)		SpT=B3Ia; E(B-V)=0.03; U=11.2; B=12.0; V=12.1; F1160=5.08e-13; F1360=5.30e-13; F1700=4.70e-13	
	Alt Name2: 2MASS-J00573171-7119592	Equinox: J2000			

Comments: AV187 : AV_187, AzV 187
Previous name : AV187
Input file: SMC_2020Feb20/input/SMC_all_do1_NewCoords_pids.csv
SIMBAD link (AzV 187): https://simbad.u-strasbg.fr/simbad/sim-id?Ident=AzV+187&submit=submit+id
SpT = B3Ia
COS/G130M/c1096 : rn-max(ck04models(B3I,Teff=18560,metallicity=0.004,logG=2.6) (extinction smcbar=0.030), flux1160 +- 30.0A flux=5.1e-13 Flam)
COS/G130M/c1291 : rn-max(ck04models(B3I,Teff=18560,metallicity=0.004,logG=2.6) (extinction smcbar=0.030), flux1360 +- 30.0A flux=5.3e-13 Flam)
COS/G160M/c1611 : rn-max(ck04models(B3I,Teff=18560,metallicity=0.004,logG=2.6) (extinction smcbar=0.030), flux1700 +- 5.0A flux=4.7e-13 Flam)
COS/G185M/c1921 : rn-max(ck04models(B3I,Teff=18560,metallicity=0.004,logG=2.6) (extinction smcbar=0.030), flux1700 +- 5.0A flux=4.7e-13 Flam)
COS/G185M/c1953 : rn-max(ck04models(B3I,Teff=18560,metallicity=0.004,logG=2.6) (extinction smcbar=0.030), flux1700 +- 5.0A flux=4.7e-13 Flam)
COS/G185M/c1986 : rn-max(ck04models(B3I,Teff=18560,metallicity=0.004,logG=2.6) (extinction smcbar=0.030), flux1700 +- 5.0A flux=4.7e-13 Flam)
STIS/E140M/c1425 : rn-max(ck04models(B3I,Teff=18560,metallicity=0.004,logG=2.6) (extinction smcbar=0.030), flux1360 +- 30.0A flux=5.3e-13 Flam)
STIS/E230M/c1978 : rn-max(ck04models(B3I,Teff=18560,metallicity=0.004,logG=2.6) (extinction smcbar=0.030), flux1700 +- 5.0A flux=4.7e-13 Flam)
STIS/E230M/c2707 : rn-max(ck04models(B3I,Teff=18560,metallicity=0.004,logG=2.6) (extinction smcbar=0.030), flux1700 +- 5.0A flux=4.7e-13 Flam)
Coordinate pedigree: Gaia
Calculation performed 2020-02-24T17:53:41, v0.4
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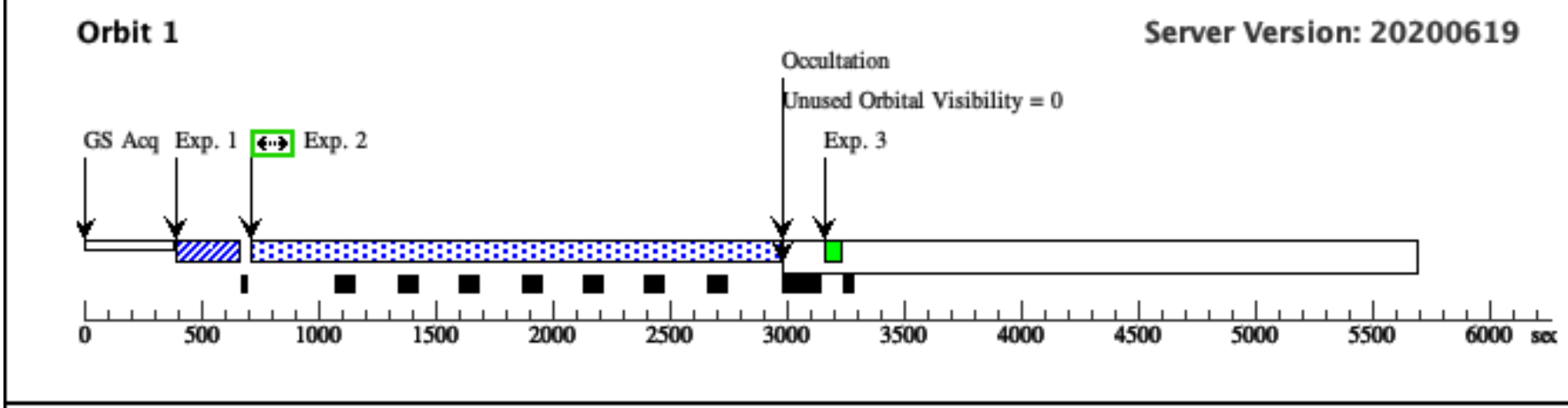
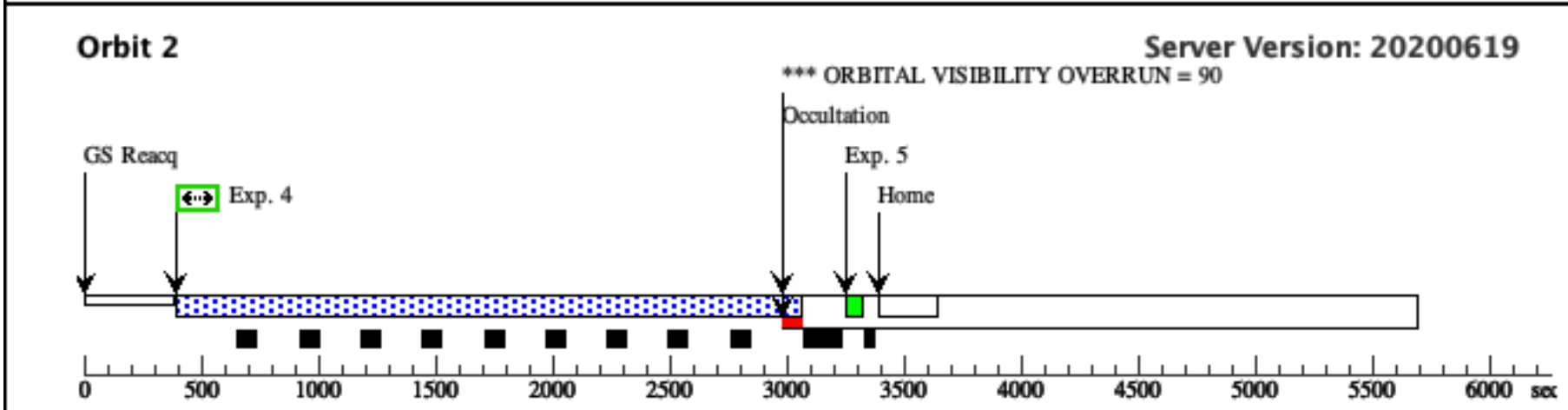
tstatus; AV187; P/COS Approved for submission; S/STIS ready for internal review; P/CP 25/02/20; S/CP DD/MM/YY
tcheck; APT/SIMBAD target names: ; aka SK 68
tcheck; Target info verification status?; complete ...
SIMBAD gives SpT=B2.5Ia, SIMBAD photometry close to our results.
tcheck; Coordinates & P.M. updated?; Yes ...
coordinates from Gaia agree with SIMBAD - proper motion corrections not needed
tcheck; Adopted SED compared to Observations?; Yes ...
suggests slightly steeper spectrum - perhaps E(B-V)=0.06 rather than 0.03
c160040100000nvo4ttagfcal_vo.fits lwp12385mxlo_vo.fits swp32626mxlo_vo.fits
Category=EXT-STAR
Description=[B3-B5 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 (STIS.ta.1442641)	(1) AV187	STIS/CCD, ACQ, F28X50OII	MIRROR				3 Secs (3 Secs) *[==>]*	***[1]***
Comments: S/N = 120									
2	E230M/1978 (STIS.sp.1414562)	(1) AV187	STIS/NUV-MAMA, TIME-TAG, 0.2X0.2	E230M 1978 A	WAVECAL=NO; BUFFER-TIME=263.0			2142 Secs (2142 Secs) *[==>]*	***[1]***
Comments: rn-max(ck04models(B3I,Teff=18560,metallicity=0.004,logG=2.6) (extinction smcbar=0.030), flux1700 +- 5.0A flux=4.7e-13 Flam); stis,nuvmama,e230m,c1978,0.2x0.2,mjd#59305 *From file SMC_2020Feb20/input/SMC_all_do1_NewCoords_pids.csv* *Spectral type: B3Ia --> B3 I* *SED = AV187_STIS_E230M_c1978_sed.fits* *For exptime=3159.6 s, spectral region:* *1800.0+/-0.5 A achieves SNR=20.0/resel* *global countrate (brightest segment): 6080.0 cts/s/segment* *brightest pixel: 0.120 cts/s/pix at 2267.5 A* *Calculation performed 2020-02-24T17:53:55, v0.4*									
3	E230M/1978 WAVECAL	WAVE	STIS/NUV-MAMA, ACCUM, 0.2X0.2	E230M 1978 A				*[==>]*	***[1]***
4	E230M/1978 (STIS.sp.1414562)	(1) AV187	STIS/NUV-MAMA, TIME-TAG, 0.2X0.2	E230M 1978 A	WAVECAL=NO; BUFFER-TIME=263.0			2657 Secs (2657 Secs) *[==>]*	***[2]***
Comments: rn-max(ck04models(B3I,Teff=18560,metallicity=0.004,logG=2.6) (extinction smcbar=0.030), flux1700 +- 5.0A flux=4.7e-13 Flam); stis,nuvmama,e230m,c1978,0.2x0.2,mjd#59305 *From file SMC_2020Feb20/input/SMC_all_do1_NewCoords_pids.csv* *Spectral type: B3Ia --> B3 I* *SED = AV187_STIS_E230M_c1978_sed.fits* *For exptime=3159.6 s, spectral region:* *1800.0+/-0.5 A achieves SNR=20.0/resel* *global countrate (brightest segment): 6080.0 cts/s/segment* *brightest pixel: 0.120 cts/s/pix at 2267.5 A* *Calculation performed 2020-02-24T17:53:55, v0.4*									
5	E230M/1978 WAVECAL	WAVE	STIS/NUV-MAMA, ACCUM, 0.2X0.2	E230M 1978 A				*[==>]*	***[2]***

Orbit Structure





Visit

Proposal 16102, AV234-COS (2C), completed Mon Oct 19 14:01:11 GMT 2020

Diagnostic Status: Warning

Scientific Instruments: COS/FUV

Special Requirements: SCHED 100%

Comments: vstatus; 2C; AV234; P/COS Approved for submission; P/CP 16/04/20; intrev: complete; P/WF 12/05/20
vcheck; Enter targ name & Inst. & Resp. Sci.; AV234 ; COS ; CP
vcheck; ETC numbers entered in APT?; yes ...
adopted default SEDs in av234/seds AV234_COS_G130M_c1291_sed.fits, AV234_COS_G160M_c1611_sed.fits
each is appropriate for its needed wavelength range, even though the fit of any one to the overall SED is mediocre.
vcheck; Any screening violations?; no, all calculations well under BOP limits
vcheck; S/N ETC calcs done & documented?; Yes, default calcs meet specs ...
since UBV mags signficantly brighter that consistent with observed UV spectra, will do extra checks using best overall fit to FUV shape be renormalized to observed V in case its the IUE spectra rather than the SED shape that's funny
*c1291 renormalizing default c1611 spectrum to observed Vmag=12.9 reduces buffer time to 2/3*212s, but still safe COS.sp.1438513*
*c1611 renormalizing default c1611 spectrum to observed Vmag=12.9 reduces buffer time to 2/3*418s, but still safe COS.sp.1438508*
vcheck; Field images checked & saved?; yes, see azv234_gsc2.png
vcheck; Selected ACQ strategy?; dispersed
vcheck; Possible ACQ or Sci spoilers?; none
vcheck; Field BOT clear?; Yes, GSC2 BOT only flags the target as unsafe - 26 others safe, no unknowns
vcheck; Visual BOT check for stars not in catalog?; OK, all bright stars have GSC2 entries, but note that GSC2 finds a star ~1.5 mags fainter at about 1" from target, but neither 2MASS nor Gaia include any such star and 2MASS and Gaia agree well on target coordinates
vcheck; Orbit packing finalized?; Yes ...
this one can't quite squeeze into one orbit even at 80%, but fits very easily into 2. Get 235% and 175% of requested c1291/c1611 times
vcheck; Buffer times optimized?; yes, was more conservative than ETC suggests due to higher visual fluxes than consistent with models + UV obs
vcheck; Verify visit grouping correct; N/A
vcheck; Is visit ready for int. review?; Yes
Allocated COS orbits = 2

Diagnostics

(AV234-COS (2C)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN

Fixed Targets

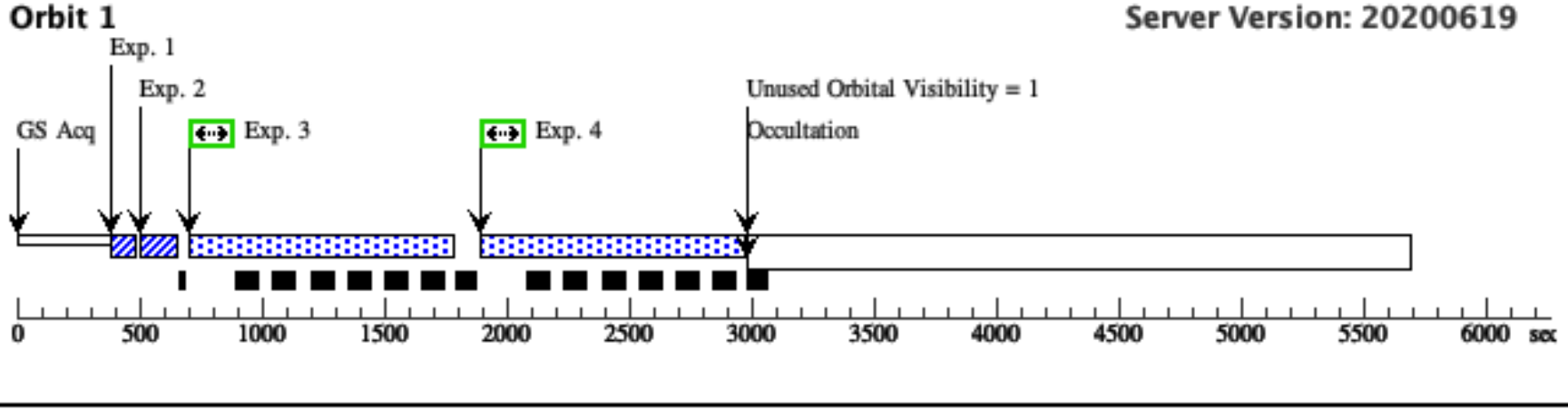
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(2)	AV234	RA: 00 59 43.5091 (14.9312879d)		V=12.94	Reference Frame: ICRS
	Alt Name1: SK81	Dec: -72 04 18.86 (-72.07191d)		SpT=B3Iab; E(B-V)=0.03; U=12.0; B=12.8; V=12.9; I=12.44; F1160=5.35e-13; F1360=2.13e-13; F1700=1.85e-13; F2200=1.25e-13	
	Alt Name2: M2002-47028	Equinox: J2000			

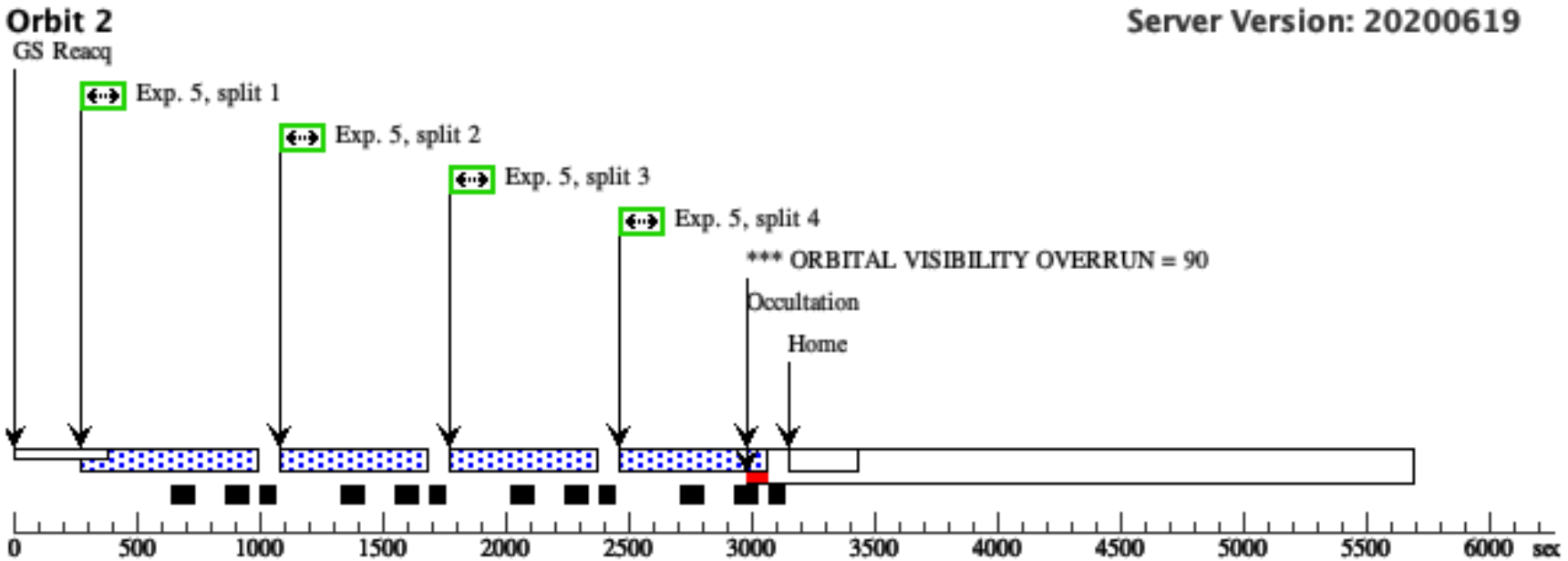
Comments: AV234 : [M2002]_47028, AV 234, AzV 234
Previous name : AV 234
Input file: SMC_2020Feb20/input/SMC_all_do1_NewCoords_pids.csv
SIMBAD link (AzV 234): https://simbad.u-strasbg.fr/simbad/sim-id?Ident=AzV+234&submit=submit+id
SpT = B3Iab
COS/G130M/c1096 : rn-max(ck04models(B3I,Teff=18560,metallicity=0.004,logG=2.6) (extinction smcbar=0.030), flux1160 +- 30.0A flux=5.4e-13 Flam)
COS/G130M/c1291 : rn-max(ck04models(B3I,Teff=18560,metallicity=0.004,logG=2.6) (extinction smcbar=0.030), flux1360 +- 30.0A flux=2.1e-13 Flam)
COS/G160M/c1611 : rn-max(ck04models(B3I,Teff=18560,metallicity=0.004,logG=2.6) (extinction smcbar=0.030), flux1700 +- 5.0A flux=1.8e-13 Flam)
COS/G185M/c1921 : rn-max(ck04models(B3I,Teff=18560,metallicity=0.004,logG=2.6) (extinction smcbar=0.030), flux1700 +- 5.0A flux=1.8e-13 Flam)
COS/G185M/c1953 : rn-max(ck04models(B3I,Teff=18560,metallicity=0.004,logG=2.6) (extinction smcbar=0.030), flux1700 +- 5.0A flux=1.8e-13 Flam)
COS/G185M/c1986 : rn-max(ck04models(B3I,Teff=18560,metallicity=0.004,logG=2.6) (extinction smcbar=0.030), flux2200 +- 5.0A flux=1.2e-13 Flam)
STIS/E140M/c1425 : rn-max(ck04models(B3I,Teff=18560,metallicity=0.004,logG=2.6) (extinction smcbar=0.030), flux1360 +- 30.0A flux=2.1e-13 Flam)
STIS/E230M/c1978 : rn-max(ck04models(B3I,Teff=18560,metallicity=0.004,logG=2.6) (extinction smcbar=0.030), flux2200 +- 5.0A flux=1.2e-13 Flam)
STIS/E230M/c2707 : rn-max(ck04models(B3I,Teff=18560,metallicity=0.004,logG=2.6) (extinction smcbar=0.030), flux2200 +- 5.0A flux=1.2e-13 Flam)
Coordinate pedigree: Gaia
Calculation performed 2020-02-24T17:53:26, v0.4
---
tstatus; AV234; P/COS Approved for submission; S/STIS ready for internal review; P/CP 21/04/20; S/CP 21/04/20
tcheck; APT/SIMBAD target names: ; AzV 234, SK 81
tcheck; Target info verification status?; Good
tcheck; Coordinates & P.M. updated?; good
tcheck; Adopted SED compared to Observations?; OK? ...
Overall shape isn't quite right, and UBV photometry is a factor of two too bright - however, LWP spectrum does show a upturn at the red end, consistent with the U band flux, so this looks to be a funny shape to the SED rather than a flux underestimate by the IUE/SWP spectra. Emission line at 1212 in IUE spectrum is geo-coronal lyman alpha so not in stellar spectrum. No other backup to FUV/NUV flux so may want to be extra cautious on buffer times and BOP checks. Will adopt as best overall fit to SED the default c1611 spectrum which is normalize at 1700 angstroms and use this for S/N check, but will also do BOP and buffer time checks normalized to V band in case there is something odd about the IUE throughput for this one.
Category=EXT-STAR
Description=[B3-B5 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.1437249)	(2) AV234	COS/FUV, ACQ/PEAKXD, PSA	G130M 1291 A	CENTER=FLUX-WT; NUM-POS=3; STEP-SIZE=1.3; SEGMENT=BOTH			0.6 Secs (0.6 Secs) *[==>]*	***[1]***
2	ACQ/PEAKD (COS.sa.1437249)	(2) AV234	COS/FUV, ACQ/PEAKD, PSA	G130M 1291 A	CENTER=FLUX-WT-FLR; NUM-POS=5; STEP-SIZE=0.9; SEGMENT=BOTH			0.6 Secs (0.6 Secs) *[==>]*	***[1]***
3	G130M/1291-3 (COS.sp.1437247)	(2) AV234	COS/FUV, TIME-TAG, PSA	G130M 1291 A	BUFFER-TIME=153; FP-POS=3			1028 Secs (1028 Secs) *[==>]*	***[1]***
	Comments: rn-max(ck04models(B3I,Teff=18560,metallicity=0.004,logG=2.6) (extinction smcbar=0.030), flux1360 +- 30.0A flux=2.1e-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: B3Iab --> B3 I* *SED = AV234_COS_G130M_c1291_sed.fits* *For exptime=875.8 s, spectral region:* *1150.0+/-0.5 A achieves SNR=30.0/resel* *global countrate (brightest segment): 3574.1 cts/s/segment* *brightest pixel: 0.062 cts/s/pix at 1275.0 A* *Calculation performed 2020-02-24T17:53:31, v0.4*								
4	G130M/1291-4 (COS.sp.1437247)	(2) AV234	COS/FUV, TIME-TAG, PSA	G130M 1291 A	BUFFER-TIME=153; FP-POS=4			1028 Secs (1028 Secs) *[==>]*	***[1]***
	Comments: rn-max(ck04models(B3I,Teff=18560,metallicity=0.004,logG=2.6) (extinction smcbar=0.030), flux1360 +- 30.0A flux=2.1e-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: B3Iab --> B3 I* *SED = AV234_COS_G130M_c1291_sed.fits* *For exptime=875.8 s, spectral region:* *1150.0+/-0.5 A achieves SNR=30.0/resel* *global countrate (brightest segment): 3574.1 cts/s/segment* *brightest pixel: 0.062 cts/s/pix at 1275.0 A* *Calculation performed 2020-02-24T17:53:31, v0.4*								
5	G160M/1611 (COS.sp.1437248)	(2) AV234	COS/FUV, TIME-TAG, PSA	G160M 1611 A	BUFFER-TIME=218; FP-POS=ALL			548 Secs (2192 Secs) *[==>(Split 1)]* *[==>(Split 2)]* *[==>(Split 3)]* *[==>(Split 4)]*	***[2]***
	Comments: rn-max(ck04models(B3I,Teff=18560,metallicity=0.004,logG=2.6) (extinction smcbar=0.030), flux1700 +- 5.0A flux=1.8e-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: B3Iab --> B3 I* *SED = AV234_COS_G160M_c1611_sed.fits* *For exptime=1254.8 s, spectral region:* *1590.0+/-0.5 A achieves SNR=30.0/resel* *global countrate (brightest segment): 2741.8 cts/s/segment* *brightest pixel: 0.043 cts/s/pix at 1442.0 A* *Calculation performed 2020-02-24T17:53:33, v0.4*								

Orbit Structure





Visit

Proposal 16102, AV234-STIS (2S), completed Mon Oct 19 14:01:11 GMT 2020

Diagnostic Status: Warning

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

Special Requirements: SCHED 100%

Comments: vstatus; 2S; AV234; S/STIS Approved for submission; P/CP 16/04/20 ; intrev: complete; P/TS 15/05/20
vcheck; Enter targ name & Inst. & Resp. Sci.; AV234 ; STIS ;CP
vcheck; ETC numbers entered in APT?; YES
vcheck; Any screening violations?; No
vcheck; S/N ETC calcs done & documented?; Yes
vcheck; Field images checked & saved?; yes: azv234_gsc2_STIS.png
vcheck; Selected ACQ strategy?; OII filter
Something is funny about this star's UV vs visual SED and in case there is a red companion of comparable brightness we'll do the acq with the OII filter even though it takes a little more time
vcheck; Possible ACQ or Sci spoilers?; Stellar iamge looks a bit extended, but nothing of comparable brightness close enough to affect the ACQ - but will use OII UV acq to avoid confusion if cool companion exists
vcheck; Field BOT clear?; Yes
vcheck; Visual BOT check for stars not in catalog?; GSC2 finds a star ~1.5 mags fainter at about 1" from target, but neither 2MASS nor Gaia include any such star and 2MASS and Gaia agree well on target coordinates
vcheck; Orbit packing finalized?; Yes two 2-orbit visits give 85% of reqeusted time
vcheck; Buffer times optimized?; Yes, but for buffer times normalized to V band instead of observed UV flux to allow for possible mis-centering of IUE spectra
vcheck; Verify visit grouping correct; yes
vcheck; Is visit ready for int. review?; yes
Allocated STIS orbits = 5 ; 2+2 will get 84.5% of requested exposure time; 2+3 would get 108% of requested time. Will go with 2+2

Diagnostics

(AV234-STIS (2S)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN

Fixed Targets

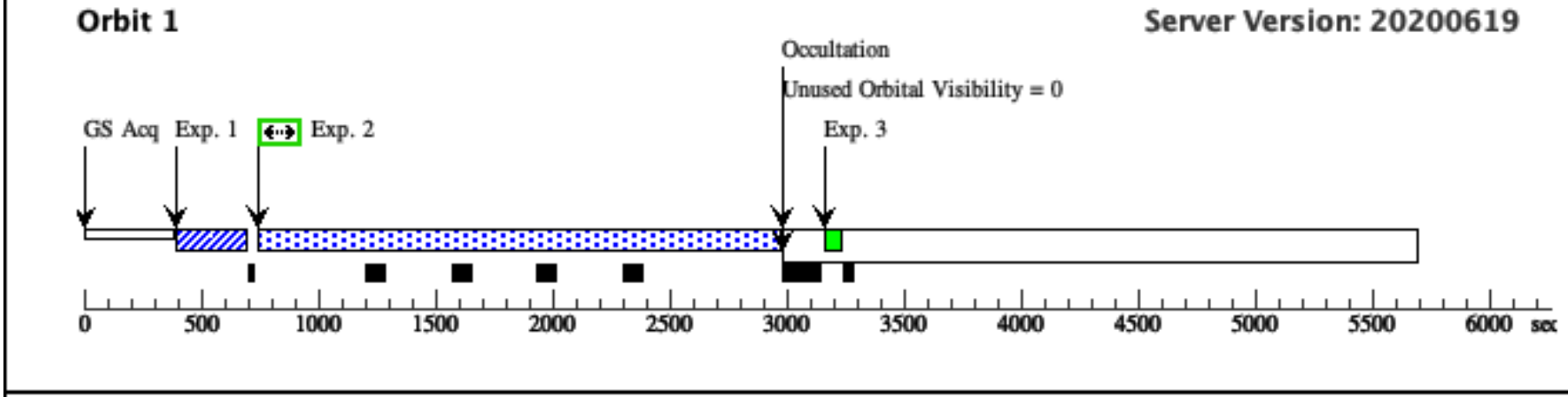
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(2)	AV234	RA: 00 59 43.5091 (14.9312879d)		V=12.94	Reference Frame: ICRS
	Alt Name1: SK81	Dec: -72 04 18.86 (-72.07191d)		SpT=B3Iab; E(B-V)=0.03; U=12.0; B=12.8; V=12.9; I=12.44; F1160=5.35e-13; F1360=2.13e-13; F1700=1.85e-13; F2200=1.25e-13	
	Alt Name2: M2002-47028	Equinox: J2000			

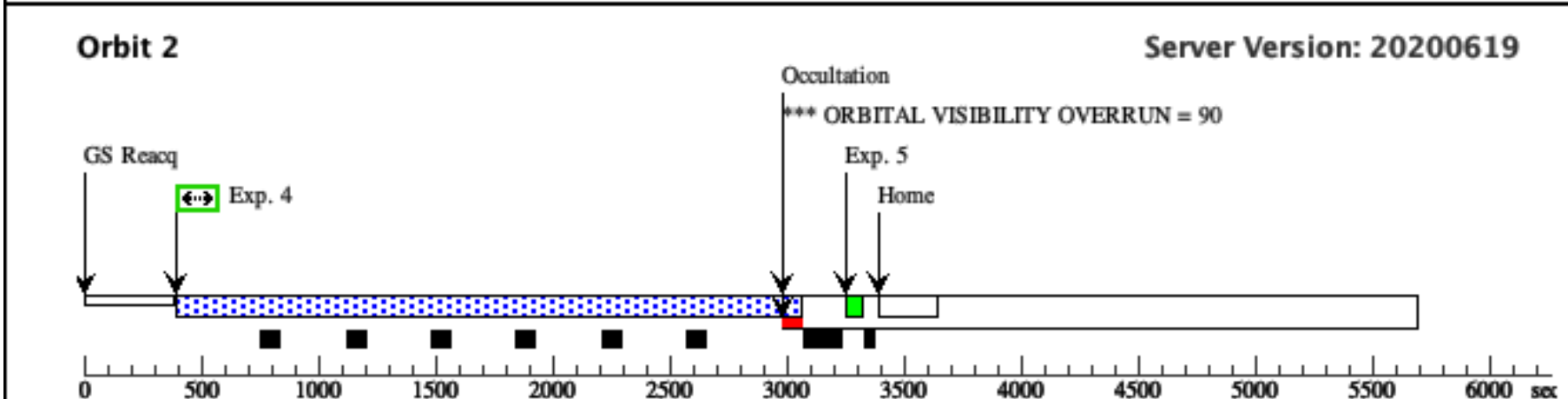
Comments: AV234 : [M2002]_47028, AV 234, AzV 234
Previous name : AV 234
Input file: SMC_2020Feb20/input/SMC_all_do1_NewCoords_pids.csv
SIMBAD link (AzV 234): https://simbad.u-strasbg.fr/simbad/sim-id?Ident=AzV+234&submit=submit+id
SpT = B3Iab
COS/G130M/c1096 : rn-max(ck04models(B3I,Teff=18560,metallicity=0.004,logG=2.6) (extinction smcbar=0.030), flux1160 +- 30.0A flux=5.4e-13 Flam)
COS/G130M/c1291 : rn-max(ck04models(B3I,Teff=18560,metallicity=0.004,logG=2.6) (extinction smcbar=0.030), flux1360 +- 30.0A flux=2.1e-13 Flam)
COS/G160M/c1611 : rn-max(ck04models(B3I,Teff=18560,metallicity=0.004,logG=2.6) (extinction smcbar=0.030), flux1700 +- 5.0A flux=1.8e-13 Flam)
COS/G185M/c1921 : rn-max(ck04models(B3I,Teff=18560,metallicity=0.004,logG=2.6) (extinction smcbar=0.030), flux1700 +- 5.0A flux=1.8e-13 Flam)
COS/G185M/c1953 : rn-max(ck04models(B3I,Teff=18560,metallicity=0.004,logG=2.6) (extinction smcbar=0.030), flux1700 +- 5.0A flux=1.8e-13 Flam)
COS/G185M/c1986 : rn-max(ck04models(B3I,Teff=18560,metallicity=0.004,logG=2.6) (extinction smcbar=0.030), flux2200 +- 5.0A flux=1.2e-13 Flam)
STIS/E140M/c1425 : rn-max(ck04models(B3I,Teff=18560,metallicity=0.004,logG=2.6) (extinction smcbar=0.030), flux1360 +- 30.0A flux=2.1e-13 Flam)
STIS/E230M/c1978 : rn-max(ck04models(B3I,Teff=18560,metallicity=0.004,logG=2.6) (extinction smcbar=0.030), flux2200 +- 5.0A flux=1.2e-13 Flam)
STIS/E230M/c2707 : rn-max(ck04models(B3I,Teff=18560,metallicity=0.004,logG=2.6) (extinction smcbar=0.030), flux2200 +- 5.0A flux=1.2e-13 Flam)
Coordinate pedigree: Gaia
Calculation performed 2020-02-24T17:53:26, v0.4
---
tstatus; AV234; P/COS Approved for submission; S/STIS ready for internal review; P/CP 21/04/20; S/CP 21/04/20
tcheck; APT/SIMBAD target names: ; AzV 234, SK 81
tcheck; Target info verification status?; Good
tcheck; Coordinates & P.M. updated?; good
tcheck; Adopted SED compared to Observations?; OK? ...
Overall shape isn't quite right, and UBV photometry is a factor of two too bright - however, LWP spectrum does show a upturn at the red end, consistent with the U band flux, so this looks to be a funny shape to the SED rather than a flux underestimate by the IUE/SWP spectra. Emission line at 1212 in IUE spectrum is geo-coronal lyman alpha so not in stellar spectrum. No other backup to FUV/NUV flux so may want to be extra cautious on buffer times and BOP checks. Will adopt as best overall fit to SED the default c1611 spectrum which is normalize at 1700 angstroms and use this for S/N check, but will also do BOP and buffer time checks normalized to V band in case there is something odd about the IUE throughput for this one.
Category=EXT-STAR
Description=[B3-B5 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 (STIS.ta.1438532)	(2) AV234	STIS/CCD, ACQ, F28X50OII	MIRROR				10.0 Secs (10 Secs) *[==>]*	***[1]***
Comments: Something is funny about this star's UV vs visual SED and in case there is a red companion of comparable brightness we'll do the acq with the OII filter even though it takes a little more time									
2	E230M/1978 (STIS.sp.1438624)	(2) AV234	STIS/NUV-MAMA, TIME-TAG, 0.2X0.2	E230M 1978 A	WAVECAL=NO; BUFFER-TIME=363			2114 Secs (2114 Secs) *[==>]*	***[1]***
Comments: rn-max(ck04models(B3I,Teff=18560,metallicity=0.004,logG=2.6) (extinction smcbar=0.030), flux2200 +- 5.0A flux=1.2e-13 Flam); stis,nuvmama,e230m,c1978,0.2x0.2,mjd#59305 *Desire total of 11271.3 s* *From file SMC_2020Feb20/input/SMC_all_do1_NewCoords_pids.csv* *Spectral type: B3Iab --> B3 I* *SED = AV234_STIS_E230M_c1978_sed.fits* *For exptime=11271.3 s, spectral region:* *1800.0 0.5achieves SNR=20.0/resel* *global countrate (brightest segment): 3676.8 cts/s/segment* *brightest pixel: 0.045 cts/s/pix at 2267.5* *Calculation performed 2020-02-24T17:53:41, v0.4*									
3	E230M/1978 WAVECAL	WAVE	STIS/NUV-MAMA, ACCUM, 0.2X0.2	E230M 1978 A				*[==>]*	***[1]***
4	E230M/1978 (STIS.sp.1438624)	(2) AV234	STIS/NUV-MAMA, TIME-TAG, 0.2X0.2	E230M 1978 A	WAVECAL=NO; BUFFER-TIME=363			2657 Secs (2657 Secs) *[==>]*	***[2]***
Comments: rn-max(ck04models(B3I,Teff=18560,metallicity=0.004,logG=2.6) (extinction smcbar=0.030), flux2200 +- 5.0A flux=1.2e-13 Flam); stis,nuvmama,e230m,c1978,0.2x0.2,mjd#59305 *From file SMC_2020Feb20/input/SMC_all_do1_NewCoords_pids.csv* *Spectral type: B3Iab --> B3 I* *SED = AV234_STIS_E230M_c1978_sed.fits* *For exptime=11271.3 s, spectral region:* *1800.0+/-0.5 A achieves SNR=20.0/resel* *global countrate (brightest segment): 3676.8 cts/s/segment* *brightest pixel: 0.045 cts/s/pix at 2267.5 A* *Calculation performed 2020-02-24T17:53:41, v0.4*									
5	E230M/1978 WAVECAL	WAVE	STIS/NUV-MAMA, ACCUM, 0.2X0.2	E230M 1978 A				*[==>]*	***[2]***

Orbit Structure





Visit

Proposal 16102, AV234-STIS (2T), completed Mon Oct 19 14:01:11 GMT 2020

Diagnostic Status: Warning

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

Special Requirements: SCHED 100%

Comments: vstatus; 2S; AV234; S/STIS Approved for submission; P/CP 16/04/20 ; intrev: complete; P/TS 15/05/20
vcheck; Enter targ name & Inst. & Resp. Sci.; AV234 ; STIS ;CP
vcheck; ETC numbers entered in APT?; YES
vcheck; Any screening violations?; No
vcheck; S/N ETC calcs done & documented?; Yes
vcheck; Field images checked & saved?; ------
vcheck; Selected ACQ strategy?; OII filter
Something is funny about this star's UV vs visual SED and in case there is a red companion of comparable brightness we'll do the acq with the OII filter even though it takes a little more time
vcheck; Possible ACQ or Sci spoilers?; Stellar iamge looks a bit extended, but nothing of comparable brightness close enough to affect the ACQ - but will use OII UV acq to avoid confusion if cool companion exists
vcheck; Field BOT clear?; Yes
vcheck; Visual BOT check for stars not in catalog?; GSC2 finds a star ~1.5 mags fainter at about 1" from target, but neither 2MASS nor Gaia include any such star and 2MASS and Gaia agree well on target coordinates
vcheck; Orbit packing finalized?; Yes
vcheck; Buffer times optimized?; Yes, but for buffer times normalized to V band instead of observed UV flux to allow for possible mis-centering of IUE spectra
vcheck; Verify visit grouping correct; N/A
vcheck; Is visit ready for int. review?; ------
Allocated STIS orbits = 5 ; 2+2 will get 84.5% of requested exposure time calculated normalizing to IUE spectra, while 2+3 would get 108% of requested time. Will go for 2+2 and save the orbit

Diagnostics

(AV234-STIS (2T)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN

Fixed Targets

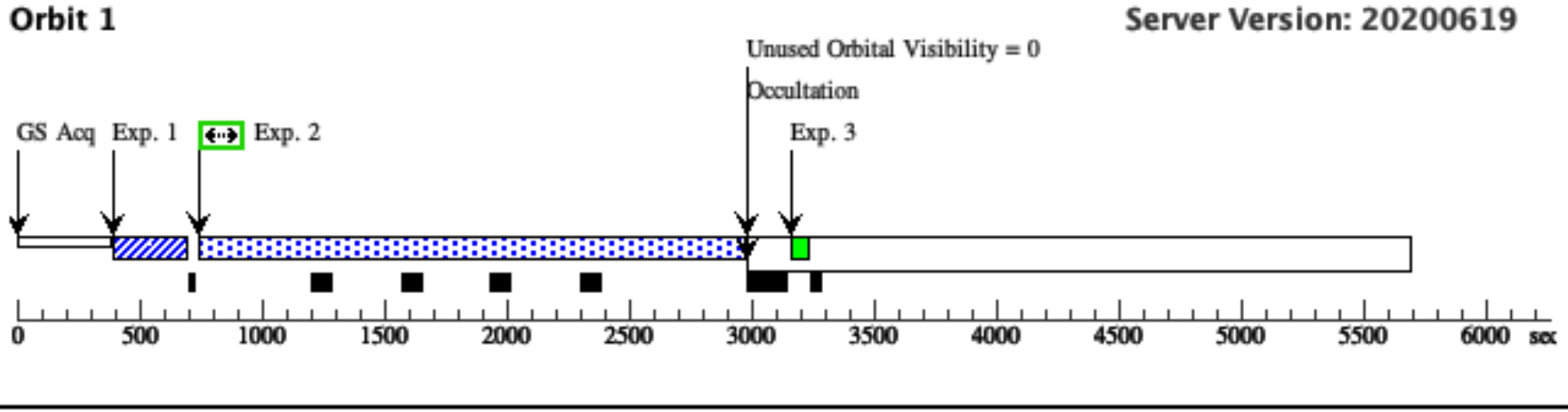
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(2)	AV234	RA: 00 59 43.5091 (14.9312879d)		V=12.94	Reference Frame: ICRS
	Alt Name1: SK81	Dec: -72 04 18.86 (-72.07191d)		SpT=B3Iab; E(B-V)=0.03; U=12.0; B=12.8; V=12.9; I=12.44; F1160=5.35e-13; F1360=2.13e-13; F1700=1.85e-13; F2200=1.25e-13	
	Alt Name2: M2002-47028	Equinox: J2000			

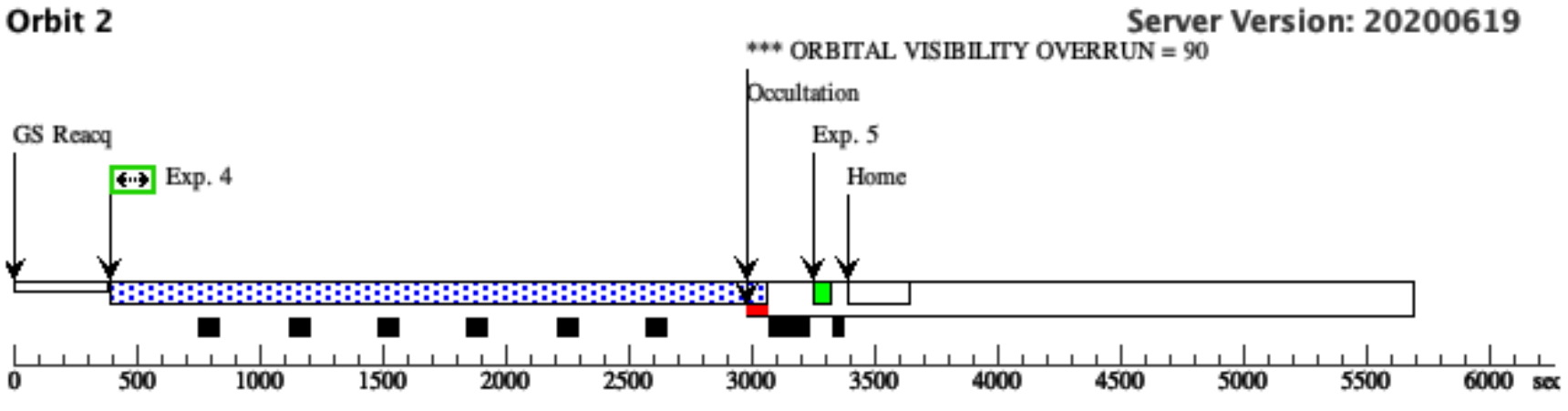
Comments: AV234 : [M2002]_47028, AV 234, AzV 234
Previous name : AV 234
Input file: SMC_2020Feb20/input/SMC_all_do1_NewCoords_pids.csv
SIMBAD link (AzV 234): https://simbad.u-strasbg.fr/simbad/sim-id?Ident=AzV+234&submit=submit+id
SpT = B3Iab
COS/G130M/c1096 : rn-max(ck04models(B3I,Teff=18560,metallicity=0.004,logG=2.6) (extinction smcbar=0.030), flux1160 +- 30.0A flux=5.4e-13 Flam)
COS/G130M/c1291 : rn-max(ck04models(B3I,Teff=18560,metallicity=0.004,logG=2.6) (extinction smcbar=0.030), flux1360 +- 30.0A flux=2.1e-13 Flam)
COS/G160M/c1611 : rn-max(ck04models(B3I,Teff=18560,metallicity=0.004,logG=2.6) (extinction smcbar=0.030), flux1700 +- 5.0A flux=1.8e-13 Flam)
COS/G185M/c1921 : rn-max(ck04models(B3I,Teff=18560,metallicity=0.004,logG=2.6) (extinction smcbar=0.030), flux1700 +- 5.0A flux=1.8e-13 Flam)
COS/G185M/c1953 : rn-max(ck04models(B3I,Teff=18560,metallicity=0.004,logG=2.6) (extinction smcbar=0.030), flux1700 +- 5.0A flux=1.8e-13 Flam)
COS/G185M/c1986 : rn-max(ck04models(B3I,Teff=18560,metallicity=0.004,logG=2.6) (extinction smcbar=0.030), flux2200 +- 5.0A flux=1.2e-13 Flam)
STIS/E140M/c1425 : rn-max(ck04models(B3I,Teff=18560,metallicity=0.004,logG=2.6) (extinction smcbar=0.030), flux1360 +- 30.0A flux=2.1e-13 Flam)
STIS/E230M/c1978 : rn-max(ck04models(B3I,Teff=18560,metallicity=0.004,logG=2.6) (extinction smcbar=0.030), flux2200 +- 5.0A flux=1.2e-13 Flam)
STIS/E230M/c2707 : rn-max(ck04models(B3I,Teff=18560,metallicity=0.004,logG=2.6) (extinction smcbar=0.030), flux2200 +- 5.0A flux=1.2e-13 Flam)
Coordinate pedigree: Gaia
Calculation performed 2020-02-24T17:53:26, v0.4
---
tstatus; AV234; P/COS Approved for submission; S/STIS ready for internal review; P/CP 21/04/20; S/CP 21/04/20
tcheck; APT/SIMBAD target names: ; AzV 234, SK 81
tcheck; Target info verification status?; Good
tcheck; Coordinates & P.M. updated?; good
tcheck; Adopted SED compared to Observations?; OK? ...
Overall shape isn't quite right, and UBV photometry is a factor of two too bright - however, LWP spectrum does show a upturn at the red end, consistent with the U band flux, so this looks to be a funny shape to the SED rather than a flux underestimate by the IUE/SWP spectra. Emission line at 1212 in IUE spectrum is geo-coronal lyman alpha so not in stellar spectrum. No other backup to FUV/NUV flux so may want to be extra cautious on buffer times and BOP checks. Will adopt as best overall fit to SED the default c1611 spectrum which is normalize at 1700 angstroms and use this for S/N check, but will also do BOP and buffer time checks normalized to V band in case there is something odd about the IUE throughput for this one.
Category=EXT-STAR
Description=[B3-B5 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 (STIS.ta.1438532)	(2) AV234	STIS/CCD, ACQ, F28X50OII	MIRROR				10.0 Secs (10 Secs) *[==>]*	***[1]***
Comments: Something is funny about this star's UV vs visual SED and in case there is a red companion of comparable brightness we'll do the acq with the OII filter even though it takes a little more time									
2	E230M/1978 (STIS.sp.1438624)	(2) AV234	STIS/NUV-MAMA, TIME-TAG, 0.2X0.2	E230M 1978 A	WAVECAL=NO; BUFFER-TIME=363			2114 Secs (2114 Secs) *[==>]*	***[1]***
Comments: rn-max(ck04models(B3I,Teff=18560,metallicity=0.004,logG=2.6) (extinction smcbar=0.030), flux2200 +- 5.0A flux=1.2e-13 Flam); stis,nuvmama,e230m,c1978,0.2x0.2,mjd#59305 *Desire total of 11271.3 s* *From file SMC_2020Feb20/input/SMC_all_do1_NewCoords_pids.csv* *Spectral type: B3Iab --> B3 I* *SED = AV234_STIS_E230M_c1978_sed.fits* *For exptime=11271.3 s, spectral region:* *1800.0 0.5achieves SNR=20.0/resel* *global countrate (brightest segment): 3676.8 cts/s/segment* *brightest pixel: 0.045 cts/s/pix at 2267.5* *Calculation performed 2020-02-24T17:53:41, v0.4*									
3	E230M/1978 WAVECAL	WAVE	STIS/NUV-MAMA, ACCUM, 0.2X0.2	E230M 1978 A				*[==>]*	***[1]***
4	E230M/1978 (STIS.sp.1438624)	(2) AV234	STIS/NUV-MAMA, TIME-TAG, 0.2X0.2	E230M 1978 A	WAVECAL=NO; BUFFER-TIME=363			2657 Secs (2657 Secs) *[==>]*	***[2]***
Comments: rn-max(ck04models(B3I,Teff=18560,metallicity=0.004,logG=2.6) (extinction smcbar=0.030), flux2200 +- 5.0A flux=1.2e-13 Flam); stis,nuvmama,e230m,c1978,0.2x0.2,mjd#59305 *From file SMC_2020Feb20/input/SMC_all_do1_NewCoords_pids.csv* *Spectral type: B3Iab --> B3 I* *SED = AV234_STIS_E230M_c1978_sed.fits* *For exptime=11271.3 s, spectral region:* *1800.0+/-0.5 A achieves SNR=20.0/resel* *global countrate (brightest segment): 3676.8 cts/s/segment* *brightest pixel: 0.045 cts/s/pix at 2267.5 A* *Calculation performed 2020-02-24T17:53:41, v0.4*									
5	E230M/1978 WAVECAL	WAVE	STIS/NUV-MAMA, ACCUM, 0.2X0.2	E230M 1978 A				*[==>]*	***[2]***

Orbit Structure





Visit

Proposal 16102, AV324-COS (3C), completed Mon Oct 19 14:01:11 GMT 2020

Diagnostic Status: Warning

Scientific Instruments: COS/FUV

Special Requirements: SCHED 100%

Comments: vstatus; 3C; AV324; P/COS Approved for submission; P/CP 22/04/20; intrev: complete; P/WF 12/05/20
vcheck; Enter targ name & Inst. & Resp. Sci.; AzV324 ; COS ; CP
vcheck; ETC numbers entered in APT?; Yes
vcheck; Any screening violations?; NO
vcheck; S/N ETC calcs done & documented?; yes ...
used default SEDs for S/N and expo time, but conservative upper limit for BOP and buffer times that matchs FUV+optical
see file av324-bop-conservative-sed.png
vcheck; Field images checked & saved?; Yes av324_gsc2.png
vcheck; Selected ACQ strategy?; Dispersed G130M/1291. Up ACQ time from 0.37s to 1.0s to allow for any SED uncertainty
vcheck; Possible ACQ or Sci spoilers?; none
vcheck; Field BOT clear?; yes ...
Yes, GSC2 has adequate coverage for selected modes.
vcheck; Visual BOT check for stars not in catalog?; OK ...
Blue star 2.2 mags fainter and 4" W of target not in GSC2 is cleared by IUE spectrum as that will include both components
vcheck; Orbit packing finalized?; Yes get 145% of requestd c1291 time and 141% of requested c1611.
vcheck; Buffer times optimized?; Yes
vcheck; Verify visit grouping correct; N/A
vcheck; Is visit ready for int. review?; yes
Allocated COS orbits = 4 ; implement as 2+2 (FUV and NUV visits)

Diagnostics

(AV324-COS (3C)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(3)	AV324 Alt Name1: DACHS-SMC-2-8 Alt Name2: M2002-SMC-55226	RA: 01 03 3.2269 (15.7634454d) Dec: -72 11 15.87 (-72.18774d) Equinox: J2000		V=12.84 SpT=B4Iab; E(B-V)=0.08; U=12.1; B=12.8; V=12.8; F1160=2.18e-13; F1360=1.94e-13; F1700=1.41e-13; F2200=7.93e-14	Reference Frame: ICRS

Comments: AV324 : AV_324, AzV324, AzV 324
Previous name : AzV324
Input file: SMC_2020Feb20/input/SMC_all_do1_NewCoords_pids.csv
SIMBAD link (AzV 324): https://simbad.u-strasbg.fr/simbad/sim-id?Ident=AzV+324&submit=submit+id
SpT = B4Iab
COS/G130M/c1291 : rn-max(ck04models(B4I,Teff=16080,metallicity=0.004,logG=2.52) (extinction smcbar=0.080), flux1360 +- 30.0A flux=1.9e-13 Flam)
COS/G160M/c1611 : rn-max(ck04models(B4I,Teff=16080,metallicity=0.004,logG=2.52) (extinction smcbar=0.080), flux1700 +- 5.0A flux=1.4e-13 Flam)
COS/G185M/c1921 : rn-max(ck04models(B4I,Teff=16080,metallicity=0.004,logG=2.52) (extinction smcbar=0.080), flux1700 +- 5.0A flux=1.4e-13 Flam)
COS/G185M/c1953 : rn-max(ck04models(B4I,Teff=16080,metallicity=0.004,logG=2.52) (extinction smcbar=0.080), flux1700 +- 5.0A flux=1.4e-13 Flam)
COS/G185M/c1986 : rn-max(ck04models(B4I,Teff=16080,metallicity=0.004,logG=2.52) (extinction smcbar=0.080), flux2200 +- 5.0A flux=7.9e-14 Flam)
STIS/E140M/c1425 : rn-max(ck04models(B4I,Teff=16080,metallicity=0.004,logG=2.52) (extinction smcbar=0.080), flux1360 +- 30.0A flux=1.9e-13 Flam)
STIS/E230M/c1978 : rn-max(ck04models(B4I,Teff=16080,metallicity=0.004,logG=2.52) (extinction smcbar=0.080), flux2200 +- 5.0A flux=7.9e-14 Flam)
STIS/E230M/c2707 : rn-max(ck04models(B4I,Teff=16080,metallicity=0.004,logG=2.52) (extinction smcbar=0.080), flux2200 +- 5.0A flux=7.9e-14 Flam)
Coordinate pedigree: Gaia
Calculation performed 2020-02-24T17:53:56, v0.4
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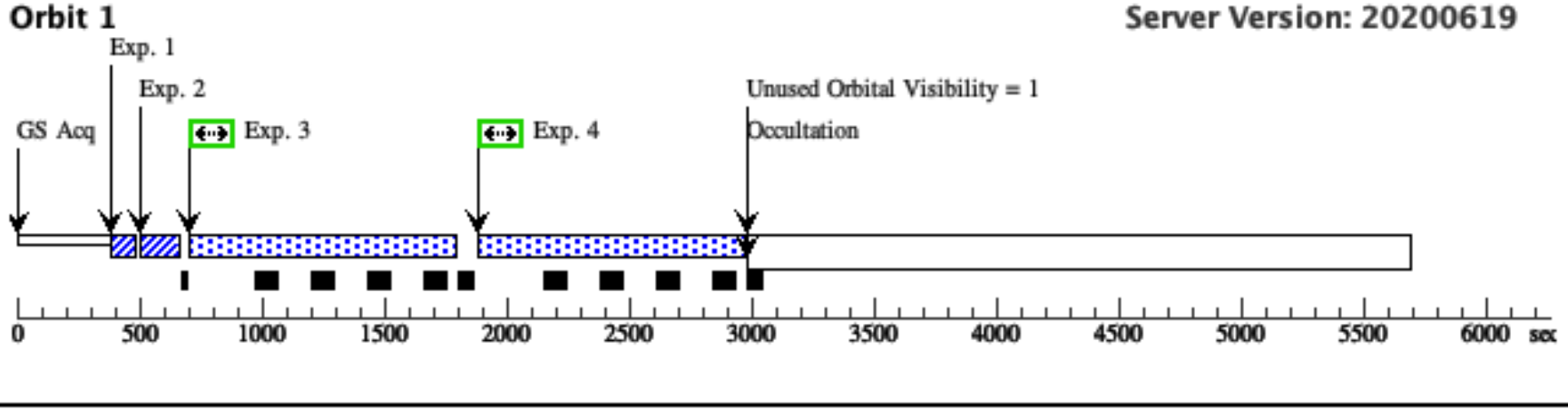
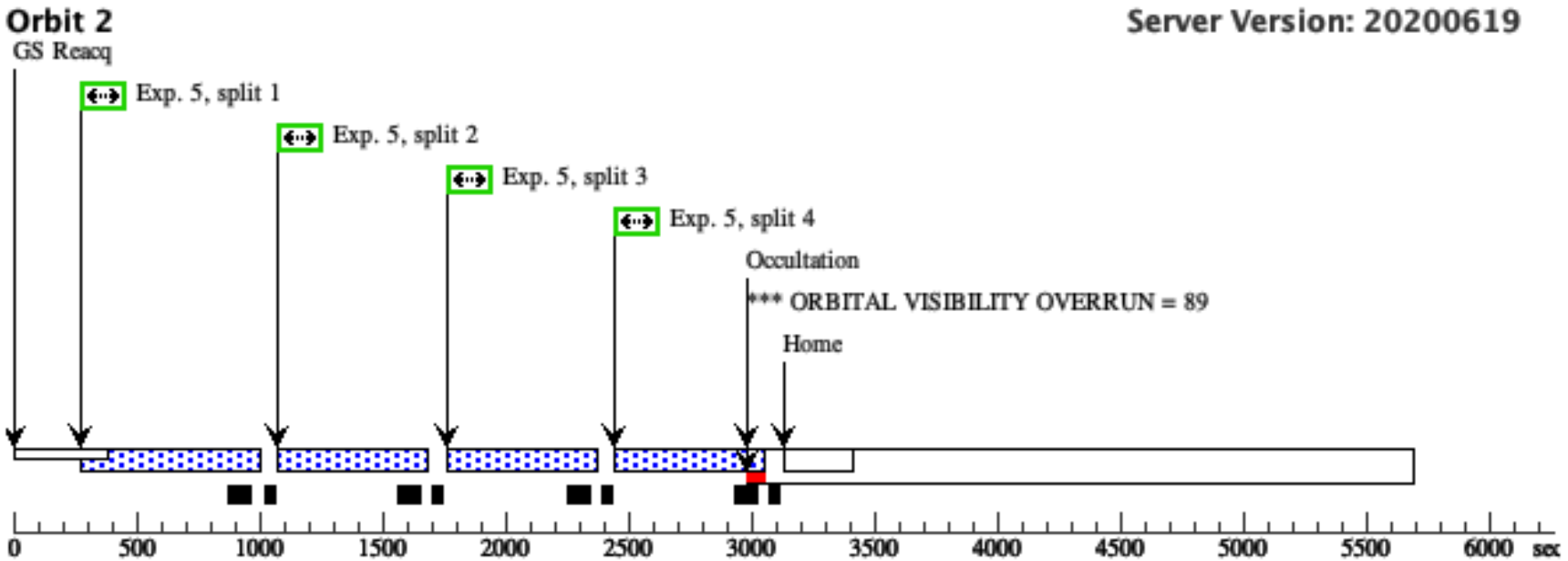
tstatus; AV324; P/COS Approved for submission; S/STIS ready for internal review; P/CP 21/04/20; S/CP 21/04/20
tcheck; APT/SIMBAD target names: ; Verified
tcheck; Target info verification status?; Good
tcheck; Coordinates & P.M. updated?; Verified
tcheck; Adopted SED compared to Observations?; agreement between any plausible SED, IUE spectra and optical photometry is poor. Will use smaller of model and IUE to estimate exposure time, larger to estimate BOP and buffer times
Category=EXT-STAR
Description=[B3-B5 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.1439408)	(3) AV324	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.1439408)	(3) AV324	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.1439404)	(3) AV324	COS/FUV, TIME-TAG, PSA	G130M 1291 A	BUFFER-TIME=231; FP-POS=3			1036 Secs (1036 Secs) *[==>]*	***[1]***
	Comments: rn-max(ck04models(B4I,Teff=16080,metallicity=0.004,logG=2.52) (extinction smcbar=0.080), flux1360 +- 30.0A flux=1.9e-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: B4Iab --> B4 I* *SED = AV324_COS_G130M_c1291_sed.fits* *For exptime=1420.6 s, spectral region:* *1150.0+/-0.5 A achieves SNR=30.0/resel* *global countrate (brightest segment): 2700.1 cts/s/segment* *brightest pixel: 0.050 cts/s/pix at 1277.0 A* *Calculation performed 2020-02-24T17:54:00, v0.4*									
4	G130M/1291-4 (COS.sp.1439404)	(3) AV324	COS/FUV, TIME-TAG, PSA	G130M 1291 A	BUFFER-TIME=231; FP-POS=4			1036 Secs (1036 Secs) *[==>]*	***[1]***
	Comments: rn-max(ck04models(B4I,Teff=16080,metallicity=0.004,logG=2.52) (extinction smcbar=0.080), flux1360 +- 30.0A flux=1.9e-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: B4Iab --> B4 I* *SED = AV324_COS_G130M_c1291_sed.fits* *For exptime=1420.6 s, spectral region:* *1150.0+/-0.5 A achieves SNR=30.0/resel* *global countrate (brightest segment): 2700.1 cts/s/segment* *brightest pixel: 0.050 cts/s/pix at 1277.0 A* *Calculation performed 2020-02-24T17:54:00, v0.4*									
5	G160M/1611 (COS.sp.1439405)	(3) AV324	COS/FUV, TIME-TAG, PSA	G160M 1611 A	BUFFER-TIME=452; FP-POS=ALL			562 Secs (2248 Secs) *[==>(Split 1)]* *[==>(Split 2)]* *[==>(Split 3)]* *[==>(Split 4)]*	***[2]***
	Comments: rn-max(ck04models(B4I,Teff=16080,metallicity=0.004,logG=2.52) (extinction smcbar=0.080), flux1700 +- 5.0A flux=1.4e-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: B4Iab --> B4 I* *SED = AV324_COS_G160M_c1611_sed.fits* *For exptime=1661.5 s, spectral region:* *1590.0+/-0.5 A achieves SNR=30.0/resel* *global countrate (brightest segment): 1914.1 cts/s/segment* *brightest pixel: 0.028 cts/s/pix at 1442.0 A* *Calculation performed 2020-02-24T17:54:03, v0.4*									

Orbit Structure





Visit

Proposal 16102, AV324-COS (3D), completed Mon Oct 19 14:01:11 GMT 2020

Diagnostic Status: Warning

Scientific Instruments: COS/NUV

Special Requirements: SCHED 100%

Comments: vstatus; 3D; AV324; P/COS Approved for submission; P/CP 22/04/20; intrev: complete; P/WF 12/05/20
vcheck; Enter targ name & Inst. & Resp. Sci.; AzV 324 ; COS ; CP
vcheck; ETC numbers entered in APT?; Yes
vcheck; Any screening violations?; No
vcheck; S/N ETC calcs done & documented?; Yes, used default SEDS for S/N
vcheck; Field images checked & saved?; Yes
vcheck; Selected ACQ strategy?; Dispersed G230L 2950
vcheck; Possible ACQ or Sci spoilers?; none
vcheck; Field BOT clear?; yes ...
Yes, GSC2 has adequate coverage for selected modes.
vcheck; Visual BOT check for stars not in catalog?; OK ...
Blue star 2.2 mags fainter and 4" W of target not in GSC2 is cleared by IUE spectrum
vcheck; Orbit packing finalized?; Yes get 136% of G185M and 127% of G185M goals
vcheck; Buffer times optimized?; YES
vcheck; Verify visit grouping correct; N/A
vcheck; Is visit ready for int. review?; Yes
Allocated COS orbits = 4

Diagnostics

(AV324-COS (3D)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN

Fixed Targets

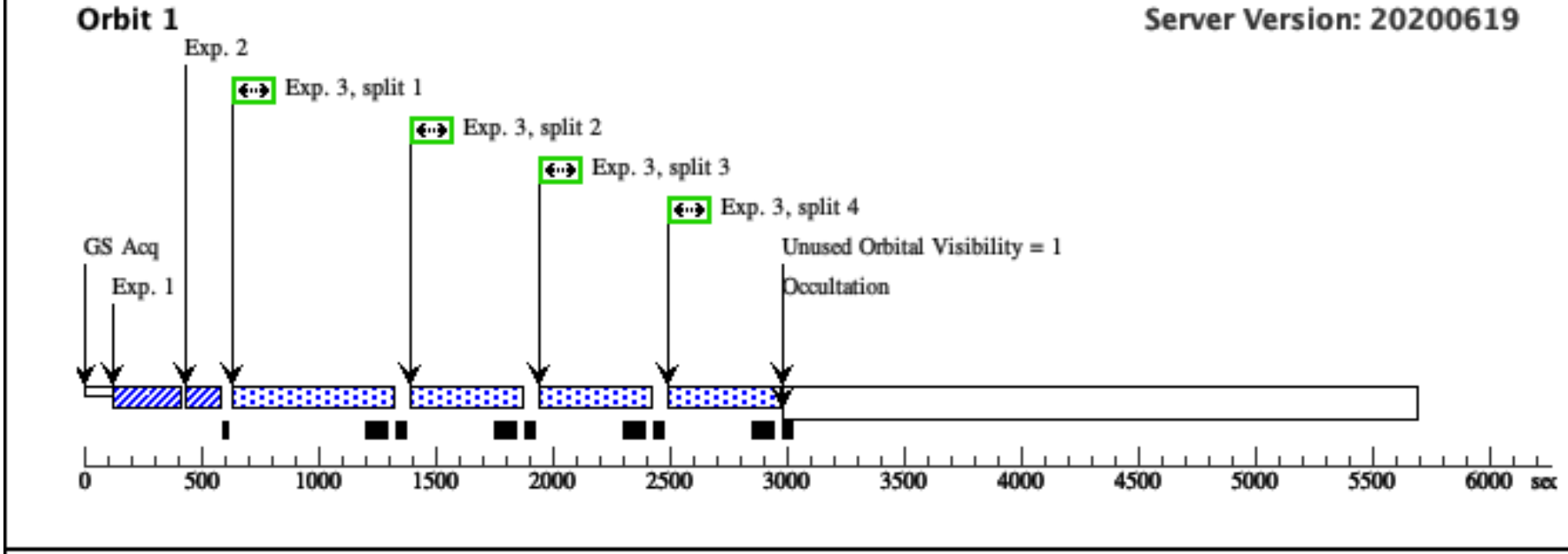
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(3)	AV324 Alt Name1: DACHS-SMC-2-8 Alt Name2: M2002-SMC-55226	RA: 01 03 3.2269 (15.7634454d) Dec: -72 11 15.87 (-72.18774d) Equinox: J2000		V=12.84 SpT=B4Iab; E(B-V)=0.08; U=12.1; B=12.8; V=12.8; F1160=2.18e-13; F1360=1.94e-13; F1700=1.41e-13; F2200=7.93e-14	Reference Frame: ICRS

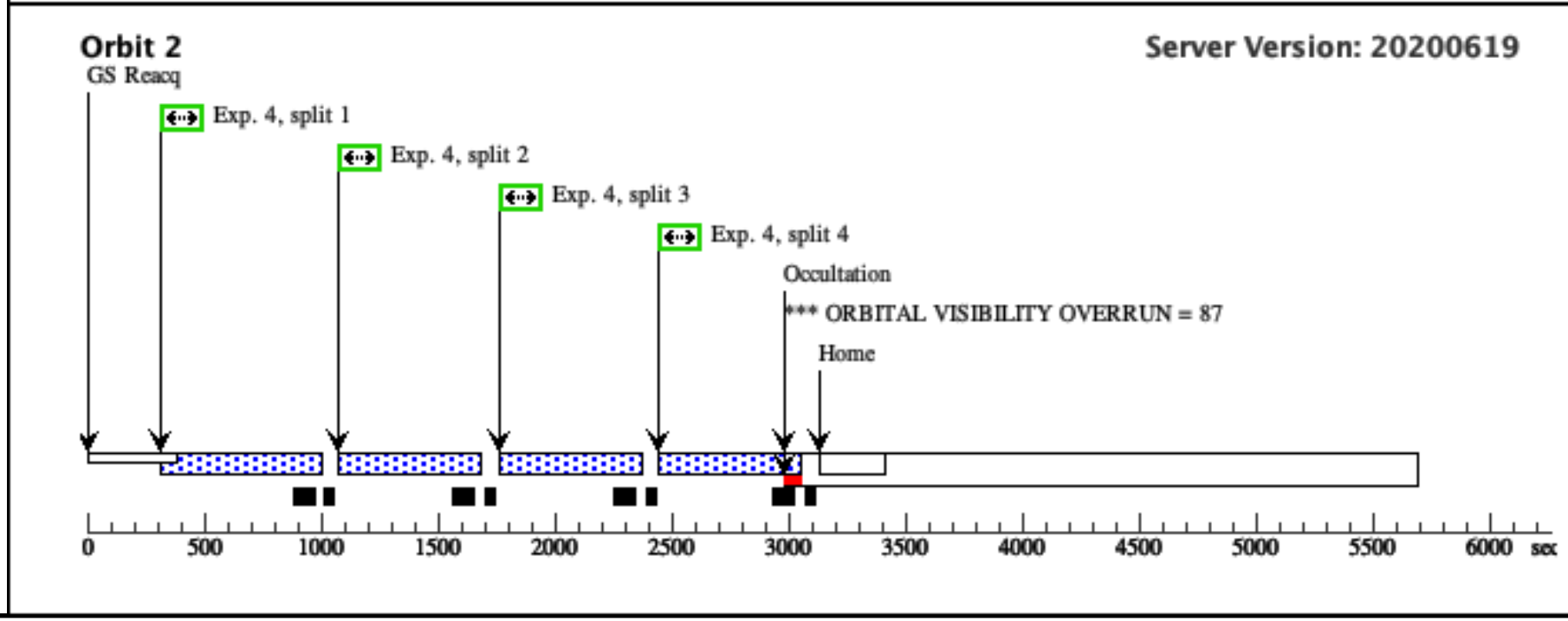
Comments: AV324 : AV_324, AzV324, AzV 324
Previous name : AzV324
Input file: SMC_2020Feb20/input/SMC_all_do1_NewCoords_pids.csv
SIMBAD link (AzV 324): https://simbad.u-strasbg.fr/simbad/sim-id?Ident=AzV+324&submit=submit+id
SpT = B4Iab
COS/G130M/c1291 : rn-max(ck04models(B4I,Teff=16080,metallicity=0.004,logG=2.52) (extinction smcbar=0.080), flux1360 +- 30.0A flux=1.9e-13 Flam)
COS/G160M/c1611 : rn-max(ck04models(B4I,Teff=16080,metallicity=0.004,logG=2.52) (extinction smcbar=0.080), flux1700 +- 5.0A flux=1.4e-13 Flam)
COS/G185M/c1921 : rn-max(ck04models(B4I,Teff=16080,metallicity=0.004,logG=2.52) (extinction smcbar=0.080), flux1700 +- 5.0A flux=1.4e-13 Flam)
COS/G185M/c1953 : rn-max(ck04models(B4I,Teff=16080,metallicity=0.004,logG=2.52) (extinction smcbar=0.080), flux1700 +- 5.0A flux=1.4e-13 Flam)
COS/G185M/c1986 : rn-max(ck04models(B4I,Teff=16080,metallicity=0.004,logG=2.52) (extinction smcbar=0.080), flux2200 +- 5.0A flux=7.9e-14 Flam)
STIS/E140M/c1425 : rn-max(ck04models(B4I,Teff=16080,metallicity=0.004,logG=2.52) (extinction smcbar=0.080), flux1360 +- 30.0A flux=1.9e-13 Flam)
STIS/E230M/c1978 : rn-max(ck04models(B4I,Teff=16080,metallicity=0.004,logG=2.52) (extinction smcbar=0.080), flux2200 +- 5.0A flux=7.9e-14 Flam)
STIS/E230M/c2707 : rn-max(ck04models(B4I,Teff=16080,metallicity=0.004,logG=2.52) (extinction smcbar=0.080), flux2200 +- 5.0A flux=7.9e-14 Flam)
Coordinate pedigree: Gaia
Calculation performed 2020-02-24T17:53:56, v0.4
---
tstatus; AV324; P/COS Approved for submission; S/STIS ready for internal review; P/CP 21/04/20; S/CP 21/04/20
tcheck; APT/SIMBAD target names: ; Verified
tcheck; Target info verification status?; Good
tcheck; Coordinates & P.M. updated?; Verified
tcheck; Adopted SED compared to Observations?; agreement between any plausible SED, IUE spectra and optical photometry is poor. Will use smaller of model and IUE to estimate exposure time, larger to estimate BOP and buffer times
Category=EXT-STAR
Description=[B3-B5 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	NUV/ACQ/PEAKXD (1439413)	(3) AV324	COS/NUV, ACQ/PEAKXD, PSA	G230L 2950 A	STRIPE=DEF			2.5 Secs (2.5 Secs) *[==>]*	***[1]***
2	NUV/ACQ/PEAKD (1439412)	(3) AV324	COS/NUV, ACQ/PEAKD, PSA	G230L 2950 A	CENTER=DEF; NUM-POS=5; STEP-SIZE=0.9			1.4 Secs (1.4 Secs) *[==>]*	***[1]***
3	G185M/1953 (COS.sp.1439406)	(3) AV324	COS/NUV, TIME-TAG, PSA	G185M 1953 A	BUFFER-TIME=353; FP-POS=ALL			463 Secs (1852 Secs) *[==>(Split 1)]* *[==>(Split 2)]* *[==>(Split 3)]* *[==>(Split 4)]*	***[1]***
Comments: rn-max(ck04models(B4I,Teff=16080,metallicity=0.004,logG=2.52) (extinction smcbar=0.080), flux1700 +- 5.0A flux=1.4e-13 Flam); cos,nuv,g185m,c1953,psa,mjd#59305 *From file SMC_2020Feb20/input/SMC_all_do1_NewCoords_pids.csv* *Spectral type: B4Iab --> B4 I* *SED = AV324_COS_G185M_c1953_sed.fits* *For exptime=1359.2 s, spectral region:* *1860.0 +/- 0.5 A achieves SNR=30.0/resel* *global countrate (brightest segment): 1650.4 cts/s/segment* *brightest pixel: 0.127 cts/s/pix at 1872.0 A* *Calculation performed 2020-02-24T17:54:03, v0.4*									
4	G185M/1986 (COS.sp.1439407)	(3) AV324	COS/NUV, TIME-TAG, PSA	G185M 1986 A	BUFFER-TIME=489; FP-POS=ALL			599 Secs (2396 Secs) *[==>(Split 1)]* *[==>(Split 2)]* *[==>(Split 3)]* *[==>(Split 4)]*	***[2]***
Comments: rn-max(ck04models(B4I,Teff=16080,metallicity=0.004,logG=2.52) (extinction smcbar=0.080), flux2200 +- 5.0A flux=7.9e-14 Flam); cos,nuv,g185m,c1986,psa,mjd#59305 *From file SMC_2020Feb20/input/SMC_all_do1_NewCoords_pids.csv* *Spectral type: B4Iab --> B4 I* *SED = AV324_COS_G185M_c1986_sed.fits* *For exptime=1886.2 s, spectral region:* *1980.0+/-0.5 A achieves SNR=30.0/resel* *global countrate (brightest segment): 1409.7 cts/s/segment* *brightest pixel: 0.088 cts/s/pix at 1875.0 A* *Calculation performed 2020-02-24T17:54:04, v0.4*									

Orbit Structure





Visit

Proposal 16102, AV324-STIS (3S), completed Mon Oct 19 14:01:11 GMT 2020

Diagnostic Status: No Diagnostics

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

Special Requirements: SCHED 100%

Comments: vstatus; 3S; AV324; S/STIS Approved for submission; P/CP 21/04/20 ; intrev: complete; P/TS 15/05/20
vcheck; Enter targ name & Inst. & Resp. Sci.; AzV324 ; STIS ; CP
vcheck; ETC numbers entered in APT?; Yes
vcheck; Any screening violations?; No
vcheck; S/N ETC calcs done & documented?; Yes, used original calcs for S/N, conservative upper limit for BOP
vcheck; Field images checked & saved?; ------
vcheck; Selected ACQ strategy?; OII filter
vcheck; Possible ACQ or Sci spoilers?; No
vcheck; Field BOT clear?; Yes, default GSC2 BOT covers necessary stars
vcheck; Visual BOT check for stars not in catalog?; OK,
vcheck; Orbit packing finalized?; Yes got 80% of optimal exposure time in one orbit
vcheck; Buffer times optimized?; yes
vcheck; Verify visit grouping correct; N/A
vcheck; Is visit ready for int. review?; yes
Allocated STIS orbits = 1

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(3)	AV324 Alt Name1: DACHS-SMC-2-8 Alt Name2: M2002-SMC-55226	RA: 01 03 3.2269 (15.7634454d) Dec: -72 11 15.87 (-72.18774d) Equinox: J2000		V=12.84 SpT=B4Iab; E(B-V)=0.08; U=12.1; B=12.8; V=12.8; F1160=2.18e-13; F1360=1.94e-13; F1700=1.41e-13; F2200=7.93e-14	Reference Frame: ICRS

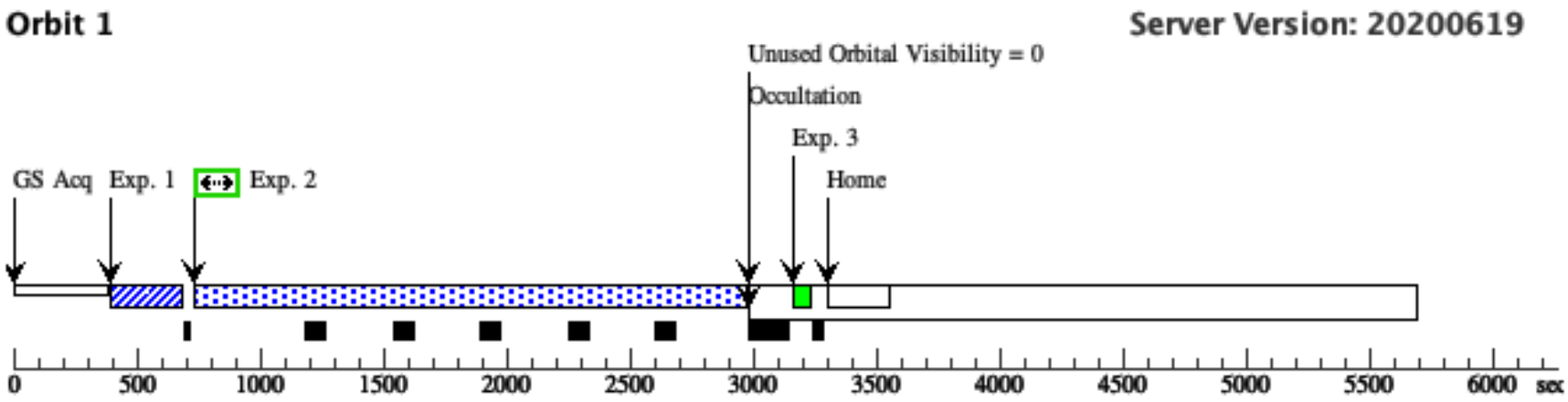
Comments: AV324 : AV_324, AzV324, AzV 324
Previous name : AzV324
Input file: SMC_2020Feb20/input/SMC_all_do1_NewCoords_pids.csv
SIMBAD link (AzV 324): https://simbad.u-strasbg.fr/simbad/sim-id?Ident=AzV+324&submit=submit+id
SpT = B4Iab
COS/G130M/c1291 : rn-max(ck04models(B4I,Teff=16080,metallicity=0.004,logG=2.52) (extinction smcbar=0.080), flux1360 +- 30.0A flux=1.9e-13 Flam)
COS/G160M/c1611 : rn-max(ck04models(B4I,Teff=16080,metallicity=0.004,logG=2.52) (extinction smcbar=0.080), flux1700 +- 5.0A flux=1.4e-13 Flam)
COS/G185M/c1921 : rn-max(ck04models(B4I,Teff=16080,metallicity=0.004,logG=2.52) (extinction smcbar=0.080), flux1700 +- 5.0A flux=1.4e-13 Flam)
COS/G185M/c1953 : rn-max(ck04models(B4I,Teff=16080,metallicity=0.004,logG=2.52) (extinction smcbar=0.080), flux1700 +- 5.0A flux=1.4e-13 Flam)
COS/G185M/c1986 : rn-max(ck04models(B4I,Teff=16080,metallicity=0.004,logG=2.52) (extinction smcbar=0.080), flux2200 +- 5.0A flux=7.9e-14 Flam)
STIS/E140M/c1425 : rn-max(ck04models(B4I,Teff=16080,metallicity=0.004,logG=2.52) (extinction smcbar=0.080), flux1360 +- 30.0A flux=1.9e-13 Flam)
STIS/E230M/c1978 : rn-max(ck04models(B4I,Teff=16080,metallicity=0.004,logG=2.52) (extinction smcbar=0.080), flux2200 +- 5.0A flux=7.9e-14 Flam)
STIS/E230M/c2707 : rn-max(ck04models(B4I,Teff=16080,metallicity=0.004,logG=2.52) (extinction smcbar=0.080), flux2200 +- 5.0A flux=7.9e-14 Flam)
Coordinate pedigree: Gaia
Calculation performed 2020-02-24T17:53:56, v0.4
---
tstatus; AV324; P/COS Approved for submission; S/STIS ready for internal review; P/CP 21/04/20; S/CP 21/04/20
tcheck; APT/SIMBAD target names: ; Verified
tcheck; Target info verification status?; Good
tcheck; Coordinates & P.M. updated?; Verified
tcheck; Adopted SED compared to Observations?; agreement between any plausible SED, IUE spectra and optical photometry is poor. Will use smaller of model and IUE to estimate exposure time, larger to estimate BOP and buffer times
Category=EXT-STAR
Description=[B3-B5 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 (STIS.ta.1439401)	(3) AV324	STIS/CCD, ACQ, F28X50OII	MIRROR				7.3 Secs (7.3 Secs) *[==>]*	*[1]*
2	E230M/2707 (STIS.sp.1439417)	(3) AV324	STIS/NUV-MAMA, TIME-TAG, 0.2X0.2	E230M 2707 A	WAVECAL=NO; BUFFER-TIME=354			2126 Secs (2126 Secs) *[==>]*	*[1]*
3	E230M/2707 WAVECAL	WAVE	STIS/NUV-MAMA, ACCUM, 0.2X0.2	E230M 2707 A				*[==>]*	*[1]*

Comments: rn-max(ck04models(B4I,Teff=16080,metallicity=0.004,logG=2.52) (extinction smcbar=0.080), flux2200 +- 5.0A flux=7.9e-14 Flam); stis,nuvmama,e230m,c2707,0.2x0.2,mjd#59305
From file SMC_2020Feb20/input/SMC_all_do1_NewCoords_pids.csv
Spectral type: B4Iab --> B4 I
SED = AV324_STIS_E230M_c2707_sed.fits
For exptime=2648.0 s, spectral region:
2800.0+/-0.5 A achieves SNR=20.0/resel
global countrate (brightest segment): 3921.4 cts/s/segment
brightest pixel: 0.041 cts/s/pix at 2648.5 A
Calculation performed 2020-02-24T17:54:08, v0.4

Orbit Structure



Visit

Proposal 16102, AV393-COS (4C), completed Mon Oct 19 14:01:11 GMT 2020

Diagnostic Status: No Diagnostics

Scientific Instruments: COS/FUV

Special Requirements: SCHED 100%

Comments: vstatus; 4C; AV393; P/COS Approved for submission; P/CP 07/05M/20; intrev: complete; P/WF 12/05/20
vcheck; Enter targ name & Inst. & Resp. Sci.; AV393 ; AzV 393 ; CP
vcheck; ETC numbers entered in APT?; Yes, used pasted together FUSE+IUE spectra in file av393_fue_iue_paste.dat
vcheck; Any screening violations?; no
vcheck; S/N ETC calcs done & documented?; yes OK to use defaults for S/N despite poor overall fit
IUE flux in short FUV range consistent with FUSE, but ~30% higher than GHRS G140L. None of the models fit very well, so we have adopted a pasted together version of the observed FUSE+IUE spectra for BOP and instrument safety estimates. See file av393_fue_iue_paste.dat
vcheck; Field images checked & saved?; Yes AV393-gsc2-COS-image.png
vcheck; Selected ACQ strategy?; dispersed 1291
vcheck; Possible ACQ or Sci spoilers?; None
vcheck; Field BOT clear?; yes ...
BOT only flags the target itself as unsafe, but also has 2 unknowns. One, a supposed star of mag=8 in the J plate at about 20" distance and a PA of 120 degrees is clearly spurious as there is clearly no such bright star in the GSC2 image and the only stars visible in the image near that location have mag ~ 19. The other has an F plate mag of 14 at ~ 1.2" and a PA near 135. There is no evidence for such a star in the Gaia DR2 catalog which has a nominal resolution of 0.4" and it is difficult to see how the GSC2 could have resolved it from the main source. Perhaps this is an artifact from the bright central source? Note that the relatively bright star in the upper right (R ~ 18", PA~ 220) is about mag 15 and is easily safe in the BOA for all optical elements.
vcheck; Visual BOT check for stars not in catalog?; None, but as noted above, the BOT finds apparently spurious stars that aren't visible in the image.
vcheck; Orbit packing finalized?; Yes got 125% of c1291 and 143% of 1611 request - this should compensate for S/N even if lower GHRS fluxes are correct
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

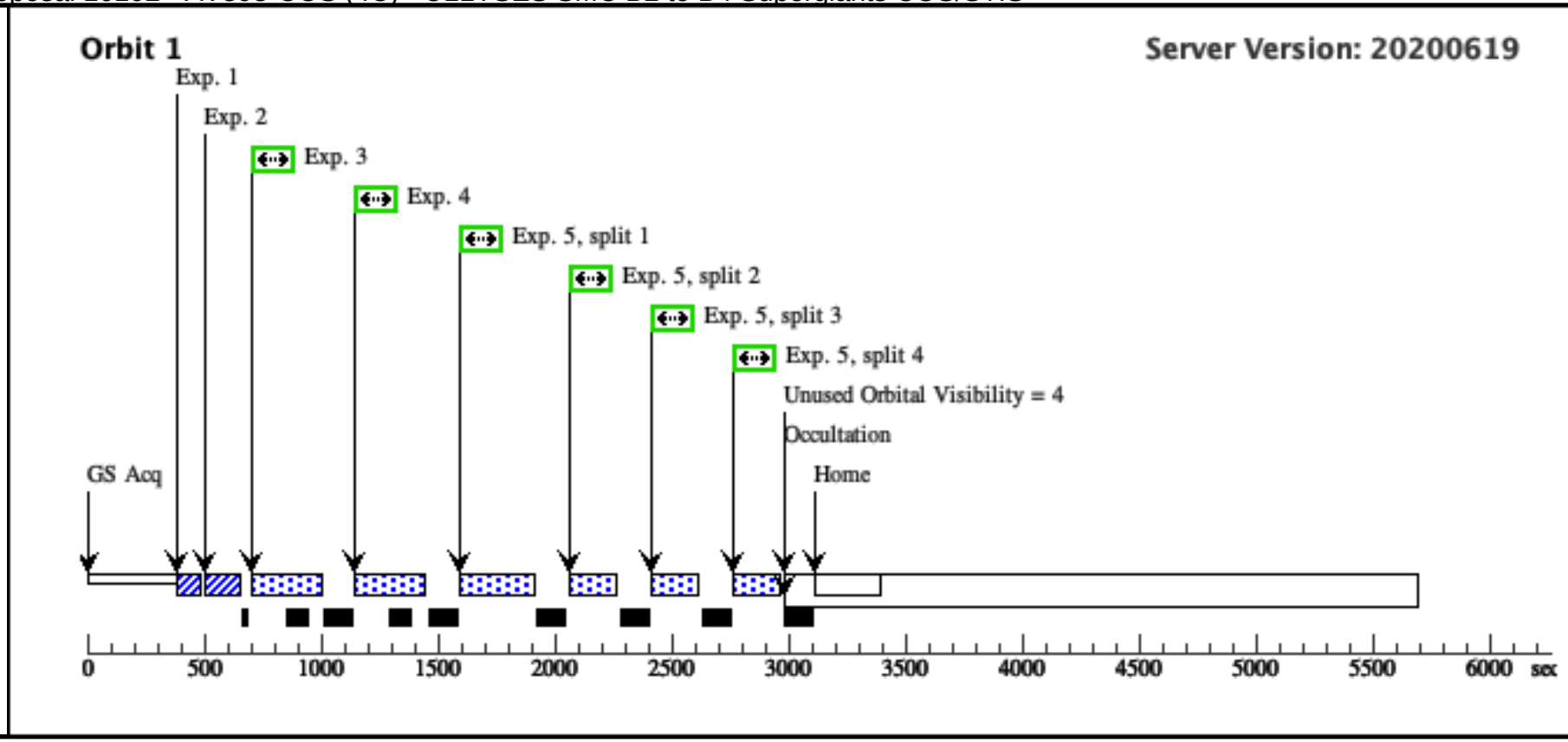
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(4)	AV393	RA: 01 05 56.3225 (16.4846771d)		V=11.48	Reference Frame: ICRS
	Alt Name1: SK124	Dec: -72 19 44.78 (-72.32911d)		SpT=B2 Ia; E(B-V)=0.14; U=10 .6; B=11.4; V=11.5; F1160=6.00 e-13; F1360=7.00e-13; F1700=6 .00e-13; F2200=5.00e-13	
	Alt Name2: 2MASS-J01055631-7219448	Equinox: J2000			

Comments: AV393 : AzV-393, Sk-124, SK 124
Previous name : Sk-124
Input file: SMC_2020Feb20/input/SMC_all_do1_NewCoords_pids.csv
SIMBAD link (SK 124): https://simbad.u-strasbg.fr/simbad/sim-id?Ident=SK+124&submit=submit+id
SpT = B2 Ia
COS/G130M/c1096 : rn-max(ck04models(B2I,Teff=21040,metallicity=0.004,logG=3) (extinction smcbar=0.140), flux1160 +- 30.0A flux=6e-13 Flam)
COS/G130M/c1291 : rn-max(ck04models(B2I,Teff=21040,metallicity=0.004,logG=3) (extinction smcbar=0.140), flux1360 +- 30.0A flux=7e-13 Flam)
COS/G160M/c1611 : rn-max(ck04models(B2I,Teff=21040,metallicity=0.004,logG=3) (extinction smcbar=0.140), flux1700 +- 5.0A flux=6e-13 Flam)
COS/G185M/c1921 : rn-max(ck04models(B2I,Teff=21040,metallicity=0.004,logG=3) (extinction smcbar=0.140), flux1700 +- 5.0A flux=6e-13 Flam)
COS/G185M/c1953 : rn-max(ck04models(B2I,Teff=21040,metallicity=0.004,logG=3) (extinction smcbar=0.140), flux1700 +- 5.0A flux=6e-13 Flam)
COS/G185M/c1986 : rn-max(ck04models(B2I,Teff=21040,metallicity=0.004,logG=3) (extinction smcbar=0.140), flux2200 +- 5.0A flux=5e-13 Flam)
STIS/E140M/c1425 : rn-max(ck04models(B2I,Teff=21040,metallicity=0.004,logG=3) (extinction smcbar=0.140), flux1360 +- 30.0A flux=7e-13 Flam)
STIS/E230M/c1978 : rn-max(ck04models(B2I,Teff=21040,metallicity=0.004,logG=3) (extinction smcbar=0.140), flux2200 +- 5.0A flux=5e-13 Flam)
STIS/E230M/c2707 : rn-max(ck04models(B2I,Teff=21040,metallicity=0.004,logG=3) (extinction smcbar=0.140), flux2200 +- 5.0A flux=5e-13 Flam)
Coordinate pedigree: Gaia
Calculation performed 2020-02-24T17:52:42, v0.4
---
tstatus; AV393; P/COS Approved for submission; S/STIS ready for internal review; P/CP 21/04/25; S/CP 21/04/25
tcheck; APT/SIMBAD target names: ; SK 124 ; LHA 115-S 45
tcheck; Target info verification status?; Good
tcheck; Coordinates & P.M. updated?; OK
tcheck; Adopted SED compared to Observations?; Good enough. IUE flux in short FUV range consistent with FUSE, but ~30% higher than GHRS G140L. None of the models fit very well, so we have adopted a pasted together version of the observed FUSE+IUE spectra for BOP and instrument safety estimates. See AV393_c1291_default_sed.png in proposal directory
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.1439511)	(4) AV393	COS/FUV, ACQ/PEAKXD, PSA	G130M 1291 A	CENTER=FLUX-WT; NUM-POS=3; STEP-SIZE=1.3; SEGMENT=BOTH			0.5 Secs (0.5 Secs) *[==>]*	***[1]***
2	ACQ/PEAKD (COS.sa.1439511)	(4) AV393	COS/FUV, ACQ/PEAKD, PSA	G130M 1291 A	CENTER=FLUX-WT-FLR; NUM-POS=5; STEP-SIZE=0.9; SEGMENT=BOTH			0.5 Secs (0.5 Secs) *[==>]*	***[1]***
3	G130M/1291-3 (COS.sp.1439505)	(4) AV393	COS/FUV, TIME-TAG, PSA	G130M 1291 A	BUFFER-TIME=111; FP-POS=3			246 Secs (246 Secs) *[==>]*	***[1]***
	Comments: rn-max(ck04models(B2I,Teff=21040,metallicity=0.004,logG=3) (extinction smcbar=0.140), flux1360 +- 30.0A flux=7e-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: B2 Ia --> B2 I* *SED = AV393_COS_G130M_c1291_sed.fits* *For exptime=395.0 s, spectral region:* *1150.0+/-0.5 A achieves SNR=30.0/resel* *global countrate (brightest segment): 9490.3 cts/s/segment* *brightest pixel: 0.175 cts/s/pix at 1277.0 A* *Calculation performed 2020-02-24T17:52:46, v0.4*									
4	G130M/1291-4 (COS.sp.1439505)	(4) AV393	COS/FUV, TIME-TAG, PSA	G130M 1291 A	BUFFER-TIME=111; FP-POS=4			246 Secs (246 Secs) *[==>]*	***[1]***
	Comments: rn-max(ck04models(B2I,Teff=21040,metallicity=0.004,logG=3) (extinction smcbar=0.140), flux1360 +- 30.0A flux=7e-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: B2 Ia --> B2 I* *SED = AV393_COS_G130M_c1291_sed.fits* *For exptime=395.0 s, spectral region:* *1150.0+/-0.5 A achieves SNR=30.0/resel* *global countrate (brightest segment): 9490.3 cts/s/segment* *brightest pixel: 0.175 cts/s/pix at 1277.0 A* *Calculation performed 2020-02-24T17:52:46, v0.4*									
5	G160M/1611 (COS.sp.1439506)	(4) AV393	COS/FUV, TIME-TAG, PSA	G160M 1611 A	BUFFER-TIME=125; FP-POS=ALL			152 Secs (608 Secs) *[==>(Split 1)]* *[==>(Split 2)]* *[==>(Split 3)]* *[==>(Split 4)]*	***[1]***
	Comments: rn-max(ck04models(B2I,Teff=21040,metallicity=0.004,logG=3) (extinction smcbar=0.140), flux1700 +- 5.0A flux=6e-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: B2 Ia --> B2 I* *SED = AV393_COS_G160M_c1611_sed.fits* *For exptime=424.5 s, spectral region:* *1590.0+/-0.5 A achieves SNR=30.0/resel* *global countrate (brightest segment): 7444.5 cts/s/segment* *brightest pixel: 0.113 cts/s/pix at 1442.0 A* *Calculation performed 2020-02-24T17:52:49, v0.4*									

Orbit Structure



Visit

Proposal 16102, AV393-STIS (4S), completed Mon Oct 19 14:01:11 GMT 2020

Diagnostic Status: No Diagnostics

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

Special Requirements: SCHED 100%

Comments: vstatus; 4S; AV393; S/STIS Approved for submission; S/CP 07/05/20 ; intrev: complete; P/TS 15/05/20
vcheck; Enter targ name & Inst. & Resp. Sci.; AzV 393; STIS ; CP
vcheck; ETC numbers entered in APT?; Yes
vcheck; Any screening violations?; no
vcheck; S/N ETC calcs done & documented?; Yes
Reduced from initial 2436.8 to 2146s to fit into 1 orbit, but IUE flux slightly higher than planning model.
see STIS.sp.1439510 for calc using observed IUE spectrum
vcheck; Field images checked & saved?; Yes AV393-gsc2-COS-image.png
vcheck; Selected ACQ strategy?; OII filter ACQ
vcheck; Possible ACQ or Sci spoilers?; None
vcheck; Field BOT clear?; Yes, 2 safe stars only found
vcheck; Visual BOT check for stars not in catalog?; OK, no stars not included in GSC2 nearby
vcheck; Orbit packing finalized?; Yes, get 88% of requested time in 1 orbit
vcheck; Buffer times optimized?; yes
vcheck; Verify visit grouping correct; N/A
vcheck; Is visit ready for int. review?; Yes
Allocated STIS orbits = 1

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(4)	AV393	RA: 01 05 56.3225 (16.4846771d)		V=11.48	Reference Frame: ICRS
	Alt Name1: SK124	Dec: -72 19 44.78 (-72.32911d)		SpT=B2 Ia; E(B-V)=0.14; U=10 .6; B=11.4; V=11.5; F1160=6.00 e-13; F1360=7.00e-13; F1700=6 .00e-13; F2200=5.00e-13	
	Alt Name2: 2MASS-J01055631-7219448	Equinox: J2000			

Comments: AV393 : AzV-393, Sk-124, SK 124
Previous name : Sk-124
Input file: SMC_2020Feb20/input/SMC_all_do1_NewCoords_pids.csv
SIMBAD link (SK 124): https://simbad.u-strasbg.fr/simbad/sim-id?Ident=SK+124&submit=submit+id
SpT = B2 Ia
COS/G130M/c1096 : rn-max(ck04models(B2I,Teff=21040,metallicity=0.004,logG=3) (extinction smcbar=0.140), flux1160 +- 30.0A flux=6e-13 Flam)
COS/G130M/c1291 : rn-max(ck04models(B2I,Teff=21040,metallicity=0.004,logG=3) (extinction smcbar=0.140), flux1360 +- 30.0A flux=7e-13 Flam)
COS/G160M/c1611 : rn-max(ck04models(B2I,Teff=21040,metallicity=0.004,logG=3) (extinction smcbar=0.140), flux1700 +- 5.0A flux=6e-13 Flam)
COS/G185M/c1921 : rn-max(ck04models(B2I,Teff=21040,metallicity=0.004,logG=3) (extinction smcbar=0.140), flux1700 +- 5.0A flux=6e-13 Flam)
COS/G185M/c1953 : rn-max(ck04models(B2I,Teff=21040,metallicity=0.004,logG=3) (extinction smcbar=0.140), flux1700 +- 5.0A flux=6e-13 Flam)
COS/G185M/c1986 : rn-max(ck04models(B2I,Teff=21040,metallicity=0.004,logG=3) (extinction smcbar=0.140), flux2200 +- 5.0A flux=5e-13 Flam)
STIS/E140M/c1425 : rn-max(ck04models(B2I,Teff=21040,metallicity=0.004,logG=3) (extinction smcbar=0.140), flux1360 +- 30.0A flux=7e-13 Flam)
STIS/E230M/c1978 : rn-max(ck04models(B2I,Teff=21040,metallicity=0.004,logG=3) (extinction smcbar=0.140), flux2200 +- 5.0A flux=5e-13 Flam)
STIS/E230M/c2707 : rn-max(ck04models(B2I,Teff=21040,metallicity=0.004,logG=3) (extinction smcbar=0.140), flux2200 +- 5.0A flux=5e-13 Flam)
Coordinate pedigree: Gaia
Calculation performed 2020-02-24T17:52:42, v0.4
---
tstatus; AV393; P/COS Approved for submission; S/STIS ready for internal review; P/CP 21/04/25; S/CP 21/04/25
tcheck; APT/SIMBAD target names: ; SK 124 ; LHA 115-S 45
tcheck; Target info verification status?; Good
tcheck; Coordinates & P.M. updated?; OK
tcheck; Adopted SED compared to Observations?; Good enough. IUE flux in short FUV range consistent with FUSE, but ~30% higher than GHRS G140L. None of the models fit very well, so we have adopted a pasted together version of the observed FUSE+IUE spectra for BOP and instrument safety estimates. See AV393_c1291_default_sed.png in proposal directory
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 (STIS.ta.1439507)	(4) AV393	STIS/CCD, ACQ, F28X50OII	MIRROR				2 Secs (2 Secs) *[==>]*	 ***[1]***
2	E230M/1978 (STIS.sp.1439509)	(4) AV393	STIS/NUV-MAMA, TIME-TAG, 0.2X0.2	E230M 1978 A	WAVECAL=NO; BUFFER-TIME=208.0			2146 Secs (2146 Secs) *[==>]*	 ***[1]***
	Comments: Reduced from initial 2436.8 to 2146s to fit into 1 orbit, but IUE flux slightly higher than planning model. *rn-max(ck04models(B2I,Teff=21040,metallicity=0.004,logG=3) (extinction smcbar=0.140), flux2200 +- 5.0A flux=5e-13 Flam); stis,nuvmama,e230m,c1978,0.2x0.2,mjd#59305* *From file SMC_2020Feb20/input/SMC_all_do1_NewCoords_pids.csv* *Spectral type: B2 Ia --> B2 I* *SED = AV393_STIS_E230M_c1978_sed.fits* *For exptime=2436.8 s, spectral region:* *1800.0 A 0.5 A achieves SNR=20.0/resel* *global countrate (brightest segment): 7672.5 cts/s/segment* *brightest pixel: 0.178 cts/s/pix at 2267.5 A* *Calculation performed 2020-02-24T17:52:56, v0.4*								
3	E230M/1978 WAVECAL	WAVE	STIS/NUV-MAMA, ACCUM, 0.2X0.2	E230M 1978 A				*[==>]*	***[1]***

Orbit Structure