16099 - ULLYSES SMC late-O/early B Supergiants STIS

Cycle: 27, Proposal Category: GO/DD

(Availability Mode: SUPPORTED)

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VISITS

Visit	*Targets used in Visit*	*Configurations used in Visit*	*Orbits Used*	*Last Orbit Planner Run*	*OP Current with Visit?*
1S	(1) AV235 WAVE	STIS/CCD STIS/FUV-MAMA STIS/NUV-MAMA	2	19-Oct-2020 10:00:26.0	yes
2S	(2) AV266 WAVE	STIS/CCD STIS/FUV-MAMA	2	19-Oct-2020 10:00:27.0	yes
2T	(2) AV266 WAVE	STIS/CCD STIS/FUV-MAMA STIS/NUV-MAMA	2	19-Oct-2020 10:00:29.0	yes
3S	(3) AV372 WAVE	STIS/CCD STIS/FUV-MAMA STIS/NUV-MAMA	3	19-Oct-2020 10:00:30.0	yes
4S	(4) AV488 WAVE	STIS/CCD STIS/FUV-MAMA STIS/NUV-MAMA	2	19-Oct-2020 10:00:32.0	yes
5S	(5) AV70 WAVE	STIS/CCD STIS/FUV-MAMA STIS/NUV-MAMA	2	19-Oct-2020 10:00:33.0	yes

13 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 16099, AV235-STIS (1S), completed Mon Oct 19 14:00:34 GMT 2020

Diagnostic Status: Warning

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

Special Requirements: SCHED 100%

Comments: vstatus; 1S; AV235; P/STIS Approved for Submission; P/TS 20/04/20 ; intrev: complete ; P/CP 15/04/20
vcheck; Enter targ name & Inst. & Resp. Sci.; AV235 'RMC 17' ; STIS ; TS
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 - AV235_DSS.png & AV235_2MASS.png
vcheck; Selected ACQ strategy?; STIS F28X50LP 0.2 sec gives S/N~100
vcheck; Possible ACQ or Sci spoilers?; NO
vcheck; Field BOT clear?; YES - 1 safe GALEX source
vcheck; Visual BOT check for stars not in catalog?; OK
vcheck; Orbit packing finalized?; 2 orbits ...
Placed E230M exposure first and then E140M to allow the latter have longer exposure time (thus reaching target S/N of ~20 at 1200 angstroms)
vcheck; Buffer times optimized?; DONE
vcheck; Verify visit grouping correct; None needed
vcheck; Is visit ready for int. review?; YES
Allocated STIS orbits = 2

Diagnostics

(AV235-STIS (1S)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	AV235	RA: 00 59 45.7325 (14.9405521d)		V=12.2	Reference Frame: ICRS
	Alt Name1: SK-82	Dec: -72 44 56.44 (-72.74901d)		SpT=B0Iaw; E(B-V)=0.06; B=12.0; V=12.2; F1160=9.26e-13	
	Alt Name2: SK82	Equinox: J2000			

Comments: AV235 : SK82, Sk_82, SK 82
Previous name : SK82
Input file: SMC_2020Feb20/input/SMC_all_do1_NewCoords_pids.csv
SIMBAD link (SK 82): https://simbad.u-strasbg.fr/simbad/sim-id?Ident=SK+82&submit=submit+id
SpT = B0Iaw
COS/G130M/c1096 : rn-max(WM-Basic(B0 I, Z=0.004, Teff=26303, log_lum=5.44, log_g=2.99) (extinction smcbar=0.060), flux1160 +- 30.0A flux=9.3e-13 Flam)
COS/G130M/c1291 : rn-max(WM-Basic(B0 I, Z=0.004, Teff=26303, log_lum=5.44, log_g=2.99) (extinction smcbar=0.060), flux1160 +- 30.0A flux=9.3e-13 Flam)
COS/G160M/c1611 : rn-max(WM-Basic(B0 I, Z=0.004, Teff=26303, log_lum=5.44, log_g=2.99) (extinction smcbar=0.060), flux1160 +- 30.0A flux=9.3e-13 Flam)
COS/G185M/c1921 : rn-max(WM-Basic(B0 I, Z=0.004, Teff=26303, log_lum=5.44, log_g=2.99) (extinction smcbar=0.060), flux1160 +- 30.0A flux=9.3e-13 Flam)
COS/G185M/c1953 : rn-max(WM-Basic(B0 I, Z=0.004, Teff=26303, log_lum=5.44, log_g=2.99) (extinction smcbar=0.060), flux1160 +- 30.0A flux=9.3e-13 Flam)
COS/G185M/c1986 : rn-max(WM-Basic(B0 I, Z=0.004, Teff=26303, log_lum=5.44, log_g=2.99) (extinction smcbar=0.060), flux1160 +- 30.0A flux=9.3e-13 Flam)
STIS/E140M/c1425 : rn-max(WM-Basic(B0 I, Z=0.004, Teff=26303, log_lum=5.44, log_g=2.99) (extinction smcbar=0.060), flux1160 +- 30.0A flux=9.3e-13 Flam)
STIS/E230M/c1978 : rn-max(WM-Basic(B0 I, Z=0.004, Teff=26303, log_lum=5.44, log_g=2.99) (extinction smcbar=0.060), flux1160 +- 30.0A flux=9.3e-13 Flam)
STIS/E230M/c2707 : rn-max(WM-Basic(B0 I, Z=0.004, Teff=26303, log_lum=5.44, log_g=2.99) (extinction smcbar=0.060), flux1160 +- 30.0A flux=9.3e-13 Flam)
Coordinate pedigree: Gaia
Calculation performed 2020-02-24T17:49:35, v0.4
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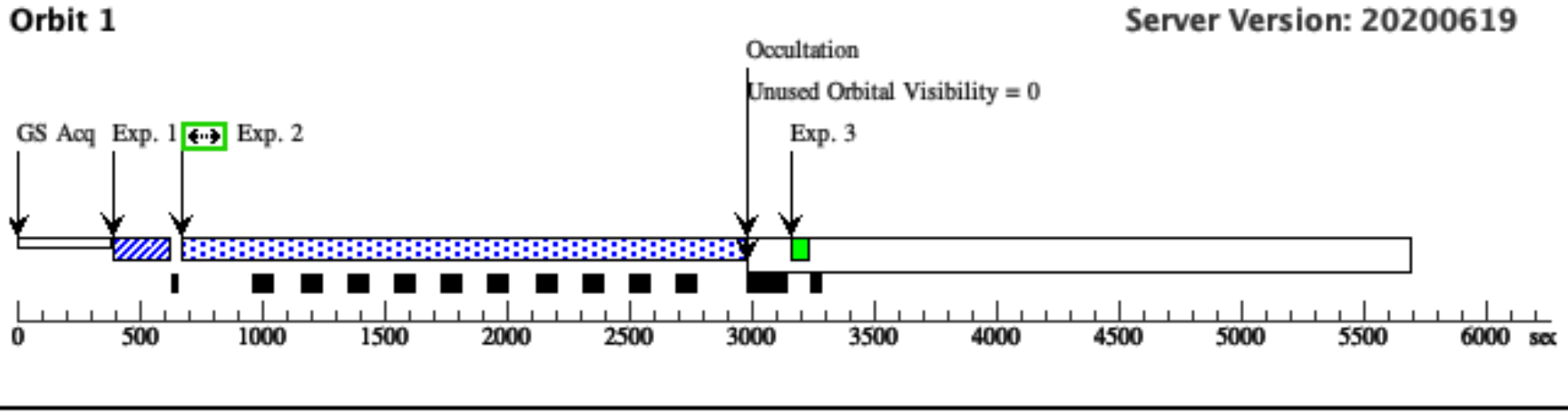
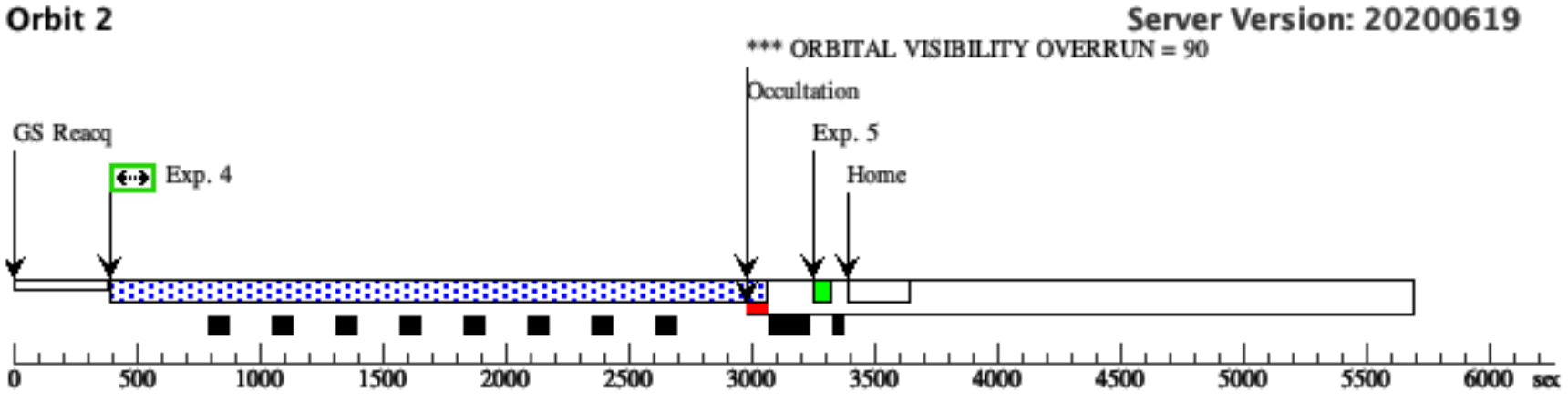
tstatus; AV235; P/STIS Approved for Submission; S/ins not started; P/TS 20/04/20; S/xx DD/MM/YY
tcheck; APT/SIMBAD target names: ; AV235, 'RMC 17' ...
Other names SK 82, AzV 235, 2dFS 1416
tcheck; Target info verification status?; OK ...
ULLYSES target list gives B0Iaw vs SIMBAD B1Ia, but supplied target name and coordinates match, so no concerns
tcheck; Coordinates & P.M. updated?; No
tcheck; Adopted SED compared to Observations?; OK ...
Provided SED underestimates the flux level at B and V bands by ~30 per cent, but the FUV and NUV region seems consistent within ~10%.
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.1433940)	(1) AV235	STIS/CCD, ACQ, F28X50LP	MIRROR				0.2 Secs (0.2 Secs) *[==>]*	***[1]***
2	E230M/1978 (STIS.sp.1433961)	(1) AV235	STIS/NUV-MAMA, TIME-TAG, 0.2X0.2	E230M 1978 A	WAVECAL=NO; BUFFER-TIME=192			2185 Secs (2185 Secs) *[==>]*	***[1]***
	Comments: rn-max(WM-Basic(B0 I, Z=0.004, Teff=26303, log_lum=5.44, log_g=2.99) (extinction smcbar=0.060), flux1160 +- 30.0A flux=9.3e-13 Flam); stis,nuvmama,e230m,c1978,0.2x0.2,mjd#59305 *From file SMC_2020Feb20/input/SMC_all_do1_NewCoords_pids.csv* *Spectral type: B0Iaw --> B0 I* *SED = AV235_STIS_E230M_c1978_sed.fits* *For exptime=1772.8 s, spectral region:* *1800.0 +- 0.5 A achieves SNR=20.0/resel* *global countrate (brightest segment): 8277.5 cts/s/segment* *brightest pixel: 0.171 cts/s/pix at 2293.0 A* *Calculation performed 2020-02-24T17:49:48, v0.4*								
3	E230M/1978 WAVECAL	WAVE	STIS/NUV-MAMA, ACCUM, 0.2X0.2	E230M 1978 A				*[==>]*	***[1]***
4	E140M/1425 (STIS.sp.1433944)	(1) AV235	STIS/FUV-MAMA, TIME-TAG, 0.2X0.2	E140M 1425 A	WAVECAL=NO; BUFFER-TIME=260.0			2516 Secs (2516 Secs) *[==>]*	***[2]***
	Comments: rn-max(WM-Basic(B0 I, Z=0.004, Teff=26303, log_lum=5.44, log_g=2.99) (extinction smcbar=0.060), flux1160 +- 30.0A flux=9.3e-13 Flam); stis,fuvmama,e140m,c1425,0.2x0.2,mjd#59305 *From file SMC_2020Feb20/input/SMC_all_do1_NewCoords_pids.csv* *Spectral type: B0Iaw --> B0 I* *SED = AV235_STIS_E140M_c1425_sed.fits* *For exptime=3594.0 s, spectral region:* *1200.0 +- 0.5 A achieves SNR=20.0/resel* *global countrate (brightest segment): 6210.7 cts/s/segment* *brightest pixel: 0.063 cts/s/pix at 1333.4 A* *Calculation performed 2020-02-24T17:49:47, v0.4*								
5	E140M/1425 WAVECAL	WAVE	STIS/FUV-MAMA, ACCUM, 0.2X0.2	E140M 1425 A				*[==>]*	***[2]***

Orbit Structure





Visit

Proposal 16099, AV266-STIS (2S), completed Mon Oct 19 14:00:34 GMT 2020

Diagnostic Status: Warning

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

Special Requirements: SCHED 100%

Comments: vstatus; 2S; AV266; P/STIS Approved for Submission; P/TS 20/04/20 ; intrev: complete ; P/CP 15/04/20
vcheck; Enter targ name & Inst. & Resp. Sci.; AV266 ; STIS ; TS
vcheck; ETC numbers entered in APT?; Complete
vcheck; Any screening violations?; NO
vcheck; S/N ETC calcs done & documented?; N/A
vcheck; Field images checked & saved?; YES - AV266_DSS.png, AV266_2MASS.png
vcheck; Selected ACQ strategy?; STIS F28X50LP 0.3 sec gives S/N~100
vcheck; Possible ACQ or Sci spoilers?; NO
vcheck; Field BOT clear?; YES - 1 safe GSC2 source
vcheck; Visual BOT check for stars not in catalog?; OK
vcheck; Orbit packing finalized?; 2 orbits for E140M and another E140M orbit in the next visit
vcheck; Buffer times optimized?; DONE
vcheck; Verify visit grouping correct; N/A
vcheck; Is visit ready for int. review?; YES
Allocated STIS orbits = 2

Diagnostics

(AV266-STIS (2S)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(2)	AV266	RA: 01 01 9.3946 (15.2891442d)		V=12.55	Reference Frame: ICRS
	Alt Name1: AZV-266	Dec: -72 27 28.56 (-72.45793d)		SpT=B1 I; E(B-V)=0.07; U=11.5; B=12.4; V=12.6; F1160=7.38e-13; F1360=6.11e-13; F1700=3.87e-13; F2200=3.28e-13	
	Alt Name2: AV-266	Equinox: J2000			

Comments: AV266 : [M2002]_50609, AV 266, AzV 266
Previous name : AV 266
Input file: SMC_2020Feb20/input/SMC_all_do1_NewCoords_pids.csv
SIMBAD link (AzV 266): https://simbad.u-strasbg.fr/simbad/sim-id?Ident=AzV+266&submit=submit+id
SpT = B1 I
COS/G130M/c1096 : rn-max(WM-Basic(B0.5 I, Z=0.004, Teff=24547, log_lum=5.40, log_g=2.95) (extinction smcbar=0.070), flux1160 +- 30.0A flux=7.4e-13 Flam)
COS/G130M/c1291 : rn-max(WM-Basic(B0.5 I, Z=0.004, Teff=24547, log_lum=5.40, log_g=2.95) (extinction smcbar=0.070), flux1360 +- 30.0A flux=6.1e-13 Flam)
COS/G160M/c1611 : rn-max(WM-Basic(B0.5 I, Z=0.004, Teff=24547, log_lum=5.40, log_g=2.95) (extinction smcbar=0.070), flux1700 +- 5.0A flux=3.9e-13 Flam)
COS/G185M/c1921 : rn-max(WM-Basic(B0.5 I, Z=0.004, Teff=24547, log_lum=5.40, log_g=2.95) (extinction smcbar=0.070), flux1700 +- 5.0A flux=3.9e-13 Flam)
COS/G185M/c1953 : rn-max(WM-Basic(B0.5 I, Z=0.004, Teff=24547, log_lum=5.40, log_g=2.95) (extinction smcbar=0.070), flux1700 +- 5.0A flux=3.9e-13 Flam)
COS/G185M/c1986 : rn-max(WM-Basic(B0.5 I, Z=0.004, Teff=24547, log_lum=5.40, log_g=2.95) (extinction smcbar=0.070), flux2200 +- 5.0A flux=3.3e-13 Flam)
STIS/E140M/c1425 : rn-max(WM-Basic(B0.5 I, Z=0.004, Teff=24547, log_lum=5.40, log_g=2.95) (extinction smcbar=0.070), flux1360 +- 30.0A flux=6.1e-13 Flam)
STIS/E230M/c1978 : rn-max(WM-Basic(B0.5 I, Z=0.004, Teff=24547, log_lum=5.40, log_g=2.95) (extinction smcbar=0.070), flux2200 +- 5.0A flux=3.3e-13 Flam)
STIS/E230M/c2707 : rn-max(WM-Basic(B0.5 I, Z=0.004, Teff=24547, log_lum=5.40, log_g=2.95) (extinction smcbar=0.070), flux2200 +- 5.0A flux=3.3e-13 Flam)
Coordinate pedigree: Gaia
v sin i = 61
Calculation performed 2020-02-24T17:52:13, v0.4
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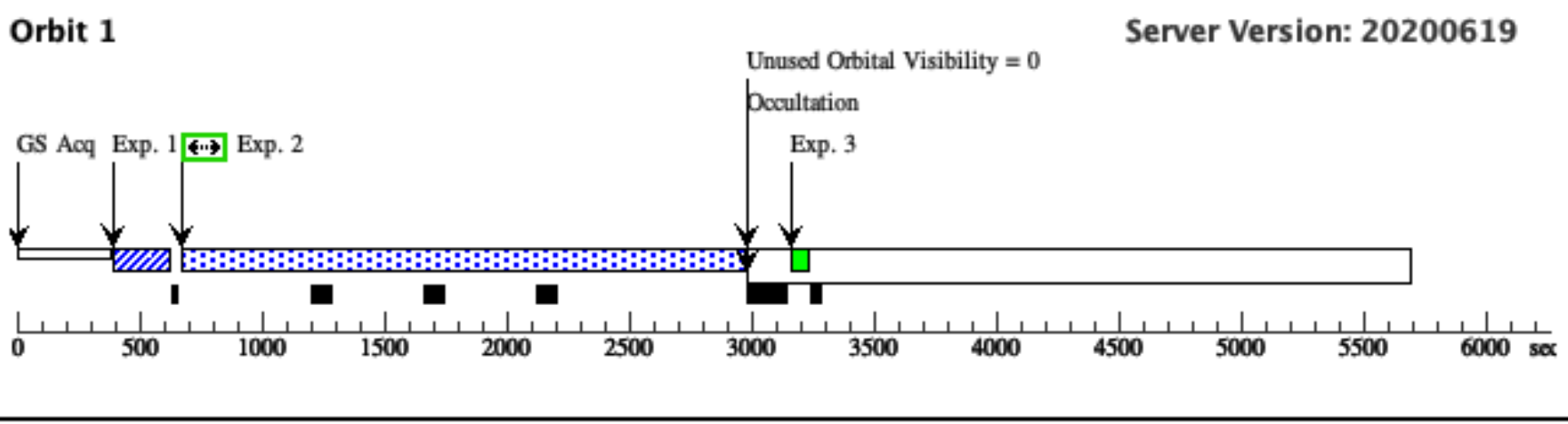
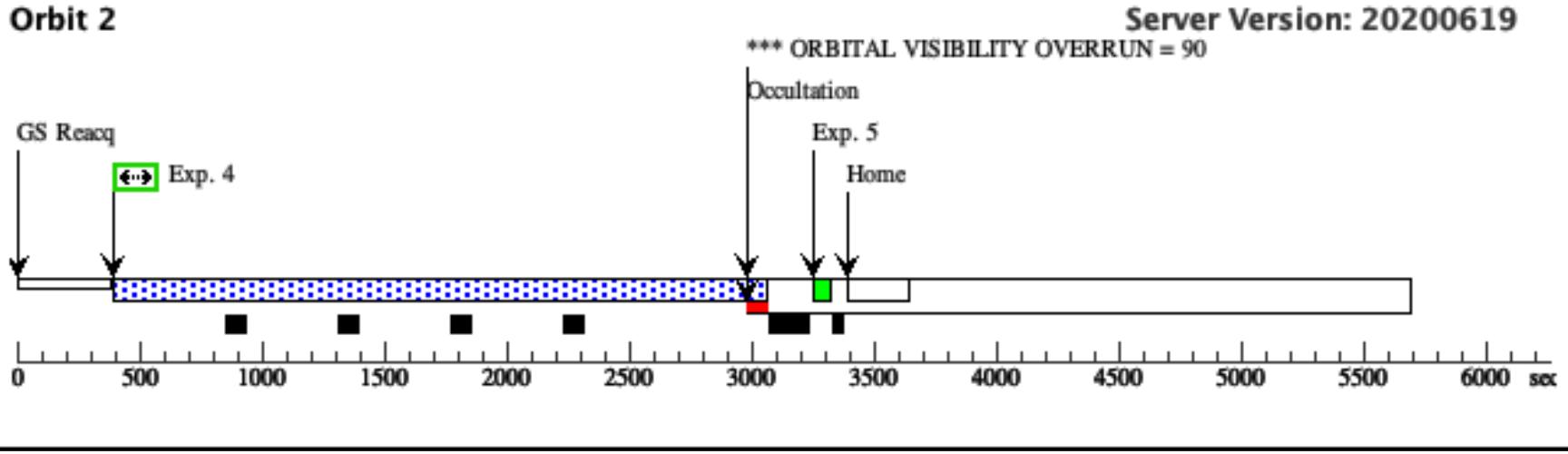
tstatus; AV266; P/STIS Approved for Submission; S/ins not started; P/TS 20/04/20; S/xx DD/MM/YY
tcheck; APT/SIMBAD target names: ; AV266, 'SK 95' (SIMBAD name) ...
Other names AzV 266, OGLE SMC-SC9 76081
tcheck; Target info verification status?; OK
tcheck; Coordinates & P.M. updated?; NO
tcheck; Adopted SED compared to Observations?; OK - FUV match good to FUSE+IUE data - NUV overall good - U,B,V observations are brighter by about 20% than SED.
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.1433966)	(2) AV266	STIS/CCD, ACQ, F28X50LP	MIRROR				0.3 Secs (0.3 Secs) *[==>]*	***[1]***
2	E140M/1425 (STIS.sp.1433973)	(2) AV266	STIS/FUV-MAMA, TIME-TAG, 0.2X0.2	E140M 1425 A	WAVECAL=NO; BUFFER-TIME=460			2215 Secs (2215 Secs) *[==>]*	***[1]***
	Comments: rn-max(WM-Basic(B0.5 I, Z=0.004, Teff=24547, log_lum=5.40, log_g=2.95) (extinction smcbar=0.070), flux1360 +- 30.0A flux=6.1e-13 Flam); stis,fuvmama,e140m,c1425,0.2x0.2,mjd#59305 *From file SMC_2020Feb20/input/SMC_all_do1_NewCoords_pids.csv* *Spectral type: B1 I --> B0.5 I* *SED = AV266_STIS_E140M_c1425_sed.fits* *For exptime=7575.8 s, spectral region:* *1200.0 +- 0.5 A achieves SNR=20.0/resel* *global countrate (brightest segment): 3485.8 cts/s/segment* *brightest pixel: 0.044 cts/s/pix at 1395.0 A* *Calculation performed 2020-02-24T17:52:26, v0.4*								
3	E140M/1425 WAVECAL	WAVE	STIS/FUV-MAMA, ACCUM, 0.2X0.2	E140M 1425 A				*[==>]*	***[1]***
4	E140M/1425 (STIS.sp.1433973)	(2) AV266	STIS/FUV-MAMA, TIME-TAG, 0.2X0.2	E140M 1425 A	WAVECAL=NO; BUFFER-TIME=460			2657 Secs (2657 Secs) *[==>]*	***[2]***
	Comments: rn-max(WM-Basic(B0.5 I, Z=0.004, Teff=24547, log_lum=5.40, log_g=2.95) (extinction smcbar=0.070), flux1360 +- 30.0A flux=6.1e-13 Flam); stis,fuvmama,e140m,c1425,0.2x0.2,mjd#59305 *From file SMC_2020Feb20/input/SMC_all_do1_NewCoords_pids.csv* *Spectral type: B1 I --> B0.5 I* *SED = AV266_STIS_E140M_c1425_sed.fits* *For exptime=7575.8 s, spectral region:* *1200.0 +- 0.5 A achieves SNR=20.0/resel* *global countrate (brightest segment): 3485.8 cts/s/segment* *brightest pixel: 0.044 cts/s/pix at 1395.0 A* *Calculation performed 2020-02-24T17:52:26, v0.4*								
5	E140M/1425 WAVECAL	WAVE	STIS/FUV-MAMA, ACCUM, 0.2X0.2	E140M 1425 A				*[==>]*	***[2]***

Orbit Structure





Visit

Proposal 16099, AV266-STIS (2T), completed Mon Oct 19 14:00:34 GMT 2020

Diagnostic Status: Warning

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

Special Requirements: SCHED 100%

Comments: vstatus; 2S; AV266; P/STIS Approved for Submission; P/TS 20/04/20 ; intrev: complete ; P/CP 15/04/20
vcheck; Enter targ name & Inst. & Resp. Sci.; AV266 ; STIS ; TS
vcheck; ETC numbers entered in APT?; Complete
vcheck; Any screening violations?; NO
vcheck; S/N ETC calcs done & documented?; N/A
vcheck; Field images checked & saved?; YES - AV266_DSS.png, AV266_2MASS.png
vcheck; Selected ACQ strategy?; STIS F28X50LP 0.3 sec gives S/N~100
vcheck; Possible ACQ or Sci spoilers?; NO
vcheck; Field BOT clear?; YES - 1 safe GSC2 source
vcheck; Visual BOT check for stars not in catalog?; OK
vcheck; Orbit packing finalized?; 1 orbit for E140M and 1 orbit for E230M
vcheck; Buffer times optimized?; DONE
vcheck; Verify visit grouping correct; N/A
vcheck; Is visit ready for int. review?; YES
Allocated STIS orbits = 2

Diagnostics

(AV266-STIS (2T)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN

Fixed Targets

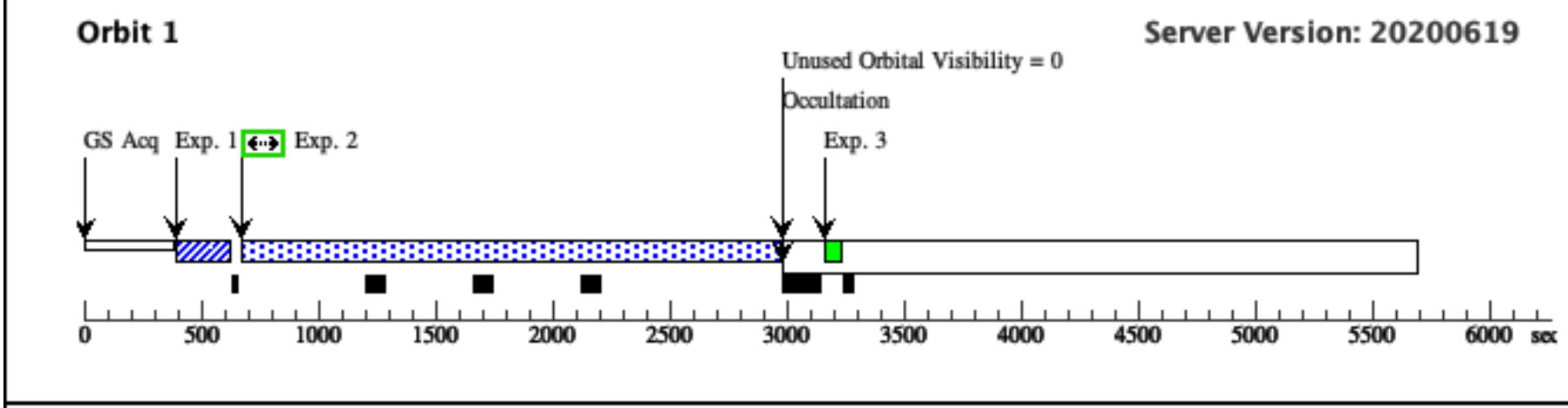
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(2)	AV266	RA: 01 01 9.3946 (15.2891442d)		V=12.55	Reference Frame: ICRS
	Alt Name1: AZV-266	Dec: -72 27 28.56 (-72.45793d)		SpT=B1 I; E(B-V)=0.07; U=11.5; B=12.4; V=12.6; F1160=7.38e-13; F1360=6.11e-13; F1700=3.87e-13; F2200=3.28e-13	
	Alt Name2: AV-266	Equinox: J2000			

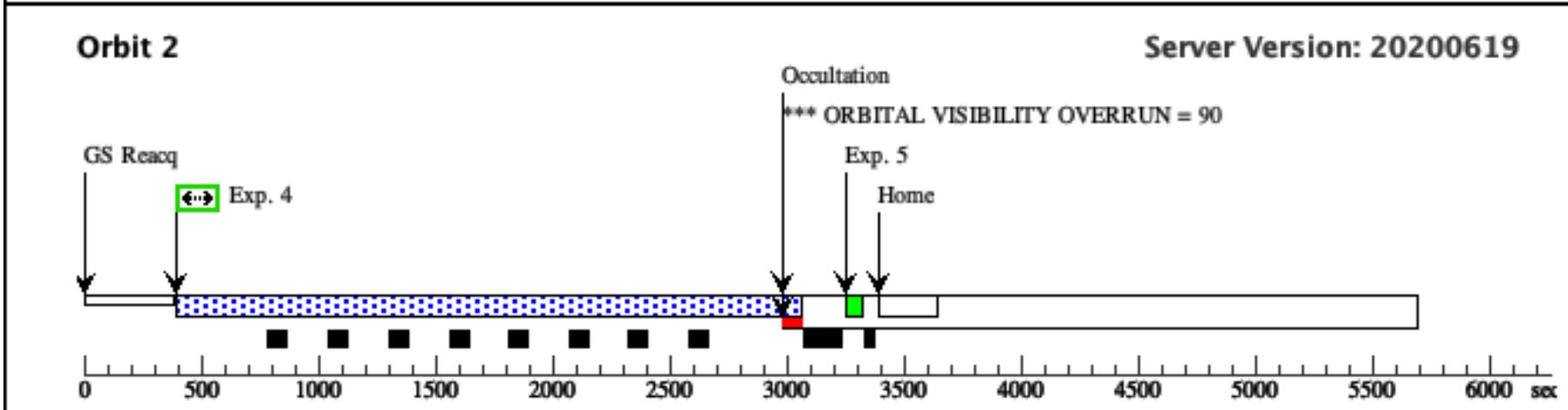
Comments: AV266 : [M2002]_50609, AV 266, AzV 266
Previous name : AV 266
Input file: SMC_2020Feb20/input/SMC_all_do1_NewCoords_pids.csv
SIMBAD link (AzV 266): https://simbad.u-strasbg.fr/simbad/sim-id?Ident=AzV+266&submit=submit+id
SpT = B1 I
COS/G130M/c1096 : rn-max(WM-Basic(B0.5 I, Z=0.004, Teff=24547, log_lum=5.40, log_g=2.95) (extinction smcbar=0.070), flux1160 +- 30.0A flux=7.4e-13 Flam)
COS/G130M/c1291 : rn-max(WM-Basic(B0.5 I, Z=0.004, Teff=24547, log_lum=5.40, log_g=2.95) (extinction smcbar=0.070), flux1360 +- 30.0A flux=6.1e-13 Flam)
COS/G160M/c1611 : rn-max(WM-Basic(B0.5 I, Z=0.004, Teff=24547, log_lum=5.40, log_g=2.95) (extinction smcbar=0.070), flux1700 +- 5.0A flux=3.9e-13 Flam)
COS/G185M/c1921 : rn-max(WM-Basic(B0.5 I, Z=0.004, Teff=24547, log_lum=5.40, log_g=2.95) (extinction smcbar=0.070), flux1700 +- 5.0A flux=3.9e-13 Flam)
COS/G185M/c1953 : rn-max(WM-Basic(B0.5 I, Z=0.004, Teff=24547, log_lum=5.40, log_g=2.95) (extinction smcbar=0.070), flux1700 +- 5.0A flux=3.9e-13 Flam)
COS/G185M/c1986 : rn-max(WM-Basic(B0.5 I, Z=0.004, Teff=24547, log_lum=5.40, log_g=2.95) (extinction smcbar=0.070), flux2200 +- 5.0A flux=3.3e-13 Flam)
STIS/E140M/c1425 : rn-max(WM-Basic(B0.5 I, Z=0.004, Teff=24547, log_lum=5.40, log_g=2.95) (extinction smcbar=0.070), flux1360 +- 30.0A flux=6.1e-13 Flam)
STIS/E230M/c1978 : rn-max(WM-Basic(B0.5 I, Z=0.004, Teff=24547, log_lum=5.40, log_g=2.95) (extinction smcbar=0.070), flux2200 +- 5.0A flux=3.3e-13 Flam)
STIS/E230M/c2707 : rn-max(WM-Basic(B0.5 I, Z=0.004, Teff=24547, log_lum=5.40, log_g=2.95) (extinction smcbar=0.070), flux2200 +- 5.0A flux=3.3e-13 Flam)
Coordinate pedigree: Gaia
v sin i = 61
Calculation performed 2020-02-24T17:52:13, v0.4
---
tstatus; AV266; P/STIS Approved for Submission; S/ins not started; P/TS 20/04/20; S/xx DD/MM/YY
tcheck; APT/SIMBAD target names: ; AV266, 'SK 95' (SIMBAD name) ...
Other names AzV 266, OGLE SMC-SC9 76081
tcheck; Target info verification status?; OK
tcheck; Coordinates & P.M. updated?; NO
tcheck; Adopted SED compared to Observations?; OK - FUV match good to FUSE+IUE data - NUV overall good - U,B,V observations are brighter by about 20% than SED.
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.1433966)	(2) AV266	STIS/CCD, ACQ, F28X50LP	MIRROR				0.3 Secs (0.3 Secs) *[==>]*	***[1]***
2	E140M/1425 (STIS.sp.1433973)	(2) AV266	STIS/FUV-MAMA, TIME-TAG, 0.2X0.2	E140M 1425 A	WAVECAL=NO; BUFFER-TIME=460			2215 Secs (2215 Secs) *[==>]*	***[1]***
	Comments: rn-max(WM-Basic(B0.5 I, Z=0.004, Teff=24547, log_lum=5.40, log_g=2.95) (extinction smcbar=0.070), flux1360 +- 30.0A flux=6.1e-13 Flam); stis,fuvmama,e140m,c1425,0.2x0.2,mjd#59305 *From file SMC_2020Feb20/input/SMC_all_do1_NewCoords_pids.csv* *Spectral type: B1 I --> B0.5 I* *SED = AV266_STIS_E140M_c1425_sed.fits* *For exptime=7575.8 s, spectral region:* *1200.0 +- 0.5 A achieves SNR=20.0/resel* *global countrate (brightest segment): 3485.8 cts/s/segment* *brightest pixel: 0.044 cts/s/pix at 1395.0 A* *Calculation performed 2020-02-24T17:52:26, v0.4*								
3	E140M/1425 WAVECAL	WAVE	STIS/FUV-MAMA, ACCUM, 0.2X0.2	E140M 1425 A				*[==>]*	***[1]***
4	E230M/1978 (STIS.sp.1433974)	(2) AV266	STIS/NUV-MAMA, TIME-TAG, 0.2X0.2	E230M 1978 A	WAVECAL=NO; BUFFER-TIME=256			2516 Secs (2516 Secs) *[==>]*	***[2]***
	Comments: rn-max(WM-Basic(B0.5 I, Z=0.004, Teff=24547, log_lum=5.40, log_g=2.95) (extinction smcbar=0.070), flux2200 +- 5.0A flux=3.3e-13 Flam); stis,nuvmama,e230m,c1978,0.2x0.2,mjd#59305 *From file SMC_2020Feb20/input/SMC_all_do1_NewCoords_pids.csv* *Spectral type: B1 I --> B0.5 I* *SED = AV266_STIS_E230M_c1978_sed.fits* *For exptime=2942.4 s, spectral region:* *1800.0 +- 0.5 A achieves SNR=20.0/resel* *global countrate (brightest segment): 6215.9 cts/s/segment* *brightest pixel: 0.115 cts/s/pix at 2293.0 A* *Calculation performed 2020-02-24T17:52:27, v0.4*								
5	E230M/1978 WAVECAL	WAVE	STIS/NUV-MAMA, ACCUM, 0.2X0.2	E230M 1978 A				*[==>]*	***[2]***

Orbit Structure





Visit

Proposal 16099, AV372-STIS (3S), completed Mon Oct 19 14:00:34 GMT 2020

Diagnostic Status: Warning

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

Special Requirements: SCHED 100%

Comments: vstatus; 3S; AV372; P/STIS Approved for Submission; P/TS 20/04/20 ; intrev: complete ; P/CP 15/04/20
vcheck; Enter targ name & Inst. & Resp. Sci.; AV372; STIS; TS
vcheck; ETC numbers entered in APT?; Completed
vcheck; Any screening violations?; NONE
vcheck; S/N ETC calcs done & documented?; YES ...
ETC# STIS.sp.1435602 gives S/N=16 at 1200 angstroms, but S/N plot shows actual S/N is close to 20
ETC# STIS.sp.1435601 gives S/N=18 at 1800 aggstroms, but S/N plot shows actual S/N is close to 20
Both S/N plots are located in the AV372 Box directory (E140M_SN.png, E230M_SN.png)
vcheck; Field images checked & saved?; YES - AV372_DSS.png, AV372_2MASS.png
vcheck; Selected ACQ strategy?; STIS F28X50LP 0.3 sec gives S/N~100
vcheck; Possible ACQ or Sci spoilers?; NO
vcheck; Field BOT clear?; 1 safe GSC2 source which is the target itself
vcheck; Visual BOT check for stars not in catalog?; OK
vcheck; Orbit packing finalized?; 3 orbits
vcheck; Buffer times optimized?; DONE
vcheck; Verify visit grouping correct; N/A
vcheck; Is visit ready for int. review?; YES
Allocated STIS orbits = 3

Diagnostics

(AV372-STIS (3S)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN

(AV372-STIS (3S)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN

Fixed Targets

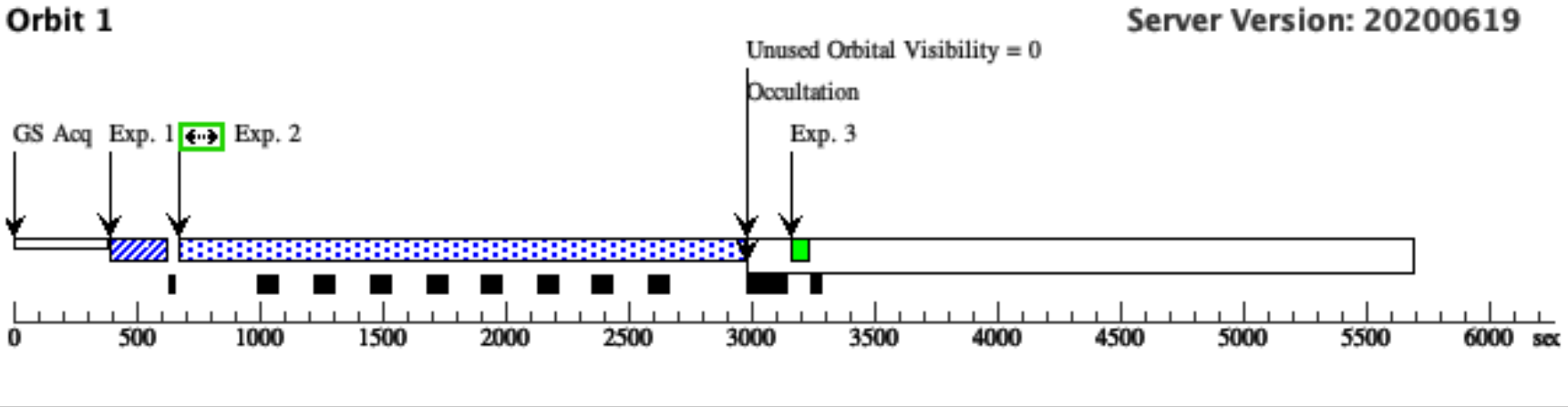
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(3)	AV372 Alt Name1: M2002-60577 Alt Name2: AV-372	RA: 01 04 55.7428 (16.2322617d) Dec: -72 46 48.16 (-72.78004d) Equinox: J2000		V=12.59 SpT=O9.5Iabw; E(B-V)=0.11; U=11.4; B=12.4; V=12.6; F1160 =1.14e-12; F1360=8.04e-13	Reference Frame: ICRS

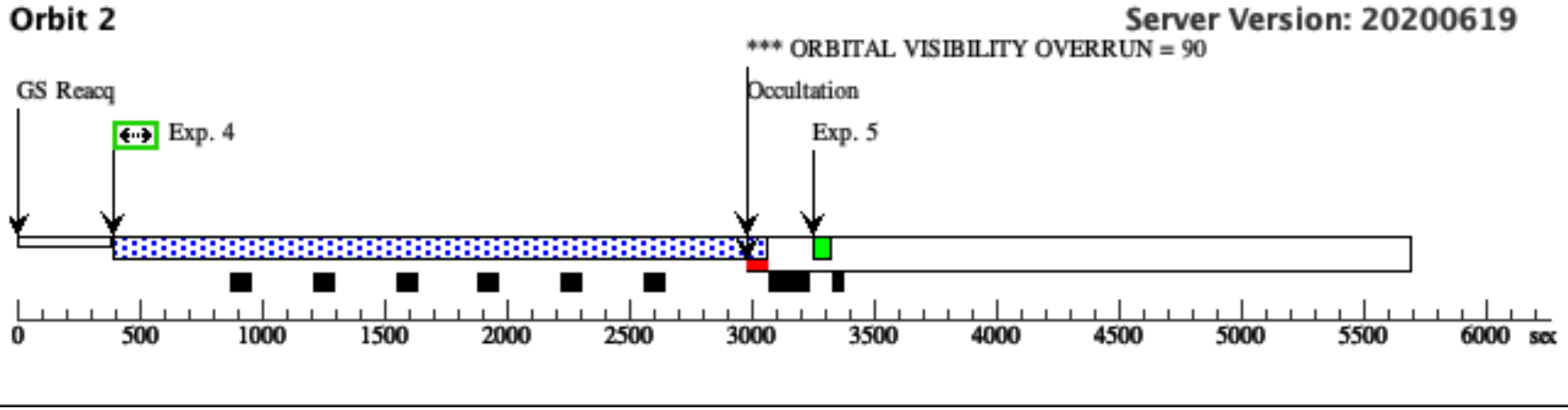
Comments: AV372 : [M2002]_60577, AV 372, AzV 372
Previous name : AV 372
Input file: SMC_2020Feb20/input/SMC_all_do1_NewCoords_pids.csv
SIMBAD link (AzV 372): https://simbad.u-strasbg.fr/simbad/sim-id?Ident=AzV+372&submit=submit+id
SpT = O9.5Iabw
COS/G130M/c1096 : rn-max(WM-Basic(O9.5 I, Z=0.004, Teff=32359, log_lum=5.81, log_g=3.23) (extinction smcbar=0.110), flux1160 +- 30.0A flux=1.1e-12 Flam)
COS/G130M/c1291 : rn-max(WM-Basic(O9.5 I, Z=0.004, Teff=32359, log_lum=5.81, log_g=3.23) (extinction smcbar=0.110), flux1360 +- 30.0A flux=8e-13 Flam)
COS/G160M/c1611 : rn-max(WM-Basic(O9.5 I, Z=0.004, Teff=32359, log_lum=5.81, log_g=3.23) (extinction smcbar=0.110), flux1360 +- 30.0A flux=8e-13 Flam)
COS/G185M/c1921 : rn-max(WM-Basic(O9.5 I, Z=0.004, Teff=32359, log_lum=5.81, log_g=3.23) (extinction smcbar=0.110), flux1360 +- 30.0A flux=8e-13 Flam)
COS/G185M/c1953 : rn-max(WM-Basic(O9.5 I, Z=0.004, Teff=32359, log_lum=5.81, log_g=3.23) (extinction smcbar=0.110), flux1360 +- 30.0A flux=8e-13 Flam)
COS/G185M/c1986 : rn-max(WM-Basic(O9.5 I, Z=0.004, Teff=32359, log_lum=5.81, log_g=3.23) (extinction smcbar=0.110), flux1360 +- 30.0A flux=8e-13 Flam)
STIS/E140M/c1425 : rn-max(WM-Basic(O9.5 I, Z=0.004, Teff=32359, log_lum=5.81, log_g=3.23) (extinction smcbar=0.110), flux1360 +- 30.0A flux=8e-13 Flam)
STIS/E230M/c1978 : rn-max(WM-Basic(O9.5 I, Z=0.004, Teff=32359, log_lum=5.81, log_g=3.23) (extinction smcbar=0.110), flux1360 +- 30.0A flux=8e-13 Flam)
STIS/E230M/c2707 : rn-max(WM-Basic(O9.5 I, Z=0.004, Teff=32359, log_lum=5.81, log_g=3.23) (extinction smcbar=0.110), flux1360 +- 30.0A flux=8e-13 Flam)
Coordinate pedigree: Gaia
v sin i = 98
Calculation performed 2020-02-24T18:02:53, v0.4
---
tstatus; AV372; P/STIS Approved for Submission; S/ins not started; P/TS 20/04/20; S/xx DD/MM/YY
tcheck; APT/SIMBAD target names: ; AV372, 'SK 116' (SIMBAD name) ...
Other names AzV 372, Bu SMC Z48
tcheck; Target info verification status?; OK
tcheck; Coordinates & P.M. updated?; NO
tcheck; Adopted SED compared to Observations?; OK after changing reddening ...
The original SED had issues fitting all observed data throughout the entire wavelength. By lowering the E(B-V) from 0.11 to 0.08 solved the problem. Old and new SEDs compared to observations are saved in the Box directory AV372. Note that IUE seems to have gotten the wrong star (a nearby B1 Ib-IIe star), so those were removed from comparions/fitting. Newly adopted SED used for ETC calculations is saved in the same Box directory with the name AV372_newsed.fits.
Category=EXT-STAR
Description=[SUPERGIANT O]
Extended=NO

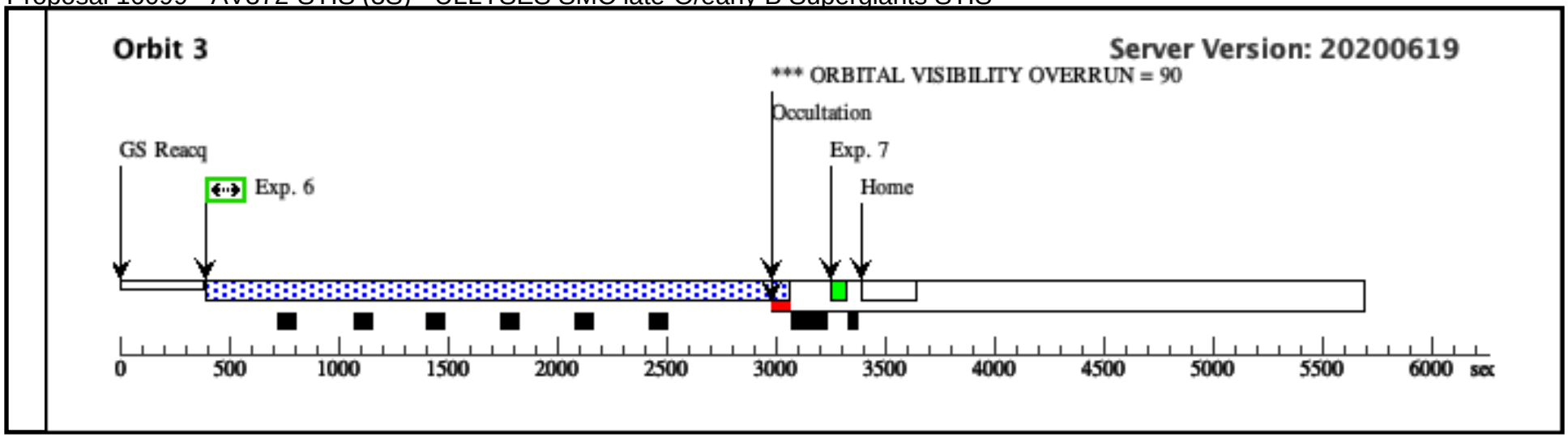
Exposures

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	ACQ (STIS.ta.1435604)	(3) AV372	STIS/CCD, ACQ, F28X50LP	MIRROR				0.3 Secs (0.3 Secs) *[==>]*	***[1]***
2	E230M/1978 (STIS.sp.1435601)	(3) AV372	STIS/NUV-MAMA, TIME-TAG, 0.2X0.2	E230M 1978 A	WAVECAL=NO; BUFFER-TIME=226			2185 Secs (2185 Secs) *[==>]*	***[1]***
	Comments: rn-max(WM-Basic(O9.5 I, Z=0.004, Teff=32359, log_lum=5.81, log_g=3.23) (extinction smcbar=0.110), flux1360 +- 30.0A flux=8e-13 Flam); stis,nuvmama,e230m,c1978,0.2x0.2,mjd#59305 *From file SMC_2020Feb20/input/SMC_all_do1_NewCoords_pids.csv* *Spectral type: O9.5Iabw --> O9.5 I* *SED = AV372_STIS_E230M_c1978_sed.fits* *For exptime=2046.5 s, spectral region:* *1800.0 +- 0.5 A achieves SNR=20.0/resel* *global countrate (brightest segment): 7925.4 cts/s/segment* *brightest pixel: 0.168 cts/s/pix at 2293.0 A* *Calculation performed 2020-02-24T18:03:07, v0.4*								
3	E230M/1978 WAVECAL	WAVE	STIS/NUV-MAMA, ACCUM, 0.2X0.2	E230M 1978 A				*[==>]*	***[1]***
4	E140M/1425 (STIS.sp.1435602)	(3) AV372	STIS/FUV-MAMA, TIME-TAG, 0.2X0.2	E140M 1425 A	WAVECAL=NO; BUFFER-TIME=338			2516 Secs (2516 Secs) *[==>]*	***[2]***
	Comments: rn-max(WM-Basic(O9.5 I, Z=0.004, Teff=32359, log_lum=5.81, log_g=3.23) (extinction smcbar=0.110), flux1360 +- 30.0A flux=8e-13 Flam); stis,fuvmama,e140m,c1425,0.2x0.2,mjd#59305 *From file SMC_2020Feb20/input/SMC_all_do1_NewCoords_pids.csv* *Spectral type: O9.5Iabw --> O9.5 I* *SED = AV372_STIS_E140M_c1425_sed.fits* *For exptime=5648.3 s, spectral region:* *1200.0 +- 0.5 A achieves SNR=20.0/resel* *global countrate (brightest segment): 4824.1 cts/s/segment* *brightest pixel: 0.047 cts/s/pix at 1407.9 A* *Calculation performed 2020-02-24T18:03:06, v0.4*								
5	E140M/1425 WAVECAL	WAVE	STIS/FUV-MAMA, ACCUM, 0.2X0.2	E140M 1425 A				*[==>]*	***[2]***
6	E140M/1425 (STIS.sp.1435602)	(3) AV372	STIS/FUV-MAMA, TIME-TAG, 0.2X0.2	E140M 1425 A	WAVECAL=NO; BUFFER-TIME=338			2657 Secs (2657 Secs) *[==>]*	***[3]***
	Comments: rn-max(WM-Basic(O9.5 I, Z=0.004, Teff=32359, log_lum=5.81, log_g=3.23) (extinction smcbar=0.110), flux1360 +- 30.0A flux=8e-13 Flam); stis,fuvmama,e140m,c1425,0.2x0.2,mjd#59305 *From file SMC_2020Feb20/input/SMC_all_do1_NewCoords_pids.csv* *Spectral type: O9.5Iabw --> O9.5 I* *SED = AV372_STIS_E140M_c1425_sed.fits* *For exptime=5648.3 s, spectral region:* *1200.0 +- 0.5 A achieves SNR=20.0/resel* *global countrate (brightest segment): 4824.1 cts/s/segment* *brightest pixel: 0.047 cts/s/pix at 1407.9 A* *Calculation performed 2020-02-24T18:03:06, v0.4*								
7	E140M/1425 WAVECAL	WAVE	STIS/FUV-MAMA, ACCUM, 0.2X0.2	E140M 1425 A				*[==>]*	***[3]***

Orbit Structure






Orbit 3
Server Version: 20200619
*** ORBITAL VISIBILITY OVERRUN = 90
Occultation
GS Reacq
Exp. 6
Exp. 7
Home
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
6000
sec

Visit

Proposal 16099, AV488-STIS (4S), completed Mon Oct 19 14:00:34 GMT 2020

Diagnostic Status: Warning

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

Special Requirements: SCHED 100%

Comments: vstatus; 4S; AV488; P/STIS Approved for Submission; P/TS 20/04/20 ; intrev: complete ; P/CP 15/04/20
vcheck; Enter targ name & Inst. & Resp. Sci.; AV488 ; STIS ; TS
vcheck; ETC numbers entered in APT?; Completed
vcheck; Any screening violations?; NO
vcheck; S/N ETC calcs done & documented?; YES ...
ETC# STIS.sp.1435609 gives S/N=15 at 1200 angstroms, but S/N plot shows actual S/N is close to 20
ETC# STIS.sp.1435608 gives S/N=17 at 1800 aggstroms, but S/N plot shows actual S/N is close to 20
Both S/N plots are located in the AV488 Box directory (AV488_E140M_SN.png, AV488_E230M_SN.png)
vcheck; Field images checked & saved?; YES - AV488_DSS.png, AV488_2MASS.png
vcheck; Selected ACQ strategy?; STIS F28X50LP 0.2 sec gives S/N>100
vcheck; Possible ACQ or Sci spoilers?; NO
vcheck; Field BOT clear?; No stars reported in either GSC2 or GALEX
vcheck; Visual BOT check for stars not in catalog?; Complete
vcheck; Orbit packing finalized?; YES ...
E230M only required 1200 sec, while E140M required more than an orbit to reach S/N requirements. Split the first orbit between E230M and E140M while placing E230M WAVECAL in front of science exposure, and E140M WAVECAL after science exposure. Resulting total science exposures times are 1200 sec for E230M and 3193 sec for E140M.
vcheck; Buffer times optimized?; YES
vcheck; Verify visit grouping correct; N/A
vcheck; Is visit ready for int. review?; YES
Allocated STIS orbits = 2

Diagnostics

(AV488-STIS (4S)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN

Fixed Targets

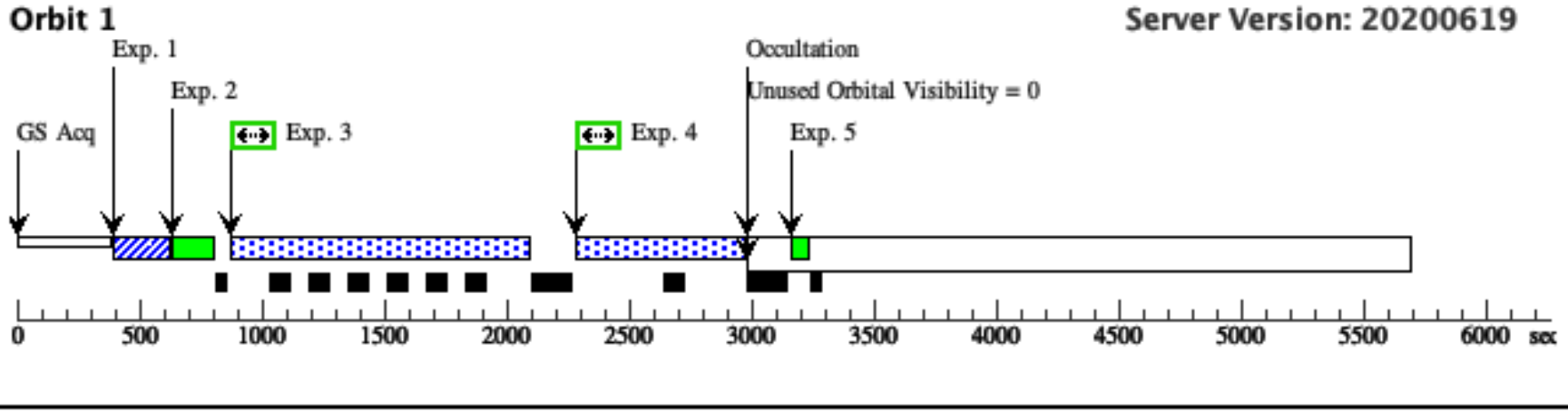
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(4)	AV488	RA: 01 15 58.8816 (18.9953400d)		V=11.89	Reference Frame: ICRS
	Alt Name1: SK159	Dec: -73 21 24.37 (-73.35677d)		SpT=B0.5Iaw; E(B-V)=0.09; B=11.8; V=11.9; F1160=1.40e-12; F1360=1.30e-12; F1700=8.80e-13; F2200=6.30e-13	
	Alt Name2: SK-159	Equinox: J2000			

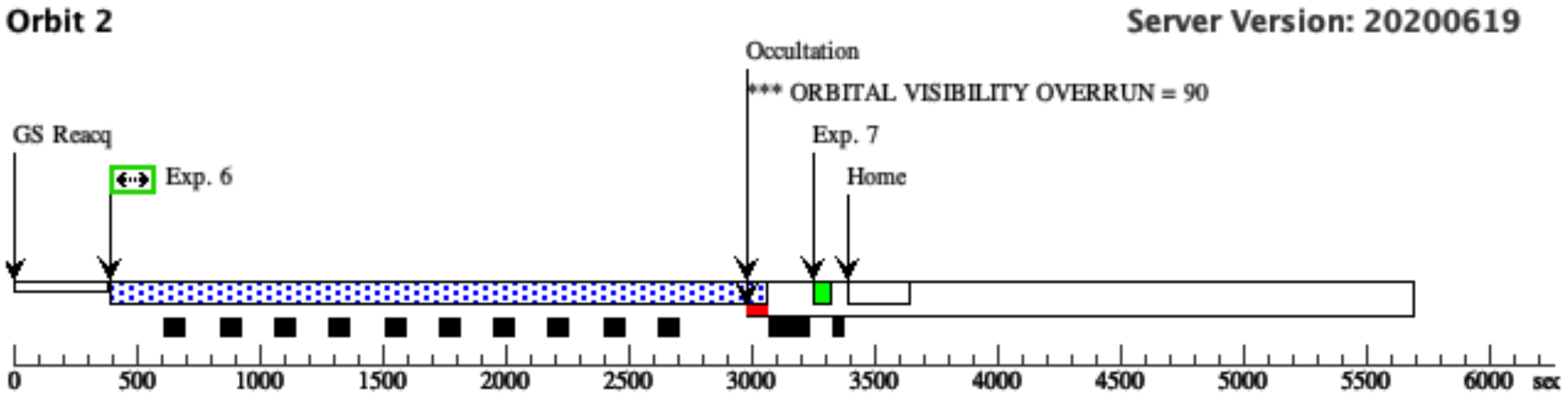
Comments: AV488 : SK159, Sk_159, SK 159
Previous name : SK159
Input file: SMC_2020Feb20/input/SMC_all_do1_NewCoords_pids.csv
SIMBAD link (SK 159): https://simbad.u-strasbg.fr/simbad/sim-id?Ident=SK+159&submit=submit+id
SpT = B0.5Iaw
COS/G130M/c1096 : rn-max(WM-Basic(B0.5 I, Z=0.004, Teff=24547, log_lum=5.40, log_g=2.95) (extinction smcbar=0.090), flux1160 +- 30.0A flux=1.4e-12 Flam)
COS/G130M/c1291 : rn-max(WM-Basic(B0.5 I, Z=0.004, Teff=24547, log_lum=5.40, log_g=2.95) (extinction smcbar=0.090), flux1360 +- 30.0A flux=1.3e-12 Flam)
COS/G160M/c1611 : rn-max(WM-Basic(B0.5 I, Z=0.004, Teff=24547, log_lum=5.40, log_g=2.95) (extinction smcbar=0.090), flux1700 +- 5.0A flux=8.8e-13 Flam)
COS/G185M/c1921 : rn-max(WM-Basic(B0.5 I, Z=0.004, Teff=24547, log_lum=5.40, log_g=2.95) (extinction smcbar=0.090), flux1700 +- 5.0A flux=8.8e-13 Flam)
COS/G185M/c1953 : rn-max(WM-Basic(B0.5 I, Z=0.004, Teff=24547, log_lum=5.40, log_g=2.95) (extinction smcbar=0.090), flux1700 +- 5.0A flux=8.8e-13 Flam)
COS/G185M/c1986 : rn-max(WM-Basic(B0.5 I, Z=0.004, Teff=24547, log_lum=5.40, log_g=2.95) (extinction smcbar=0.090), flux2200 +- 5.0A flux=6.3e-13 Flam)
STIS/E140M/c1425 : rn-max(WM-Basic(B0.5 I, Z=0.004, Teff=24547, log_lum=5.40, log_g=2.95) (extinction smcbar=0.090), flux1360 +- 30.0A flux=1.3e-12 Flam)
STIS/E230M/c1978 : rn-max(WM-Basic(B0.5 I, Z=0.004, Teff=24547, log_lum=5.40, log_g=2.95) (extinction smcbar=0.090), flux2200 +- 5.0A flux=6.3e-13 Flam)
STIS/E230M/c2707 : rn-max(WM-Basic(B0.5 I, Z=0.004, Teff=24547, log_lum=5.40, log_g=2.95) (extinction smcbar=0.090), flux2200 +- 5.0A flux=6.3e-13 Flam)
Coordinate pedigree: Gaia
Calculation performed 2020-02-24T17:49:49, v0.4
---
tstatus; AV488; P/STIS Approved for Submission; S/ins not started; P/TS 20/04/20; S/xx DD/MM/YY
tcheck; APT/SIMBAD target names: ; AV488, 'SK 159' (SIMBAD name) ...
Other names AzV 488, Flo 680, [AM77] 77
tcheck; Target info verification status?; OK
tcheck; Coordinates & P.M. updated?; NO
tcheck; Adopted SED compared to Observations?; OK after changing reddening ...
The original SED had issues fitting all observed data throughout the entire wavelength. By lowering the E(B-V) from 0.09 to 0.07 solved the problem. Old and new SEDs compared to observations are saved in the Box directory AV488. Newly adopted SED used for ETC calculations is saved in the same Box directory with the name AV488_newsed.fits.
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.1435605)	(4) AV488	STIS/CCD, ACQ, F28X50LP	MIRROR				0.2 Secs (0.2 Secs) *[==>]*	***[1]***
2	E230M/1978 WAVECAL	WAVE	STIS/NUV-MAMA, ACCUM, 0.2X0.2	E230M 1978 A				*[==>]*	***[1]***
3	E230M/1978 (STIS.sp.1435608)	(4) AV488	STIS/NUV-MAMA, TIME-TAG, 0.2X0.2	E230M 1978 A	WAVECAL=NO; BUFFER-TIME=160			1200 Secs (1200 Secs) *[==>]*	***[1]***
	Comments: rn-max(WM-Basic(B0.5 I, Z=0.004, Teff=24547, log_lum=5.40, log_g=2.95) (extinction smcbar=0.090), flux2200 +- 5.0A flux=6.3e-13 Flam); stis,nuvmama,e230m,c1978,0.2x0.2,mjd#59305 *From file SMC_2020Feb20/input/SMC_all_do1_NewCoords_pids.csv* *Spectral type: B0.5Iaw --> B0.5 I* *SED = AV488_STIS_E230M_c1978_sed.fits* *For exptime=1472.5 s, spectral region:* *1800.0 +- 0.5 A achieves SNR=20.0/resel* *global countrate (brightest segment): 9753.7 cts/s/segment* *brightest pixel: 0.220 cts/s/pix at 2293.0 A* *Calculation performed 2020-02-24T17:50:01, v0.4*								
4	E140M/1425 (STIS.sp.1435609)	(4) AV488	STIS/FUV-MAMA, TIME-TAG, 0.2X0.2	E140M 1425 A	WAVECAL=NO; BUFFER-TIME=223			536 Secs (536 Secs) *[==>]*	***[1]***
	Comments: rn-max(WM-Basic(B0.5 I, Z=0.004, Teff=24547, log_lum=5.40, log_g=2.95) (extinction smcbar=0.090), flux1360 +- 30.0A flux=1.3e-12 Flam); stis,fuvmama,e140m,c1425,0.2x0.2,mjd#59305 *From file SMC_2020Feb20/input/SMC_all_do1_NewCoords_pids.csv* *Spectral type: B0.5Iaw --> B0.5 I* *SED = AV488_STIS_E140M_c1425_sed.fits* *For exptime=3725.8 s, spectral region:* *1200.0 +- 0.5 A achieves SNR=20.0/resel* *global countrate (brightest segment): 7276.5 cts/s/segment* *brightest pixel: 0.094 cts/s/pix at 1395.0 A* *Calculation performed 2020-02-24T17:50:01, v0.4*								
5	E140M/1425 WAVECAL	WAVE	STIS/FUV-MAMA, ACCUM, 0.2X0.2	E140M 1425 A				*[==>]*	***[1]***
6	E140M/1425 (STIS.sp.1435609)	(4) AV488	STIS/FUV-MAMA, TIME-TAG, 0.2X0.2	E140M 1425 A	WAVECAL=NO; BUFFER-TIME=223			2657 Secs (2657 Secs) *[==>]*	***[2]***
	Comments: rn-max(WM-Basic(B0.5 I, Z=0.004, Teff=24547, log_lum=5.40, log_g=2.95) (extinction smcbar=0.090), flux1360 +- 30.0A flux=1.3e-12 Flam); stis,fuvmama,e140m,c1425,0.2x0.2,mjd#59305 *From file SMC_2020Feb20/input/SMC_all_do1_NewCoords_pids.csv* *Spectral type: B0.5Iaw --> B0.5 I* *SED = AV488_STIS_E140M_c1425_sed.fits* *For exptime=3725.8 s, spectral region:* *1200.0 +- 0.5 A achieves SNR=20.0/resel* *global countrate (brightest segment): 7276.5 cts/s/segment* *brightest pixel: 0.094 cts/s/pix at 1395.0 A* *Calculation performed 2020-02-24T17:50:01, v0.4*								
7	E140M/1425 WAVECAL	WAVE	STIS/FUV-MAMA, ACCUM, 0.2X0.2	E140M 1425 A				*[==>]*	***[2]***

Orbit Structure





Visit

Proposal 16099, AV70-STIS (5S), completed Mon Oct 19 14:00:34 GMT 2020

Diagnostic Status: Warning

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

Special Requirements: SCHED 100%; ON HOLD

Comments: vstatus; 5S; AV70; P/STIS Approved for Submission; P/TS 21/04/20 ; intrev: complete ; P/CP 15/04/20
vcheck; Enter targ name & Inst. & Resp. Sci.; AV70 ; STIS ; TS
vcheck; ETC numbers entered in APT?; Completed
vcheck; Any screening violations?; NO
vcheck; S/N ETC calcs done & documented?; YES ...
Assigned 2 orbits, one orbit each for E140M and E230M. To reach the S/N goals, 2 orbits are required for E140M, and one of them will come from Visit 17 of program 15837. ETC calculation for E140M below is assuming 2 orbits.
ETC# STIS.sp.1435727 gives S/N~20 at 1200 angstroms.
ETC# STIS.sp.1435724 gives S/N~20 at 1800 aggstroms.
vcheck; Field images checked & saved?; YES - AV70_DSS.png, AV70_2MASS.png
vcheck; Selected ACQ strategy?; STIS F28X50LP 0.3 sec gives S/N>100
vcheck; Possible ACQ or Sci spoilers?; NO
vcheck; Field BOT clear?; 1 safe GSC2 source which is the target itself
vcheck; Visual BOT check for stars not in catalog?; Complete
vcheck; Orbit packing finalized?; Complete
vcheck; Buffer times optimized?; YES
vcheck; Verify visit grouping correct; N/A
vcheck; Is visit ready for int. review?; YES
Allocated STIS orbits = 2

On Hold Comments: Do not execute until after visit 17 of program 15837 (Target SK-35) has been verified to have executed successfully.

Diagnostics

(AV70-STIS (5S)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(5)	AV70	RA: 00 50 18.1252 (12.5755217d)		V=12.38	Reference Frame: ICRS
	Alt Name1: AZV-70	Dec: -72 38 10.06 (-72.63613d)		SpT=O9.5Iw; E(B-V)=0.09; B= 12.2; V=12.4; F1160=1.53e-12	
	Alt Name2: AV-70	Equinox: J2000			

Comments: AV70 : AV_70, AZV70, AzV 70
Previous name : AZV70
Input file: SMC_2020Feb20/input/SMC_all_do1_NewCoords_pids.csv
SIMBAD link (AzV 70): https://simbad.u-strasbg.fr/simbad/sim-id?Ident=AzV+70&submit=submit+id
SpT = O9.5Iw
COS/G130M/c1096 : rn-max(WM-Basic(O9.5 I, Z=0.004, Teff=32359, log_lum=5.81, log_g=3.23) (extinction smcbar=0.090), flux1160 +- 30.0A flux=1.5e-12 Flam)
COS/G130M/c1291 : rn-max(WM-Basic(O9.5 I, Z=0.004, Teff=32359, log_lum=5.81, log_g=3.23) (extinction smcbar=0.090), flux1160 +- 30.0A flux=1.5e-12 Flam)
COS/G160M/c1611 : rn-max(WM-Basic(O9.5 I, Z=0.004, Teff=32359, log_lum=5.81, log_g=3.23) (extinction smcbar=0.090), flux1160 +- 30.0A flux=1.5e-12 Flam)
COS/G185M/c1921 : rn-max(WM-Basic(O9.5 I, Z=0.004, Teff=32359, log_lum=5.81, log_g=3.23) (extinction smcbar=0.090), flux1160 +- 30.0A flux=1.5e-12 Flam)
COS/G185M/c1953 : rn-max(WM-Basic(O9.5 I, Z=0.004, Teff=32359, log_lum=5.81, log_g=3.23) (extinction smcbar=0.090), flux1160 +- 30.0A flux=1.5e-12 Flam)
COS/G185M/c1986 : rn-max(WM-Basic(O9.5 I, Z=0.004, Teff=32359, log_lum=5.81, log_g=3.23) (extinction smcbar=0.090), flux1160 +- 30.0A flux=1.5e-12 Flam)
STIS/E140M/c1425 : rn-max(WM-Basic(O9.5 I, Z=0.004, Teff=32359, log_lum=5.81, log_g=3.23) (extinction smcbar=0.090), flux1160 +- 30.0A flux=1.5e-12 Flam)
STIS/E230M/c1978 : rn-max(WM-Basic(O9.5 I, Z=0.004, Teff=32359, log_lum=5.81, log_g=3.23) (extinction smcbar=0.090), flux1160 +- 30.0A flux=1.5e-12 Flam)
STIS/E230M/c2707 : rn-max(WM-Basic(O9.5 I, Z=0.004, Teff=32359, log_lum=5.81, log_g=3.23) (extinction smcbar=0.090), flux1160 +- 30.0A flux=1.5e-12 Flam)
Coordinate pedigree: Gaia
v sin i = 62
Calculation performed 2020-02-24T18:02:40, v0.4
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tstatus; AV70; P/STIS Approved for Submission; S/ins not started; P/TS 20/04/20; S/xx DD/MM/YY
tcheck; APT/SIMBAD target names: ; AV70, 'SK35' (SIMBAD name) ...
Other names AzV 70, 2dFS 756, Flo 228
tcheck; Target info verification status?; OK
tcheck; Coordinates & P.M. updated?; NO
tcheck; Adopted SED compared to Observations?; OK after changing redenning and normalized flux level ...
The original SED had issues fitting all observed data throughout the entire wavelength. By lowering the E(B-V) from 0.09 to 0.06 and decreasing the normalized flux at 1160+/-30 angstroms from 1.5e-12 to 1.1e-12 solved the problem. Old and new SEDs compared to observations are saved in the Box directory AV70. Newly adopted SED used for ETC calculations is saved in the same Box directory with the name AV70_newsed.fits.
Category=EXT-STAR
Description=[SUPERGIANT O]
Extended=NO

Exposures

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	ACQ (STIS.ta.1435698)	(5) AV70	STIS/CCD, ACQ, F28X50LP	MIRROR				0.3 Secs (0.3 Secs) *[==>]*	***[1]***
2	E230M/1978 (STIS.sp.1435724)	(5) AV70	STIS/NUV-MAMA, TIME-TAG, 0.2X0.2	E230M 1978 A	WAVECAL=NO; BUFFER-TIME=200			2185 Secs (2185 Secs) *[==>]*	***[1]***
	Comments: rn-max(WM-Basic(O9.5 I, Z=0.004, Teff=32359, log_lum=5.81, log_g=3.23) (extinction smcbar=0.090), flux1160 +- 30.0A flux=1.5e-12 Flam); stis,nuvmama,e230m,c1978,0.2x0.2,mjd#59305 *From file SMC_2020Feb20/input/SMC_all_do1_NewCoords_pids.csv* *Spectral type: O9.5Iw --> O9.5 I* *SED = AV70_STIS_E230M_c1978_sed.fits* *For exptime=992.4 s, spectral region:* *1800.0 +- 0.5 A achieves SNR=20.0/resel* *global countrate (brightest segment): 12901.0 cts/s/segment* *brightest pixel: 0.310 cts/s/pix at 2293.0 A* *Calculation performed 2020-02-24T18:02:53, v0.4*								
3	E230M/1978 WAVECAL	WAVE	STIS/NUV-MAMA, ACCUM, 0.2X0.2	E230M 1978 A				*[==>]*	***[1]***
4	E140M/1425 (STIS.sp.1435727)	(5) AV70	STIS/FUV-MAMA, TIME-TAG, 0.2X0.2	E140M 1425 A	WAVECAL=NO; BUFFER-TIME=255			2516 Secs (2516 Secs) *[==>]*	***[2]***
	Comments: rn-max(WM-Basic(O9.5 I, Z=0.004, Teff=32359, log_lum=5.81, log_g=3.23) (extinction smcbar=0.090), flux1160 +- 30.0A flux=1.5e-12 Flam); stis,fuvmama,e140m,c1425,0.2x0.2,mjd#59305 *From file SMC_2020Feb20/input/SMC_all_do1_NewCoords_pids.csv* *Spectral type: O9.5Iw --> O9.5 I* *SED = AV70_STIS_E140M_c1425_sed.fits* *For exptime=2470.9 s, spectral region:* *1200.0 +- 0.5 A achieves SNR=20.0/resel* *global countrate (brightest segment): 9966.1 cts/s/segment* *brightest pixel: 0.098 cts/s/pix at 1407.9 A* *Calculation performed 2020-02-24T18:02:52, v0.4*								
5	E140M/1425 WAVECAL	WAVE	STIS/FUV-MAMA, ACCUM, 0.2X0.2	E140M 1425 A				*[==>]*	***[2]***

Orbit Structure