16858 - ULLYSES M-Type T Tauri Survey Stars in Lupus III: Part 4

Cycle: 29, Proposal Category: GO/DD

(Availability Mode: SUPPORTED)

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VISITS

Visit	*Targets used in Visit*	*Configurations used in Visit*	*Orbits Used*	*Last Orbit Planner Run*	*OP Current with Visit?*
1C	(1) SZ100	COS/FUV COS/NUV	3	30-Jun-2022 16:01:59.0	yes
1D	(1) SZ100	COS/FUV COS/NUV	3	30-Jun-2022 16:02:00.0	yes
1S	(1) SZ100 CCDFLAT WAVE	STIS/CCD STIS/NUV-MAMA	2	30-Jun-2022 16:02:02.0	yes
AC	(1) SZ100	COS/FUV COS/NUV	3	30-Jun-2022 16:02:03.0	yes
AD	(1) SZ100	COS/FUV COS/NUV	3	30-Jun-2022 16:02:04.0	yes
AS	(1) SZ100 CCDFLAT WAVE	STIS/CCD STIS/NUV-MAMA	2	30-Jun-2022 16:02:05.0	yes
2C	(2) SZ104	COS/FUV COS/NUV	3	30-Jun-2022 16:02:06.0	yes

Visit	*Targets used in Visit*	*Configurations used in Visit*	*Orbits Used*	*Last Orbit Planner Run*	*OP Current with Visit?*
2D	(2) SZ104	COS/FUV COS/NUV	3	30-Jun-2022 16:02:07.0	yes
2E	(2) SZ104	COS/FUV COS/NUV	3	30-Jun-2022 16:02:08.0	yes
2F	(2) SZ104	COS/FUV COS/NUV	1	30-Jun-2022 16:02:09.0	yes
2S	(2) SZ104 CCDFLAT WAVE	STIS/CCD STIS/NUV-MAMA	2	30-Jun-2022 16:02:11.0	yes

28 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 low mass ULLYSES survey stars. Each target will be observed with the COS c1291 + c1589 + c1623 settings, as well as with STIS G230L, G430L, and G750L. All observations will normally be constrained to occur within 1 day.

Signal-to-noise requirements used to determine the desired exposures times were defined as follows:
COS/G130M/c1291: N V 1239 +- 1 A -- S/N=10/6-pix-resel at the peak of the line
COS/G160M/c1589: C IV 1549 +- 1 A -- S/N=20/6-pix-resel at the peak of the line (combined c1589 & c1623)
COS/G160M/c1623: C IV 1549 +- 1 A -- S/N=20/6-pix-resel at the peak of the line (combined c1589 & c1623)
STIS/G230L/52X2: Mg II 2800 +-15 A -- S/N=20/2-pix-resel at the peak of the line
STIS/G430L/52X2: continuum average 4000 +-5 A -- S/N=20/2-pix-resel (2 reads)
STIS/G750L/52X2: continuum average 5700 +-5 A -- S/N=20/2-pix-resel (2 reads)

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.

Flare screening:

Screening for magnetic flares was done using the cleartargets.py script in the ullyses_tech python repository. Both the input file used, sz100_104_flare_calc_inputs.csv, and the output produced, sz100_104_flare_calc_results.xls, are in the STScI Box folder ullyses_tech/ullyses_proposals/survey_c29/16858/ which should be accessible to the CS reviewer. The spectral energy distribution for each of the adopted flares should are also in that folder, and can be input into the ETC.

For SZ100, we treated the flare as if from a M5.5 dwarf with V=16.624.
For SZ104, we asssumed a M5 dwarf with V = 16.8.
For both stars, an intevening neutral hydrogen column of log n(HI) = 19.27 was adopted;
this is equivalent to Av=0.01 for a typical Galactic siteline and should be a conservative lower limit for these stars at their distances of 137 pc and 165 pc.

Results for the needed observing modes are reported in the file sz100_104_flare_calc_results.xls and show no issues.

In particular for both stars, COS imaging observations with NUV PSA MIRRORB produce peak local rates under 80 counts/pixel/second, which passes the flare screeing required for this mode, allowing PSA/MIRRORB to be used for our target acquistions.

Note that our adopted V magnitudes for these are significantly fainter than given in SIMBAD, but review of the literature suggests the results quoted in SIMBAD are not reliable, and that signicantly fainter values are instead correct. The SIMBAD V magnitude of 15.43 for SZ100 and 15.25 for SZ104 were both taken from Merin et al, 2014, but Merin et al did not do their own B or V photometry, instead taking those values from the Naval Observatory Merged Astronomical Data Set (NOMAD) catalog, (https://vizier.cds.unistra.fr/viz-bin/VizieR?-source=I/297), which for both SZ 100 and SZ104 points in turn to an unpublished USNO "YB6" catalog for which very little documentation is available as the ultimate source for both the B and V values that were subsequently quoted in SIMBAD and many other publications for these stars.

For SZ100 we instead adopt V=16.624 from https://www.aavso.org/download-apass-data, and also note a measurement of V=16.87 from Sartori et al 2003. In additio,n interpolating V using its relation with Gaia G and Bp-Rp yields an estimate of V=16.59. Since all of these values are close, we are confident that the YB6 catalog V value is not correct for the typical state of this target. Note that the same problem affects the quoted B magnitudes in SIMBAD.

For SZ104, Satori et al report V=16.91, while interpolation of the Gaia measurements implies V about 16.8. We have adopted this latter value for our estimates.

Choice of Models for ETC calculations

The scaled accretion models were created from K stars and significantly overestimate the continuum flux in the optical.
However it is assumed that the emission lines and the continuum flux below the Balmer jump are well represetnted by the scaled models.
So for each star, we will use 3 ETC models for our estimates.

For both these targets, the nominal Av is zero, but for S/N calculations we will adopt an extra 0.5 mags of Av.

For STIS S/N continuum measurements, we will use a Phoenix photospheric model, with an extra 0.5 mags of Av, normalized to the observed V magnitude

Sz-100_M5.5_scaled_pAV0.50_sed.fits
SZ-104_M5_scaled_pAV0.50_sed.fits

G430L observations were limited to one orbit, even if they don't quite meet the nominal S/N requirements at 4000A. The S/N increases dramatically at longer wavelengths, and so these spectra will have very good S/N at most wavelengths.

For UV S/N calculations, we will use the usual accretion models based on the scaled accretion flux, but with an added 0.5 mags of Av.
sz100_lya2_etc_scaled_pAV0.50_sed.fit
sz104_lya2_etc_scaled_pAV0.50_sed.fits

For BOP and saturation calculations, we will assume 4X the default accretion model, and we will not include the extra 0.5 mags of Av, as for these systems in particular, it is not clear that this is appropriate.
sz100_lya2_x4.00_etc_sed.fits
sz104_lya2_x4.00_etc_sed.fits

Specific calculations use are given below:

SZ100 ETC calculations
COS.sp.1680629, c1291, 3906s, SNR=14.5 @1238.87, sz100_lya2_etc_scaled_pAV0.50_sed.fits
COS.sp.1680630, c1291, BOP, buffer=2586s, global=912c/s, local = 0.095 c/p/s, sz100_lya2_x4.00_etc_sed.fits
COS.sp.1680636, c1589, 9880s (summed c1589+c1623) SNR=29.6@1548.43, sz100_lya2_etc_scaled_pAV0.50_sed.fits
COS.sp.1680650, c1589, BOP, buffer=8103s, global=213c/s, local=0.044 c/p/s, sz100_lya2_x4.00_etc_sed.fits
COS.sp.1680635, c1623, 9880s (summed c1589+c1623), SNR=28.9@1548.43, sz100_lya2_etc_scaled_pAV0.50_sed.fits
COS.sp.1680634, c1623, BOP, buffer=8426s, global=280c/s, local=0.041c/p/s, sz100_lya2_x4.00_etc_sed.fits

STIS.sp.1680740, G230L, 1141s, SNR=35.2 @ 2796.80, sz100_lya2_etc_scaled_pAV0.50_sed.fits
STIS.sp.1680741, G230L, BOP check, buffer=847, global=2324c/s, local = 0.31 c/p/s, sz100_lya2_x4.00_etc.txt

STIS.sp.1681349, G430L, 2349s, SNR=20.2 @ 4004.3A, gain=4, crsplit=3, Sz-100_M5.5_scaled_pAV0.50_sed.fits
STIS.sp.1680731, G430L, saturation in 1074s/expo, gain=4, with sz100_lya2_x4.00_etc.txt
STIS.sp.1680731, G430L, saturation in 295s/expo, gain=1 with sz100_lya2_x4.00_etc.txt

STIS.sp.1680735, G750L, 158s, SNR=20 @ 5700A, gain=4, crsplit=2, gain=4
STIS.sp.1680737, G750L, 316s, SNR=30.7 @ 5700A, gain=4, crsplit=3, Sz-100_M5.5_scaled_pAV0.50_sed.fits
STIS.sp.1680734, G750L, saturation in 158s/expo for gain=4 with sz100_lya2_x4.00_etc.txt
STIS.sp.1681370, G750L, saturation in 268s/expo for gain=4 with sz100_lya2_x4.00_etc_scaled_pAV0.50_sed.fits
STIS.sp.1680733, G750L, saturation in 43s/expo for gain=1 with sz100_lya2_x4.00_etc.txt

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SZ104 ETC calculations
COS.sp.1680639, c1291, 8134s, SNR=13.1@1238.87, sz104_lya2_etc_scaled_pAV0.50_sed.fits
COS.sp.1680654, c1291, BOP, buffer=4044s, sz104_lya2_x4.00_etc_sed.fits
COS.sp.1681362, c1589, 14517s (summed c1589+c1623), SNR=27.3@1548.434, sz104_lya2_etc_scaled_pAV0.50_sed.fits
COS.sp.1680652, c1589, BOP, buffer=12998s,sz104_lya2_x4.00_etc_sed.fits
COS.sp.1681363, c1632, 14517s (summed c1589+c1623), SNR=26.7@1548.434, sz104_lya2_etc_scaled_pAV0.50_sed.fits
COS.sp.1680653, c1623, BOP, buffer=13523s, sz104_lya2_x4.00_etc_sed.fits

STIS.sp.1680725, G230L, 1056s, SNR=37 @ 2796.8A,sz104_lya2_etc_scaled_pAV0.50_sed.fits
STIS.sp.1680726, G230L, BOP, buffer=770s, global=2324c/s, local=2.7c/p/s

STIS.sp.1681348, G430L, 2349s, SNR=16.6 @ 4004.3A, gain=4, cr-split=3, SZ-104_M5_scaled_pAV0.50_sed.fits

STIS.sp.1680720, G430L, Sat in 449.7s/expo with gain=1, sz104_lya2_x4.00_etc_sed.fits
STIS.sp.1680719, G430L, Sat in 1635/expos with gain=4, sz104_lya2_x4.00_etc_sed.fits

STIS.sp.1680716, G750L, S/N=31 in 399s, gain=4, crsplit=3, SZ-104_M5_scaled_pAV0.50_sed.fits
STIS.sp.1680722, G750L, Sat in 215s/expo with gain=4, sz104_lya2_x4.00_etc_sed.fits

STIS.sp.1681373, G750L, Sat in 366s/expo with gain=4, sz104_lya2_x4.00_etc_scaled_pAV0.50_sed.fits

STIS.sp.1680721, G750L, Sat in 58s/expo with gain=1, sz104_lya2_x4.00_etc_sed.fits

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Visit

Proposal 16858, SZ100-COS (1C), failed Thu Jun 30 20:02:11 GMT 2022

Diagnostic Status: Warning

Scientific Instruments: COS/FUV, COS/NUV

Special Requirements: SCHED 100%; BETWEEN 26-MAR-2022 AND 29-JUL-2022

Comments: vstatus; 1C; SZ100; P/COS approved for submission; P/CP 22/12/21 ; intrev: complete ; P/RP 23/12/21
vcheck; Enter targ name & Inst. & Resp. Sci.; SZ100 ; COS ; CRP
vcheck; ETC numbers entered in APT?; Yes
vcheck; Any screening violations?; No
vcheck; M-dwarf check complete and added to box folder?; Yes
vcheck; S/N ETC calcs done & documented?; Yes
vcheck; Field images checked & saved?; yes, see cos-gsc2-image-both-targets.png in box folder
vcheck; Selected ACQ strategy?; ACQ/IMAGE PSA, MIRRORB
vcheck; Possible ACQ or Sci spoilers?; none
vcheck; Field BOT clear?; Yes, unknowns flagged refer to either the target itself or image artifacts.
vcheck; Visual BOT check for stars not in catalog?; done ...
see summary of flare screening in observation description, also files sz100_104_flare_calc_inputs.csv and sz100_104_flare_calc_results.xls
vcheck; Orbit packing finalized?; yes ...
G130M 110% of original requirement
G160M 106% of original requirement
vcheck; Buffer times optimized?; yes
vcheck; Verify visit grouping correct; yes
vcheck; phase constraint for ground based observations added?; -------
vcheck; BETWEENS for coordinated observations added?; done
vcheck; Is visit ready for int. review?; yes
Allocated COS orbits = 6

Diagnostics

(SZ100-COS (1C)) Warning (Form): For the best data quality, it is generally required to use all four FP-POS positions when observing at a given COS cenwave. See the COS Instrument Handbook for exceptions that may apply to observations with G130M/1291 or G160M.

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	SZ100	RA: 16 08 25.7493 (242.1072887d)	Proper Motion RA: -10.260 mas/yr	V=16.624	Reference Frame: ICRS
	Alt Name1: THA-15-26	Dec: -39 06 1.60 (-39.10044d)	Proper Motion Dec: -22.159 mas/yr	SpT=M5.5; A_V=0.00; B=17.29 ; V=16.62; R=14.97; I=13.12; J= 10.98; Gmag=14.809; Bp-Rp=3. 19	
		Equinox: J2000	Parallax: 0.0070902"		
			Epoch of Position: 2016		

Comments: Note that default SIMBAD B,V values from Merin 2014 are actually from NOMAD, which for this star used values from the unpublished USNO YB6 catalog. Comparison with more recent measurements suggests YB6 values for these stars are not reliable, so instead we have adopted recent values obtained from APASS at https://www.aavso.org/download-apass-data. Note also V=16.87, V-Ic=3.63 from Sartori et al 2003, which are consistent with our adopted values; Also, interpolating observed Gmag as a function of Bp-Rp imples V = 16.59, very close to the APASS value.

SZ100
Region: Lupus III
Simbad: http://simbad.u-strasbg.fr/simbad/sim-id?Ident=sz100&submit=submit+id
Target coordinates are from Gaia EDR3.
Spectral type: M5.5 ; A_V: 0.0 ; Distance (pc): 200
M: 0.16 ; log(dm/dt): -9.44*
Input file: lowmass_survey_Input-gaia.csv
sz100_lya2_etc_scaled_pAV0.50.txt
Calculation performed 2021-10-21T02:39:29, v0.8
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tstatus; SZ100; P/COS approved for submission; S/STIS approved for submission; P/CRP 21/12/21; S/CRP 21/12/21
tcheck; APT/SIMBAD target names: ; Default SIMBAD name is THA 15-26
tcheck; Target info verification status?; Done
tcheck; Coordinates & P.M. verified, epoch checked?; Upgraded to EDR3 coordinates, PM, epoch, and parallax
tcheck; Adopted SED compared to Observations?; Yes, see sz100_lya2_etc_scaled_pAV0.50_vs_photo.png and sz100_stellar_sed_vs_photo.png ...
Comparison with more recent measurements suggests YB6 values for these stars are not reliable, so instead we have adopted recent values obtained from APASS at https://www.aavso.org/download-apass-data. Note also V=16.87, V-Ic=3.63 from Sartori et al 2003, which are consistent with our adopted values; Also, interpolating observed Gmag as a function of Bp-Rp imples V = 16.59, very close to the APASS value.
Category=STAR
Description=[T TAURI STAR, PRE-MAIN SEQUENCE STAR]
Extended=NO

Exposures

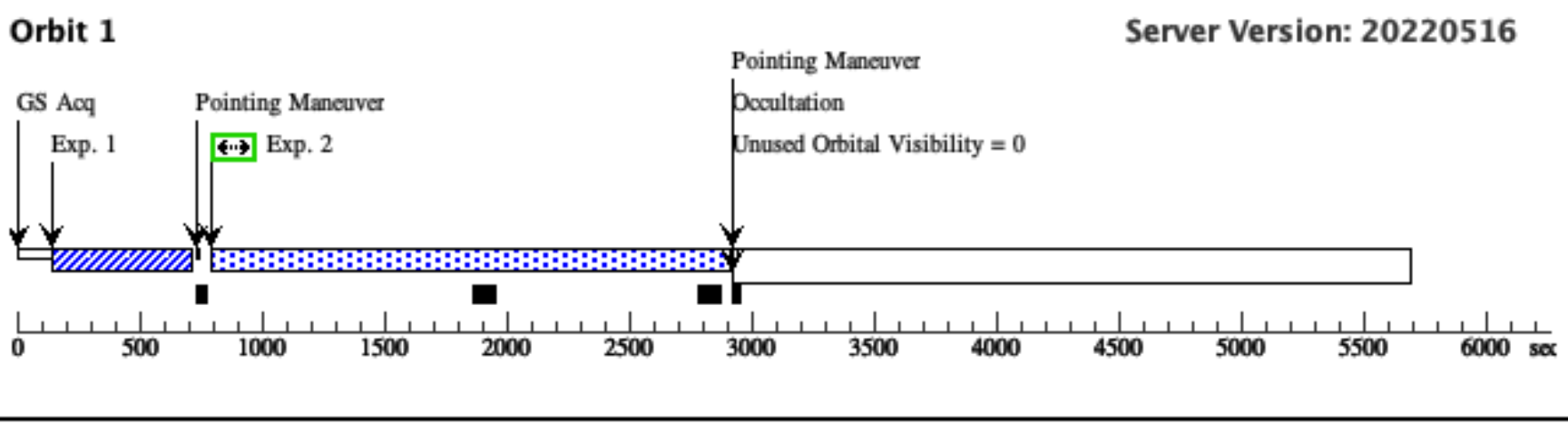
#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	ACQ/Image (COS.ta.1680471)	(1) SZ100	COS/NUV, ACQ/IMAGE, PSA	MIRRORB				134. Secs (134 Secs) *[==>]*	 ***[1]***
	Comments: Exposure time calculation: *adopt sz100_lya2_etc_scaled_pAV0.50_sed.fits* *COS.ta.1680471, texp=66.94s, so double to 134s, b.p.=0.845* *BOP calculation:* *adopt sz100_lya2_x4.00_etc_sed.fits (4x accretion, no dust)* *COS.ta.1680473, b.p=6.967 c/s/pixel is within bop limits*								
2	G130M/1291 A (COS.sp.1680629)	(1) SZ100	COS/FUV, TIME-TAG, PSA	G130M	BUFFER-TIME=922; FP-POS=3			1953 Secs (1953 Secs) *[==>]*	 ***[1]***
	Comments: ETC S/N calc *COS.sp.1680629, c1291, 3906s, SNR=14.5 @1238.87, sz100_lya2_etc_scaled_pAV0.50_sed.fits* *ETC BOP calc* *COS.sp.1680630, c1291, BOP, buffer=2586s, global=912c/s, local = 0.095 c/p/s, sz100_lya2_x4.00_etc_sed.fits* *COS.sp.1680629 SNR=14.5 @1238.87, sz100_lya2_etc_scaled_pAV0.50_sed.fits - best guess for combined G130M S/N* *COS.sp.1680630 BOP check, sz100_lya2_x4.00_etc_sed.fits buffer time = 2586 - upper limit for BOP checking* *sz100_lya2_etc_scaled_pAV0.50.txt; cos,fuv,g130m,c1291,psa,mjd#59670; fp-pos=None, segment=None)* *Input file: lowmass_survey_Input-gaia.csv* *Spectral type: M5.5 ; A_V: 0.0 ; Distance (pc): 200* *M*: 0.16 ; log(dm/dt): -9.44* *For exptime=1854.3 s, spectral region:* *1239.0 +- 1.0 A achieves SNR=10.0 / 6-pix-resel* *A factor of 2.0 has been applied to the exptime in each exposure.* *global countrate (brightest segment): 313.1 cts/s/segment* *brightest pixel: 0.012 cts/s/pix at 1304.8 A* *Calculation performed 2021-10-21T02:39:29, v0.23*								
3	G160M/1589 A (COS.sp.1680636)	(1) SZ100	COS/FUV, TIME-TAG, PSA	G160M	BUFFER-TIME=2359; FP-POS=3			2469 Secs (2469 Secs) *[==>]*	 ***[2]***
	Comments: ETC S/N calculation *COS.sp.1680636, c1589, 9880s (summed times for c1589+c1623) SNR=29.6@1548.43, sz100_lya2_etc_scaled_pAV0.50_sed.fits* *ETC BOP calculation* *COS.sp.1680650, c1589, BOP, buffer=8103s, global=213c/s, local=0.044 c/p/s, sz100_lya2_x4.00_etc_sed.fits* *sz100_lya2_etc_scaled_pAV0.50.txt; cos,fuv,g160m,c1589,psa,mjd#59670; fp-pos=None, segment=None)* *Input file: lowmass_survey_Input-gaia.csv* *Spectral type: M5.5 ; A_V: 0.0 ; Distance (pc): 200* *M*: 0.16 ; log(dm/dt): -9.44* *For exptime=2212.5 s, spectral region:* *1549.0 +- 1.0 A achieves SNR=20.0 / 6-pix-resel for combined c1589 & c1623* *The exptime for this c1589 exposure has been halved because c1589 & c1623 target the same line.* *A factor of 2.0 has been applied to the exptime in each exposure.* *global countrate (brightest segment): 73.7 cts/s/segment* *brightest pixel: 0.003 cts/s/pix at 1446.2 A* *Calculation performed 2021-10-21T02:39:25, v0.23*								

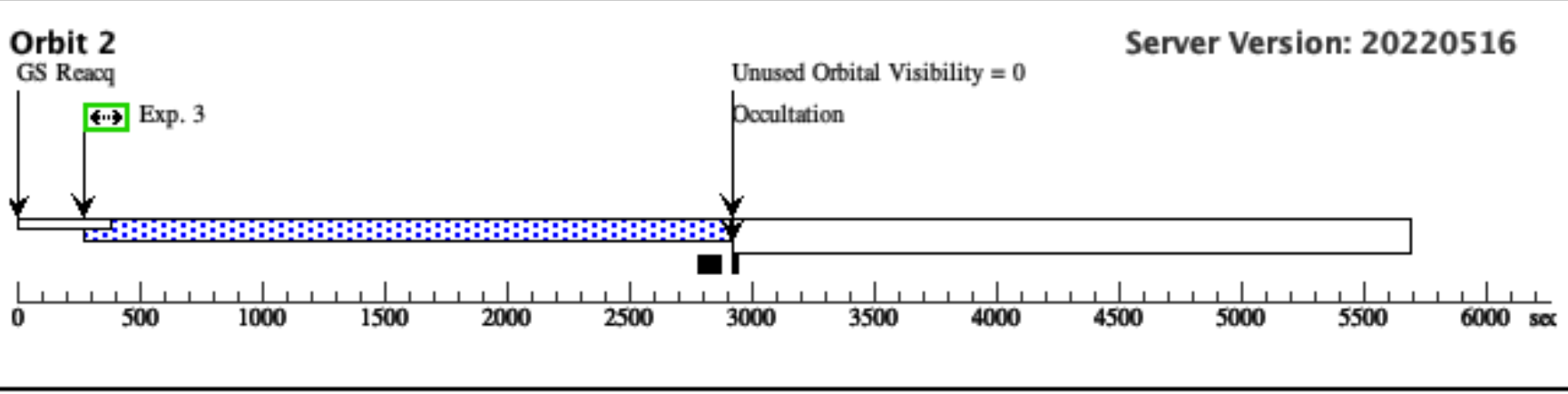
	4	G160M/1589-4 (COS.sp.1680636)	(1) SZ100	COS/FUV, TIME-TAG, PSA	G160M 1589 A	BUFFER-TIME=2361; FP-POS=4	2471 Secs (2471 Secs) *[==>]*

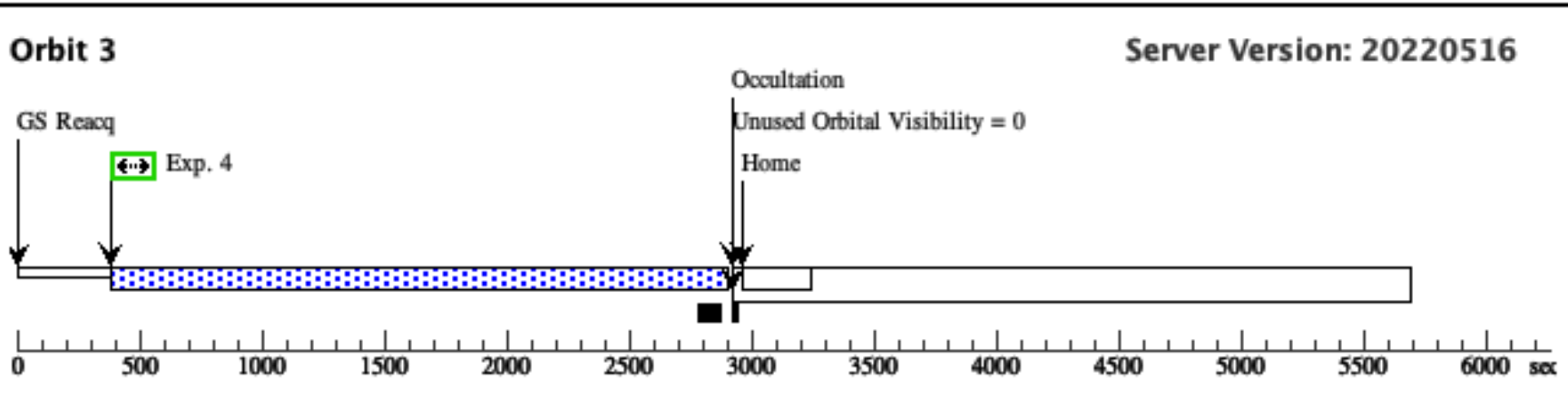
[3]

Comments: sz100_lya2_etc_scaled_pAV0.50.txt; cos,fuv,g160m,c1589,psa,mjd#59670; fp-pos=None, segment=None)
Input file: lowmass_survey_Input-gaia.csv
Spectral type: M5.5 ; A_V: 0.0 ; Distance (pc): 200
M: 0.16 ; log(dm/dt): -9.44*
For exptime=2212.5 s, spectral region:
1549.0 +- 1.0 A achieves SNR=20.0 / 6-pix-resel for combined c1589 & c1623
The exptime for this c1589 exposure has been halved because c1589 & c1623 target the same line.
A factor of 2.0 has been applied to the exptime in each exposure.
global countrate (brightest segment): 73.7 cts/s/segment
brightest pixel: 0.003 cts/s/pix at 1446.2 A
Calculation performed 2021-10-21T02:39:25, v0.23

Orbit Structure







Visit

Proposal 16858, SZ100-COS (1D), failed Thu Jun 30 20:02:12 GMT 2022

Diagnostic Status: Warning

Scientific Instruments: COS/FUV, COS/NUV

Special Requirements: SCHED 100%; BETWEEN 26-MAR-2022 AND 29-JUL-2022

Comments: vstatus; 1D; SZ100; P/COS approved for submission; P/CP 22/12/21 ; intrev: complete ; P/RP 23/12/21
vcheck; Enter targ name & Inst. & Resp. Sci.; SZ100 ; COS ; CRP
vcheck; ETC numbers entered in APT?; Yes
vcheck; Any screening violations?; No
vcheck; M-dwarf check complete and added to box folder?; Yes
vcheck; S/N ETC calcs done & documented?; Yes
vcheck; Field images checked & saved?; yes, see cos-gsc2-image-both-targets.png in box folder
vcheck; Selected ACQ strategy?; ACQ/IMAGE PSA, MIRRORB
vcheck; Possible ACQ or Sci spoilers?; none
vcheck; Field BOT clear?; Yes, unknowns flagged refer to either the target itself or image artifacts.
vcheck; Visual BOT check for stars not in catalog?; done ...
see summary of flare screening in observation description, also files sz100_104_flare_calc_inputs.csv and sz100_104_flare_calc_results.xls
vcheck; Orbit packing finalized?; yes
vcheck; Buffer times optimized?; yes
vcheck; Verify visit grouping correct; yes
vcheck; phase constraint for ground based observations added?; -------
vcheck; BETWEENS for coordinated observations added?; done
vcheck; Is visit ready for int. review?; yes
Allocated COS orbits = 6

Diagnostics

(SZ100-COS (1D)) Warning (Form): For the best data quality, it is generally required to use all four FP-POS positions when observing at a given COS cenwave. See the COS Instrument Handbook for exceptions that may apply to observations with G130M/1291 or G160M.

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	SZ100	RA: 16 08 25.7493 (242.1072887d)	Proper Motion RA: -10.260 mas/yr	V=16.624	Reference Frame: ICRS
	Alt Name1: THA-15-26	Dec: -39 06 1.60 (-39.10044d)	Proper Motion Dec: -22.159 mas/yr	SpT=M5.5; A_V=0.00; B=17.29 ; V=16.62; R=14.97; I=13.12; J= 10.98; Gmag=14.809; Bp-Rp=3. 19	
		Equinox: J2000	Parallax: 0.0070902"		
			Epoch of Position: 2016		

Comments: Note that default SIMBAD B,V values from Merin 2014 are actually from NOMAD, which for this star used values from the unpublished USNO YB6 catalog. Comparison with more recent measurements suggests YB6 values for these stars are not reliable, so instead we have adopted recent values obtained from APASS at https://www.aavso.org/download-apass-data. Note also V=16.87, V-Ic=3.63 from Sartori et al 2003, which are consistent with our adopted values; Also, interpolating observed Gmag as a function of Bp-Rp imples V = 16.59, very close to the APASS value.

SZ100
Region: Lupus III
Simbad: http://simbad.u-strasbg.fr/simbad/sim-id?Ident=sz100&submit=submit+id
Target coordinates are from Gaia EDR3.
Spectral type: M5.5 ; A_V: 0.0 ; Distance (pc): 200
M: 0.16 ; log(dm/dt): -9.44*
Input file: lowmass_survey_Input-gaia.csv
sz100_lya2_etc_scaled_pAV0.50.txt
Calculation performed 2021-10-21T02:39:29, v0.8
---
tstatus; SZ100; P/COS approved for submission; S/STIS approved for submission; P/CRP 21/12/21; S/CRP 21/12/21
tcheck; APT/SIMBAD target names: ; Default SIMBAD name is THA 15-26
tcheck; Target info verification status?; Done
tcheck; Coordinates & P.M. verified, epoch checked?; Upgraded to EDR3 coordinates, PM, epoch, and parallax
tcheck; Adopted SED compared to Observations?; Yes, see sz100_lya2_etc_scaled_pAV0.50_vs_photo.png and sz100_stellar_sed_vs_photo.png ...
Comparison with more recent measurements suggests YB6 values for these stars are not reliable, so instead we have adopted recent values obtained from APASS at https://www.aavso.org/download-apass-data. Note also V=16.87, V-Ic=3.63 from Sartori et al 2003, which are consistent with our adopted values; Also, interpolating observed Gmag as a function of Bp-Rp imples V = 16.59, very close to the APASS value.
Category=STAR
Description=[T TAURI STAR, PRE-MAIN SEQUENCE STAR]
Extended=NO

Exposures

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	ACQ/Image (COS.ta.1680471)	(1) SZ100	COS/NUV, ACQ/IMAGE, PSA	MIRRORB				134. Secs (134 Secs) *[==>]*	*[1]*

Comments: Exposure time calculation:
adopt sz100_lya2_etc_scaled_pAV0.50_sed.fits
COS.ta.1680471, texp=66.94s, so double to 134s, b.p.=0.845
BOP calculation:
adopt sz100_lya2_x4.00_etc_sed.fits (4x accretion, no dust)
COS.ta.1680473, b.p=6.967 c/s/pixel is within bop limits

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
2	G130M/1291-4 (COS.sp.1680629)	(1) SZ100	COS/FUV, TIME-TAG, PSA	G130M 1291 A	BUFFER-TIME=922; FP-POS=4			1953 Secs (1953 Secs) *[==>]*	*[1]*

Comments: ETC S/N calc
COS.sp.1680629, c1291, 3906s, SNR=14.5 @1238.87, sz100_lya2_etc_scaled_pAV0.50_sed.fits

ETC BOP calc
COS.sp.1680630, c1291, BOP, buffer=2586s, global=912c/s, local = 0.095 c/p/s, sz100_lya2_x4.00_etc_sed.fits

COS.sp.1680629 SNR=14.5 @1238.87, sz100_lya2_etc_scaled_pAV0.50_sed.fits - best guess for combined G130M S/N
COS.sp.1680630 BOP check, sz100_lya2_x4.00_etc_sed.fits buffer time = 2586 - upper limit for BOP checking

sz100_lya2_etc_scaled_pAV0.50.txt; cos,fuv,g130m,c1291,psa,mjd#59670; fp-pos=None, segment=None)
Input file: lowmass_survey_Input-gaia.csv
Spectral type: M5.5 ; A_V: 0.0 ; Distance (pc): 200
M: 0.16 ; log(dm/dt): -9.44*
For exptime=1854.3 s, spectral region:
1239.0 +- 1.0 A achieves SNR=10.0 / 6-pix-resel
A factor of 2.0 has been applied to the exptime in each exposure.
global countrate (brightest segment): 313.1 cts/s/segment
brightest pixel: 0.012 cts/s/pix at 1304.8 A
Calculation performed 2021-10-21T02:39:29, v0.23

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
3	G160M/1623-1 (COS.sp.1680635)	(1) SZ100	COS/FUV, TIME-TAG, PSA	G160M 1623 A	BUFFER-TIME=2359; FP-POS=1			2469 Secs (2469 Secs) *[==>]*	*[2]*

Comments: ETC S/N calculation
COS.sp.1680635, c1623, 9880s (summed c1589+c1623), SNR=28.9@1548.43, sz100_lya2_etc_scaled_pAV0.50_sed.fits

ETC BOP calculation
COS.sp.1680634, c1623, BOP, buffer=8426s, global=280c/s, local=0.041c/p/s, sz100_lya2_x4.00_etc_sed.fits

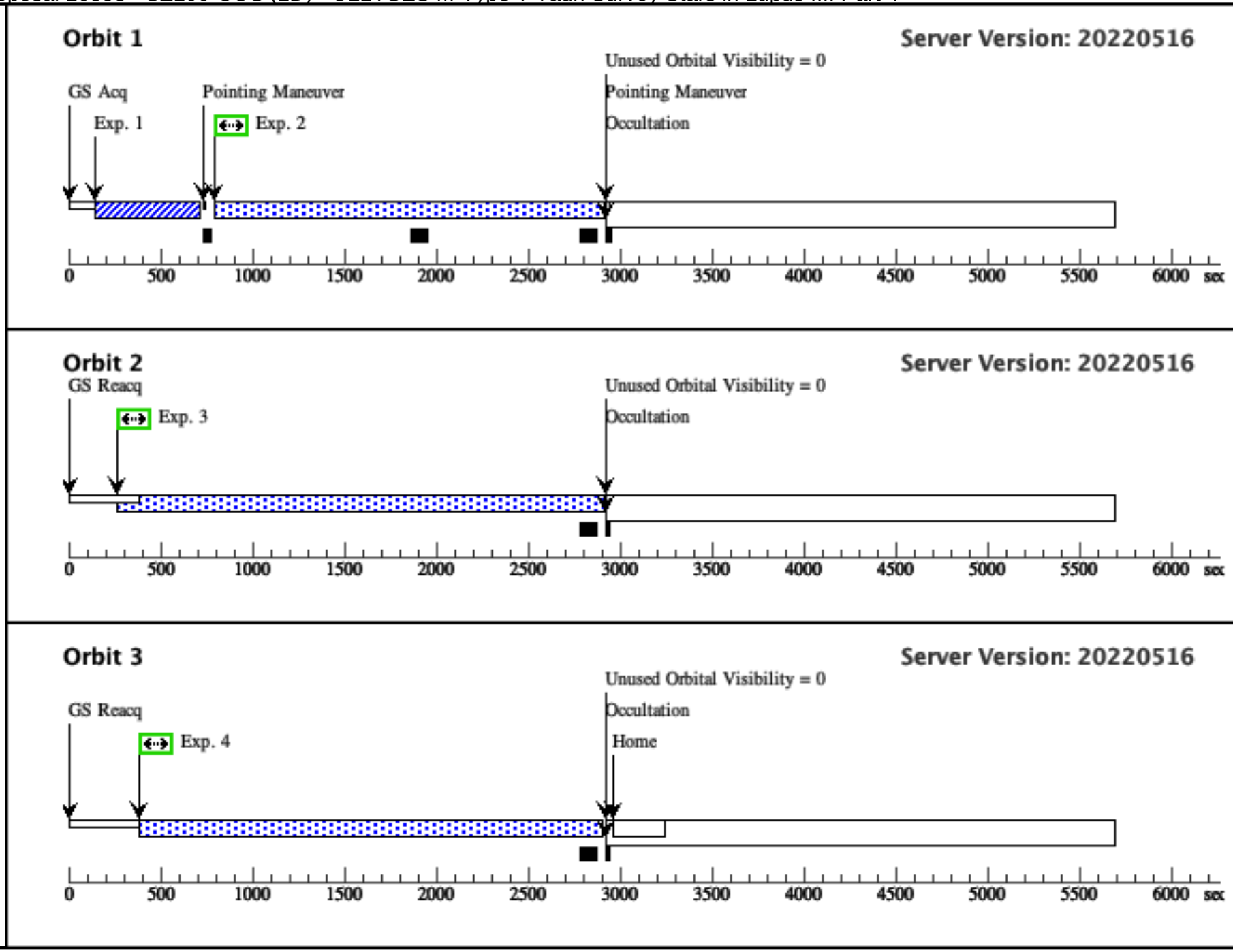
sz100_lya2_etc_scaled_pAV0.50.txt; cos,fuv,g160m,c1623,psa,mjd#59670; fp-pos=None, segment=None)
Input file: lowmass_survey_Input-gaia.csv
Spectral type: M5.5 ; A_V: 0.0 ; Distance (pc): 200
M: 0.16 ; log(dm/dt): -9.44*
For exptime=2264.2 s, spectral region:
1549.0 +- 1.0 A achieves SNR=20.0 / 6-pix-resel for combined c1589 & c1623
The exptime for this c1623 exposure has been halved because c1589 & c1623 target the same line.
A factor of 2.0 has been applied to the exptime in each exposure.
global countrate (brightest segment): 71.8 cts/s/segment
brightest pixel: 0.003 cts/s/pix at 1446.2 A
Calculation performed 2021-10-21T02:39:27, v0.23

	4	G160M/1623/3-2 (COS.sp.1680635)	(1) SZ100	COS/FUV, TIME-TAG, PSA	G160M 1623 A	BUFFER-TIME=2361; FP-POS=2	2471 Secs (2471 Secs) *[==>]*

Comments: sz100_lya2_etc_scaled_pAV0.50.txt; cos,fuv,g160m,c1623,psa,mjd#59670; fp-pos=None, segment=None)
Input file: lowmass_survey_Input-gaia.csv
Spectral type: M5.5 ; A_V: 0.0 ; Distance (pc): 200
M: 0.16 ; log(dm/dt): -9.44*
For exptime=2264.2 s, spectral region:
1549.0 +- 1.0 A achieves SNR=20.0 / 6-pix-resel for combined c1589 & c1623
The exptime for this c1623 exposure has been halved because c1589 & c1623 target the same line.
A factor of 2.0 has been applied to the exptime in each exposure.
global countrate (brightest segment): 71.8 cts/s/segment
brightest pixel: 0.003 cts/s/pix at 1446.2 A
Calculation performed 2021-10-21T02:39:27, v0.23

[3]

Orbit Structure



Visit

Proposal 16858, SZ100-STIS (1S), failed Thu Jun 30 20:02:12 GMT 2022

Diagnostic Status: No Diagnostics

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

Special Requirements: SCHED 100%; BETWEEN 26-MAR-2022 AND 29-JUL-2022; GROUP 1S,1C,1D WITHIN 2D

Comments: vstatus; 1S; SZ100; S/STIS approved for submission; P/CP 22/12/21 ; intrev: complete ; P/RP 23/12/21
vcheck; Enter targ name & Inst. & Resp. Sci.; SZ100 ; STIS ; CRP
vcheck; ETC numbers entered in APT?; Yes
vcheck; Any screening violations?; No
vcheck; M-dwarf check complete and added to box folder?; Yes
vcheck; S/N ETC calcs done & documented?; Yes
vcheck; Field images checked & saved?; yes, see
vcheck; Selected ACQ strategy?; ACQ/IMAGE PSA, MIRRORB
vcheck; Possible ACQ or Sci spoilers?; none
vcheck; Field BOT clear?; Yes, unknowns flagged refer to either the target itself or image artifacts.
vcheck; Visual BOT check for stars not in catalog?; done ...
see summary of flare screening in observation description, also files sz100_104_flare_calc_inputs.csv and sz100_104_flare_calc_results.xls
vcheck; Orbit packing finalized?; yes
vcheck; Buffer times optimized?; yes
vcheck; Verify visit grouping correct; yes, see stis-gsc2-image-both-targets.png in box folder
vcheck; phase constraint for ground based observations added?; -------
vcheck; BETWEENS for coordinated observations added?; done
vcheck; Is visit ready for int. review?; yes
Allocated STIS orbits = 2 (constrained in input CSV)

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	SZ100	RA: 16 08 25.7493 (242.1072887d)	Proper Motion RA: -10.260 mas/yr	V=16.624	Reference Frame: ICRS
	Alt Name1: THA-15-26	Dec: -39 06 1.60 (-39.10044d)	Proper Motion Dec: -22.159 mas/yr	SpT=M5.5; A_V=0.00; B=17.29 ; V=16.62; R=14.97; I=13.12; J= 10.98; Gmag=14.809; Bp-Rp=3. 19	
		Equinox: J2000	Parallax: 0.0070902"		
			Epoch of Position: 2016		

Comments: Note that default SIMBAD B,V values from Merin 2014 are actually from NOMAD, which for this star used values from the unpublished USNO YB6 catalog. Comparison with more recent measurements suggests YB6 values for these stars are not reliable, so instead we have adopted recent values obtained from APASS at https://www.aavso.org/download-apass-data. Note also V=16.87, V-Ic=3.63 from Sartori et al 2003, which are consistent with our adopted values; Also, interpolating observed Gmag as a function of Bp-Rp imples V = 16.59, very close to the APASS value.

SZ100
Region: Lupus III
Simbad: http://simbad.u-strasbg.fr/simbad/sim-id?Ident=sz100&submit=submit+id
Target coordinates are from Gaia EDR3.
Spectral type: M5.5 ; A_V: 0.0 ; Distance (pc): 200
M: 0.16 ; log(dm/dt): -9.44*
Input file: lowmass_survey_Input-gaia.csv
sz100_lya2_etc_scaled_pAV0.50.txt
Calculation performed 2021-10-21T02:39:29, v0.8
---
tstatus; SZ100; P/COS approved for submission; S/STIS approved for submission; P/CRP 21/12/21; S/CRP 21/12/21
tcheck; APT/SIMBAD target names: ; Default SIMBAD name is THA 15-26
tcheck; Target info verification status?; Done
tcheck; Coordinates & P.M. verified, epoch checked?; Upgraded to EDR3 coordinates, PM, epoch, and parallax
tcheck; Adopted SED compared to Observations?; Yes, see sz100_lya2_etc_scaled_pAV0.50_vs_photo.png and sz100_stellar_sed_vs_photo.png ...
Comparison with more recent measurements suggests YB6 values for these stars are not reliable, so instead we have adopted recent values obtained from APASS at https://www.aavso.org/download-apass-data. Note also V=16.87, V-Ic=3.63 from Sartori et al 2003, which are consistent with our adopted values; Also, interpolating observed Gmag as a function of Bp-Rp imples V = 16.59, very close to the APASS value.
Category=STAR
Description=[T TAURI STAR, PRE-MAIN SEQUENCE STAR]
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.1680486)	(1) SZ100	STIS/CCD, ACQ, F28X50LP	MIRROR				1.0 Secs (1 Secs) *[==>]*	*[1]*
	Comments: For S/N, STIS.ta.1680486 gives S/N=112 in 1 s with Sz-100_M5.5_scaled_pAV0.50_sed.fits *For saturation, STIS.ta.1680485, using sz100_lya2_x4.00_etc.txt saturates in 1.83s.*								
2	G230L/2376 (STIS.sp.1680740)	(1) SZ100	STIS/NUV-MAMA, TIME-TAG, 52X2	G230L 2376 A	WAVECAL=NO; BUFFER-TIME=448			1141 Secs (1141 Secs) *[==>]*	*[1]*
	Comments: ETC S/N calc *STIS.sp.1680740, G230L, 1141s, SNR=35.2 @ 2796.80, sz100_lya2_etc_scaled_pAV0.50_sed.fits* *ETC BOP calc* *STIS.sp.1680741, G230L, BOP check, buffer=847, global=2324c/s, local = 0.31 c/p/s., sz100_lya2_x4.00_etc.txt* *sz100_lya2_etc_scaled_pAV0.50.txt; stis,nuvmama,g230l,c2376,52x2,mjd#59670* *Input file: lowmass_survey_Input-gaia.csv* *Spectral type: M5.5 ; A_V: 0.0 ; Distance (pc): 200* *M*: 0.16 ; log(dm/dt): -9.44* *For exptime=178.6 s, spectral region:* *2800.0 +- 15.0 A achieves SNR=20.0 / 2-pix-resel* *A factor of 2.0 has been applied to the exptime in each exposure.* *global countrate (brightest segment): 2359.9 cts/s/segment* *brightest pixel: 0.464 cts/s/pix at 2796.8 A* *Calculation performed 2021-10-21T02:39:29, v0.23*								
3	G230L/2376 WAVECAL	WAVE	STIS/NUV-MAMA, ACCUM, 52X0.1	G230L 2376 A				*[==>]*	*[1]*
4	G750L/7751 (STIS.sp.1680737)	(1) SZ100	STIS/CCD, ACCUM, 52X2	G750L 7751 A	WAVECAL=NO; CR-SPLIT=3; GAIN=4			316.5 Secs (316.5 Secs) *[==>(Split 1)]* *[==>(Split 2)]* *[==>(Split 3)]*	*[1]*
	Comments: ETC S/N calc for stellar photosphere (double expo time for S/N=20) *STIS.sp.1680737, G750L, 316s, SNR=30.7 @ 5700A, gain=4, crsplit=3, Sz-100_M5.5_scaled_pAV0.50_sed.fits* *ETC Saturation calcs for emission lines* *STIS.sp.1680734, G750L, saturation in 158s/expo for gain=4 with sz100_lya2_x4.00_etc.txt* *STIS.sp.1681370, G750L, saturation in 268s/expo for gain=4 with sz100_lya2_x4.00_etc_scaled_pAV0.50_sed.fits* *STIS.sp.1680733, G750L, saturation in 43s/expo for gain=1 with sz100_lya2_x4.00_etc.txt* *sz100_lya2_etc_scaled_pAV0.50.txt; stis,ccd,g750l,c7751,52x2,mjd#59670* *WARNING: operating mode = ACCUM* *Input file: lowmass_survey_Input-gaia.csv* *Spectral type: M5.5 ; A_V: 0.0 ; Distance (pc): 200* *M*: 0.16 ; log(dm/dt): -9.44* *For exptime=7.1 s, n_reads=2, spectral region:* *5700.0 +- 5.0 A achieves SNR=20.0 / 2-pix-resel* *A factor of 2.0 has been applied to the exptime in each exposure.* *global countrate (brightest segment): 70034.9 cts/s/segment* *brightest pixel: 112.154 cts/s/pix at 6563.9 A* *Calculation performed 2021-10-21T02:39:29, v0.23*								
5	G750L/7751 WAVECAL	WAVE	STIS/CCD, ACCUM, 52X0.1	G750L 7751 A				*[==>]*	*[1]*
6	G750L/7751 CCDFLAT 1	CCDFLAT	STIS/CCD, ACCUM, 0.3X0.09	G750L 7751 A				*[==>(Copy 1)]* *[==>(Copy 2)]*	*[1]*
7	G750L/7751 CCDFLAT 2	CCDFLAT	STIS/CCD, ACCUM, 52X0.1	G750L 7751 A				*[==>(Copy 1)]* *[==>(Copy 2)]*	*[1]*

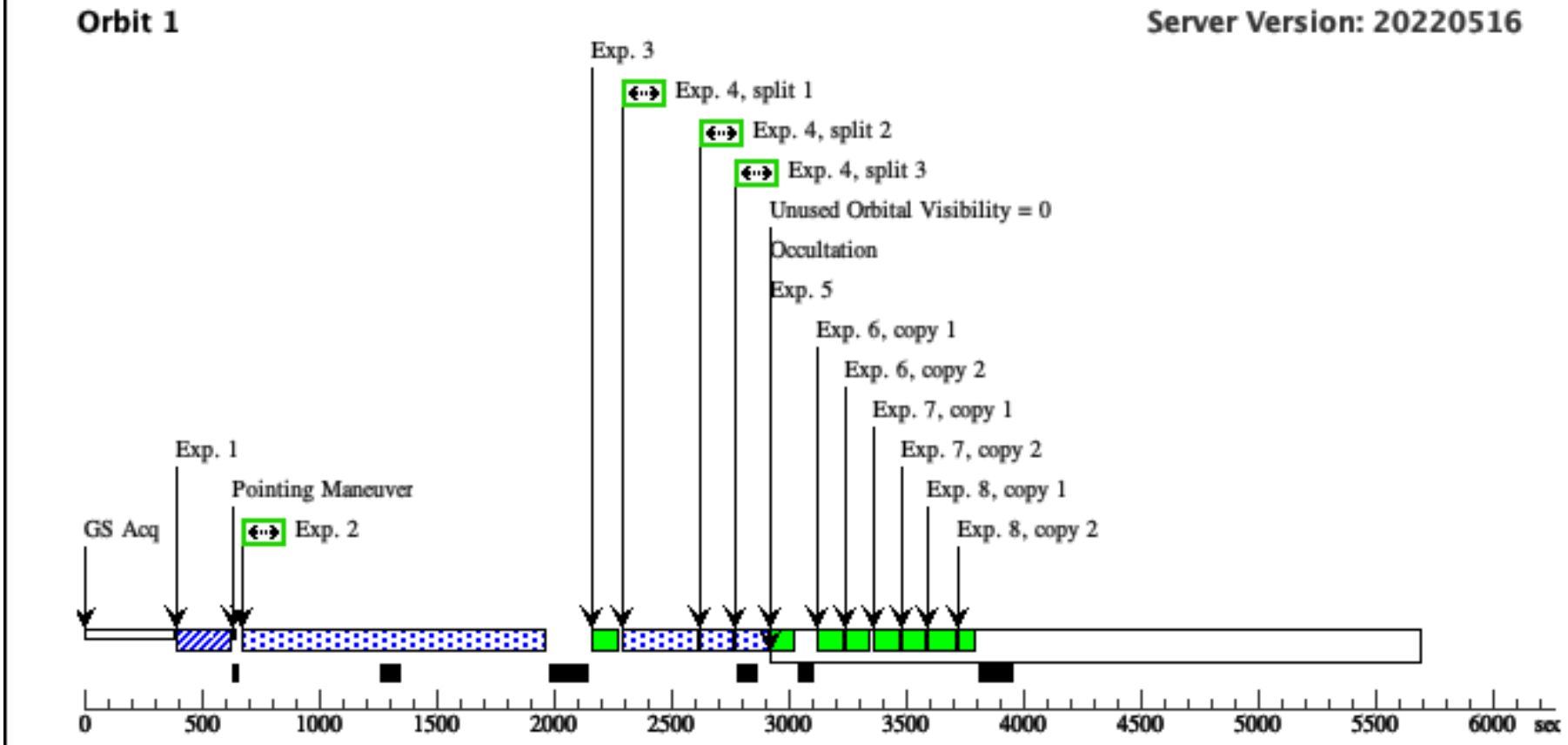
8	G750L/7751 CCDFLAT CCDFLAT 3	STIS/CCD, ACCUM, 52X2	G750L 7751 A			*[==>(Copy 1)]* *[==>(Copy 2)]*	***[1]***
9	G430L/4300 WAVE WAVECAL	STIS/CCD, ACCUM, 52X0.1	G430L 4300 A			*[==>]*	***[2]***
10	G430L/4300 (STIS.sp.1681349)	(1) SZ100	STIS/CCD, ACCUM, 52X2	G430L 4300 A	WAVECAL=NO; CR-SPLIT=3; GAIN=4	2349 Secs (2349 Secs) *[==>(Split 1)]* *[==>(Split 2)]* *[==>(Split 3)]*	***[2]***

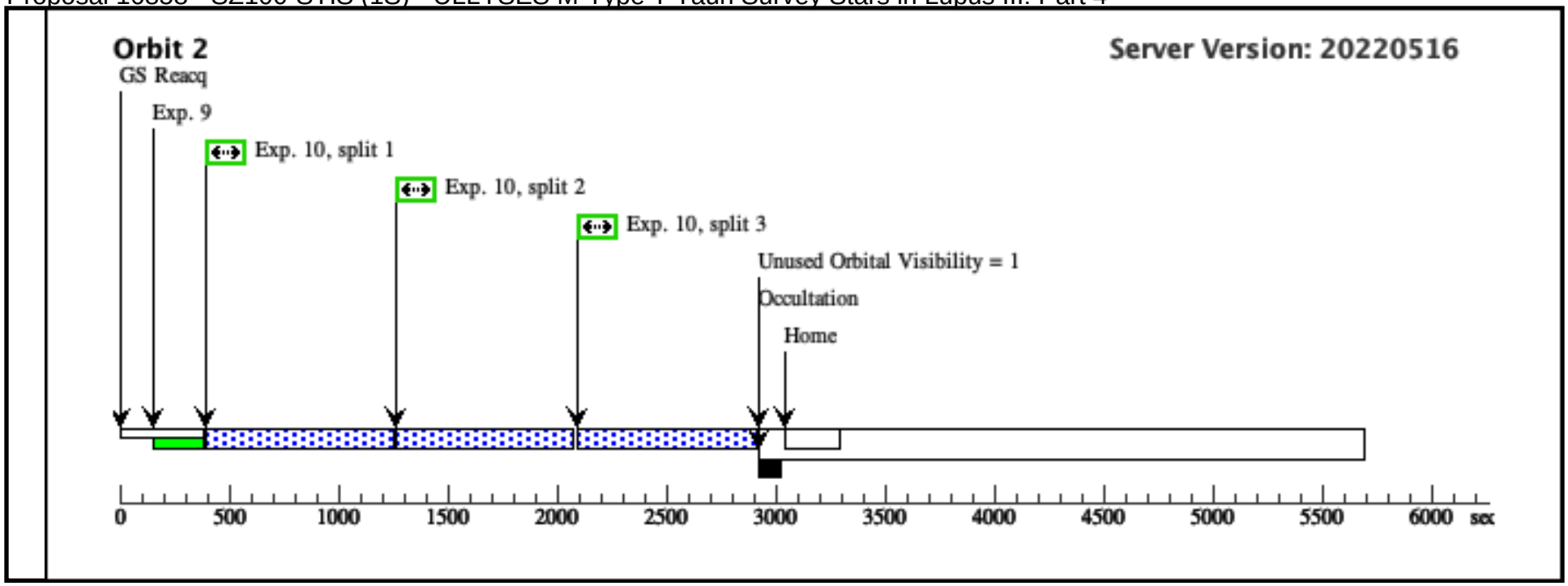
Comments: ETC S/N calculation for stellar photosphere
STIS.sp.1681349, G430L, 2349s, SNR=20.2 @ 4004.3A, gain=4, crsplit=3, Sz-100_M5.5_scaled_pAV0.50_sed.fits

ETC saturation calculations for emission lines
STIS.sp.1680731, G430L, saturation in 1074s/exposue, gain=4, with sz100_lya2_x4.00_etc.txt
STIS.sp.1680731, G430L, saturation in 295s/ exposure, gain=1 with sz100_lya2_x4.00_etc.txt

sz100_lya2_etc_scaled_pAV0.50.txt; stis,ccd,g430l,c4300,52x2,mjd#59670
WARNING: operating mode = ACCUM
Input file: lowmass_survey_Input-gaia.csv
Spectral type: M5.5 ; A_V: 0.0 ; Distance (pc): 200
M: 0.16 ; log(dm/dt): -9.44*
For exptime=73.7 s, n_reads=2, spectral region:
4000.0 +- 5.0 A achieves SNR=20.0 / 2-pix-resel
A factor of 2.0 has been applied to the exptime in each exposure.
global countrate (brightest segment): 38713.8 cts/s/segment
brightest pixel: 14.272 cts/s/pix at 4560.5 A
Calculation performed 2021-10-21T02:39:29, v0.23

Orbit Structure




Orbit 2
Server Version: 20220516
GS Reacq
Exp. 9
Exp. 10, split 1
Exp. 10, split 2
Exp. 10, split 3
Unused Orbital Visibility = 1
Occultation
Home
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
6000
sec

Visit

Proposal 16858, SZ100-COS (AC), implementation Thu Jun 30 20:02:12 GMT 2022

Diagnostic Status: Warning

Scientific Instruments: COS/FUV, COS/NUV

Special Requirements: SCHED 100%; BETWEEN 26-MAR-2022 AND 15-AUG-2022

Comments: vstatus; 1C; SZ100; P/COS approved for submission; P/CP 22/12/21 ; intrev: complete ; P/RP 23/12/21
vcheck; Enter targ name & Inst. & Resp. Sci.; SZ100 ; COS ; CRP
vcheck; ETC numbers entered in APT?; Yes
vcheck; Any screening violations?; No
vcheck; M-dwarf check complete and added to box folder?; Yes
vcheck; S/N ETC calcs done & documented?; Yes
vcheck; Field images checked & saved?; yes, see cos-gsc2-image-both-targets.png in box folder
vcheck; Selected ACQ strategy?; ACQ/IMAGE PSA, MIRRORB
vcheck; Possible ACQ or Sci spoilers?; none
vcheck; Field BOT clear?; Yes, unknowns flagged refer to either the target itself or image artifacts.
vcheck; Visual BOT check for stars not in catalog?; done ...
see summary of flare screening in observation description, also files sz100_104_flare_calc_inputs.csv and sz100_104_flare_calc_results.xls
vcheck; Orbit packing finalized?; yes ...
G130M 110% of original requirement
G160M 106% of original requirement
vcheck; Buffer times optimized?; yes
vcheck; Verify visit grouping correct; yes
vcheck; phase constraint for ground based observations added?; -------
vcheck; BETWEENS for coordinated observations added?; done
vcheck; Is visit ready for int. review?; yes
Allocated COS orbits = 6

Diagnostics

(SZ100-COS (AC)) Warning (Form): For the best data quality, it is generally required to use all four FP-POS positions when observing at a given COS cenwave. See the COS Instrument Handbook for exceptions that may apply to observations with G130M/1291 or G160M.

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	SZ100	RA: 16 08 25.7493 (242.1072887d)	Proper Motion RA: -10.260 mas/yr	V=16.624	Reference Frame: ICRS
	Alt Name1: THA-15-26	Dec: -39 06 1.60 (-39.10044d)	Proper Motion Dec: -22.159 mas/yr	SpT=M5.5; A_V=0.00; B=17.29 ; V=16.62; R=14.97; I=13.12; J= 10.98; Gmag=14.809; Bp-Rp=3. 19	
		Equinox: J2000	Parallax: 0.0070902"		
			Epoch of Position: 2016		

Comments: Note that default SIMBAD B,V values from Merin 2014 are actually from NOMAD, which for this star used values from the unpublished USNO YB6 catalog. Comparison with more recent measurements suggests YB6 values for these stars are not reliable, so instead we have adopted recent values obtained from APASS at https://www.aavso.org/download-apass-data. Note also V=16.87, V-Ic=3.63 from Sartori et al 2003, which are consistent with our adopted values; Also, interpolating observed Gmag as a function of Bp-Rp imples V = 16.59, very close to the APASS value.

SZ100
Region: Lupus III
Simbad: http://simbad.u-strasbg.fr/simbad/sim-id?Ident=sz100&submit=submit+id
Target coordinates are from Gaia EDR3.
Spectral type: M5.5 ; A_V: 0.0 ; Distance (pc): 200
M: 0.16 ; log(dm/dt): -9.44*
Input file: lowmass_survey_Input-gaia.csv
sz100_lya2_etc_scaled_pAV0.50.txt
Calculation performed 2021-10-21T02:39:29, v0.8
---
tstatus; SZ100; P/COS approved for submission; S/STIS approved for submission; P/CRP 21/12/21; S/CRP 21/12/21
tcheck; APT/SIMBAD target names: ; Default SIMBAD name is THA 15-26
tcheck; Target info verification status?; Done
tcheck; Coordinates & P.M. verified, epoch checked?; Upgraded to EDR3 coordinates, PM, epoch, and parallax
tcheck; Adopted SED compared to Observations?; Yes, see sz100_lya2_etc_scaled_pAV0.50_vs_photo.png and sz100_stellar_sed_vs_photo.png ...
Comparison with more recent measurements suggests YB6 values for these stars are not reliable, so instead we have adopted recent values obtained from APASS at https://www.aavso.org/download-apass-data. Note also V=16.87, V-Ic=3.63 from Sartori et al 2003, which are consistent with our adopted values; Also, interpolating observed Gmag as a function of Bp-Rp imples V = 16.59, very close to the APASS value.
Category=STAR
Description=[T TAURI STAR, PRE-MAIN SEQUENCE STAR]
Extended=NO

Exposures

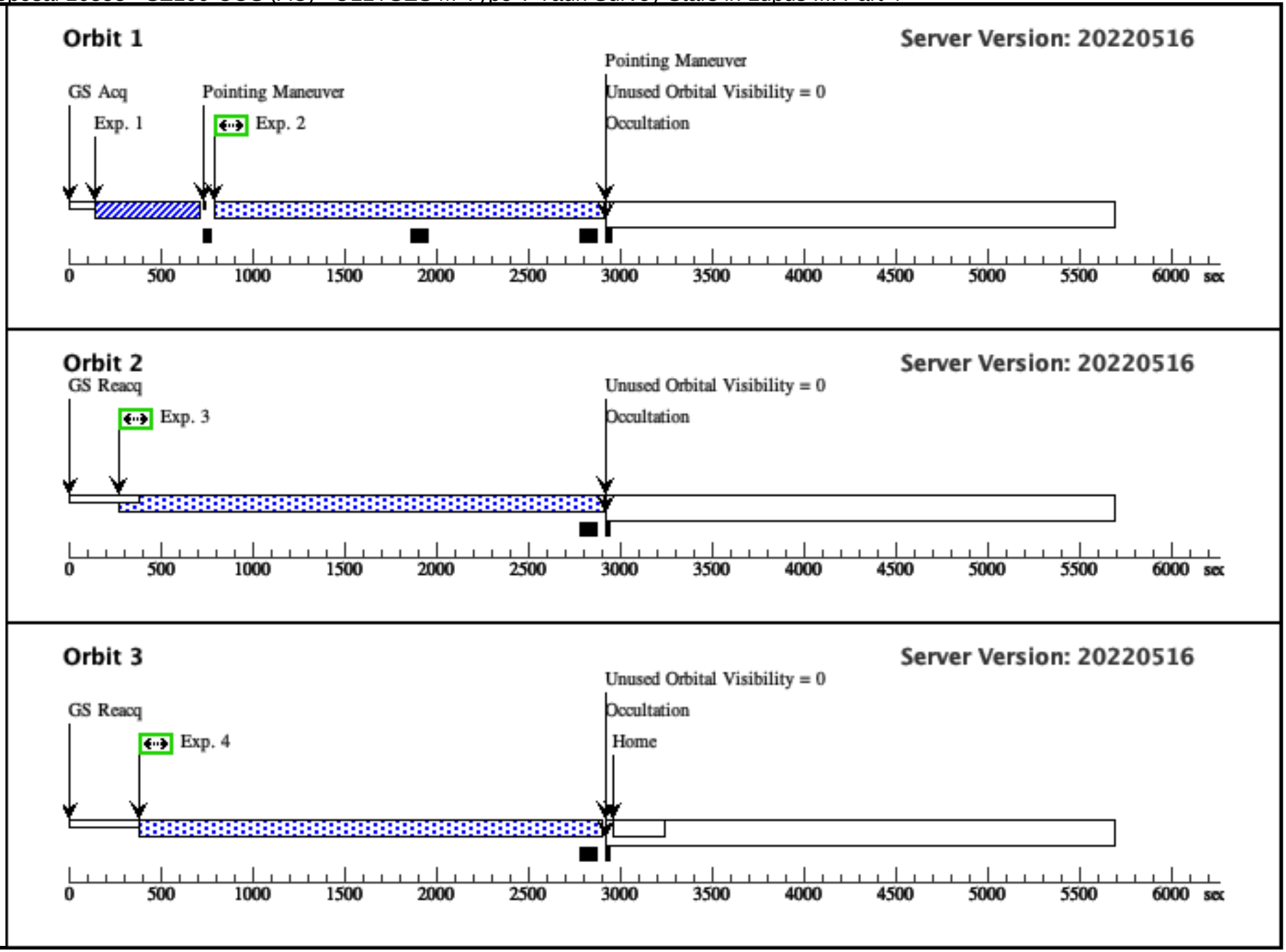
#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	ACQ/Image (COS.ta.1680471)	(1) SZ100	COS/NUV, ACQ/IMAGE, PSA	MIRRORB				134. Secs (134 Secs) *[==>]*	*[1]*
	Comments: Exposure time calculation: *adopt sz100_lya2_etc_scaled_pAV0.50_sed.fits* *COS.ta.1680471, texp=66.94s, so double to 134s, b.p.=0.845* *BOP calculation:* *adopt sz100_lya2_x4.00_etc_sed.fits (4x accretion, no dust)* *COS.ta.1680473, b.p=6.967 c/s/pixel is within bop limits*								
2	G130M/1291 A (COS.sp.1680629)	(1) SZ100	COS/FUV, TIME-TAG, PSA	G130M	BUFFER-TIME=922; FP-POS=3			1953 Secs (1953 Secs) *[==>]*	*[1]*
	Comments: ETC S/N calc *COS.sp.1680629, c1291, 3906s, SNR=14.5 @1238.87, sz100_lya2_etc_scaled_pAV0.50_sed.fits* *ETC BOP calc* *COS.sp.1680630, c1291, BOP, buffer=2586s, global=912c/s, local = 0.095 c/p/s, sz100_lya2_x4.00_etc_sed.fits* *COS.sp.1680629 SNR=14.5 @1238.87, sz100_lya2_etc_scaled_pAV0.50_sed.fits - best guess for combined G130M S/N* *COS.sp.1680630 BOP check, sz100_lya2_x4.00_etc_sed.fits buffer time = 2586 - upper limit for BOP checking* *sz100_lya2_etc_scaled_pAV0.50.txt; cos,fuv,g130m,c1291,psa,mjd#59670; fp-pos=None, segment=None)* *Input file: lowmass_survey_Input-gaia.csv* *Spectral type: M5.5 ; A_V: 0.0 ; Distance (pc): 200* *M*: 0.16 ; log(dm/dt): -9.44* *For exptime=1854.3 s, spectral region:* *1239.0 +- 1.0 A achieves SNR=10.0 / 6-pix-resel* *A factor of 2.0 has been applied to the exptime in each exposure.* *global countrate (brightest segment): 313.1 cts/s/segment* *brightest pixel: 0.012 cts/s/pix at 1304.8 A* *Calculation performed 2021-10-21T02:39:29, v0.23*								
3	G160M/1589 A (COS.sp.1680636)	(1) SZ100	COS/FUV, TIME-TAG, PSA	G160M	BUFFER-TIME=2359; FP-POS=3			2469 Secs (2469 Secs) *[==>]*	*[2]*
	Comments: ETC S/N calculation *COS.sp.1680636, c1589, 9880s (summed times for c1589+c1623) SNR=29.6@1548.43, sz100_lya2_etc_scaled_pAV0.50_sed.fits* *ETC BOP calculation* *COS.sp.1680650, c1589, BOP, buffer=8103s, global=213c/s, local=0.044 c/p/s, sz100_lya2_x4.00_etc_sed.fits* *sz100_lya2_etc_scaled_pAV0.50.txt; cos,fuv,g160m,c1589,psa,mjd#59670; fp-pos=None, segment=None)* *Input file: lowmass_survey_Input-gaia.csv* *Spectral type: M5.5 ; A_V: 0.0 ; Distance (pc): 200* *M*: 0.16 ; log(dm/dt): -9.44* *For exptime=2212.5 s, spectral region:* *1549.0 +- 1.0 A achieves SNR=20.0 / 6-pix-resel for combined c1589 & c1623* *The exptime for this c1589 exposure has been halved because c1589 & c1623 target the same line.* *A factor of 2.0 has been applied to the exptime in each exposure.* *global countrate (brightest segment): 73.7 cts/s/segment* *brightest pixel: 0.003 cts/s/pix at 1446.2 A* *Calculation performed 2021-10-21T02:39:25, v0.23*								

	4	G160M/1589-4 (COS.sp.1680636)	(1) SZ100	COS/FUV, TIME-TAG, PSA	G160M 1589 A	BUFFER-TIME=2361; FP-POS=4	2471 Secs (2471 Secs) *[==>]*

Comments: sz100_lya2_etc_scaled_pAV0.50.txt; cos,fuv,g160m,c1589,psa,mjd#59670; fp-pos=None, segment=None)
Input file: lowmass_survey_Input-gaia.csv
Spectral type: M5.5 ; A_V: 0.0 ; Distance (pc): 200
M: 0.16 ; log(dm/dt): -9.44*
For exptime=2212.5 s, spectral region:
1549.0 +- 1.0 A achieves SNR=20.0 / 6-pix-resel for combined c1589 & c1623
The exptime for this c1589 exposure has been halved because c1589 & c1623 target the same line.
A factor of 2.0 has been applied to the exptime in each exposure.
global countrate (brightest segment): 73.7 cts/s/segment
brightest pixel: 0.003 cts/s/pix at 1446.2 A
Calculation performed 2021-10-21T02:39:25, v0.23

[3]

Orbit Structure



Visit

Proposal 16858, SZ100-COS (AD), implementation Thu Jun 30 20:02:12 GMT 2022

Diagnostic Status: Warning

Scientific Instruments: COS/FUV, COS/NUV

Special Requirements: SCHED 100%; BETWEEN 26-MAR-2022 AND 15-AUG-2022

Comments: vstatus; 1D; SZ100; P/COS approved for submission; P/CP 22/12/21 ; intrev: complete ; P/RP 23/12/21
vcheck; Enter targ name & Inst. & Resp. Sci.; SZ100 ; COS ; CRP
vcheck; ETC numbers entered in APT?; Yes
vcheck; Any screening violations?; No
vcheck; M-dwarf check complete and added to box folder?; Yes
vcheck; S/N ETC calcs done & documented?; Yes
vcheck; Field images checked & saved?; yes, see cos-gsc2-image-both-targets.png in box folder
vcheck; Selected ACQ strategy?; ACQ/IMAGE PSA, MIRRORB
vcheck; Possible ACQ or Sci spoilers?; none
vcheck; Field BOT clear?; Yes, unknowns flagged refer to either the target itself or image artifacts.
vcheck; Visual BOT check for stars not in catalog?; done ...
see summary of flare screening in observation description, also files sz100_104_flare_calc_inputs.csv and sz100_104_flare_calc_results.xls
vcheck; Orbit packing finalized?; yes
vcheck; Buffer times optimized?; yes
vcheck; Verify visit grouping correct; yes
vcheck; phase constraint for ground based observations added?; -------
vcheck; BETWEENS for coordinated observations added?; done
vcheck; Is visit ready for int. review?; yes
Allocated COS orbits = 6

Diagnostics

(SZ100-COS (AD)) Warning (Form): For the best data quality, it is generally required to use all four FP-POS positions when observing at a given COS cenwave. See the COS Instrument Handbook for exceptions that may apply to observations with G130M/1291 or G160M.

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	SZ100	RA: 16 08 25.7493 (242.1072887d)	Proper Motion RA: -10.260 mas/yr	V=16.624	Reference Frame: ICRS
	Alt Name1: THA-15-26	Dec: -39 06 1.60 (-39.10044d)	Proper Motion Dec: -22.159 mas/yr	SpT=M5.5; A_V=0.00; B=17.29 ; V=16.62; R=14.97; I=13.12; J= 10.98; Gmag=14.809; Bp-Rp=3.	
		Equinox: J2000	Parallax: 0.0070902"		
			Epoch of Position: 2016	19	

Comments: Note that default SIMBAD B,V values from Merin 2014 are actually from NOMAD, which for this star used values from the unpublished USNO YB6 catalog. Comparison with more recent measurements suggests YB6 values for these stars are not reliable, so instead we have adopted recent values obtained from APASS at https://www.aavso.org/download-apass-data. Note also V=16.87, V-Ic=3.63 from Sartori et al 2003, which are consistent with our adopted values; Also, interpolating observed Gmag as a function of Bp-Rp imples V = 16.59, very close to the APASS value.

SZ100
Region: Lupus III
Simbad: http://simbad.u-strasbg.fr/simbad/sim-id?Ident=sz100&submit=submit+id
Target coordinates are from Gaia EDR3.
Spectral type: M5.5 ; A_V: 0.0 ; Distance (pc): 200
M: 0.16 ; log(dm/dt): -9.44*
Input file: lowmass_survey_Input-gaia.csv
sz100_lya2_etc_scaled_pAV0.50.txt
Calculation performed 2021-10-21T02:39:29, v0.8
---
tstatus; SZ100; P/COS approved for submission; S/STIS approved for submission; P/CRP 21/12/21; S/CRP 21/12/21
tcheck; APT/SIMBAD target names: ; Default SIMBAD name is THA 15-26
tcheck; Target info verification status?; Done
tcheck; Coordinates & P.M. verified, epoch checked?; Upgraded to EDR3 coordinates, PM, epoch, and parallax
tcheck; Adopted SED compared to Observations?; Yes, see sz100_lya2_etc_scaled_pAV0.50_vs_photo.png and sz100_stellar_sed_vs_photo.png ...
Comparison with more recent measurements suggests YB6 values for these stars are not reliable, so instead we have adopted recent values obtained from APASS at https://www.aavso.org/download-apass-data. Note also V=16.87, V-Ic=3.63 from Sartori et al 2003, which are consistent with our adopted values; Also, interpolating observed Gmag as a function of Bp-Rp imples V = 16.59, very close to the APASS value.
Category=STAR
Description=[T TAURI STAR, PRE-MAIN SEQUENCE STAR]
Extended=NO

Exposures

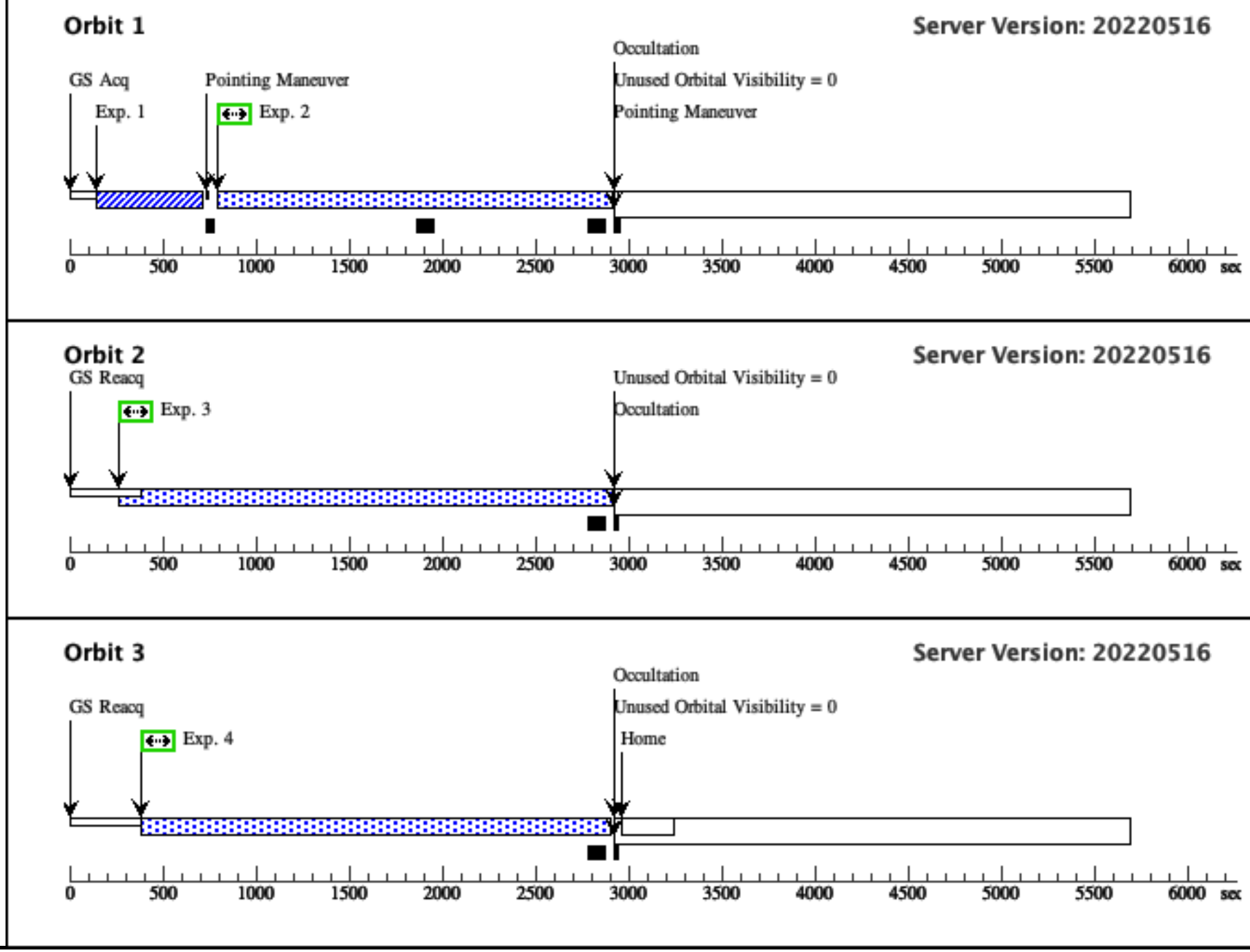
#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	ACQ/Image (COS.ta.1680471)	(1) SZ100	COS/NUV, ACQ/IMAGE, PSA	MIRRORB				134. Secs (134 Secs) *[==>]*	 ***[1]***
	Comments: Exposure time calculation: *adopt sz100_lya2_etc_scaled_pAV0.50_sed.fits* *COS.ta.1680471, texp=66.94s, so double to 134s, b.p.=0.845* *BOP calculation:* *adopt sz100_lya2_x4.00_etc_sed.fits (4x accretion, no dust)* *COS.ta.1680473, b.p=6.967 c/s/pixel is within bop limits*								
2	G130M/1291 A 1-4 (COS.sp.1680629)	(1) SZ100	COS/FUV, TIME-TAG, PSA	G130M 1291 A	BUFFER-TIME=922; FP-POS=4			1953 Secs (1953 Secs) *[==>]*	 ***[1]***
	Comments: ETC S/N calc *COS.sp.1680629, c1291, 3906s, SNR=14.5 @1238.87, sz100_lya2_etc_scaled_pAV0.50_sed.fits* *ETC BOP calc* *COS.sp.1680630, c1291, BOP, buffer=2586s, global=912c/s, local = 0.095 c/p/s, sz100_lya2_x4.00_etc_sed.fits* *COS.sp.1680629 SNR=14.5 @1238.87, sz100_lya2_etc_scaled_pAV0.50_sed.fits - best guess for combined G130M S/N* *COS.sp.1680630 BOP check, sz100_lya2_x4.00_etc_sed.fits buffer time = 2586 - upper limit for BOP checking* *sz100_lya2_etc_scaled_pAV0.50.txt; cos,fuv,g130m,c1291,psa,mjd#59670; fp-pos=None, segment=None)* *Input file: lowmass_survey_Input-gaia.csv* *Spectral type: M5.5 ; A_V: 0.0 ; Distance (pc): 200* *M*: 0.16 ; log(dm/dt): -9.44* *For exptime=1854.3 s, spectral region:* *1239.0 +- 1.0 A achieves SNR=10.0 / 6-pix-resel* *A factor of 2.0 has been applied to the exptime in each exposure.* *global countrate (brightest segment): 313.1 cts/s/segment* *brightest pixel: 0.012 cts/s/pix at 1304.8 A* *Calculation performed 2021-10-21T02:39:29, v0.23*								
3	G160M/1623 A 3-1 (COS.sp.1680635)	(1) SZ100	COS/FUV, TIME-TAG, PSA	G160M 1623 A	BUFFER-TIME=2359; FP-POS=1			2469 Secs (2469 Secs) *[==>]*	 ***[2]***
	Comments: ETC S/N calculation *COS.sp.1680635, c1623, 9880s (summed c1589+c1623), SNR=28.9@1548.43, sz100_lya2_etc_scaled_pAV0.50_sed.fits* *ETC BOP calculation* *COS.sp.1680634, c1623, BOP, buffer=8426s, global=280c/s, local=0.041c/p/s, sz100_lya2_x4.00_etc_sed.fits* *sz100_lya2_etc_scaled_pAV0.50.txt; cos,fuv,g160m,c1623,psa,mjd#59670; fp-pos=None, segment=None)* *Input file: lowmass_survey_Input-gaia.csv* *Spectral type: M5.5 ; A_V: 0.0 ; Distance (pc): 200* *M*: 0.16 ; log(dm/dt): -9.44* *For exptime=2264.2 s, spectral region:* *1549.0 +- 1.0 A achieves SNR=20.0 / 6-pix-resel for combined c1589 & c1623* *The exptime for this c1623 exposure has been halved because c1589 & c1623 target the same line.* *A factor of 2.0 has been applied to the exptime in each exposure.* *global countrate (brightest segment): 71.8 cts/s/segment* *brightest pixel: 0.003 cts/s/pix at 1446.2 A* *Calculation performed 2021-10-21T02:39:27, v0.23*								

	4	G160M/162 3-2 (COS.sp.168 0635)	(1) SZ100	COS/FUV, TIME-TAG, PSA	G160M 1623 A	BUFFER-TIME=2361; FP-POS=2	2471 Secs (2471 Secs) *[==>]*

Comments: sz100_lya2_etc_scaled_pAV0.50.txt; cos,fuv,g160m,c1623,psa,mjd#59670; fp-pos=None, segment=None)
Input file: lowmass_survey_Input-gaia.csv
Spectral type: M5.5 ; A_V: 0.0 ; Distance (pc): 200
M: 0.16 ; log(dm/dt): -9.44*
For exptime=2264.2 s, spectral region:
1549.0 +- 1.0 A achieves SNR=20.0 / 6-pix-resel for combined c1589 & c1623
The exptime for this c1623 exposure has been halved because c1589 & c1623 target the same line.
A factor of 2.0 has been applied to the exptime in each exposure.
global countrate (brightest segment): 71.8 cts/s/segment
brightest pixel: 0.003 cts/s/pix at 1446.2 A
Calculation performed 2021-10-21T02:39:27, v0.23

[3]

Orbit Structure



Visit

Proposal 16858, SZ100-STIS (AS), implementation Thu Jun 30 20:02:12 GMT 2022

Diagnostic Status: No Diagnostics

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

Special Requirements: SCHED 100%; BETWEEN 26-MAR-2022 AND 15-AUG-2022; GROUP AS,AC,AD WITHIN 2D

Comments: vstatus; 1S; SZ100; S/STIS approved for submission; P/CP 22/12/21 ; intrev: complete ; P/RP 23/12/21
vcheck; Enter targ name & Inst. & Resp. Sci.; SZ100 ; STIS ; CRP
vcheck; ETC numbers entered in APT?; Yes
vcheck; Any screening violations?; No
vcheck; M-dwarf check complete and added to box folder?; Yes
vcheck; S/N ETC calcs done & documented?; Yes
vcheck; Field images checked & saved?; yes, see
vcheck; Selected ACQ strategy?; ACQ/IMAGE PSA, MIRRORB
vcheck; Possible ACQ or Sci spoilers?; none
vcheck; Field BOT clear?; Yes, unknowns flagged refer to either the target itself or image artifacts.
vcheck; Visual BOT check for stars not in catalog?; done ...
see summary of flare screening in observation description, also files sz100_104_flare_calc_inputs.csv and sz100_104_flare_calc_results.xls
vcheck; Orbit packing finalized?; yes
vcheck; Buffer times optimized?; yes
vcheck; Verify visit grouping correct; yes, see stis-gsc2-image-both-targets.png in box folder
vcheck; phase constraint for ground based observations added?; -------
vcheck; BETWEENS for coordinated observations added?; done
vcheck; Is visit ready for int. review?; yes
Allocated STIS orbits = 2 (constrained in input CSV)

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	SZ100	RA: 16 08 25.7493 (242.1072887d)	Proper Motion RA: -10.260 mas/yr	V=16.624	Reference Frame: ICRS
	Alt Name1: THA-15-26	Dec: -39 06 1.60 (-39.10044d)	Proper Motion Dec: -22.159 mas/yr	SpT=M5.5; A_V=0.00; B=17.29 ; V=16.62; R=14.97; I=13.12; J= 10.98; Gmag=14.809; Bp-Rp=3. 19	
		Equinox: J2000	Parallax: 0.0070902"		
			Epoch of Position: 2016		

Comments: Note that default SIMBAD B,V values from Merin 2014 are actually from NOMAD, which for this star used values from the unpublished USNO YB6 catalog. Comparison with more recent measurements suggests YB6 values for these stars are not reliable, so instead we have adopted recent values obtained from APASS at https://www.aavso.org/download-apass-data. Note also V=16.87, V-Ic=3.63 from Sartori et al 2003, which are consistent with our adopted values; Also, interpolating observed Gmag as a function of Bp-Rp imples V = 16.59, very close to the APASS value.

SZ100
Region: Lupus III
Simbad: http://simbad.u-strasbg.fr/simbad/sim-id?Ident=sz100&submit=submit+id
Target coordinates are from Gaia EDR3.
Spectral type: M5.5 ; A_V: 0.0 ; Distance (pc): 200
M: 0.16 ; log(dm/dt): -9.44*
Input file: lowmass_survey_Input-gaia.csv
sz100_lya2_etc_scaled_pAV0.50.txt
Calculation performed 2021-10-21T02:39:29, v0.8
---
tstatus; SZ100; P/COS approved for submission; S/STIS approved for submission; P/CRP 21/12/21; S/CRP 21/12/21
tcheck; APT/SIMBAD target names: ; Default SIMBAD name is THA 15-26
tcheck; Target info verification status?; Done
tcheck; Coordinates & P.M. verified, epoch checked?; Upgraded to EDR3 coordinates, PM, epoch, and parallax
tcheck; Adopted SED compared to Observations?; Yes, see sz100_lya2_etc_scaled_pAV0.50_vs_photo.png and sz100_stellar_sed_vs_photo.png ...
Comparison with more recent measurements suggests YB6 values for these stars are not reliable, so instead we have adopted recent values obtained from APASS at https://www.aavso.org/download-apass-data. Note also V=16.87, V-Ic=3.63 from Sartori et al 2003, which are consistent with our adopted values; Also, interpolating observed Gmag as a function of Bp-Rp imples V = 16.59, very close to the APASS value.
Category=STAR
Description=[T TAURI STAR, PRE-MAIN SEQUENCE STAR]
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.1680486)	(1) SZ100	STIS/CCD, ACQ, F28X50LP	MIRROR				1.0 Secs (1 Secs) *[==>]*	***[1]***
	Comments: For S/N, STIS.ta.1680486 gives S/N=112 in 1 s with Sz-100_M5.5_scaled_pAV0.50_sed.fits *For saturation, STIS.ta.1680485, using sz100_lya2_x4.00_etc.txt saturates in 1.83s.*								
2	G230L/2376 (STIS.sp.1680740)	(1) SZ100	STIS/NUV-MAMA, TIME-TAG, 52X2	G230L 2376 A	WAVECAL=NO; BUFFER-TIME=448			1141 Secs (1141 Secs) *[==>]*	***[1]***
	Comments: ETC S/N calc *STIS.sp.1680740, G230L, 1141s, SNR=35.2 @ 2796.80, sz100_lya2_etc_scaled_pAV0.50_sed.fits* *ETC BOP calc* *STIS.sp.1680741, G230L, BOP check, buffer=847, global=2324c/s, local = 0.31 c/p/s., sz100_lya2_x4.00_etc.txt* *sz100_lya2_etc_scaled_pAV0.50.txt; stis,nuvmama,g230l,c2376,52x2,mjd#59670* *Input file: lowmass_survey_Input-gaia.csv* *Spectral type: M5.5 ; A_V: 0.0 ; Distance (pc): 200* *M*: 0.16 ; log(dm/dt): -9.44* *For exptime=178.6 s, spectral region:* *2800.0 +- 15.0 A achieves SNR=20.0 / 2-pix-resel* *A factor of 2.0 has been applied to the exptime in each exposure.* *global countrate (brightest segment): 2359.9 cts/s/segment* *brightest pixel: 0.464 cts/s/pix at 2796.8 A* *Calculation performed 2021-10-21T02:39:29, v0.23*								
3	G230L/2376 WAVECAL	WAVE	STIS/NUV-MAMA, ACCUM, 52X0.1	G230L 2376 A				*[==>]*	***[1]***
4	G750L/7751 (STIS.sp.1680737)	(1) SZ100	STIS/CCD, ACCUM, 52X2	G750L 7751 A	WAVECAL=NO; CR-SPLIT=3; GAIN=4			316.5 Secs (316.5 Secs) *[==>(Split 1)]* *[==>(Split 2)]* *[==>(Split 3)]*	***[1]***
	Comments: ETC S/N calc for stellar photosphere (double expo time for S/N=20) *STIS.sp.1680737, G750L, 316s, SNR=30.7 @ 5700A, gain=4, crsplit=3, Sz-100_M5.5_scaled_pAV0.50_sed.fits* *ETC Saturation calcs for emission lines* *STIS.sp.1680734, G750L, saturation in 158s/expo for gain=4 with sz100_lya2_x4.00_etc.txt* *STIS.sp.1681370, G750L, saturation in 268s/expo for gain=4 with sz100_lya2_x4.00_etc_scaled_pAV0.50_sed.fits* *STIS.sp.1680733, G750L, saturation in 43s/expo for gain=1 with sz100_lya2_x4.00_etc.txt* *sz100_lya2_etc_scaled_pAV0.50.txt; stis,ccd,g750l,c7751,52x2,mjd#59670* *WARNING: operating mode = ACCUM* *Input file: lowmass_survey_Input-gaia.csv* *Spectral type: M5.5 ; A_V: 0.0 ; Distance (pc): 200* *M*: 0.16 ; log(dm/dt): -9.44* *For exptime=7.1 s, n_reads=2, spectral region:* *5700.0 +- 5.0 A achieves SNR=20.0 / 2-pix-resel* *A factor of 2.0 has been applied to the exptime in each exposure.* *global countrate (brightest segment): 70034.9 cts/s/segment* *brightest pixel: 112.154 cts/s/pix at 6563.9 A* *Calculation performed 2021-10-21T02:39:29, v0.23*								
5	G750L/7751 WAVECAL	WAVE	STIS/CCD, ACCUM, 52X0.1	G750L 7751 A				*[==>]*	***[1]***
6	G750L/7751 CCDFLAT 1	CCDFLAT	STIS/CCD, ACCUM, 0.3X0.09	G750L 7751 A				*[==>(Copy 1)]* *[==>(Copy 2)]*	***[1]***
7	G750L/7751 CCDFLAT 2	CCDFLAT	STIS/CCD, ACCUM, 52X0.1	G750L 7751 A				*[==>(Copy 1)]* *[==>(Copy 2)]*	***[1]***

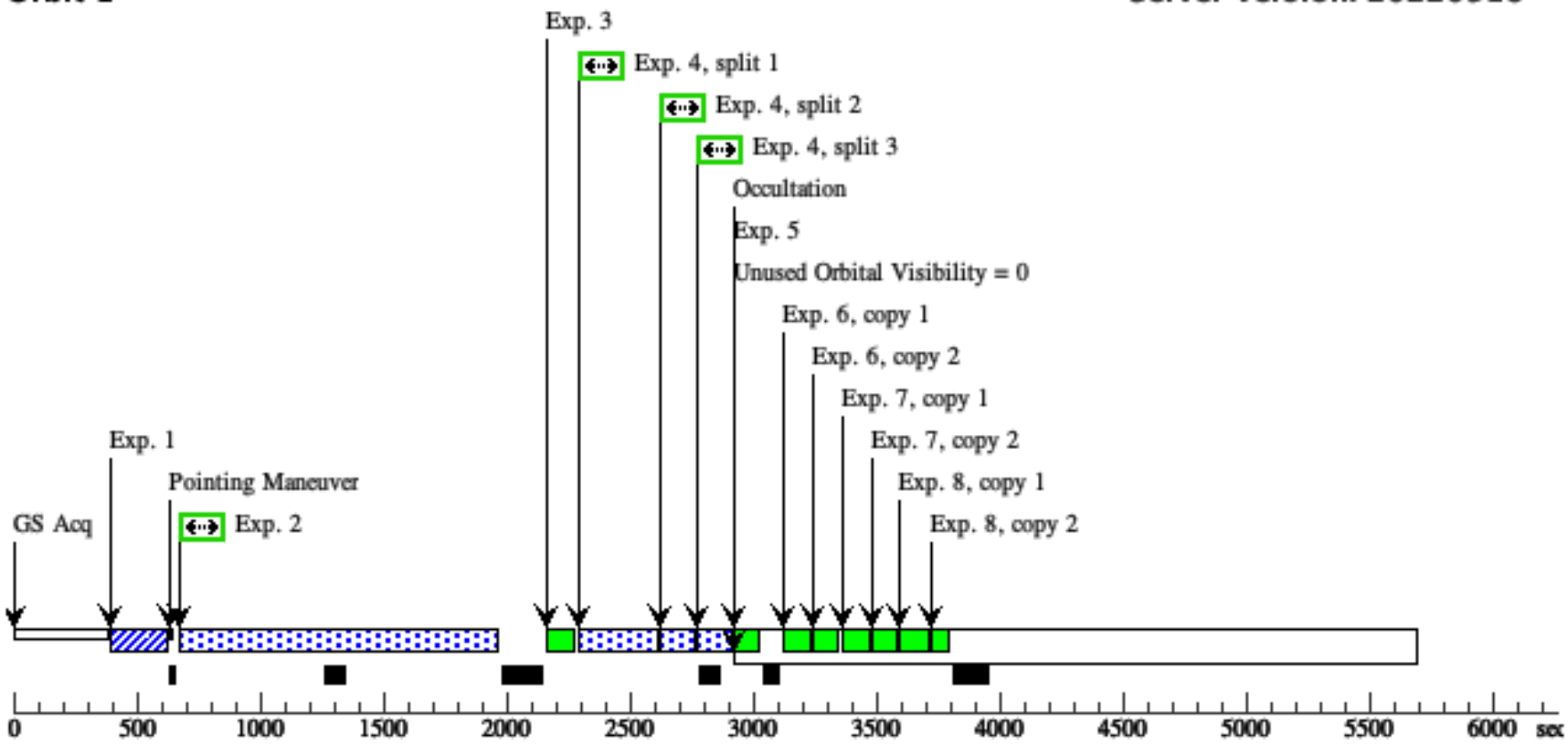
8	G750L/7751 CCDFLAT CCDFLAT 3	STIS/CCD, ACCUM, 52X2	G750L 7751 A		*[==>(Copy 1)]* *[==>(Copy 2)]*		***[1]***
9	G430L/4300 WAVE WAVECAL	STIS/CCD, ACCUM, 52X0.1	G430L 4300 A		*[==>]*		***[2]***
10	G430L/4300 (STIS.sp.16 81349)	(1) SZ100	STIS/CCD, ACCUM, 52X2	G430L 4300 A	WAVECAL=NO; CR-SPLIT=3; GAIN=4	2349 Secs (2349 Secs) *[==>(Split 1)]* *[==>(Split 2)]* *[==>(Split 3)]*	***[2]***

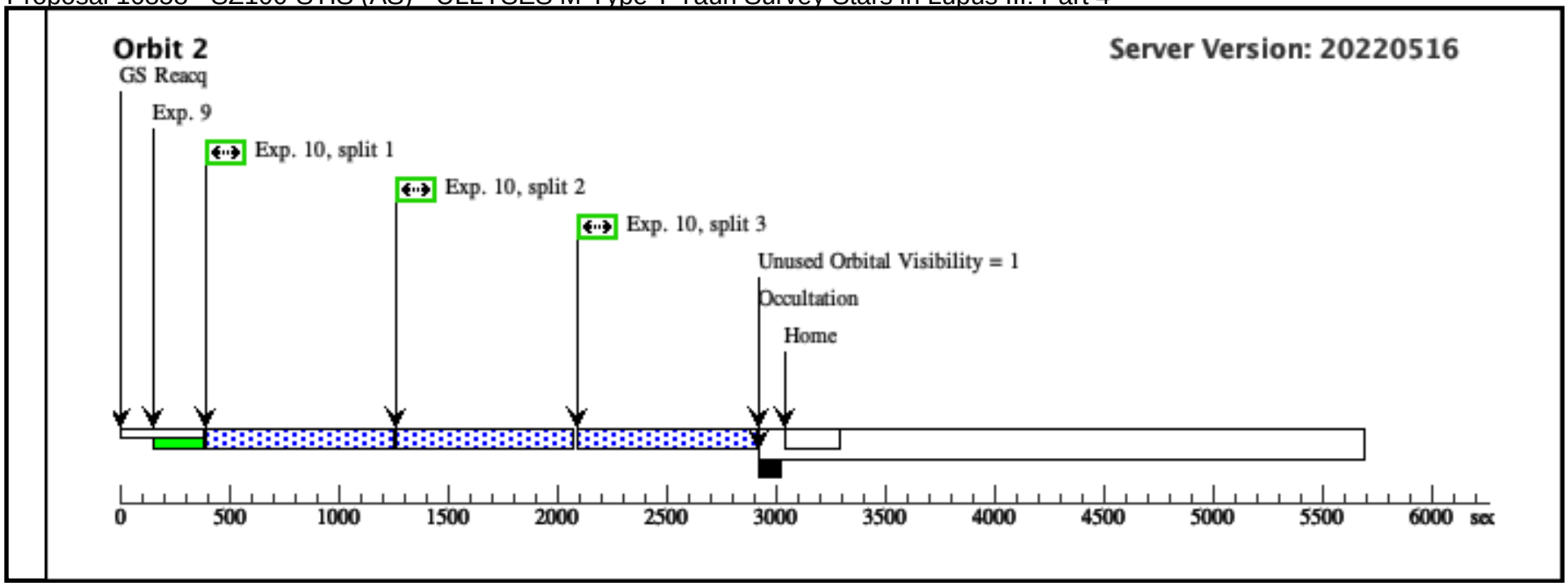
Comments: ETC S/N calculation for stellar photosphere
STIS.sp.1681349, G430L, 2349s, SNR=20.2 @ 4004.3A, gain=4, crsplit=3, Sz-100_M5.5_scaled_pAV0.50_sed.fits

ETC saturation calculations for emission lines
STIS.sp.1680731, G430L, saturation in 1074s/exposue, gain=4, with sz100_lya2_x4.00_etc.txt
STIS.sp.1680731, G430L, saturation in 295s/ exposure, gain=1 with sz100_lya2_x4.00_etc.txt

sz100_lya2_etc_scaled_pAV0.50.txt; stis,ccd,g430l,c4300,52x2,mjd#59670
WARNING: operating mode = ACCUM
Input file: lowmass_survey_Input-gaia.csv
Spectral type: M5.5 ; A_V: 0.0 ; Distance (pc): 200
M: 0.16 ; log(dm/dt): -9.44*
For exptime=73.7 s, n_reads=2, spectral region:
4000.0 +- 5.0 A achieves SNR=20.0 / 2-pix-resel
A factor of 2.0 has been applied to the exptime in each exposure.
global countrate (brightest segment): 38713.8 cts/s/segment
brightest pixel: 14.272 cts/s/pix at 4560.5 A
Calculation performed 2021-10-21T02:39:29, v0.23

Orbit Structure




Orbit 2
Server Version: 20220516
GS Reacq
Exp. 9
Exp. 10, split 1
Exp. 10, split 2
Exp. 10, split 3
Unused Orbital Visibility = 1
Occultation
Home
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
6000
sec

Visit

Proposal 16858, SZ104-COS (2C), completed Thu Jun 30 20:02:12 GMT 2022

Diagnostic Status: Warning

Scientific Instruments: COS/FUV, COS/NUV

Special Requirements: SCHED 100%; BETWEEN 26-MAR-2022 AND 29-JUL-2022

Comments: vstatus; 2C; SZ104; P/COS approved for submission; P/CP 22/12/21 ; intrev: complete ; P/RP 22/01/22
vcheck; Enter targ name & Inst. & Resp. Sci.; SZ104 ; COS ; CRP
vcheck; ETC numbers entered in APT?; Yes
vcheck; Any screening violations?; No
vcheck; M-dwarf check complete and added to box folder?; Yes
vcheck; S/N ETC calcs done & documented?; Yes
vcheck; Field images checked & saved?; yes, see cos-gsc2-image-both-targets.png in box folder
vcheck; Selected ACQ strategy?; ACQ/IMAGE PSA, MIRRORB
vcheck; Possible ACQ or Sci spoilers?; none
vcheck; Field BOT clear?; Yes, unknowns flagged refer to either the target itself or image artifacts.
vcheck; Visual BOT check for stars not in catalog?; done
vcheck; Orbit packing finalized?; yes ...
obtained 173% of initial G130M estimate
obtained 94% of initial G160M estimate
vcheck; Buffer times optimized?; yes
vcheck; Verify visit grouping correct; yes
vcheck; phase constraint for ground based observations added?; -------
vcheck; BETWEENS for coordinated observations added?; done
vcheck; Is visit ready for int. review?; yes
Allocated COS orbits = 10

Diagnostics

(SZ104-COS (2C)) Warning (Form): For the best data quality, it is generally required to use all four FP-POS positions when observing at a given COS cenwave. See the COS Instrument Handbook for exceptions that may apply to observations with G130M/1291 or G160M.

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(2)	SZ104	RA: 16 08 30.8019 (242.1283412d)	Proper Motion RA: -8.931 mas/yr	V=16.1	Reference Frame: ICRS
	Alt Name1: THA-15-30	Dec: -39 05 49.23 (-39.09701d)	Proper Motion Dec: -24.411 mas/yr	SpT=M5; A_V=0.00; V=16.8; R=13.96; I=13.57; G=15.102; Bp-Rp=3.28; J=11.66	
		Equinox: J2000	Parallax: 0.0062574"		
			Epoch of Position: 2016		

Comments: SIMBAD listed V mag of 15.25 was apparently based on an older catalog (the reference SIMBAD cites took B & V photometric values from the NOMAD catalog, which in turn had taken V from the unpublished USNO YB6 catalog, so its not practical to assess quality). We instead interpolate V=16.8 based on Gaia EDR3 photometry of G = 15.102 and Bp-Rp = +3.28. Note that Satori et al 2003, found V=16.91, and V-Ic=3.3, which is more consistent with the fainter V magnitude estimated from Gaia. The observed Bp-Rp color is also consistent with a minimally reddened M5V star.

SZ104
Region: Lupus III
Simbad: http://simbad.u-strasbg.fr/simbad/sim-id?Ident=sz104&submit=submit+id
Target coordinates are from Gaia EDR3.
Spectral type: M5 ; A_V: 0.0 ; Distance (pc): 200
M: 0.16 ; log(dm/dt): -9.75*
Input file: lowmass_survey_Input-gaia.csv
sz104_lya2_etc_scaled_pAV0.50.txt
Calculation performed 2021-10-21T02:39:20, v0.8
---
tstatus; SZ104; P/COS approved for submission; S/STIS approved for submission; P/CRP 21/12/21; S/CRP 21/12/21
tcheck; APT/SIMBAD target names: ; SIMBAD default name is THA 15-30.
tcheck; Target info verification status?; Done
tcheck; Coordinates & P.M. verified, epoch checked?; Done and upgraded to Gaia EDR3
tcheck; Adopted SEDs compared to Observations?; yes see sz104_lya2_etc_scaled_pAV0.50_vs_photo.png & sz104_stellar_sed_vs_photo.png ...
SIMBAD listed V mag of 15.25 was apparently based on an older catalog (the reference SIMBAD cites took B & V photometric values from the NOMAD catalog, which in turn had taken V from the unpublished USNO YB6 catalog, so its not practical to assess quality). We instead interpolate V=16.8 based on Gaia EDR3 photometry of G = 15.102 and Bp-Rp = +3.28. Note that Satori et al 2003, found V=16.91, and V-Ic=3.3, which is more consistent with the fainter V magnitude estimated from Gaia. The observed Bp-Rp color is also consistent with a minimally reddened M5V star.
Category=STAR
Description=[T TAURI STAR, PRE-MAIN SEQUENCE STAR]
Extended=NO

Exposures

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	ACQ/Image (COS.ta.1680520)	(2) SZ104	COS/NUV, ACQ/IMAGE, PSA	MIRRORB				250 Secs (250 Secs) *[==>]*	*[1]*
	Comments: S/N calculation *COS.ta.1680520, PSA MIRRORB, S/N=20 in 125s, so double to 250s, sz104_lya2_etc_scaled_pAV0.50_sed.fits* *BOP check* *COS.ta.1680521, BOP check with sz104_lya2_x4.00_etc_sed.fits is safe (BP=4.9c/p/s; global = 1302 c/s)*								
2	G130M/1291 1-3 (COS.sp.1686312)	(2) SZ104	COS/FUV, TIME-TAG, PSA	G130M 1291 A	BUFFER-TIME=1611; FP-POS=3			1721 Secs (1721 Secs) *[==>]*	*[1]*
	Comments: ETC S/N calculation *COS.sp.1686312, c1291, 6558s, SNR=13.1 @1238.87, sz104_lya2_etc_scaled_pAV0.50_sed.fits* *ETC BOP calcuation* *COS.sp.1686315, c1291, BOP, buffer=4044, sz104_lya2_x4.00_etc_sed.fits* *COS.sp.1686319, c1291, BOP, buffer=7011s, sz104_lya2_x4.00_etc_scaled_pAV0.50_sed.fits* *sz104_lya2_etc_scaled_pAV0.50.txt; cos,fuv,g130m,c1291,psa,mjd#59670; fp-pos=None, segment=None)* *Input file: lowmass_survey_Input-gaia.csv* *Spectral type: M5 ; A_V: 0.0 ; Distance (pc): 200* *M*: 0.16 ; log(dm/dt): -9.75* *For exptime=3794.4 s, spectral region:* *1239.0 +- 1.0 A achieves SNR=10.0 / 6-pix-resel* *A factor of 2.0 has been applied to the exptime in each exposure.* *global countrate (brightest segment): 296.1 cts/s/segment* *brightest pixel: 0.006 cts/s/pix at 1304.8 A* *Calculation performed 2021-10-21T02:39:19, v0.23*								
3	G130M/1291 1-3 (COS.sp.1686312)	(2) SZ104	COS/FUV, TIME-TAG, PSA	G130M 1291 A	BUFFER-TIME=1448; FP-POS=3			1558 Secs (1558 Secs) *[==>]*	*[2]*
	Comments: ETC S/N calculation *COS.sp.1686312, c1291, 6558s, SNR=13.1 @1238.87, sz104_lya2_etc_scaled_pAV0.50_sed.fits* *ETC BOP calcuation* *COS.sp.1686315, c1291, BOP, buffer=4044, sz104_lya2_x4.00_etc_sed.fits* *sz104_lya2_etc_scaled_pAV0.50.txt; cos,fuv,g130m,c1291,psa,mjd#59670; fp-pos=None, segment=None)* *Input file: lowmass_survey_Input-gaia.csv* *Spectral type: M5 ; A_V: 0.0 ; Distance (pc): 200* *M*: 0.16 ; log(dm/dt): -9.75* *For exptime=3794.4 s, spectral region:* *1239.0 +- 1.0 A achieves SNR=10.0 / 6-pix-resel* *A factor of 2.0 has been applied to the exptime in each exposure.* *global countrate (brightest segment): 296.1 cts/s/segment* *brightest pixel: 0.006 cts/s/pix at 1304.8 A* *Calculation performed 2021-10-21T02:39:19, v0.23*								

	4	G130M/129 (2) SZ104 1-4 (COS.sp.168 6312)	COS/FUV, TIME-TAG, PSA	G130M 1291 A	BUFFER-TIME=698; FP-POS=4	808 Secs (808 Secs) *[==>]*	***[2]***

Comments: ETC S/N calculation
COS.sp.1686312, c1291, 6558s, SNR=13.1 @1238.87, sz104_lya2_etc_scaled_pAV0.50_sed.fits
ETC BOP calcuation
COS.sp.1686315, c1291, BOP, buffer=4044, sz104_lya2_x4.00_etc_sed.fits

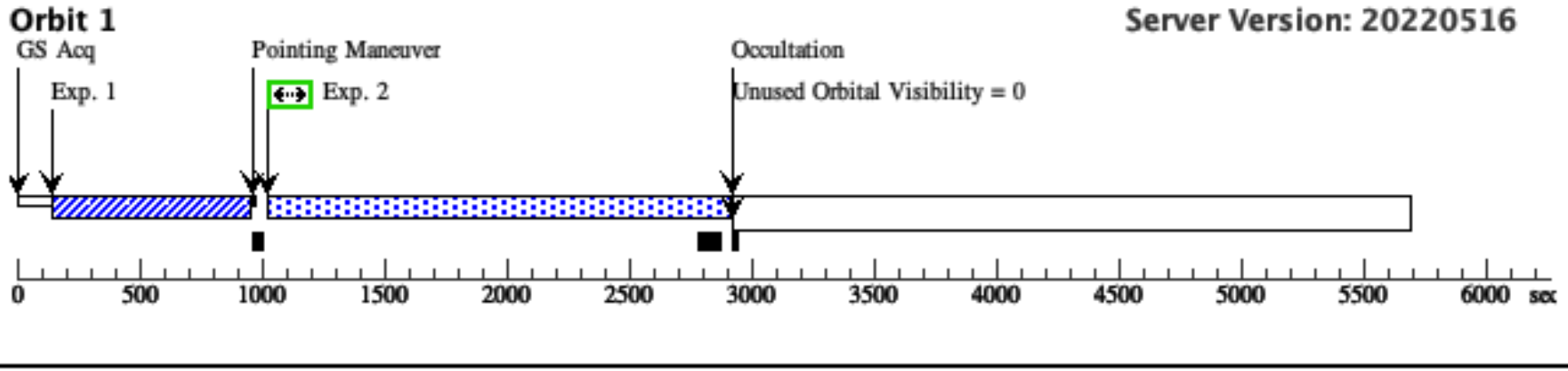
sz104_lya2_etc_scaled_pAV0.50.txt; cos,fuv,g130m,c1291,psa,mjd#59670; fp-pos=None, segment=None)
Input file: lowmass_survey_Input-gaia.csv
Spectral type: M5 ; A_V: 0.0 ; Distance (pc): 200
M: 0.16 ; log(dm/dt): -9.75*
For exptime=3794.4 s, spectral region:
1239.0 +- 1.0 A achieves SNR=10.0 / 6-pix-resel
A factor of 2.0 has been applied to the exptime in each exposure.
global countrate (brightest segment): 296.1 cts/s/segment
brightest pixel: 0.006 cts/s/pix at 1304.8 A
Calculation performed 2021-10-21T02:39:19, v0.23

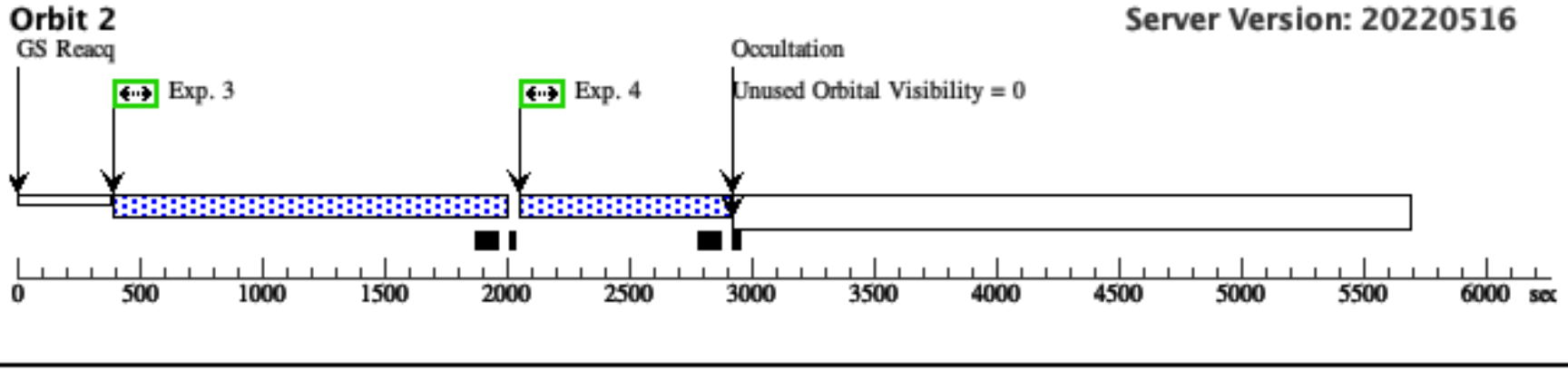
	5	G130M/129 (2) SZ104 1-4 (COS.sp.168 6312)	COS/FUV, TIME-TAG, PSA	G130M 1291 A	BUFFER-TIME=1180; FP-POS=4	2471 Secs (2471 Secs) *[==>]*	***[3]***

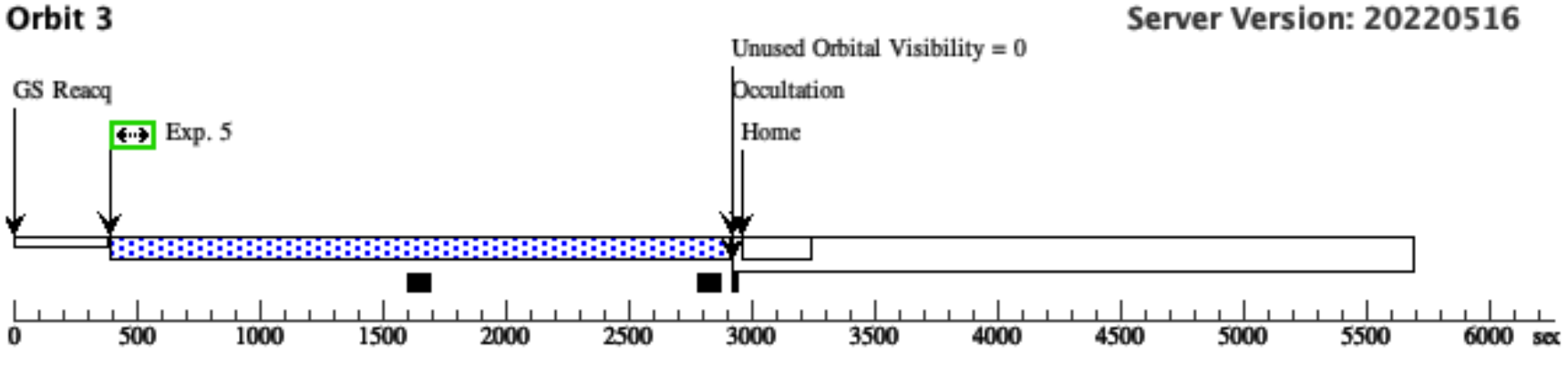
Comments: ETC S/N calculation
COS.sp.1686312, c1291, 6558s, SNR=13.1 @1238.87, sz104_lya2_etc_scaled_pAV0.50_sed.fits
ETC BOP calcuation
COS.sp.1686315, c1291, BOP, buffer=4044, sz104_lya2_x4.00_etc_sed.fits

sz104_lya2_etc_scaled_pAV0.50.txt; cos,fuv,g130m,c1291,psa,mjd#59670; fp-pos=None, segment=None)
Input file: lowmass_survey_Input-gaia.csv
Spectral type: M5 ; A_V: 0.0 ; Distance (pc): 200
M: 0.16 ; log(dm/dt): -9.75*
For exptime=3794.4 s, spectral region:
1239.0 +- 1.0 A achieves SNR=10.0 / 6-pix-resel
A factor of 2.0 has been applied to the exptime in each exposure.
global countrate (brightest segment): 296.1 cts/s/segment
brightest pixel: 0.006 cts/s/pix at 1304.8 A
Calculation performed 2021-10-21T02:39:19, v0.23

Orbit Structure







Visit

Proposal 16858, SZ104-COS (2D), completed Thu Jun 30 20:02:12 GMT 2022

Diagnostic Status: Warning

Scientific Instruments: COS/FUV, COS/NUV

Special Requirements: SCHED 100%; BETWEEN 26-MAR-2022 AND 29-JUL-2022

Comments: vstatus; 2D; SZ104; P/COS approved for submission; P/CP 22/12/21 ; intrev: complete ; P/RP 22/01/22
vcheck; Enter targ name & Inst. & Resp. Sci.; SZ104 ; COS ; CRP
vcheck; ETC numbers entered in APT?; Yes
vcheck; Any screening violations?; No
vcheck; M-dwarf check complete and added to box folder?; Yes
vcheck; S/N ETC calcs done & documented?; Yes
vcheck; Field images checked & saved?; yes, see cos-gsc2-image-both-targets.png in box folder
vcheck; Selected ACQ strategy?; ACQ/IMAGE PSA, MIRRORB
vcheck; Possible ACQ or Sci spoilers?; none
vcheck; Field BOT clear?; Yes, unknowns flagged refer to either the target itself or image artifacts.
vcheck; Visual BOT check for stars not in catalog?; done ...
see summary of flare screening in observation description, also files sz100_104_flare_calc_inputs.csv and sz100_104_flare_calc_results.xls
vcheck; Orbit packing finalized?; yes
vcheck; Buffer times optimized?; yes
vcheck; Verify visit grouping correct; yes
vcheck; phase constraint for ground based observations added?; -------
vcheck; BETWEENS for coordinated observations added?; done
vcheck; Is visit ready for int. review?; yes
Allocated COS orbits = 10

Diagnostics

(SZ104-COS (2D)) Warning (Form): For the best data quality, it is generally required to use all four FP-POS positions when observing at a given COS cenwave. See the COS Instrument Handbook for exceptions that may apply to observations with G130M/1291 or G160M.

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(2)	SZ104	RA: 16 08 30.8019 (242.1283412d)	Proper Motion RA: -8.931 mas/yr	V=16.1	Reference Frame: ICRS
	Alt Name1: THA-15-30	Dec: -39 05 49.23 (-39.09701d)	Proper Motion Dec: -24.411 mas/yr	SpT=M5; A_V=0.00; V=16.8; R=13.96; I=13.57; G=15.102; Bp-Rp=3.28; J=11.66	
		Equinox: J2000	Parallax: 0.0062574"		
			Epoch of Position: 2016		

Comments: SIMBAD listed V mag of 15.25 was apparently based on an older catalog (the reference SIMBAD cites took B & V photometric values from the NOMAD catalog, which in turn had taken V from the unpublished USNO YB6 catalog, so its not practical to assess quality). We instead interpolate V=16.8 based on Gaia EDR3 photometry of G = 15.102 and Bp-Rp = +3.28. Note that Satori et al 2003, found V=16.91, and V-Ic=3.3, which is more consistent with the fainter V magnitude estimated from Gaia. The observed Bp-Rp color is also consistent with a minimally reddened M5V star.

SZ104
Region: Lupus III
Simbad: http://simbad.u-strasbg.fr/simbad/sim-id?Ident=sz104&submit=submit+id
Target coordinates are from Gaia EDR3.
Spectral type: M5 ; A_V: 0.0 ; Distance (pc): 200
M: 0.16 ; log(dm/dt): -9.75*
Input file: lowmass_survey_Input-gaia.csv
sz104_lya2_etc_scaled_pAV0.50.txt
Calculation performed 2021-10-21T02:39:20, v0.8
---
tstatus; SZ104; P/COS approved for submission; S/STIS approved for submission; P/CRP 21/12/21; S/CRP 21/12/21
tcheck; APT/SIMBAD target names: ; SIMBAD default name is THA 15-30.
tcheck; Target info verification status?; Done
tcheck; Coordinates & P.M. verified, epoch checked?; Done and upgraded to Gaia EDR3
tcheck; Adopted SEDs compared to Observations?; yes see sz104_lya2_etc_scaled_pAV0.50_vs_photo.png & sz104_stellar_sed_vs_photo.png ...
SIMBAD listed V mag of 15.25 was apparently based on an older catalog (the reference SIMBAD cites took B & V photometric values from the NOMAD catalog, which in turn had taken V from the unpublished USNO YB6 catalog, so its not practical to assess quality). We instead interpolate V=16.8 based on Gaia EDR3 photometry of G = 15.102 and Bp-Rp = +3.28. Note that Satori et al 2003, found V=16.91, and V-Ic=3.3, which is more consistent with the fainter V magnitude estimated from Gaia. The observed Bp-Rp color is also consistent with a minimally reddened M5V star.
Category=STAR
Description=[T TAURI STAR, PRE-MAIN SEQUENCE STAR]
Extended=NO

Exposures

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	ACQ/Image (COS.ta.1680520)	(2) SZ104	COS/NUV, ACQ/IMAGE, PSA	MIRRORB				250 Secs (250 Secs) *[==>]*	*[1]*
	Comments: S/N calculation *COS.ta.1680520, PSA MIRRORB, S/N=20 in 125s, so double to 250s, sz104_lya2_etc_scaled_pAV0.50_sed.fits* *BOP check* *COS.ta.1680521, BOP check with sz104_lya2_x4.00_etc_sed.fits is safe (BP=4.9c/p/s; global = 1302 c/s)*								
2	G160M/1589-3 (COS.sp.1681362)	(2) SZ104	COS/FUV, TIME-TAG, PSA	G160M 1589 A	BUFFER-TIME=1569; FP-POS=3			1679 Secs (1679 Secs) *[==>]*	*[1]*
	Comments: ETC S/N calculation *COS.sp.1681362, c1589, 14517s (summed c1589+c1623), SNR=27.3@1548.434, sz104_lya2_etc_scaled_pAV0.50_sed.fits* *ETC BOP calculation* *COS.sp.1680652, c1589, BOP, buffer=12998s,sz104_lya2_x4.00_etc_sed.fits* *sz104_lya2_etc_scaled_pAV0.50.txt; cos,fuv,g160m,c1589,psa,mjd#59670; fp-pos=None, segment=None)* *Input file: lowmass_survey_Input-gaia.csv* *Spectral type: M5 ; A_V: 0.0 ; Distance (pc): 200* *M*: 0.16 ; log(dm/dt): -9.75* *For exptime=3818.9 s, spectral region:* *1549.0 +- 1.0 A achieves SNR=20.0 / 6-pix-resel for combined c1589 & c1623* *The exptime for this c1589 exposure has been halved because c1589 & c1623 target the same line.* *A factor of 2.0 has been applied to the exptime in each exposure.* *global countrate (brightest segment): 68.3 cts/s/segment* *brightest pixel: 0.002 cts/s/pix at 1446.2 A* *Calculation performed 2021-10-21T02:39:15, v0.23*								
3	G160M/1589-3 (COS.sp.1681362)	(2) SZ104	COS/FUV, TIME-TAG, PSA	G160M 1589 A	BUFFER-TIME=1095; FP-POS=3			1205 Secs (1205 Secs) *[==>]*	*[2]*
	Comments: ETC S/N calculation *COS.sp.1681362, c1589, 14517s (summed c1589+c1623), SNR=27.3@1548.434, sz104_lya2_etc_scaled_pAV0.50_sed.fits* *ETC BOP calculation* *COS.sp.1680652, c1589, BOP, buffer=12998s,sz104_lya2_x4.00_etc_sed.fits* *sz104_lya2_etc_scaled_pAV0.50.txt; cos,fuv,g160m,c1589,psa,mjd#59670; fp-pos=None, segment=None)* *Input file: lowmass_survey_Input-gaia.csv* *Spectral type: M5 ; A_V: 0.0 ; Distance (pc): 200* *M*: 0.16 ; log(dm/dt): -9.75* *For exptime=3818.9 s, spectral region:* *1549.0 +- 1.0 A achieves SNR=20.0 / 6-pix-resel for combined c1589 & c1623* *The exptime for this c1589 exposure has been halved because c1589 & c1623 target the same line.* *A factor of 2.0 has been applied to the exptime in each exposure.* *global countrate (brightest segment): 68.3 cts/s/segment* *brightest pixel: 0.002 cts/s/pix at 1446.2 A* *Calculation performed 2021-10-21T02:39:15, v0.23*								

	4	G160M/158 9-4 (COS.sp.1681362)	(2) SZ104 (COS.sp.1680652)	COS/FUV, TIME-TAG, PSA	G160M 1589 A	BUFFER-TIME=1051; FP-POS=4	1161 Secs (1161 Secs) *[==>]*	***[2]***

Comments: ETC S/N calculation
COS.sp.1681362, c1589, 14517s (summed c1589+c1623), SNR=27.3@1548.434, sz104_lya2_etc_scaled_pAV0.50_sed.fits
ETC BOP calculation
COS.sp.1680652, c1589, BOP, buffer=12998s,sz104_lya2_x4.00_etc_sed.fits

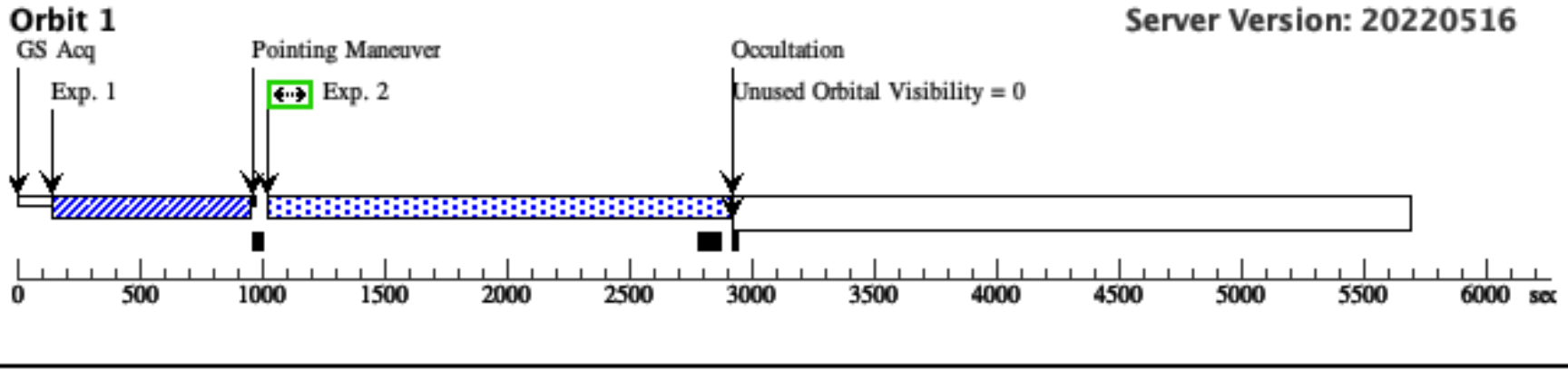
sz104_lya2_etc_scaled_pAV0.50.txt; cos,fuv,g160m,c1589,psa,mjd#59670; fp-pos=None, segment=None)
Input file: lowmass_survey_Input-gaia.csv
Spectral type: M5 ; A_V: 0.0 ; Distance (pc): 200
M: 0.16 ; log(dm/dt): -9.75*
For exptime=3818.9 s, spectral region:
1549.0 +- 1.0 A achieves SNR=20.0 / 6-pix-resel for combined c1589 & c1623
The exptime for this c1589 exposure has been halved because c1589 & c1623 target the same line.
A factor of 2.0 has been applied to the exptime in each exposure.
global countrate (brightest segment): 68.3 cts/s/segment
brightest pixel: 0.002 cts/s/pix at 1446.2 A
Calculation performed 2021-10-21T02:39:15, v0.23

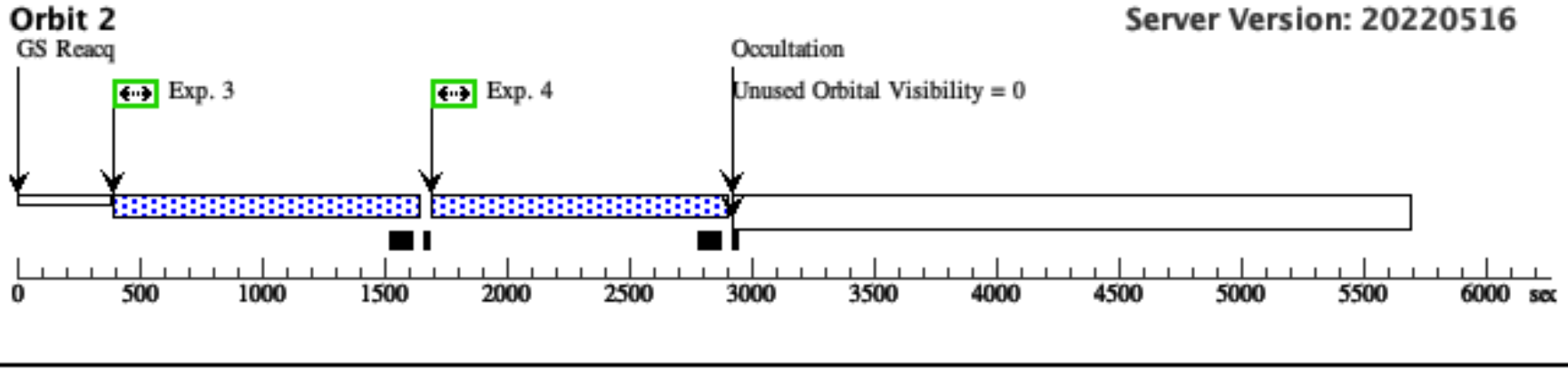
	5	G160M/158 9-4 (COS.sp.1681362)	(2) SZ104 (COS.sp.1680652)	COS/FUV, TIME-TAG, PSA	G160M 1589 A	BUFFER-TIME=2361; FP-POS=4	2471 Secs (2471 Secs) *[==>]*	***[3]***

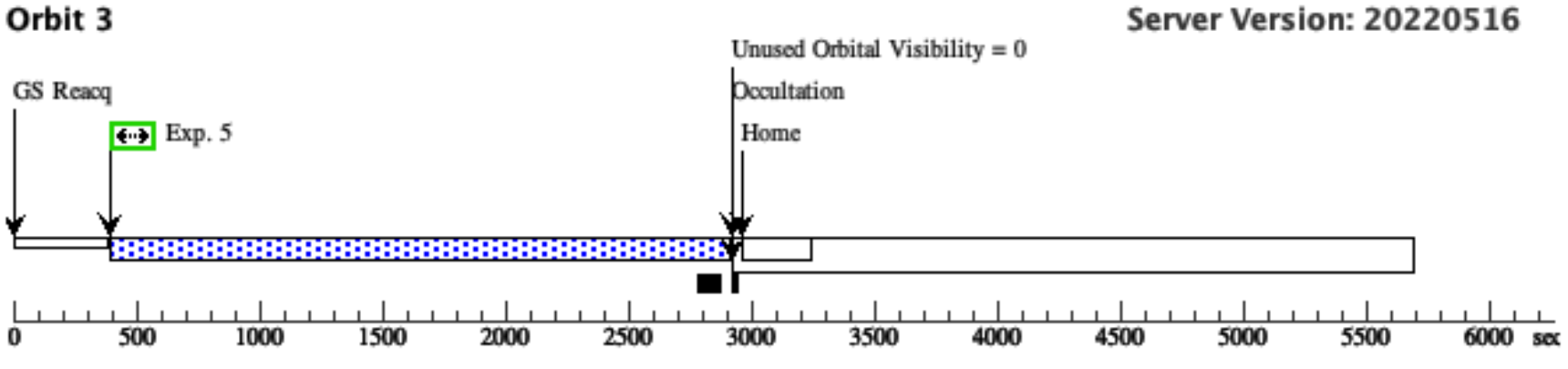
Comments: ETC S/N calculation
COS.sp.1681362, c1589, 14517s (summed c1589+c1623), SNR=27.3@1548.434, sz104_lya2_etc_scaled_pAV0.50_sed.fits
ETC BOP calculation
COS.sp.1680652, c1589, BOP, buffer=12998s,sz104_lya2_x4.00_etc_sed.fits

sz104_lya2_etc_scaled_pAV0.50.txt; cos,fuv,g160m,c1589,psa,mjd#59670; fp-pos=None, segment=None)
Input file: lowmass_survey_Input-gaia.csv
Spectral type: M5 ; A_V: 0.0 ; Distance (pc): 200
M: 0.16 ; log(dm/dt): -9.75*
For exptime=3818.9 s, spectral region:
1549.0 +- 1.0 A achieves SNR=20.0 / 6-pix-resel for combined c1589 & c1623
The exptime for this c1589 exposure has been halved because c1589 & c1623 target the same line.
A factor of 2.0 has been applied to the exptime in each exposure.
global countrate (brightest segment): 68.3 cts/s/segment
brightest pixel: 0.002 cts/s/pix at 1446.2 A
Calculation performed 2021-10-21T02:39:15, v0.23

Orbit Structure







Visit

Proposal 16858, SZ104-COS (2E), completed Thu Jun 30 20:02:12 GMT 2022

Diagnostic Status: Warning

Scientific Instruments: COS/FUV, COS/NUV

Special Requirements: SCHED 100%; BETWEEN 26-MAR-2022 AND 29-JUL-2022

Comments: vstatus; 2E; SZ104; P/COS approved for submission; P/CP 22/12/21 ; intrev: complete ; P/RP 22/01/22
vcheck; Enter targ name & Inst. & Resp. Sci.; SZ104 ; COS ; CRP
vcheck; ETC numbers entered in APT?; Yes
vcheck; Any screening violations?; No
vcheck; M-dwarf check complete and added to box folder?; Yes
vcheck; S/N ETC calcs done & documented?; Yes
vcheck; Field images checked & saved?; yes, see cos-gsc2-image-both-targets.png in box folder
vcheck; Selected ACQ strategy?; ACQ/IMAGE PSA, MIRRORB
vcheck; Possible ACQ or Sci spoilers?; none
vcheck; Field BOT clear?; Yes, unknowns flagged refer to either the target itself or image artifacts.
vcheck; Visual BOT check for stars not in catalog?; done ...
see summary of flare screening in observation description, also files sz100_104_flare_calc_inputs.csv and sz100_104_flare_calc_results.xls
vcheck; Orbit packing finalized?; yes
vcheck; Buffer times optimized?; yes
vcheck; Verify visit grouping correct; yes
vcheck; phase constraint for ground based observations added?; -------
vcheck; BETWEENS for coordinated observations added?; done
vcheck; Is visit ready for int. review?; yes
Allocated COS orbits = 10

Diagnostics

(SZ104-COS (2E)) Warning (Form): For the best data quality, it is generally required to use all four FP-POS positions when observing at a given COS cenwave. See the COS Instrument Handbook for exceptions that may apply to observations with G130M/1291 or G160M.

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(2)	SZ104	RA: 16 08 30.8019 (242.1283412d)	Proper Motion RA: -8.931 mas/yr	V=16.1	Reference Frame: ICRS
	Alt Name1: THA-15-30	Dec: -39 05 49.23 (-39.09701d)	Proper Motion Dec: -24.411 mas/yr	SpT=M5; A_V=0.00; V=16.8; R=13.96; I=13.57; G=15.102; Bp-Rp=3.28; J=11.66	
		Equinox: J2000	Parallax: 0.0062574"		
			Epoch of Position: 2016		

Comments: SIMBAD listed V mag of 15.25 was apparently based on an older catalog (the reference SIMBAD cites took B & V photometric values from the NOMAD catalog, which in turn had taken V from the unpublished USNO YB6 catalog, so its not practical to assess quality). We instead interpolate V=16.8 based on Gaia EDR3 photometry of G = 15.102 and Bp-Rp = +3.28. Note that Satori et al 2003, found V=16.91, and V-Ic=3.3, which is more consistent with the fainter V magnitude estimated from Gaia. The observed Bp-Rp color is also consistent with a minimally reddened M5V star.

SZ104
Region: Lupus III
Simbad: http://simbad.u-strasbg.fr/simbad/sim-id?Ident=sz104&submit=submit+id
Target coordinates are from Gaia EDR3.
Spectral type: M5 ; A_V: 0.0 ; Distance (pc): 200
M: 0.16 ; log(dm/dt): -9.75*
Input file: lowmass_survey_Input-gaia.csv
sz104_lya2_etc_scaled_pAV0.50.txt
Calculation performed 2021-10-21T02:39:20, v0.8
---
tstatus; SZ104; P/COS approved for submission; S/STIS approved for submission; P/CRP 21/12/21; S/CRP 21/12/21
tcheck; APT/SIMBAD target names: ; SIMBAD default name is THA 15-30.
tcheck; Target info verification status?; Done
tcheck; Coordinates & P.M. verified, epoch checked?; Done and upgraded to Gaia EDR3
tcheck; Adopted SEDs compared to Observations?; yes see sz104_lya2_etc_scaled_pAV0.50_vs_photo.png & sz104_stellar_sed_vs_photo.png ...
SIMBAD listed V mag of 15.25 was apparently based on an older catalog (the reference SIMBAD cites took B & V photometric values from the NOMAD catalog, which in turn had taken V from the unpublished USNO YB6 catalog, so its not practical to assess quality). We instead interpolate V=16.8 based on Gaia EDR3 photometry of G = 15.102 and Bp-Rp = +3.28. Note that Satori et al 2003, found V=16.91, and V-Ic=3.3, which is more consistent with the fainter V magnitude estimated from Gaia. The observed Bp-Rp color is also consistent with a minimally reddened M5V star.
Category=STAR
Description=[T TAURI STAR, PRE-MAIN SEQUENCE STAR]
Extended=NO

Exposures

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	ACQ/Image (COS.ta.1680520)	(2) SZ104	COS/NUV, ACQ/IMAGE, PSA	MIRRORB				250 Secs (250 Secs) *[==>]*	***[1]***

Comments: S/N calculation
COS.ta.1680520, PSA MIRRORB, S/N=20 in 125s, so double to 250s, sz104_lya2_etc_scaled_pAV0.50_sed.fits
BOP check
COS.ta.1680521, BOP check with sz104_lya2_x4.00_etc_sed.fits is safe (BP=4.9c/p/s; global = 1302 c/s)

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
2	G160M/1623-1 (COS.sp.1681363)	(2) SZ104	COS/FUV, TIME-TAG, PSA	G160M 1623 A	BUFFER-TIME=1559; FP-POS=1			1669 Secs (1669 Secs) *[==>]*	***[1]***

Comments: ETC S/N calculations
COS.sp.1681363, c1623, 14517s (summed c1589+c1623), SNR=26.7@1548.434, sz104_lya2_etc_scaled_pAV0.50_sed.fits

ETC BOP calculations
COS.sp.1680653, c1623, BOP, buffer=13523s, sz104_lya2_x4.00_etc_sed.fits

sz104_lya2_etc_scaled_pAV0.50.txt; cos,fuv,g160m,c1623,psa,mjd#59670; fp-pos=None, segment=None)
Input file: lowmass_survey_Input-gaia.csv
Spectral type: M5 ; A_V: 0.0 ; Distance (pc): 200
M: 0.16 ; log(dm/dt): -9.75*
For exptime=3908.4 s, spectral region:
1549.0 +- 1.0 A achieves SNR=20.0 / 6-pix-resel for combined c1589 & c1623
The exptime for this c1623 exposure has been halved because c1589 & c1623 target the same line.
A factor of 2.0 has been applied to the exptime in each exposure.
global countrate (brightest segment): 67.2 cts/s/segment
brightest pixel: 0.001 cts/s/pix at 1446.2 A
Calculation performed 2021-10-21T02:39:17, v0.23

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
3	G160M/1623-1 (COS.sp.1681363)	(2) SZ104	COS/FUV, TIME-TAG, PSA	G160M 1623 A	BUFFER-TIME=1100; FP-POS=1			1210 Secs (1210 Secs) *[==>]*	***[2]***

Comments: ETC S/N calculations
COS.sp.1681363, c1623, 14517s (summed c1589+c1623), SNR=26.7@1548.434, sz104_lya2_etc_scaled_pAV0.50_sed.fits

ETC BOP calculations
COS.sp.1680653, c1623, BOP, buffer=13523s, sz104_lya2_x4.00_etc_sed.fits

sz104_lya2_etc_scaled_pAV0.50.txt; cos,fuv,g160m,c1623,psa,mjd#59670; fp-pos=None, segment=None)
Input file: lowmass_survey_Input-gaia.csv
Spectral type: M5 ; A_V: 0.0 ; Distance (pc): 200
M: 0.16 ; log(dm/dt): -9.75*
For exptime=3908.4 s, spectral region:
1549.0 +- 1.0 A achieves SNR=20.0 / 6-pix-resel for combined c1589 & c1623
The exptime for this c1623 exposure has been halved because c1589 & c1623 target the same line.
A factor of 2.0 has been applied to the exptime in each exposure.
global countrate (brightest segment): 67.2 cts/s/segment
brightest pixel: 0.001 cts/s/pix at 1446.2 A
Calculation performed 2021-10-21T02:39:17, v0.23

4	G160M/162 (2) SZ104 3-2 (COS.sp.168 1363)	COS/FUV, TIME-TAG, PSA	G160M 1623 A	BUFFER-TIME=1046; FP-POS=2	1156 Secs (1156 Secs) *[==>]*	***[2]***

Comments: ETC S/N calculations
COS.sp.1681363, c1623, 14517s (summed c1589+c1623), SNR=26.7@1548.434, sz104_lya2_etc_scaled_pAV0.50_sed.fits

ETC BOP calculations
COS.sp.1680653, c1623, BOP, buffer=13523s, sz104_lya2_x4.00_etc_sed.fits

sz104_lya2_etc_scaled_pAV0.50.txt; cos,fuv,g160m,c1623,psa,mjd#59670; fp-pos=None, segment=None)
Input file: lowmass_survey_Input-gaia.csv
Spectral type: M5 ; A_V: 0.0 ; Distance (pc): 200
M: 0.16 ; log(dm/dt): -9.75*
For exptime=3908.4 s, spectral region:
1549.0 +- 1.0 A achieves SNR=20.0 / 6-pix-resel for combined c1589 & c1623
The exptime for this c1623 exposure has been halved because c1589 & c1623 target the same line.
A factor of 2.0 has been applied to the exptime in each exposure.
global countrate (brightest segment): 67.2 cts/s/segment
brightest pixel: 0.001 cts/s/pix at 1446.2 A
Calculation performed 2021-10-21T02:39:17, v0.23

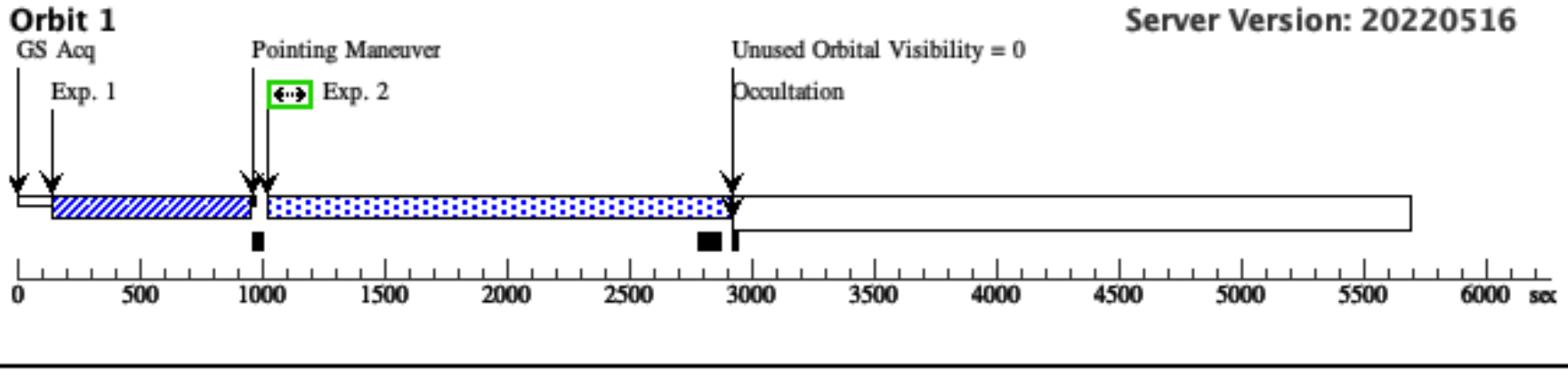
5	G160M/162 (2) SZ104 3-2 (COS.sp.168 1363)	COS/FUV, TIME-TAG, PSA	G160M 1623 A	BUFFER-TIME=2361; FP-POS=2	2471 Secs (2471 Secs) *[==>]*	***[3]***

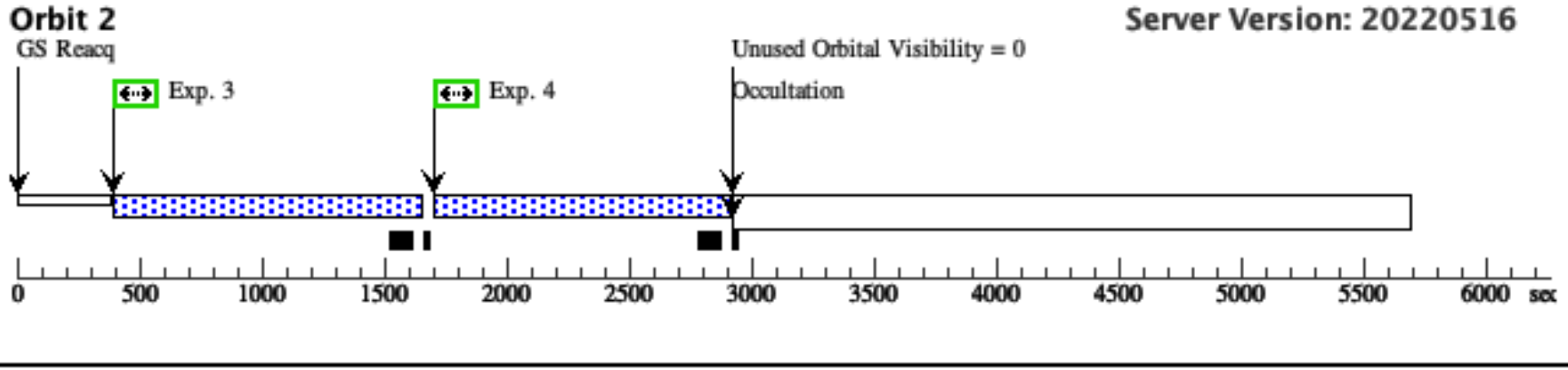
Comments: ETC S/N calculations
COS.sp.1681363, c1623, 14517s (summed c1589+c1623), SNR=26.7@1548.434, sz104_lya2_etc_scaled_pAV0.50_sed.fits

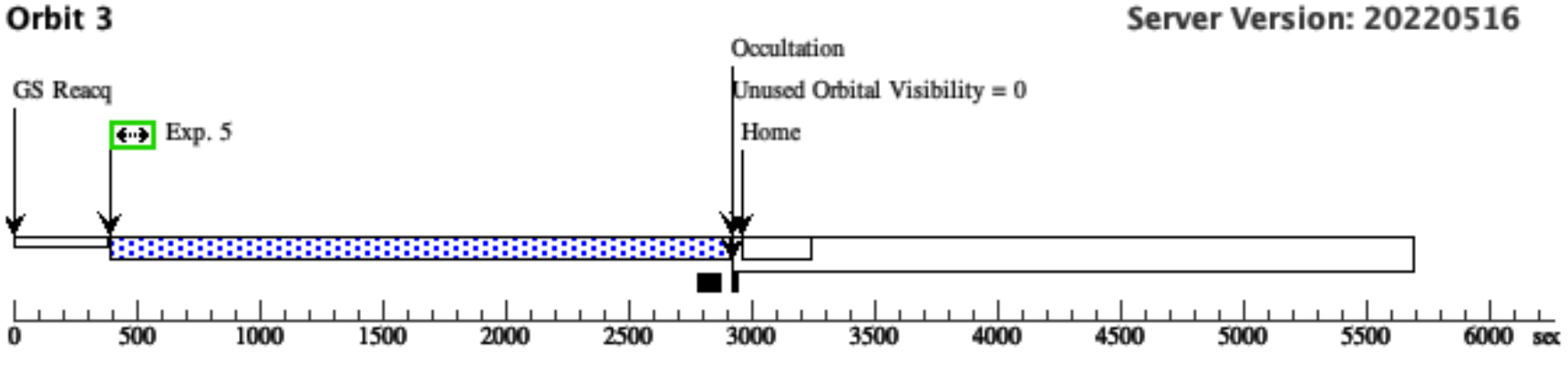
ETC BOP calculations
COS.sp.1680653, c1623, BOP, buffer=13523s, sz104_lya2_x4.00_etc_sed.fits

sz104_lya2_etc_scaled_pAV0.50.txt; cos,fuv,g160m,c1623,psa,mjd#59670; fp-pos=None, segment=None)
Input file: lowmass_survey_Input-gaia.csv
Spectral type: M5 ; A_V: 0.0 ; Distance (pc): 200
M: 0.16 ; log(dm/dt): -9.75*
For exptime=3908.4 s, spectral region:
1549.0 +- 1.0 A achieves SNR=20.0 / 6-pix-resel for combined c1589 & c1623
The exptime for this c1623 exposure has been halved because c1589 & c1623 target the same line.
A factor of 2.0 has been applied to the exptime in each exposure.
global countrate (brightest segment): 67.2 cts/s/segment
brightest pixel: 0.001 cts/s/pix at 1446.2 A
Calculation performed 2021-10-21T02:39:17, v0.23

Orbit Structure







Visit

Proposal 16858, SZ104-COS (2F), completed Thu Jun 30 20:02:12 GMT 2022

Diagnostic Status: Warning

Scientific Instruments: COS/FUV, COS/NUV

Special Requirements: SCHED 100%; BETWEEN 26-MAR-2022 AND 29-JUL-2022

Comments: vstatus; 2F; SZ104; P/COS approved for submission; P/CP 22/12/21 ; intrev: complete ; P/RP 22/01/22
vcheck; Enter targ name & Inst. & Resp. Sci.; SZ104 ; COS ; CRP
vcheck; ETC numbers entered in APT?; Yes
vcheck; Any screening violations?; No
vcheck; M-dwarf check complete and added to box folder?; Yes
vcheck; S/N ETC calcs done & documented?; Yes
vcheck; Field images checked & saved?; yes, see cos-gsc2-image-both-targets.png in box folder
vcheck; Selected ACQ strategy?; ACQ/IMAGE PSA, MIRRORB
vcheck; Possible ACQ or Sci spoilers?; none
vcheck; Field BOT clear?; Yes, unknowns flagged refer to either the target itself or image artifacts.
vcheck; Visual BOT check for stars not in catalog?; done ...
see summary of flare screening in observation description, also files sz100_104_flare_calc_inputs.csv and sz100_104_flare_calc_results.xls
vcheck; Orbit packing finalized?; yes
vcheck; Buffer times optimized?; yes
vcheck; Verify visit grouping correct; yes
vcheck; phase constraint for ground based observations added?; -------
vcheck; BETWEENS for coordinated observations added?; done
vcheck; Is visit ready for int. review?; yes
Allocated COS orbits = 10

Diagnostics

(SZ104-COS (2F)) Warning (Form): For the best data quality, it is generally required to use all four FP-POS positions when observing at a given COS cenwave. See the COS Instrument Handbook for exceptions that may apply to observations with G130M/1291 or G160M.

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(2)	SZ104	RA: 16 08 30.8019 (242.1283412d)	Proper Motion RA: -8.931 mas/yr	V=16.1	Reference Frame: ICRS
	Alt Name1: THA-15-30	Dec: -39 05 49.23 (-39.09701d)	Proper Motion Dec: -24.411 mas/yr	SpT=M5; A_V=0.00; V=16.8; R=13.96; I=13.57; G=15.102; Bp-Rp=3.28; J=11.66	
		Equinox: J2000	Parallax: 0.0062574"		
			Epoch of Position: 2016		

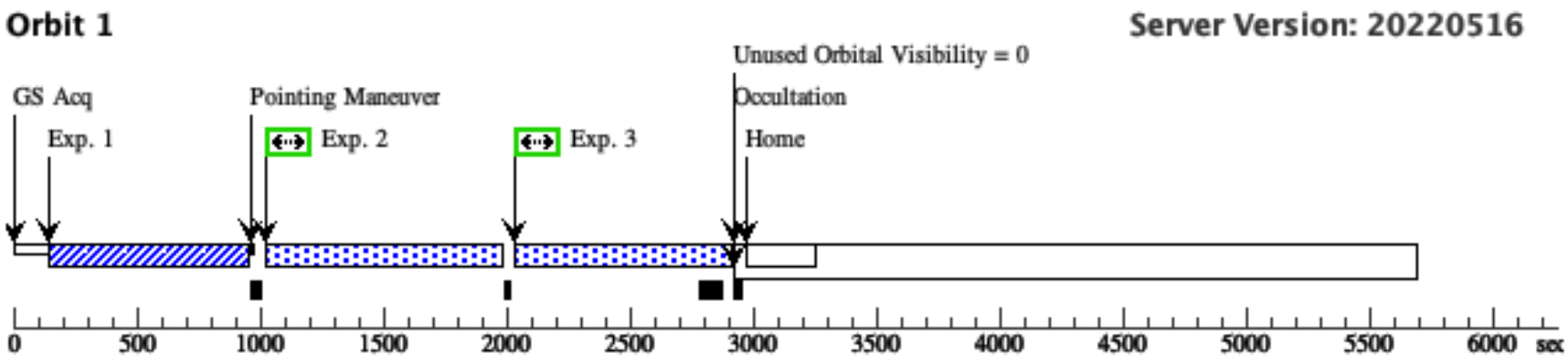
Comments: SIMBAD listed V mag of 15.25 was apparently based on an older catalog (the reference SIMBAD cites took B & V photometric values from the NOMAD catalog, which in turn had taken V from the unpublished USNO YB6 catalog, so its not practical to assess quality). We instead interpolate V=16.8 based on Gaia EDR3 photometry of G = 15.102 and Bp-Rp = +3.28. Note that Satori et al 2003, found V=16.91, and V-Ic=3.3, which is more consistent with the fainter V magnitude estimated from Gaia. The observed Bp-Rp color is also consistent with a minimally reddened M5V star.

SZ104
Region: Lupus III
Simbad: http://simbad.u-strasbg.fr/simbad/sim-id?Ident=sz104&submit=submit+id
Target coordinates are from Gaia EDR3.
Spectral type: M5 ; A_V: 0.0 ; Distance (pc): 200
M: 0.16 ; log(dm/dt): -9.75*
Input file: lowmass_survey_Input-gaia.csv
sz104_lya2_etc_scaled_pAV0.50.txt
Calculation performed 2021-10-21T02:39:20, v0.8
---
tstatus; SZ104; P/COS approved for submission; S/STIS approved for submission; P/CRP 21/12/21; S/CRP 21/12/21
tcheck; APT/SIMBAD target names: ; SIMBAD default name is THA 15-30.
tcheck; Target info verification status?; Done
tcheck; Coordinates & P.M. verified, epoch checked?; Done and upgraded to Gaia EDR3
tcheck; Adopted SEDs compared to Observations?; yes see sz104_lya2_etc_scaled_pAV0.50_vs_photo.png & sz104_stellar_sed_vs_photo.png ...
SIMBAD listed V mag of 15.25 was apparently based on an older catalog (the reference SIMBAD cites took B & V photometric values from the NOMAD catalog, which in turn had taken V from the unpublished USNO YB6 catalog, so its not practical to assess quality). We instead interpolate V=16.8 based on Gaia EDR3 photometry of G = 15.102 and Bp-Rp = +3.28. Note that Satori et al 2003, found V=16.91, and V-Ic=3.3, which is more consistent with the fainter V magnitude estimated from Gaia. The observed Bp-Rp color is also consistent with a minimally reddened M5V star.
Category=STAR
Description=[T TAURI STAR, PRE-MAIN SEQUENCE STAR]
Extended=NO

Exposures

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	ACQ/Image (COS.ta.1680520)	(2) SZ104	COS/NUV, ACQ/IMAGE, PSA	MIRRORB				250 Secs (250 Secs) *[==>]*	***[1]***
	Comments: S/N calculation *COS.ta.1680520, PSA MIRRORB, S/N=20 in 125s, so double to 250s, sz104_lya2_etc_scaled_pAV0.50_sed.fits* *BOP check* *COS.ta.1680521, BOP check with sz104_lya2_x4.00_etc_sed.fits is safe (BP=4.9c/p/s; global = 1302 c/s)*								
2	G160M/1589-3 (COS.sp.1681362)	(2) SZ104	COS/FUV, TIME-TAG, PSA	G160M 1589 A	BUFFER-TIME=8861; FP-POS=3			748 Secs (748 Secs) *[==>]*	***[1]***
	Comments: ETC S/N calculation *COS.sp.1681362, c1589, 14517s (summed c1589+c1623), SNR=27.3@1548.434, sz104_lya2_etc_scaled_pAV0.50_sed.fits* *ETC BOP calculation* *COS.sp.1680652, c1589, BOP, buffer=12998s,sz104_lya2_x4.00_etc_sed.fits* *sz104_lya2_etc_scaled_pAV0.50.txt; cos,fuv,g160m,c1623,psa,mjd#59670; fp-pos=None, segment=None)* *Input file: lowmass_survey_Input-gaia.csv* *Spectral type: M5 ; A_V: 0.0 ; Distance (pc): 200* *M*: 0.16 ; log(dm/dt): -9.75* *For exptime=3908.4 s, spectral region:* *1549.0 +- 1.0 A achieves SNR=20.0 / 6-pix-resel for combined c1589 & c1623* *The exptime for this c1623 exposure has been halved because c1589 & c1623 target the same line.* *A factor of 2.0 has been applied to the exptime in each exposure.* *global countrate (brightest segment): 67.2 cts/s/segment* *brightest pixel: 0.001 cts/s/pix at 1446.2 A* *Calculation performed 2021-10-21T02:39:17, v0.23*								
3	G160M/1623-1 (COS.sp.1681363)	(2) SZ104	COS/FUV, TIME-TAG, PSA	G160M 1623 A	BUFFER-TIME=637; FP-POS=1			747 Secs (747 Secs) *[==>]*	***[1]***
	Comments: ETC S/N calculations *COS.sp.1681363, c1632, 14517s (summed c1589+c1623), SNR=26.7@1548.434, sz104_lya2_etc_scaled_pAV0.50_sed.fits* *ETC BOP calculations* *COS.sp.1680653, c1623, BOP, buffer=13523s, sz104_lya2_x4.00_etc_sed.fits* *sz104_lya2_etc_scaled_pAV0.50.txt; cos,fuv,g160m,c1623,psa,mjd#59670; fp-pos=None, segment=None)* *Input file: lowmass_survey_Input-gaia.csv* *Spectral type: M5 ; A_V: 0.0 ; Distance (pc): 200* *M*: 0.16 ; log(dm/dt): -9.75* *For exptime=3908.4 s, spectral region:* *1549.0 +- 1.0 A achieves SNR=20.0 / 6-pix-resel for combined c1589 & c1623* *The exptime for this c1623 exposure has been halved because c1589 & c1623 target the same line.* *A factor of 2.0 has been applied to the exptime in each exposure.* *global countrate (brightest segment): 67.2 cts/s/segment* *brightest pixel: 0.001 cts/s/pix at 1446.2 A* *Calculation performed 2021-10-21T02:39:17, v0.23*								

Orbit Structure



Visit

Proposal 16858, SZ104-STIS (2S), completed Thu Jun 30 20:02:12 GMT 2022

Diagnostic Status: No Diagnostics

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

Special Requirements: SCHED 100%; BETWEEN 26-MAR-2022 AND 29-JUL-2022; GROUP 2S,2C,2D,2E,2F WITHIN 2D

Comments: vstatus; 2S; SZ104; S/STIS approved for submission; P/CP 22/12/21 ; intrev: complete ; P/RP 22/01/22
vcheck; Enter targ name & Inst. & Resp. Sci.; SZ104 ; STIS ; CRP
vcheck; ETC numbers entered in APT?; Yes
vcheck; Any screening violations?; No
vcheck; M-dwarf check complete and added to box folder?; Yes
vcheck; S/N ETC calcs done & documented?; Yes
vcheck; Field images checked & saved?; yes, see stis-gsc2-image-both-targets.png in box folder
vcheck; Selected ACQ strategy?; ACQ/IMAGE PSA, MIRRORB
vcheck; Possible ACQ or Sci spoilers?; none
vcheck; Field BOT clear?; Yes, unknowns flagged refer to either the target itself or image artifacts.
vcheck; Visual BOT check for stars not in catalog?; done ...
see summary of flare screening in observation description, also files sz100_104_flare_calc_inputs.csv and sz100_104_flare_calc_results.xls
vcheck; Orbit packing finalized?; yes
vcheck; Buffer times optimized?; yes
vcheck; Verify visit grouping correct; yes
vcheck; phase constraint for ground based observations added?; -------
vcheck; BETWEENS for coordinated observations added?; done
vcheck; Is visit ready for int. review?; yes
Allocated STIS orbits = 2 (constrained in input CSV)

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(2)	SZ104	RA: 16 08 30.8019 (242.1283412d)	Proper Motion RA: -8.931 mas/yr	V=16.1	Reference Frame: ICRS
	Alt Name1: THA-15-30	Dec: -39 05 49.23 (-39.09701d)	Proper Motion Dec: -24.411 mas/yr	SpT=M5; A_V=0.00; V=16.8; R=13.96; I=13.57; G=15.102; Bp-Rp=3.28; J=11.66	
		Equinox: J2000	Parallax: 0.0062574"		
			Epoch of Position: 2016		

Comments: SIMBAD listed V mag of 15.25 was apparently based on an older catalog (the reference SIMBAD cites took B & V photometric values from the NOMAD catalog, which in turn had taken V from the unpublished USNO YB6 catalog, so its not practical to assess quality). We instead interpolate V=16.8 based on Gaia EDR3 photometry of G = 15.102 and Bp-Rp = +3.28. Note that Satori et al 2003, found V=16.91, and V-Ic=3.3, which is more consistent with the fainter V magnitude estimated from Gaia. The observed Bp-Rp color is also consistent with a minimally reddened M5V star.

SZ104
Region: Lupus III
Simbad: http://simbad.u-strasbg.fr/simbad/sim-id?Ident=sz104&submit=submit+id
Target coordinates are from Gaia EDR3.
Spectral type: M5 ; A_V: 0.0 ; Distance (pc): 200
M: 0.16 ; log(dm/dt): -9.75*
Input file: lowmass_survey_Input-gaia.csv
sz104_lya2_etc_scaled_pAV0.50.txt
Calculation performed 2021-10-21T02:39:20, v0.8
---
tstatus; SZ104; P/COS approved for submission; S/STIS approved for submission; P/CRP 21/12/21; S/CRP 21/12/21
tcheck; APT/SIMBAD target names: ; SIMBAD default name is THA 15-30.
tcheck; Target info verification status?; Done
tcheck; Coordinates & P.M. verified, epoch checked?; Done and upgraded to Gaia EDR3
tcheck; Adopted SEDs compared to Observations?; yes see sz104_lya2_etc_scaled_pAV0.50_vs_photo.png & sz104_stellar_sed_vs_photo.png ...
SIMBAD listed V mag of 15.25 was apparently based on an older catalog (the reference SIMBAD cites took B & V photometric values from the NOMAD catalog, which in turn had taken V from the unpublished USNO YB6 catalog, so its not practical to assess quality). We instead interpolate V=16.8 based on Gaia EDR3 photometry of G = 15.102 and Bp-Rp = +3.28. Note that Satori et al 2003, found V=16.91, and V-Ic=3.3, which is more consistent with the fainter V magnitude estimated from Gaia. The observed Bp-Rp color is also consistent with a minimally reddened M5V star.
Category=STAR
Description=[T TAURI STAR, PRE-MAIN SEQUENCE STAR]
Extended=NO

Exposures

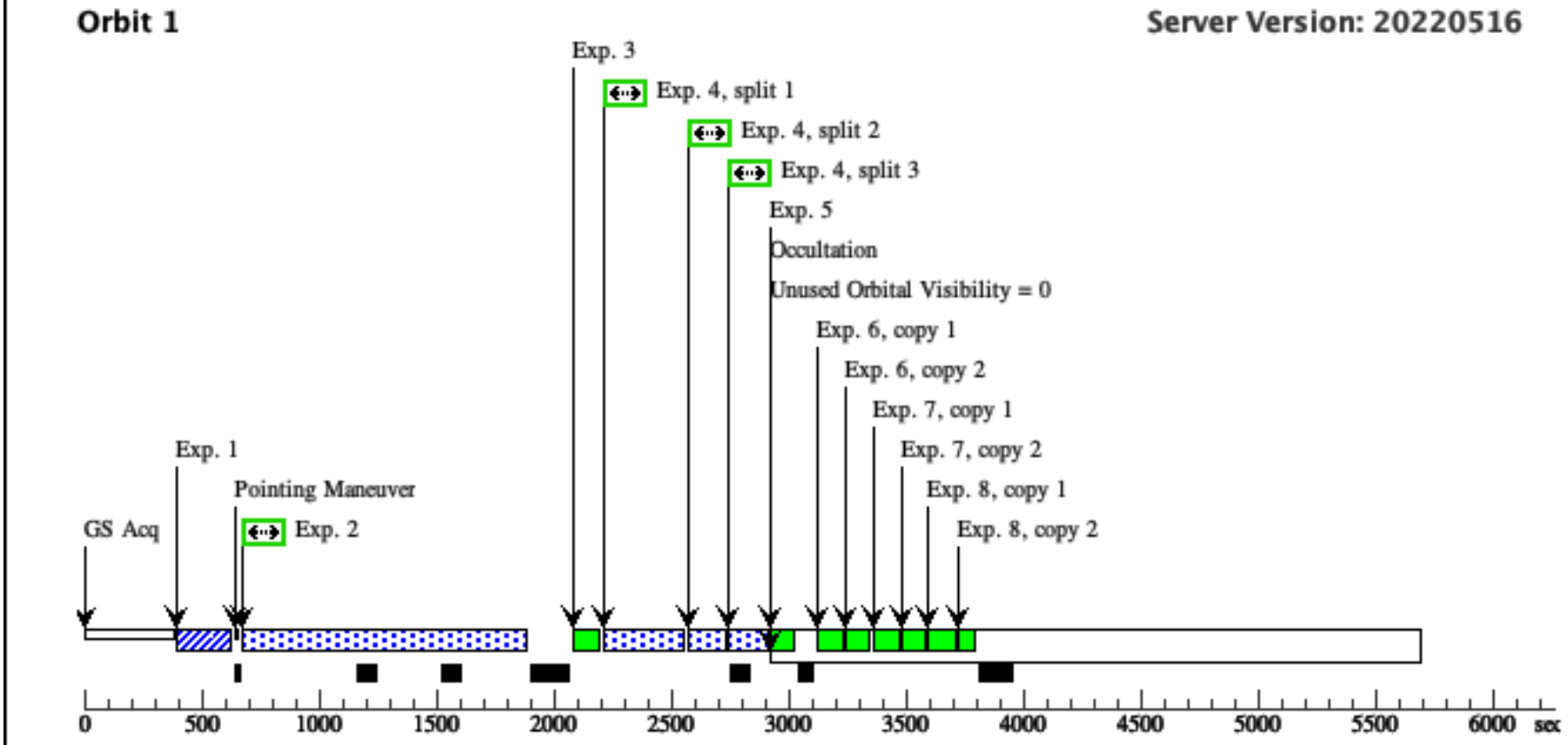
#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	ACQ (STIS.ta.1686330)	(2) SZ104	STIS/CCD, ACQ, F28X50LP	MIRROR				1.5 Secs (1.5 Secs) *[==>]*	*[1]*
	Comments: S/N STIS.ta.1686330 gives SNR = 104.5 in 1.5 s with SZ-104_M5_scaled_pAV0.50_sed.fits *saturation: STIS.ta.1681351 in 2.51s with sz104_lya2_x4.00_etc_sed.fits.*								
2	G230L/2376 (STIS.sp.1680725)	(2) SZ104	STIS/NUV-MAMA, TIME-TAG, 52X2	G230L 2376 A	WAVECAL=NO; BUFFER-TIME=352			1058 Secs (1058 Secs) *[==>]*	*[1]*
	Comments: ETC calculation for S/N estimate *STIS.sp.1680725, G230L, 1056s, SNR=37 @ 2976.8A,sz104_lya2_etc_scaled_pAV0.50_sed.fits* *ETC calculation to check BOP safety in bright limit* *STIS.sp.1680726, G230L, BOP, buffer=770s, global=2324c/s, local=2.7c/p/s* *sz104_lya2_etc_scaled_pAV0.50.txt; stis,nuvmama,g230l,c2376,52x2,mjd#59670* *Input file: lowmass_survey_Input-gaia.csv* *Spectral type: M5 ; A_V: 0.0 ; Distance (pc): 200* *M*: 0.16 ; log(dm/dt): -9.75* *For exptime=299.9 s, spectral region:* *2800.0 +- 15.0 A achieves SNR=20.0 / 2-pix-resel* *A factor of 2.0 has been applied to the exptime in each exposure.* *global countrate (brightest segment): 2339.7 cts/s/segment* *brightest pixel: 0.281 cts/s/pix at 2796.8 A* *Calculation performed 2021-10-21T02:39:19, v0.23*								
3	G230L/2376 WAVECAL	WAVE	STIS/NUV-MAMA, ACCUM, 52X0.1	G230L 2376 A				*[==>]*	*[1]*
4	G750L/7751 (STIS.sp.1680716)	(2) SZ104	STIS/CCD, ACCUM, 52X2	G750L 7751 A	WAVECAL=NO; CR-SPLIT=3; GAIN=4			399 Secs (399 Secs) *[==>(Split 1)]* *[==>(Split 2)]* *[==>(Split 3)]*	*[1]*
	Comments: ETC calc for S/N, M star photosphere *STIS.sp.1680716, G750L, gain=4, crsplit3, 399s, S/N=31@5700A, SZ-104_M5_scaled_pAV0.50_sed.fits* *ETC calc for saturation, gain=4, bright limit for accretion emission* *STIS.sp.1680722, saturate in 215s per CRSPLIT with sz104_lya2_x4.00_etc_sed.fit* *STIS.sp.1681373, G750L, Sat in 366s/expo with gain=4, sz104_lya2_x4.00_etc_scaled_pAV0.50_sed.fits* *ETC calc for saturation, gain=1, bright limit for accretion emission* *STIS.sp.1680721, saturate in 58s, with sz104_lya2_x4.00_etc_sed.fit* *sz104_lya2_etc_scaled_pAV0.50.txt; stis,ccd,g750l,c7751,52x2,mjd#59670* *WARNING: operating mode = ACCUM* *Input file: lowmass_survey_Input-gaia.csv* *Spectral type: M5 ; A_V: 0.0 ; Distance (pc): 200* *M*: 0.16 ; log(dm/dt): -9.75* *For exptime=10.8 s, n_reads=2, spectral region:* *5700.0 +- 5.0 A achieves SNR=20.0 / 2-pix-resel* *A factor of 2.0 has been applied to the exptime in each exposure.* *global countrate (brightest segment): 59252.9 cts/s/segment* *brightest pixel: 82.166 cts/s/pix at 6563.9 A* *Calculation performed 2021-10-21T02:39:20, v0.23*								
5	G750L/7751 WAVECAL	WAVE	STIS/CCD, ACCUM, 52X0.1	G750L 7751 A				*[==>]*	*[1]*
6	G750L/7751 CCDFLAT 1	CCDFLAT	STIS/CCD, ACCUM, 0.3X0.09	G750L 7751 A				*[==>(Copy 1)]* *[==>(Copy 2)]*	*[1]*

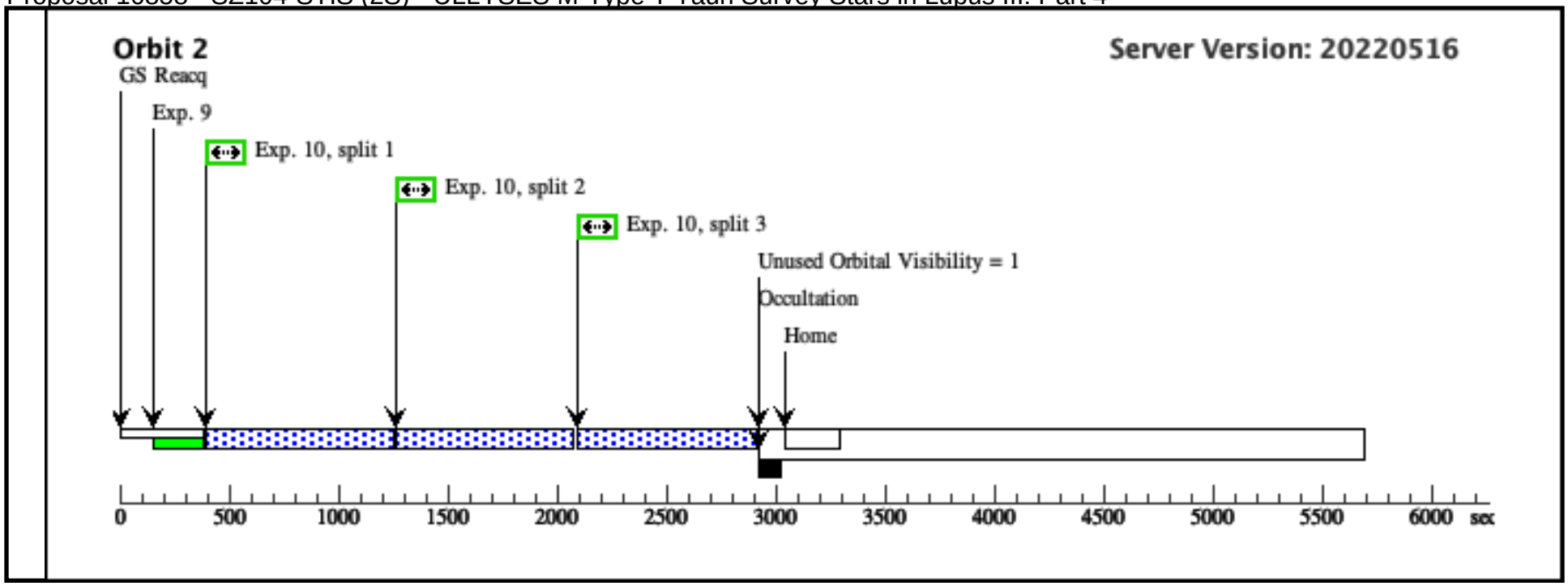
7	G750L/7751 CCDFLAT CCDFLAT 2	CCDFLAT	STIS/CCD, ACCUM, 52X0.1	G750L 7751 A		*[==>(Copy 1)]* *[==>(Copy 2)]*	***[1]***
8	G750L/7751 CCDFLAT CCDFLAT 3	CCDFLAT	STIS/CCD, ACCUM, 52X2	G750L 7751 A		*[==>(Copy 1)]* *[==>(Copy 2)]*	***[1]***
9	G430L/4300 WAVECAL	WAVE	STIS/CCD, ACCUM, 52X0.1	G430L 4300 A		*[==>]*	***[2]***
10	G430L/4300 (STIS.sp.16 81348)	(2) SZ104	STIS/CCD, ACCUM, 52X2	G430L 4300 A	WAVECAL=NO; CR-SPLIT=3; GAIN=4	2349.0 Secs (2349 Secs) *[==>(Split 1)]* *[==>(Split 2)]* *[==>(Split 3)]*	***[2]***

Comments: STIS.sp.1681348, G430L, 2349s, SNR=16.6 @ 4004.3A, gain=4, cr-split=3, SZ-104_M5_scaled_pAV0.50_sed.fits
STIS.sp.1680720, G430L, Sat in 449.7s/expo with gain=1, sz104_lya2_x4.00_etc_sed.fits
STIS.sp.1680719, G430L, Sat in 1635/expo with gain=4, sz104_lya2_x4.00_etc_sed.fits

sz104_lya2_etc_scaled_pAV0.50.txt; stis,ccd,g430l,c4300,52x2,mjd#59670
WARNING: operating mode = ACCUM
Input file: lowmass_survey_Input-gaia.csv
Spectral type: M5 ; A_V: 0.0 ; Distance (pc): 200
M: 0.16 ; log(dm/dt): -9.75*
For exptime=115.3 s, n_reads=2, spectral region:
4000.0 +- 5.0 A achieves SNR=20.0 / 2-pix-resel
A factor of 2.0 has been applied to the exptime in each exposure.
global countrate (brightest segment): 35693.8 cts/s/segment
brightest pixel: 9.382 cts/s/pix at 4560.5 A
Calculation performed 2021-10-21T02:39:20, v0.23

Orbit Structure




Orbit 2
Server Version: 20220516
GS Reacq
Exp. 9
Exp. 10, split 1
Exp. 10, split 2
Exp. 10, split 3
Unused Orbital Visibility = 1
Occultation
Home
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500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
6000
sec