16856 - ULLYSES M-Type T Tauri Survey Stars in Lupus III: Part 2

Cycle: 29, Proposal Category: GO/DD

(Availability Mode: SUPPORTED)

INVESTIGATORS

Name	*Institution*	*E-Mail*
Dr. Julia Christine Roman-Duval (PI) (Contact)	**Space Telescope Science Institute**	**duval@stsci.edu**
Dr. Kenneth Sembach (CoI)	Space Telescope Science Institute	sembach@stsci.edu
Dr. TalaWanda R. Monroe (CoI)	Space Telescope Science Institute	tmonroe@stsci.edu
Joanna Taylor (CoI)	Space Telescope Science Institute	jotaylor@stsci.edu
Dr. Travis C Fischer (CoI) (ESA Member)	Space Telescope Science Institute - ESA	tfischer@stsci.edu
Dr. William J. Fischer (CoI) (Contact)	Space Telescope Science Institute	wfischer@stsci.edu
Dr. Alexander W. Fullerton (CoI)	Space Telescope Science Institute	fullerton@stsci.edu
Dr. Alessandra Aloisi (CoI)	Space Telescope Science Institute	aloisi@stsci.edu
Christopher Britt (CoI)	Space Telescope Science Institute	cbritt@stsci.edu
Dr. Thomas M. Brown (CoI)	Space Telescope Science Institute	tbrown@stsci.edu
Ivo Busko (CoI)	Space Telescope Science Institute	busko@stsci.edu
Dr. Joleen Carlberg (CoI)	Space Telescope Science Institute	jcarlberg@stsci.edu
Dr. Gisella De Rosa (CoI)	Space Telescope Science Institute	gderosa@stsci.edu
Elaine M Frazer (CoI)	Space Telescope Science Institute	efrazer@stsci.edu
Dr. Svea S Hernandez (CoI)	Space Telescope Science Institute - ESA - JWST	sveash@stsci.edu
Dr. Alec S. Hirschauer (CoI)	Space Telescope Science Institute	ahirschauer@stsci.edu
Dr. Bethan Lesley James (CoI)	Space Telescope Science Institute - ESA - JWST	bjames@stsci.edu
Robert Jedrzejewski (CoI)	Space Telescope Science Institute	rij@stsci.edu
Sean Lockwood (CoI)	Space Telescope Science Institute	lockwood@stsci.edu
Dr. Cristina Oliveira (CoI)	Space Telescope Science Institute	oliveira@stsci.edu
Rachel Plesha (CoI)	Space Telescope Science Institute	rplesha@stsci.edu
Dr. Charles R. Proffitt (CoI)	Space Telescope Science Institute	proffitt@stsci.edu

Name	*Institution*	*E-Mail*
Dr. I. Neill Reid (CoI)	Space Telescope Science Institute	inr@stsci.edu
Dr. Adric R. Riedel (CoI)	Space Telescope Science Institute	riedel@stsci.edu
Allyssa Riley (CoI)	Space Telescope Science Institute	ariley@stsci.edu
Dr. David J. Sahnow (CoI)	Space Telescope Science Institute	sahnow@stsci.edu
Dr. Ravi Sankrit (CoI)	Space Telescope Science Institute	rsankrit@stsci.edu
Dr. Richard Shaw (CoI)	Space Telescope Science Institute	shaw@stsci.edu
Dr. Linda J. Smith (CoI) (ESA Member)	Space Telescope Science Institute - ESA	lsmith@stsci.edu
Dr. Sangmo Tony Sohn (CoI)	Space Telescope Science Institute	tsohn@stsci.edu
Dr. Debopam Som (CoI)	Space Telescope Science Institute	dsom@stsci.edu
Dr. Leonardo Ubeda (CoI)	Space Telescope Science Institute	lubeda@stsci.edu
Dr. Daniel E. Welty (CoI)	Space Telescope Science Institute	dwelty@stsci.edu

VISITS

Visit	*Targets used in Visit*	*Configurations used in Visit*	*Orbits Used*	*Last Orbit Planner Run*	*OP Current with Visit?*
1C	(1) SZ103 (4) V-V856-SCO-OFFSET	COS/FUV COS/NUV	3	10-Jan-2022 16:01:20.0	yes
1D	(1) SZ103 (4) V-V856-SCO-OFFSET	COS/FUV COS/NUV	3	10-Jan-2022 16:01:21.0	yes
1E	(1) SZ103 (4) V-V856-SCO-OFFSET	COS/FUV COS/NUV	3	10-Jan-2022 16:01:22.0	yes
1F	(1) SZ103 (4) V-V856-SCO-OFFSET	COS/FUV COS/NUV	3	10-Jan-2022 16:01:23.0	yes
1G	(1) SZ103 (4) V-V856-SCO-OFFSET	COS/FUV COS/NUV	2	10-Jan-2022 16:01:23.0	yes
1S	(1) SZ103 CCDFLAT WAVE	STIS/CCD STIS/NUV-MAMA	2	10-Jan-2022 16:01:25.0	yes
2C	(2) SZ110	COS/FUV COS/NUV	2	10-Jan-2022 16:01:27.0	yes

Visit	*Targets used in Visit*	*Configurations used in Visit*	*Orbits Used*	*Last Orbit Planner Run*	*OP Current with Visit?*
2S	(2) SZ110 CCDFLAT WAVE	STIS/CCD STIS/NUV-MAMA	1	10-Jan-2022 16:01:28.0	yes
3C	(3) SZ99	COS/FUV COS/NUV	2	10-Jan-2022 16:01:29.0	yes
3D	(3) SZ99	COS/FUV COS/NUV	3	10-Jan-2022 16:01:30.0	yes
3S	(3) SZ99 CCDFLAT WAVE	STIS/CCD STIS/NUV-MAMA	2	10-Jan-2022 16:01:32.0	yes

26 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.

Visit

Proposal 16856, SZ103-COS (1C) Mon Jan 10 21:01:33 GMT 2022

Diagnostic Status: Warning

Scientific Instruments: COS/FUV, COS/NUV

Special Requirements: SCHED 100%; BETWEEN 26-MAR-2022:00:00:00 AND 29-JUL-2022:00:00:00

Comments: vstatus; 1C; SZ103; P/COS approved for submission; P/WF 10/01/22 ; intrev: complete ; P/JRD 10/01/22
vcheck; Enter targ name & Inst. & Resp. Sci.; Sz 103 ; COS ; WF
vcheck; ETC numbers entered in APT?; yes ...
see comments in the STIS acquisition for details about the hybrid model used
vcheck; Any screening violations?; no
vcheck; M-dwarf check complete and added to box folder?; yes ...
located at: ~/Box/ullyses_tech/ullyses_proposals/survey_c29/16856/sz-103/mdwarf/
vcheck; S/N ETC calcs done & documented?; yes
vcheck; Field images checked & saved?; yes, no GALEX coverage ...
located at: ~/Box/ullyses_tech/ullyses_proposals/survey_c29/16856/sz-103/
vcheck; Selected ACQ strategy?; yes; BOA/MirrorB on offset target V856 Sco
vcheck; Possible ACQ or Sci spoilers?; no
vcheck; Field BOT clear?; yes ...
see ~/Box/ullyses_tech/ullyses_proposals/survey_c29/16856/sz-103/field/
vcheck; Visual BOT check for stars not in catalog?; yes
vcheck; Orbit packing finalized?; yes ...
G130M gets 114% of requested time; G160M gets 86% of requested time
vcheck; Buffer times optimized?; yes
vcheck; Verify visit grouping correct; yes
vcheck; phase constraint for ground based observations added?; N/A
vcheck; BETWEENS for coordinated observations added?; yes
vcheck; Is visit ready for int. review?; yes
Allocated COS orbits = 14

Diagnostics

(SZ103-COS (1C)) Warning (Orbit Planner): INEFFICIENT ORDERING OF FP-POS POSITIONS

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	SZ103	RA: 16 08 30.2565 (242.1260688d)	Proper Motion RA: -9.376732097 mas/yr	V=16.58	Reference Frame: ICRS
	Alt Name1: HBC-618	Dec: -39 06 11.54 (-39.10321d)	Proper Motion Dec: -23.37784849 mas/yr	SpT=M4; A_V=0.70; V=16.58; J=11.38	
		Equinox: J2000	Parallax: 0.006269607469"		
			Epoch of Position: 2015.5		

Comments: SZ103 : HBC 618
Region: Lupus III
Simbad: http://simbad.u-strasbg.fr/simbad/sim-id?Ident=sz103&submit=submit+id
Target coordinates are from Gaia DR2.
Spectral type: M4 ; A_V: 0.7 ; Distance (pc): 200
M: 0.22 ; log(dm/dt): -8.99*
Input file: lowmass_survey_Input-gaia.csv
sz103_lya2_etc_scaled_pAV0.50.txt
Calculation performed 2021-10-21T02:38:32, v0.8
---
tstatus; SZ103; P/COS approved for submission; S/STIS approved for submission; P/WF 10/01/22; S/WF 10/01/22
tcheck; APT/SIMBAD target names: ; 2MASS J16083026-3906111; HBC 618
tcheck; Target info verification status?; OK
tcheck; Coordinates & P.M. verified, epoch checked?; yes
tcheck; Adopted SED compared to Observations?; yes ...
VRI photometry is only 12-61% of CTTS template; use M4 model in optical
Category=STAR
Description=[T TAURI STAR, PRE-MAIN SEQUENCE STAR]
Extended=NO

(4)	V-V856-SCO-OFFSET	RA: 16 08 34.2749 (242.1428121d)	Proper Motion RA: -7.689109660008215E-4 sec of time/yr	V=7.05	Reference Frame: ICRS
	Alt Name1: HR-5999	Dec: -39 06 18.68 (-39.10519d)	Proper Motion Dec: -0.023007000004326983 arcsec/yr	SpT=A7III; A_V=0.33; U=7.66; B=7.41; V=7.05; J=5.91	
	Alt Name2: HD-144668	Equinox: J2000	Parallax: 0.0062070"		
			Epoch of Position: 2015.5		

Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.
Manually added coordinate uncertainties, parallax, and data in "other fluxes"
Offset acquisition star for Sz 103
Category=STAR
Description=[A4-A9 III-I]
Extended=NO

Exposures

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	ACQ/Image (1548163)	(4) V-V856-SCO-OFFSET	COS/NUV, ACQ/IMAGE, BOA	MIRRORB				27 Secs (27 Secs)	
								[==>]	***[1]***

Comments: Due to M dwarf rules, perform an offset acquisition on V856 Sco (HD 144668; HR 5999), the southern of the pair of bright stars in the region. SIMBAD says it's an A7III star with U = 7.66. With X-Shooter data, Fairlamb et al. (2015) found T_eff = 8500 K and A_V = 0.33. For the ETC calculation, use the Pickles A5III (T_eff = 8452.79 K) model with E(B-V) = A_V / 3.1 = 0.11, normalized to U = 7.66. With BOA/MirrorB (ETC 1548163), the brightest pixel is 9.286 cts/s, so the star could be 5 times brighter and still not violate the limit. The exposure time to hit the recommended S/N = 30 is 13.5 sec, which is doubled to guard against faintness.

See ~/Box/ullyses_tech/ullyses_proposals/survey_c29/16856/sz-103/offset/offset_notes.rtf for additional notes and plots.

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
2	G130M/1291 1-3 (1666792)	(1) SZ103	COS/FUV, TIME-TAG, PSA	G130M 1291 A	BUFFER-TIME=2167; FP-POS=3			2167 Secs (2167 Secs)	
								[==>]	***[1]***

Comments: ETC exposure time is 3128 s per G130M setting. This exposure will be coadded with others.
Worst-case ETC run (1666793) gives 0.09 cts/s in brightest pixel and buffer time of 6108 s
M dwarf flare ETC run (1666794) gives 0.18 cts/s in brightest pixel
Buffer time set to exposure time

sz103_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: M4 ; A_V: 0.7 ; Distance (pc): 200
M: 0.22 ; log(dm/dt): -8.99*
For exptime=6254.5 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): 291.0 cts/s/segment
brightest pixel: 0.005 cts/s/pix at 1304.8 A
Calculation performed 2021-10-21T02:38:31, v0.23

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
3	G130M/1291 1-4 (1666792)	(1) SZ103	COS/FUV, TIME-TAG, PSA	G130M 1291 A	BUFFER-TIME=2471; FP-POS=4			2471 Secs (2471 Secs)	
								[==>]	***[2]***

Comments: ETC exposure time is 3128 s per G130M setting. This exposure will be coadded with others.
Worst-case ETC run (1666793) gives 0.09 cts/s in brightest pixel and buffer time of 6108 s
M dwarf flare ETC run (1666794) gives 0.18 cts/s in brightest pixel
Buffer time set to exposure time

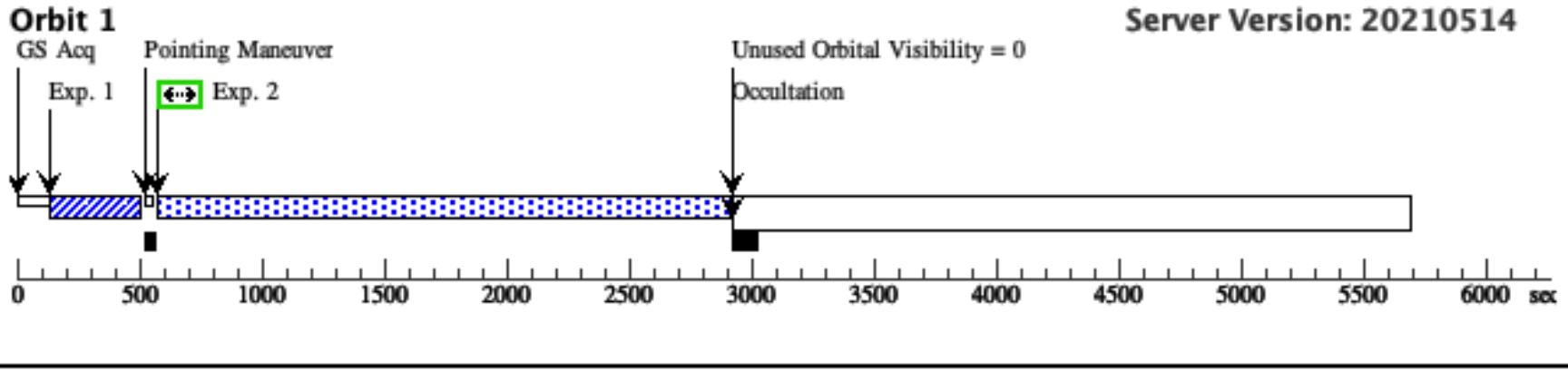
sz103_lya2_etc_scaled_pAV0.50.txt; cos,fuv,g130m,c1291,psa,mjd#59670; fp-pos=None, segment=None)
Input file: lowmass_survey_Input-gaia.csv
Spectral type: M4 ; A_V: 0.7 ; Distance (pc): 200
M: 0.22 ; log(dm/dt): -8.99*
For exptime=6254.5 s, spectral region:
1239.0 +- 1.0 A achieves SNR=10.0 / 6-pix-resel
A factor of 2.0 has been applied to the exptime in each exposure.
global countrate (brightest segment): 291.0 cts/s/segment
brightest pixel: 0.005 cts/s/pix at 1304.8 A
Calculation performed 2021-10-21T02:38:31, v0.23

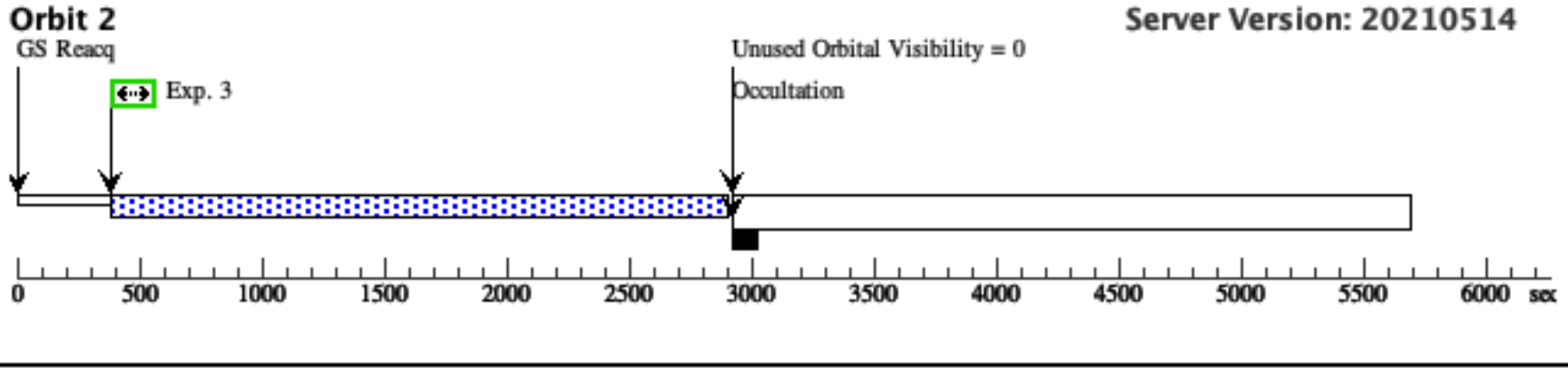
	4	G130M/129 1-3 (1666792)	(1) SZ103	COS/FUV, TIME-TAG, PSA	G130M 1291 A	BUFFER-TIME=2471; FP-POS=3	2471 Secs (2471 Secs) *[==>]*	***[3]***

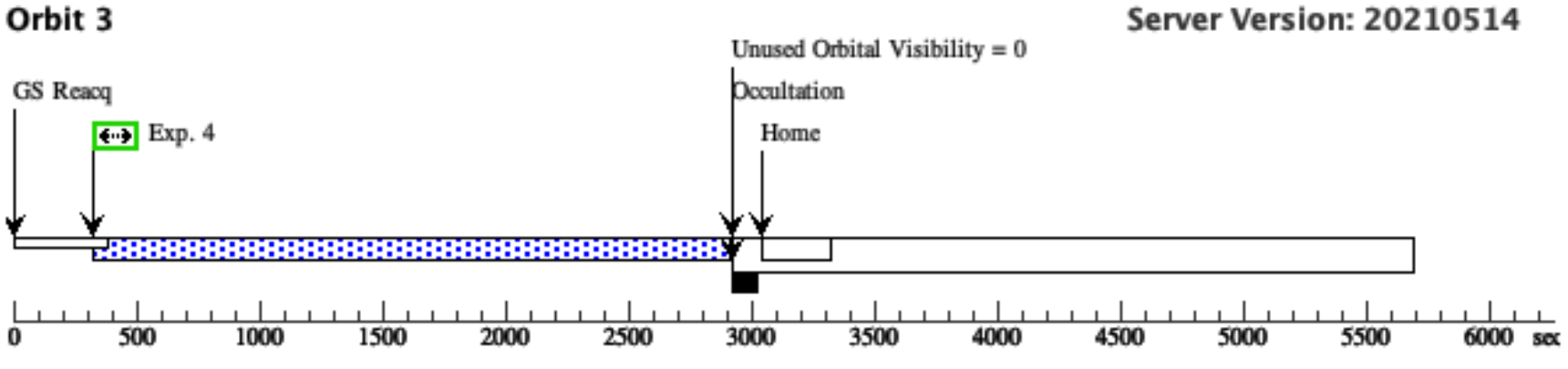
Comments: ETC exposure time is 3128 s per G130M setting. This exposure will be coadded with others.
Worst-case ETC run (1666793) gives 0.09 cts/s in brightest pixel and buffer time of 6108 s
M dwarf flare ETC run (1666794) gives 0.18 cts/s in brightest pixel
Buffer time set to exposure time

sz103_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: M4 ; A_V: 0.7 ; Distance (pc): 200
M: 0.22 ; log(dm/dt): -8.99*
For exptime=6254.5 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): 291.0 cts/s/segment
brightest pixel: 0.005 cts/s/pix at 1304.8 A
Calculation performed 2021-10-21T02:38:31, v0.23

Orbit Structure







Visit

Proposal 16856, SZ103-COS (1D) Mon Jan 10 21:01:33 GMT 2022

Diagnostic Status: Warning

Scientific Instruments: COS/FUV, COS/NUV

Special Requirements: SCHED 100%; BETWEEN 26-MAR-2022:00:00:00 AND 29-JUL-2022:00:00:00

Comments: vstatus; 1D; SZ103; P/COS approved for submission; P/WF 10/01/22 ; intrev: complete ; P/JRD 10/01/22
vcheck; Enter targ name & Inst. & Resp. Sci.; Sz 103 ; COS ; WF
vcheck; ETC numbers entered in APT?; yes ...
see comments in the STIS acquisition for details about the hybrid model used
vcheck; Any screening violations?; no
vcheck; M-dwarf check complete and added to box folder?; yes ...
located at: ~/Box/ullyses_tech/ullyses_proposals/survey_c29/16856/sz-103/mdwarf/
vcheck; S/N ETC calcs done & documented?; yes
vcheck; Field images checked & saved?; yes, no GALEX coverage ...
located at: ~/Box/ullyses_tech/ullyses_proposals/survey_c29/16856/sz-103/
vcheck; Selected ACQ strategy?; yes; BOA/MirrorB on offset target V856 Sco
vcheck; Possible ACQ or Sci spoilers?; no
vcheck; Field BOT clear?; yes ...
see ~/Box/ullyses_tech/ullyses_proposals/survey_c29/16856/sz-103/field/
vcheck; Visual BOT check for stars not in catalog?; yes
vcheck; Orbit packing finalized?; yes ...
G130M gets 114% of requested time; G160M gets 86% of requested time
vcheck; Buffer times optimized?; yes
vcheck; Verify visit grouping correct; yes
vcheck; phase constraint for ground based observations added?; N/A
vcheck; BETWEENS for coordinated observations added?; yes
vcheck; Is visit ready for int. review?; yes
Allocated COS orbits = 14

Diagnostics

(SZ103-COS (1D)) Warning (Orbit Planner): INEFFICIENT ORDERING OF FP-POS POSITIONS

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	SZ103	RA: 16 08 30.2565 (242.1260688d)	Proper Motion RA: -9.376732097 mas/yr	V=16.58	Reference Frame: ICRS
	Alt Name1: HBC-618	Dec: -39 06 11.54 (-39.10321d)	Proper Motion Dec: -23.37784849 mas/yr	SpT=M4; A_V=0.70; V=16.58; J=11.38	
		Equinox: J2000	Parallax: 0.006269607469"		
			Epoch of Position: 2015.5		

Comments: SZ103 : HBC 618
Region: Lupus III
Simbad: http://simbad.u-strasbg.fr/simbad/sim-id?Ident=sz103&submit=submit+id
Target coordinates are from Gaia DR2.
Spectral type: M4 ; A_V: 0.7 ; Distance (pc): 200
M: 0.22 ; log(dm/dt): -8.99*
Input file: lowmass_survey_Input-gaia.csv
sz103_lya2_etc_scaled_pAV0.50.txt
Calculation performed 2021-10-21T02:38:32, v0.8
---
tstatus; SZ103; P/COS approved for submission; S/STIS approved for submission; P/WF 10/01/22; S/WF 10/01/22
tcheck; APT/SIMBAD target names: ; 2MASS J16083026-3906111; HBC 618
tcheck; Target info verification status?; OK
tcheck; Coordinates & P.M. verified, epoch checked?; yes
tcheck; Adopted SED compared to Observations?; yes ...
VRI photometry is only 12-61% of CTTS template; use M4 model in optical
Category=STAR
Description=[T TAURI STAR, PRE-MAIN SEQUENCE STAR]
Extended=NO

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(4)	V-V856-SCO-OFFSET	RA: 16 08 34.2749 (242.1428121d)	Proper Motion RA: -7.689109660008215E-4 sec of time/yr	V=7.05	Reference Frame: ICRS
	Alt Name1: HR-5999	Dec: -39 06 18.68 (-39.10519d)		SpT=A7III; A_V=0.33; U=7.66; B=7.41; V=7.05; J=5.91	
	Alt Name2: HD-144668	Equinox: J2000	Proper Motion Dec: -0.023007000004326983 arcsec/yr		
			Parallax: 0.0062070"		
			Epoch of Position: 2015.5		

Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.
Manually added coordinate uncertainties, parallax, and data in "other fluxes"
Offset acquisition star for Sz 103
Category=STAR
Description=[A4-A9 III-I]
Extended=NO

Exposures

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	ACQ/Image (1548163)	(4) V-V856-SCO-OFFSET	COS/NUV, ACQ/IMAGE, BOA	MIRRORB				27 Secs (27 Secs)	
								[==>]	***[1]***

Comments: Due to M dwarf rules, perform an offset acquisition on V856 Sco (HD 144668; HR 5999), the southern of the pair of bright stars in the region. SIMBAD says it's an A7III star with U = 7.66. With X-Shooter data, Fairlamb et al. (2015) found T_eff = 8500 K and A_V = 0.33. For the ETC calculation, use the Pickles A5III (T_eff = 8452.79 K) model with E(B-V) = A_V / 3.1 = 0.11, normalized to U = 7.66. With BOA/MirrorB (ETC 1548163), the brightest pixel is 9.286 cts/s, so the star could be 5 times brighter and still not violate the limit. The exposure time to hit the recommended S/N = 30 is 13.5 sec, which is doubled to guard against faintness.

See ~/Box/ullyses_tech/ullyses_proposals/survey_c29/16856/sz-103/offset/offset_notes.rtf for additional notes and plots.

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
2	G130M/1291 1-4 (1666792)	(1) SZ103	COS/FUV, TIME-TAG, PSA	G130M 1291 A	BUFFER-TIME=2167; FP-POS=4			2167 Secs (2167 Secs)	
								[==>]	***[1]***

Comments: ETC exposure time is 3128 s per G130M setting. This exposure will be coadded with others.
Worst-case ETC run (1666793) gives 0.09 cts/s in brightest pixel and buffer time of 6108 s
M dwarf flare ETC run (1666794) gives 0.18 cts/s in brightest pixel
Buffer time set to exposure time

sz103_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: M4 ; A_V: 0.7 ; Distance (pc): 200
M: 0.22 ; log(dm/dt): -8.99*
For exptime=6254.5 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): 291.0 cts/s/segment
brightest pixel: 0.005 cts/s/pix at 1304.8 A
Calculation performed 2021-10-21T02:38:31, v0.23

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
3	G130M/1291 1-3 (1666792)	(1) SZ103	COS/FUV, TIME-TAG, PSA	G130M 1291 A	BUFFER-TIME=2471; FP-POS=3			2471 Secs (2471 Secs)	
								[==>]	***[2]***

Comments: ETC exposure time is 3128 s per G130M setting. This exposure will be coadded with others.
Worst-case ETC run (1666793) gives 0.09 cts/s in brightest pixel and buffer time of 6108 s
M dwarf flare ETC run (1666794) gives 0.18 cts/s in brightest pixel
Buffer time set to exposure time

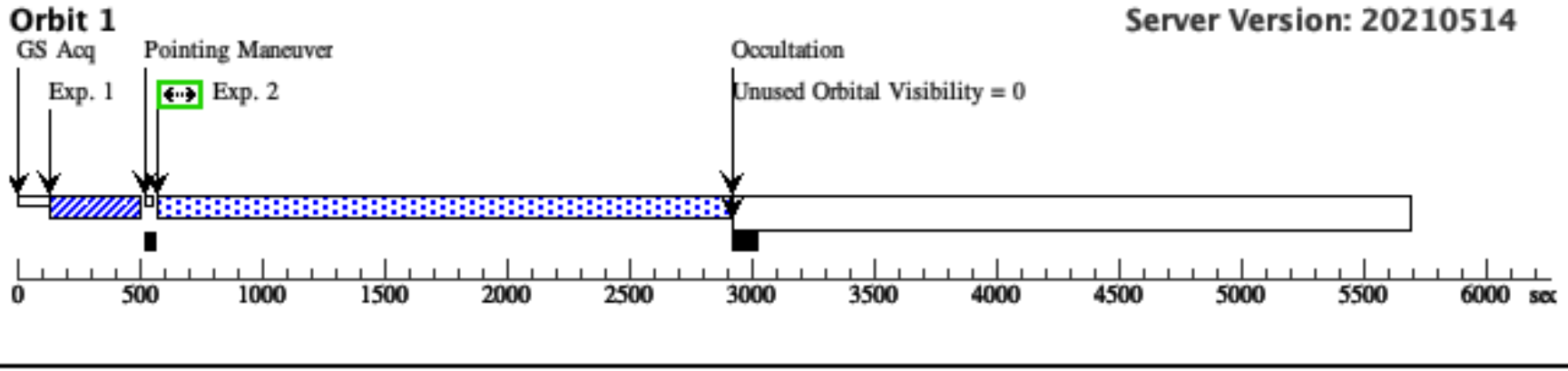
sz103_lya2_etc_scaled_pAV0.50.txt; cos,fuv,g130m,c1291,psa,mjd#59670; fp-pos=None, segment=None)
Input file: lowmass_survey_Input-gaia.csv
Spectral type: M4 ; A_V: 0.7 ; Distance (pc): 200
M: 0.22 ; log(dm/dt): -8.99*
For exptime=6254.5 s, spectral region:
1239.0 +- 1.0 A achieves SNR=10.0 / 6-pix-resel
A factor of 2.0 has been applied to the exptime in each exposure.
global countrate (brightest segment): 291.0 cts/s/segment
brightest pixel: 0.005 cts/s/pix at 1304.8 A
Calculation performed 2021-10-21T02:38:31, v0.23

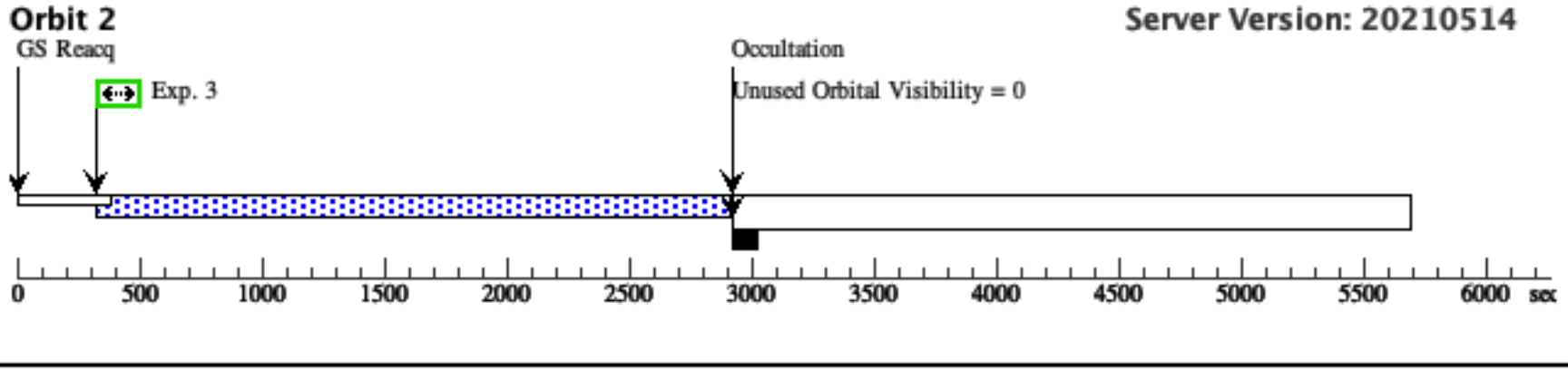
4	G130M/129 1-4 (1666792)	(1) SZ103	COS/FUV, TIME-TAG, PSA	G130M 1291 A	BUFFER-TIME=2471; FP-POS=4	2471 Secs (2471 Secs) *[==>]*	 ***[3]***

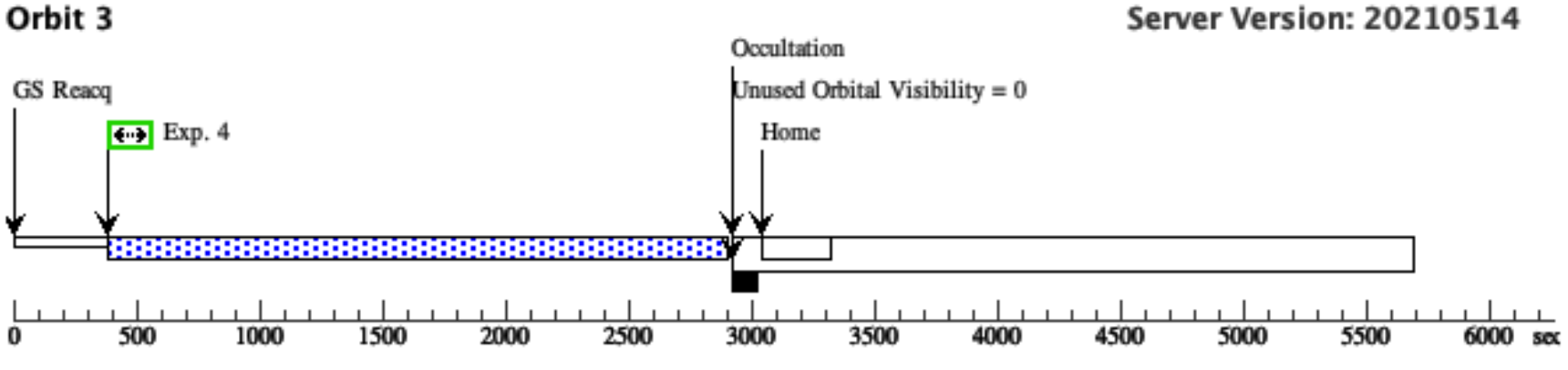
Comments: ETC exposure time is 3128 s per G130M setting. This exposure will be coadded with others.
Worst-case ETC run (1666793) gives 0.09 cts/s in brightest pixel and buffer time of 6108 s
M dwarf flare ETC run (1666794) gives 0.18 cts/s in brightest pixel
Buffer time set to exposure time

sz103_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: M4 ; A_V: 0.7 ; Distance (pc): 200
M: 0.22 ; log(dm/dt): -8.99*
For exptime=6254.5 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): 291.0 cts/s/segment
brightest pixel: 0.005 cts/s/pix at 1304.8 A
Calculation performed 2021-10-21T02:38:31, v0.23

Orbit Structure







Visit

Proposal 16856, SZ103-COS (1E) Mon Jan 10 21:01:33 GMT 2022

Diagnostic Status: No Diagnostics

Scientific Instruments: COS/FUV, COS/NUV

Special Requirements: SCHED 100%; BETWEEN 26-MAR-2022:00:00:00 AND 29-JUL-2022:00:00:00

Comments: vstatus; 1E; SZ103; P/COS approved for submission; P/WF 10/01/22 ; intrev: complete ; P/JRD 10/01/22
vcheck; Enter targ name & Inst. & Resp. Sci.; Sz 103 ; COS ; WF
vcheck; ETC numbers entered in APT?; yes ...
see comments in the STIS acquisition for details about the hybrid model used
vcheck; Any screening violations?; no
vcheck; M-dwarf check complete and added to box folder?; yes ...
located at: ~/Box/ullyses_tech/ullyses_proposals/survey_c29/16856/sz-103/mdwarf/
vcheck; S/N ETC calcs done & documented?; yes
vcheck; Field images checked & saved?; yes, no GALEX coverage ...
located at: ~/Box/ullyses_tech/ullyses_proposals/survey_c29/16856/sz-103/
vcheck; Selected ACQ strategy?; yes; BOA/MirrorB on offset target V856 Sco
vcheck; Possible ACQ or Sci spoilers?; no
vcheck; Field BOT clear?; yes ...
see ~/Box/ullyses_tech/ullyses_proposals/survey_c29/16856/sz-103/field/
vcheck; Visual BOT check for stars not in catalog?; yes
vcheck; Orbit packing finalized?; yes ...
G130M gets 114% of requested time; G160M gets 86% of requested time
vcheck; Buffer times optimized?; yes
vcheck; Verify visit grouping correct; yes
vcheck; phase constraint for ground based observations added?; N/A
vcheck; BETWEENS for coordinated observations added?; yes
vcheck; Is visit ready for int. review?; yes
Allocated COS orbits = 14

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	SZ103	RA: 16 08 30.2565 (242.1260688d)	Proper Motion RA: -9.376732097 mas/yr	V=16.58	Reference Frame: ICRS
	Alt Name1: HBC-618	Dec: -39 06 11.54 (-39.10321d)	Proper Motion Dec: -23.37784849 mas/yr	SpT=M4; A_V=0.70; V=16.58; J=11.38	
		Equinox: J2000	Parallax: 0.006269607469"		
			Epoch of Position: 2015.5		

Comments: SZ103 : HBC 618
Region: Lupus III
Simbad: http://simbad.u-strasbg.fr/simbad/sim-id?Ident=sz103&submit=submit+id
Target coordinates are from Gaia DR2.
Spectral type: M4 ; A_V: 0.7 ; Distance (pc): 200
M: 0.22 ; log(dm/dt): -8.99*
Input file: lowmass_survey_Input-gaia.csv
sz103_lya2_etc_scaled_pAV0.50.txt
Calculation performed 2021-10-21T02:38:32, v0.8
---
tstatus; SZ103; P/COS approved for submission; S/STIS approved for submission; P/WF 10/01/22; S/WF 10/01/22
tcheck; APT/SIMBAD target names: ; 2MASS J16083026-3906111; HBC 618
tcheck; Target info verification status?; OK
tcheck; Coordinates & P.M. verified, epoch checked?; yes
tcheck; Adopted SED compared to Observations?; yes ...
VRI photometry is only 12-61% of CTTS template; use M4 model in optical
Category=STAR
Description=[T TAURI STAR, PRE-MAIN SEQUENCE STAR]
Extended=NO

(4)	V-V856-SCO-OFFSET	RA: 16 08 34.2749 (242.1428121d)	Proper Motion RA: -7.689109660008215E-4 sec of time/yr	V=7.05	Reference Frame: ICRS
	Alt Name1: HR-5999	Dec: -39 06 18.68 (-39.10519d)	Proper Motion Dec: -0.023007000004326983 arcsec/yr	SpT=A7III; A_V=0.33; U=7.66; B=7.41; V=7.05; J=5.91	
	Alt Name2: HD-144668	Equinox: J2000	Parallax: 0.0062070"		
			Epoch of Position: 2015.5		

Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.
Manually added coordinate uncertainties, parallax, and data in "other fluxes"
Offset acquisition star for Sz 103
Category=STAR
Description=[A4-A9 III-I]
Extended=NO

Exposures

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	ACQ/Image (1548163)	(4) V-V856-SCO-OFFSET	COS/NUV, ACQ/IMAGE, BOA	MIRRORB				27 Secs (27 Secs)	
								[==>]	***[1]***

Comments: Due to M dwarf rules, perform an offset acquisition on V856 Sco (HD 144668; HR 5999), the southern of the pair of bright stars in the region. SIMBAD says it's an A7III star with U = 7.66. With X-Shooter data, Fairlamb et al. (2015) found T_eff = 8500 K and A_V = 0.33. For the ETC calculation, use the Pickles A5III (T_eff = 8452.79 K) model with E(B-V) = A_V / 3.1 = 0.11, normalized to U = 7.66. With BOA/MirrorB (ETC 1548163), the brightest pixel is 9.286 cts/s, so the star could be 5 times brighter and still not violate the limit. The exposure time to hit the recommended S/N = 30 is 13.5 sec, which is doubled to guard against faintness.

See ~/Box/ullyses_tech/ullyses_proposals/survey_c29/16856/sz-103/offset/offset_notes.rtf for additional notes and plots.

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
2	G160M/1589-3 (1666795)	(1) SZ103	COS/FUV, TIME-TAG, PSA	G160M 1589 A	BUFFER-TIME=2119; FP-POS=3			2119 Secs (2119 Secs)	
								[==>]	***[1]***

Comments: ETC exposure time is 2650 s per G160M setting. This exposure will be coadded with others.
Worst-case ETC run (1666796) gives 0.03 cts/s in brightest pixel and buffer time of 17452 s
M dwarf flare ETC run (1666797) gives 0.34 cts/s in brightest pixel
Buffer time set to exposure time

sz103_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: M4 ; A_V: 0.7 ; Distance (pc): 200
M: 0.22 ; log(dm/dt): -8.99*
For exptime=5300.2 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): 67.7 cts/s/segment
brightest pixel: 0.002 cts/s/pix at 1446.2 A
Calculation performed 2021-10-21T02:38:28, v0.23

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
3	G160M/1589-4 (1666795)	(1) SZ103	COS/FUV, TIME-TAG, PSA	G160M 1589 A	BUFFER-TIME=2471; FP-POS=4			2471 Secs (2471 Secs)	
								[==>]	***[2]***

Comments: ETC exposure time is 2650 s per G160M setting. This exposure will be coadded with others.
Worst-case ETC run (1666796) gives 0.03 cts/s in brightest pixel and buffer time of 17452 s
M dwarf flare ETC run (1666797) gives 0.34 cts/s in brightest pixel
Buffer time set to exposure time

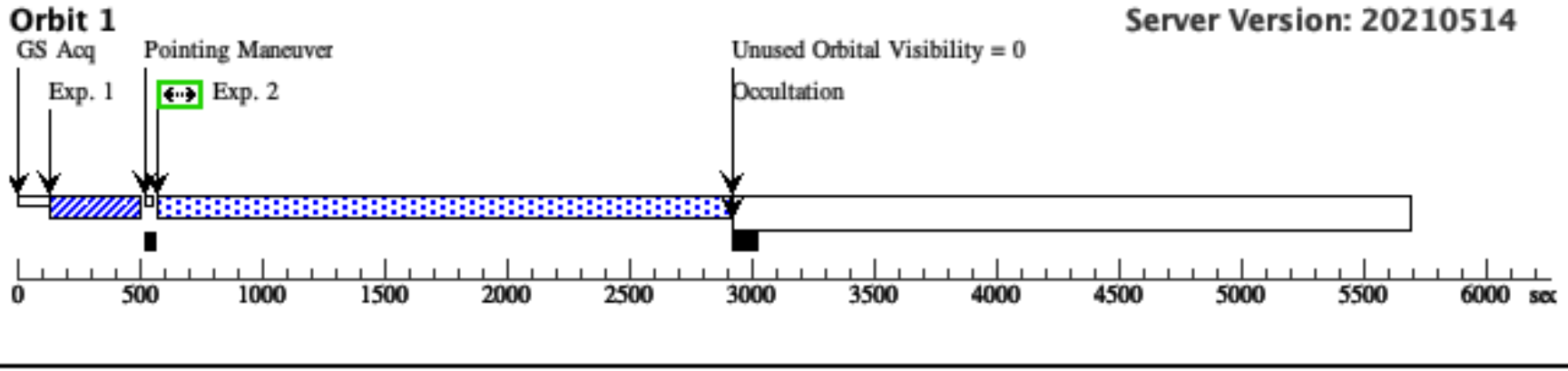
sz103_lya2_etc_scaled_pAV0.50.txt; cos,fuv,g160m,c1589,psa,mjd#59670; fp-pos=None, segment=None)
Input file: lowmass_survey_Input-gaia.csv
Spectral type: M4 ; A_V: 0.7 ; Distance (pc): 200
M: 0.22 ; log(dm/dt): -8.99*
For exptime=5300.2 s, spectral region:
1549.0 +- 1.0 A achieves SNR=20.0 / 6-pix-resel 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): 67.7 cts/s/segment
brightest pixel: 0.002 cts/s/pix at 1446.2 A
Calculation performed 2021-10-21T02:38:28, v0.23

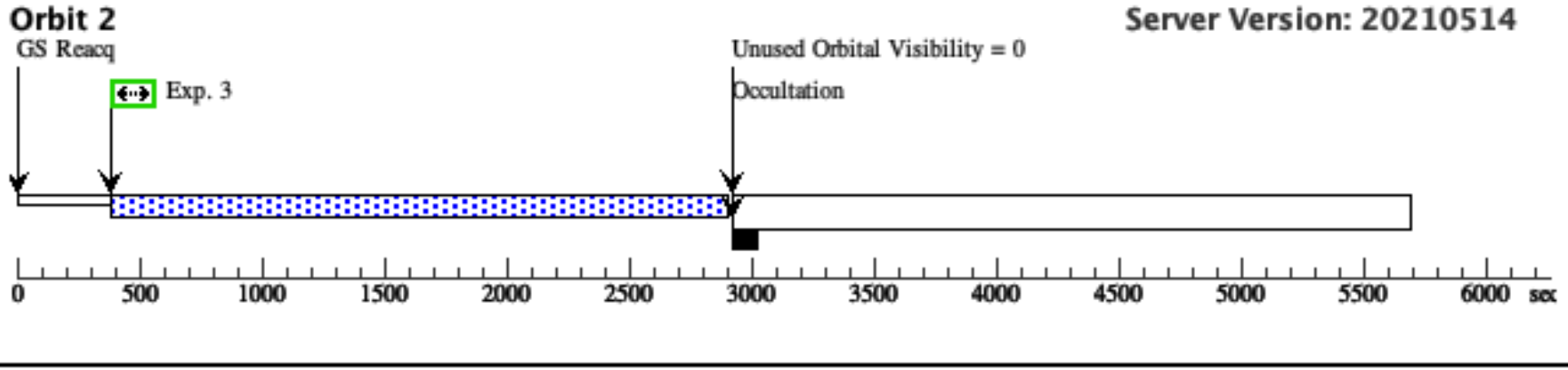
	4	G160M/162 3-1 (1666798)	(1) SZ103	COS/FUV, TIME-TAG, PSA	G160M 1623 A	BUFFER-TIME=2471; FP-POS=1	2471 Secs (2471 Secs) *[==>]*	***[3]***

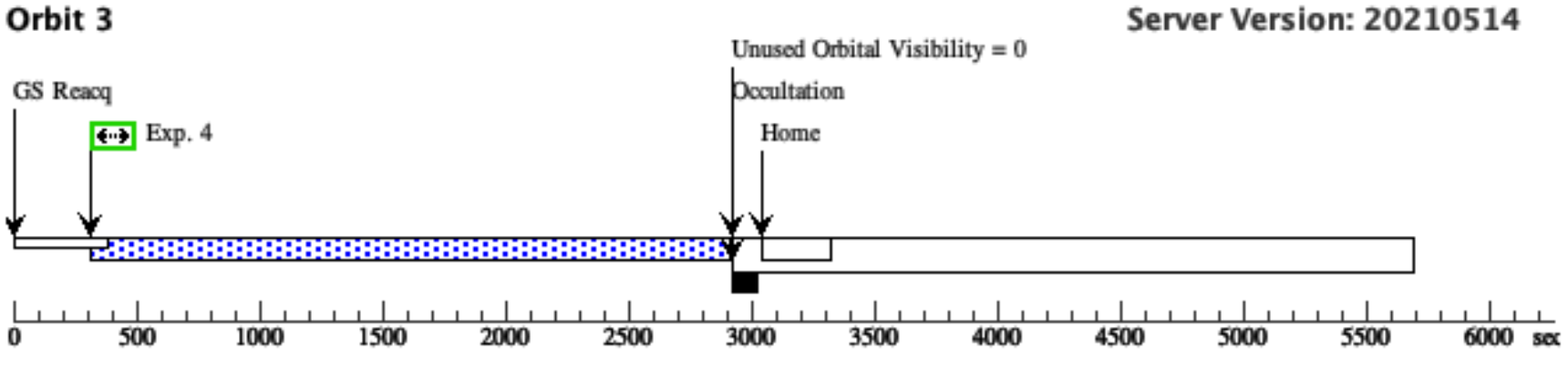
Comments: ETC exposure time is 2712 s per G160M setting. This exposure will be coadded with others.
Worst-case ETC run (1666799) gives 0.03 cts/s in brightest pixel and buffer time of 19046 s
M dwarf flare ETC run (1666800) gives 0.34 cts/s in brightest pixel
Buffer time set to exposure time

sz103_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: M4 ; A_V: 0.7 ; Distance (pc): 200
M: 0.22 ; log(dm/dt): -8.99*
For exptime=5424.6 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): 66.9 cts/s/segment
brightest pixel: 0.001 cts/s/pix at 1446.2 A
Calculation performed 2021-10-21T02:38:29, v0.23

Orbit Structure







Visit

Proposal 16856, SZ103-COS (1F) Mon Jan 10 21:01:33 GMT 2022

Diagnostic Status: Warning

Scientific Instruments: COS/FUV, COS/NUV

Special Requirements: SCHED 100%; BETWEEN 26-MAR-2022:00:00:00 AND 29-JUL-2022:00:00:00

Comments: vstatus; 1F; SZ103; P/COS approved for submission; P/WF 10/01/22 ; intrev: complete ; P/JRD 10/01/22
vcheck; Enter targ name & Inst. & Resp. Sci.; Sz 103 ; COS ; WF
vcheck; ETC numbers entered in APT?; yes ...
see comments in the STIS acquisition for details about the hybrid model used
vcheck; Any screening violations?; no
vcheck; M-dwarf check complete and added to box folder?; yes ...
located at: ~/Box/ullyses_tech/ullyses_proposals/survey_c29/16856/sz-103/mdwarf/
vcheck; S/N ETC calcs done & documented?; yes
vcheck; Field images checked & saved?; yes, no GALEX coverage ...
located at: ~/Box/ullyses_tech/ullyses_proposals/survey_c29/16856/sz-103/
vcheck; Selected ACQ strategy?; yes; BOA/MirrorB on offset target V856 Sco
vcheck; Possible ACQ or Sci spoilers?; no
vcheck; Field BOT clear?; yes ...
see ~/Box/ullyses_tech/ullyses_proposals/survey_c29/16856/sz-103/field/
vcheck; Visual BOT check for stars not in catalog?; yes
vcheck; Orbit packing finalized?; yes ...
G130M gets 114% of requested time; G160M gets 86% of requested time
vcheck; Buffer times optimized?; yes
vcheck; Verify visit grouping correct; yes
vcheck; phase constraint for ground based observations added?; N/A
vcheck; BETWEENS for coordinated observations added?; yes
vcheck; Is visit ready for int. review?; yes
Allocated COS orbits = 14

Diagnostics

(SZ103-COS (1F)) Warning (Orbit Planner): INEFFICIENT ORDERING OF FP-POS POSITIONS

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	SZ103	RA: 16 08 30.2565 (242.1260688d)	Proper Motion RA: -9.376732097 mas/yr	V=16.58	Reference Frame: ICRS
	Alt Name1: HBC-618	Dec: -39 06 11.54 (-39.10321d)	Proper Motion Dec: -23.37784849 mas/yr	SpT=M4; A_V=0.70; V=16.58; J=11.38	
		Equinox: J2000	Parallax: 0.006269607469"		
			Epoch of Position: 2015.5		

Comments: SZ103 : HBC 618
Region: Lupus III
Simbad: http://simbad.u-strasbg.fr/simbad/sim-id?Ident=sz103&submit=submit+id
Target coordinates are from Gaia DR2.
Spectral type: M4 ; A_V: 0.7 ; Distance (pc): 200
M: 0.22 ; log(dm/dt): -8.99*
Input file: lowmass_survey_Input-gaia.csv
sz103_lya2_etc_scaled_pAV0.50.txt
Calculation performed 2021-10-21T02:38:32, v0.8
---
tstatus; SZ103; P/COS approved for submission; S/STIS approved for submission; P/WF 10/01/22; S/WF 10/01/22
tcheck; APT/SIMBAD target names: ; 2MASS J16083026-3906111; HBC 618
tcheck; Target info verification status?; OK
tcheck; Coordinates & P.M. verified, epoch checked?; yes
tcheck; Adopted SED compared to Observations?; yes ...
VRI photometry is only 12-61% of CTTS template; use M4 model in optical
Category=STAR
Description=[T TAURI STAR, PRE-MAIN SEQUENCE STAR]
Extended=NO

(4)	V-V856-SCO-OFFSET	RA: 16 08 34.2749 (242.1428121d)	Proper Motion RA: -7.689109660008215E-4 sec of time/yr	V=7.05	Reference Frame: ICRS
	Alt Name1: HR-5999	Dec: -39 06 18.68 (-39.10519d)		SpT=A7III; A_V=0.33; U=7.66; B=7.41; V=7.05; J=5.91	
	Alt Name2: HD-144668	Equinox: J2000	Proper Motion Dec: -0.023007000004326983 arcsec/yr		
			Parallax: 0.0062070"		
			Epoch of Position: 2015.5		

Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.
Manually added coordinate uncertainties, parallax, and data in "other fluxes"
Offset acquisition star for Sz 103
Category=STAR
Description=[A4-A9 III-I]
Extended=NO

Exposures

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	ACQ/Image (1548163)	(4) V-V856-SCO-OFFSET	COS/NUV, ACQ/IMAGE, BOA	MIRRORB				27 Secs (27 Secs) *[==>]*	***[1]***

Comments: Due to M dwarf rules, perform an offset acquisition on V856 Sco (HD 144668; HR 5999), the southern of the pair of bright stars in the region. SIMBAD says it's an A7III star with U = 7.66. With X-Shooter data, Fairlamb et al. (2015) found T_eff = 8500 K and A_V = 0.33. For the ETC calculation, use the Pickles A5III (T_eff = 8452.79 K) model with E(B-V) = A_V / 3.1 = 0.11, normalized to U = 7.66. With BOA/MirrorB (ETC 1548163), the brightest pixel is 9.286 cts/s, so the star could be 5 times brighter and still not violate the limit. The exposure time to hit the recommended S/N = 30 is 13.5 sec, which is doubled to guard against faintness.

See ~/Box/ullyses_tech/ullyses_proposals/survey_c29/16856/sz-103/offset/offset_notes.rtf for additional notes and plots.

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
2	G160M/1589-4 (1666795)	(1) SZ103	COS/FUV, TIME-TAG, PSA	G160M 1589 A	BUFFER-TIME=2119; FP-POS=4			2119 Secs (2119 Secs) *[==>]*	***[1]***

Comments: ETC exposure time is 2650 s per G160M setting. This exposure will be coadded with others.
Worst-case ETC run (1666796) gives 0.03 cts/s in brightest pixel and buffer time of 17452 s
M dwarf flare ETC run (1666797) gives 0.34 cts/s in brightest pixel
Buffer time set to exposure time

sz103_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: M4 ; A_V: 0.7 ; Distance (pc): 200
M: 0.22 ; log(dm/dt): -8.99*
For exptime=5300.2 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): 67.7 cts/s/segment
brightest pixel: 0.002 cts/s/pix at 1446.2 A
Calculation performed 2021-10-21T02:38:28, v0.23

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
3	G160M/1589-3 (1666795)	(1) SZ103	COS/FUV, TIME-TAG, PSA	G160M 1589 A	BUFFER-TIME=2471; FP-POS=3			2471 Secs (2471 Secs) *[==>]*	***[2]***

Comments: ETC exposure time is 2650 s per G160M setting. This exposure will be coadded with others.
Worst-case ETC run (1666796) gives 0.03 cts/s in brightest pixel and buffer time of 17452 s
M dwarf flare ETC run (1666797) gives 0.34 cts/s in brightest pixel
Buffer time set to exposure time

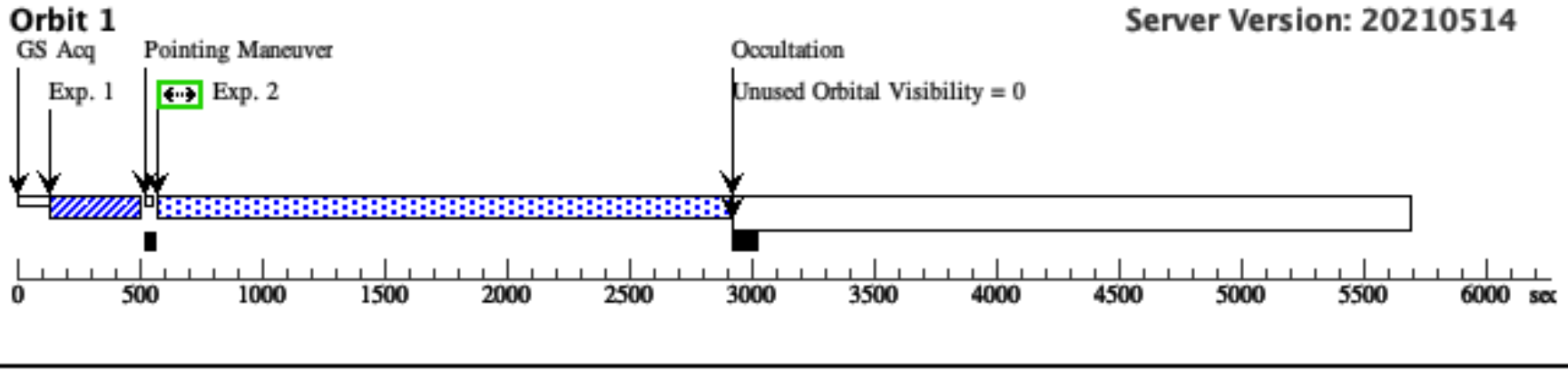
sz103_lya2_etc_scaled_pAV0.50.txt; cos,fuv,g160m,c1589,psa,mjd#59670; fp-pos=None, segment=None)
Input file: lowmass_survey_Input-gaia.csv
Spectral type: M4 ; A_V: 0.7 ; Distance (pc): 200
M: 0.22 ; log(dm/dt): -8.99*
For exptime=5300.2 s, spectral region:
1549.0 +- 1.0 A achieves SNR=20.0 / 6-pix-resel 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): 67.7 cts/s/segment
brightest pixel: 0.002 cts/s/pix at 1446.2 A
Calculation performed 2021-10-21T02:38:28, v0.23

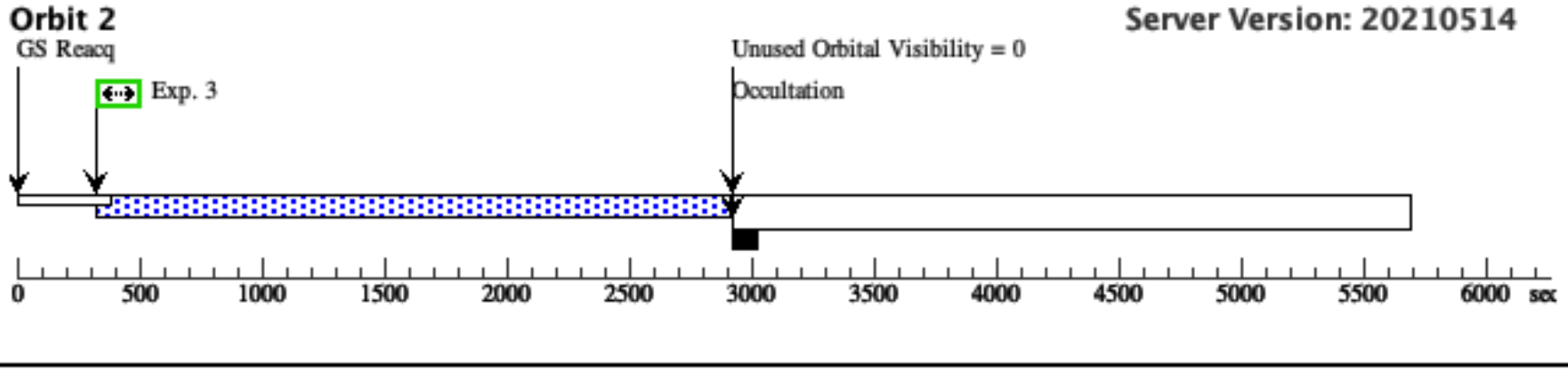
	4	G160M/162 3-2 (1666798)	(1) SZ103	COS/FUV, TIME-TAG, PSA	G160M 1623 A	BUFFER-TIME=2471; FP-POS=2	2471 Secs (2471 Secs) *[==>]*	***[3]***

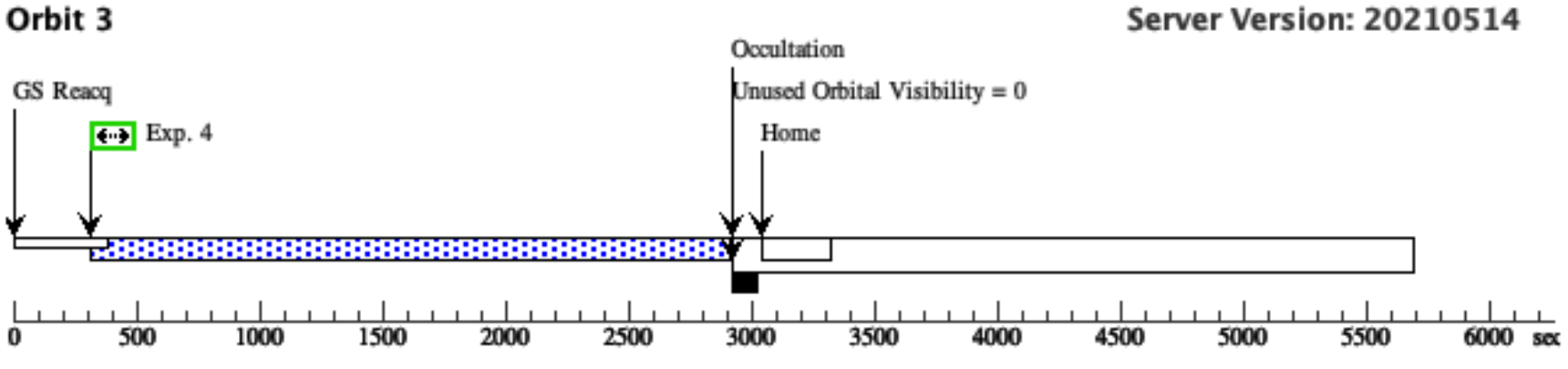
Comments: ETC exposure time is 2712 s per G160M setting. This exposure will be coadded with others.
Worst-case ETC run (1666799) gives 0.03 cts/s in brightest pixel and buffer time of 19046 s
M dwarf flare ETC run (1666800) gives 0.34 cts/s in brightest pixel
Buffer time set to exposure time

sz103_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: M4 ; A_V: 0.7 ; Distance (pc): 200
M: 0.22 ; log(dm/dt): -8.99*
For exptime=5424.6 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): 66.9 cts/s/segment
brightest pixel: 0.001 cts/s/pix at 1446.2 A
Calculation performed 2021-10-21T02:38:29, v0.23

Orbit Structure







Visit

Proposal 16856, SZ103-COS (1G) Mon Jan 10 21:01:33 GMT 2022

Diagnostic Status: Warning

Scientific Instruments: COS/FUV, COS/NUV

Special Requirements: SCHED 100%; BETWEEN 26-MAR-2022:00:00:00 AND 29-JUL-2022:00:00:00

Comments: vstatus; 1G; SZ103; P/COS approved for submission; P/WF 10/01/22 ; intrev: complete ; P/JRD 10/01/22
vcheck; Enter targ name & Inst. & Resp. Sci.; Sz 103 ; COS ; WF
vcheck; ETC numbers entered in APT?; yes ...
see comments in the STIS acquisition for details about the hybrid model used
vcheck; Any screening violations?; no
vcheck; M-dwarf check complete and added to box folder?; yes ...
located at: ~/Box/ullyses_tech/ullyses_proposals/survey_c29/16856/sz-103/mdwarf/
vcheck; S/N ETC calcs done & documented?; yes
vcheck; Field images checked & saved?; yes, no GALEX coverage ...
located at: ~/Box/ullyses_tech/ullyses_proposals/survey_c29/16856/sz-103/
vcheck; Selected ACQ strategy?; yes; BOA/MirrorB on offset target V856 Sco
vcheck; Possible ACQ or Sci spoilers?; no
vcheck; Field BOT clear?; yes ...
see ~/Box/ullyses_tech/ullyses_proposals/survey_c29/16856/sz-103/field/
vcheck; Visual BOT check for stars not in catalog?; yes
vcheck; Orbit packing finalized?; yes ...
G130M gets 114% of requested time; G160M gets 86% of requested time
vcheck; Buffer times optimized?; yes
vcheck; Verify visit grouping correct; yes
vcheck; phase constraint for ground based observations added?; N/A
vcheck; BETWEENS for coordinated observations added?; yes
vcheck; Is visit ready for int. review?; yes
Allocated COS orbits = 14

Diagnostics

(SZ103-COS (1G)) Warning (Orbit Planner): INEFFICIENT ORDERING OF FP-POS POSITIONS

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	SZ103	RA: 16 08 30.2565 (242.1260688d)	Proper Motion RA: -9.376732097 mas/yr	V=16.58	Reference Frame: ICRS
	Alt Name1: HBC-618	Dec: -39 06 11.54 (-39.10321d)	Proper Motion Dec: -23.37784849 mas/yr	SpT=M4; A_V=0.70; V=16.58; J=11.38	
		Equinox: J2000	Parallax: 0.006269607469"		
			Epoch of Position: 2015.5		

Comments: SZ103 : HBC 618
Region: Lupus III
Simbad: http://simbad.u-strasbg.fr/simbad/sim-id?Ident=sz103&submit=submit+id
Target coordinates are from Gaia DR2.
Spectral type: M4 ; A_V: 0.7 ; Distance (pc): 200
M: 0.22 ; log(dm/dt): -8.99*
Input file: lowmass_survey_Input-gaia.csv
sz103_lya2_etc_scaled_pAV0.50.txt
Calculation performed 2021-10-21T02:38:32, v0.8
---
tstatus; SZ103; P/COS approved for submission; S/STIS approved for submission; P/WF 10/01/22; S/WF 10/01/22
tcheck; APT/SIMBAD target names: ; 2MASS J16083026-3906111; HBC 618
tcheck; Target info verification status?; OK
tcheck; Coordinates & P.M. verified, epoch checked?; yes
tcheck; Adopted SED compared to Observations?; yes ...
VRI photometry is only 12-61% of CTTS template; use M4 model in optical
Category=STAR
Description=[T TAURI STAR, PRE-MAIN SEQUENCE STAR]
Extended=NO

(4)	V-V856-SCO-OFFSET	RA: 16 08 34.2749 (242.1428121d)	Proper Motion RA: -7.689109660008215E-4 sec of time/yr	V=7.05	Reference Frame: ICRS
	Alt Name1: HR-5999	Dec: -39 06 18.68 (-39.10519d)	Proper Motion Dec: -0.023007000004326983 arcsec/yr	SpT=A7III; A_V=0.33; U=7.66; B=7.41; V=7.05; J=5.91	
	Alt Name2: HD-144668	Equinox: J2000	Parallax: 0.0062070"		
			Epoch of Position: 2015.5		

Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.
Manually added coordinate uncertainties, parallax, and data in "other fluxes"
Offset acquisition star for Sz 103
Category=STAR
Description=[A4-A9 III-I]
Extended=NO

Exposures

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	ACQ/Image (1548163)	(4) V-V856-SCO-OFFSET	COS/NUV, ACQ/IMAGE, BOA	MIRRORB				27 Secs (27 Secs) *[==>]*	***[1]***

Comments: Due to M dwarf rules, perform an offset acquisition on V856 Sco (HD 144668; HR 5999), the southern of the pair of bright stars in the region. SIMBAD says it's an A7III star with U = 7.66. With X-Shooter data, Fairlamb et al. (2015) found T_eff = 8500 K and A_V = 0.33. For the ETC calculation, use the Pickles A5III (T_eff = 8452.79 K) model with E(B-V) = A_V / 3.1 = 0.11, normalized to U = 7.66. With BOA/MirrorB (ETC 1548163), the brightest pixel is 9.286 cts/s, so the star could be 5 times brighter and still not violate the limit. The exposure time to hit the recommended S/N = 30 is 13.5 sec, which is doubled to guard against faintness.

See ~/Box/ullyses_tech/ullyses_proposals/survey_c29/16856/sz-103/offset/offset_notes.rtf for additional notes and plots.

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
2	G160M/1623-1 (1666798)	(1) SZ103	COS/FUV, TIME-TAG, PSA	G160M 1623 A	BUFFER-TIME=12697; FP-POS=1			1002 Secs (1002 Secs) *[==>]*	***[1]***

Comments: ETC exposure time is 2712 s per G160M setting. This exposure will be coadded with others.
Worst-case ETC run (1666799) gives 0.03 cts/s in brightest pixel and buffer time of 19046 s
M dwarf flare ETC run (1666800) gives 0.34 cts/s in brightest pixel
Buffer time set to 2/3 of worst-case result

sz103_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: M4 ; A_V: 0.7 ; Distance (pc): 200
M: 0.22 ; log(dm/dt): -8.99*
For exptime=5424.6 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): 66.9 cts/s/segment
brightest pixel: 0.001 cts/s/pix at 1446.2 A
Calculation performed 2021-10-21T02:38:29, v0.23

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
3	G160M/1623-2 (1666798)	(1) SZ103	COS/FUV, TIME-TAG, PSA	G160M 1623 A	BUFFER-TIME=12697; FP-POS=2			1002 Secs (1002 Secs) *[==>]*	***[1]***

Comments: ETC exposure time is 2712 s per G160M setting. This exposure will be coadded with others.
Worst-case ETC run (1666799) gives 0.03 cts/s in brightest pixel and buffer time of 19046 s
M dwarf flare ETC run (1666800) gives 0.34 cts/s in brightest pixel
Buffer time set to 2/3 of worst-case result

sz103_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: M4 ; A_V: 0.7 ; Distance (pc): 200
M: 0.22 ; log(dm/dt): -8.99*
For exptime=5424.6 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): 66.9 cts/s/segment
brightest pixel: 0.001 cts/s/pix at 1446.2 A
Calculation performed 2021-10-21T02:38:29, v0.23

4	G160M/162 (1) SZ103 3-1 (1666798)	COS/FUV, TIME-TAG, PSA	G160M 1623 A	BUFFER-TIME=12 697; FP-POS=1	1183 Secs (1183 Secs) *[==>]*		

Comments: ETC exposure time is 2712 s per G160M setting. This exposure will be coadded with others.
Worst-case ETC run (1666799) gives 0.03 cts/s in brightest pixel and buffer time of 19046 s
M dwarf flare ETC run (1666800) gives 0.34 cts/s in brightest pixel
Buffer time set to 2/3 of worst-case result

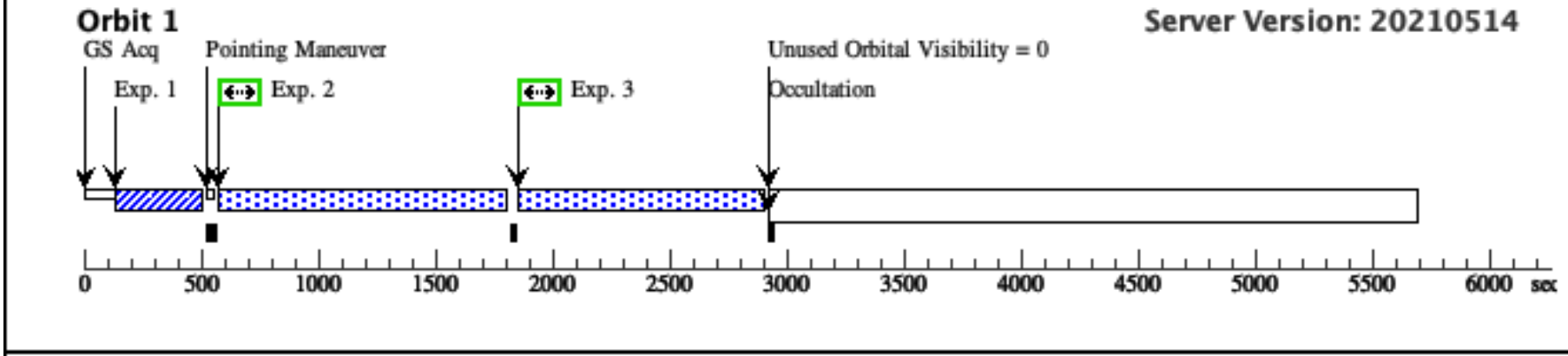
sz103_lya2_etc_scaled_pAV0.50.txt; cos,fuv,g160m,c1623,psa,mjd#59670; fp-pos=None, segment=None)
Input file: lowmass_survey_Input-gaia.csv
Spectral type: M4 ; A_V: 0.7 ; Distance (pc): 200
M: 0.22 ; log(dm/dt): -8.99*
For exptime=5424.6 s, spectral region:
1549.0 +- 1.0 A achieves SNR=20.0 / 6-pix-resel 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): 66.9 cts/s/segment
brightest pixel: 0.001 cts/s/pix at 1446.2 A
Calculation performed 2021-10-21T02:38:29, v0.23

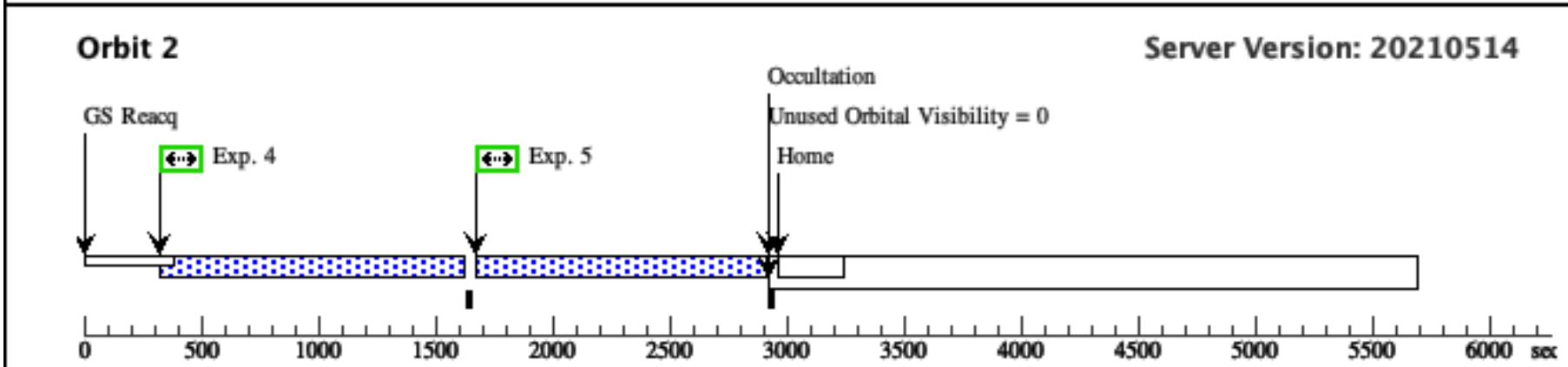
5	G160M/162 (1) SZ103 3-2 (1666798)	COS/FUV, TIME-TAG, PSA	G160M 1623 A	BUFFER-TIME=12 697; FP-POS=2	1183 Secs (1183 Secs) *[==>]*		

Comments: ETC exposure time is 2712 s per G160M setting. This exposure will be coadded with others.
Worst-case ETC run (1666799) gives 0.03 cts/s in brightest pixel and buffer time of 19046 s
M dwarf flare ETC run (1666800) gives 0.34 cts/s in brightest pixel
Buffer time set to 2/3 of worst-case result

sz103_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: M4 ; A_V: 0.7 ; Distance (pc): 200
M: 0.22 ; log(dm/dt): -8.99*
For exptime=5424.6 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): 66.9 cts/s/segment
brightest pixel: 0.001 cts/s/pix at 1446.2 A
Calculation performed 2021-10-21T02:38:29, v0.23

Orbit Structure





Visit

Proposal 16856, SZ103-STIS (1S) Mon Jan 10 21:01:33 GMT 2022

Diagnostic Status: No Diagnostics

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

Special Requirements: SCHED 100%; BETWEEN 26-MAR-2022:00:00:00 AND 29-JUL-2022:00:00:00; GROUP 1S,1C,1D,1E,1F,1G WITHIN 2D

Comments: vstatus; 1S; SZ103; S/STIS approved for submission; S/WF 10/01/22 ; intrev: complete ; S/JRD 10/01/22
vcheck; Enter targ name & Inst. & Resp. Sci.; Sz 103 ; STIS ; WF
vcheck; ETC numbers entered in APT?; yes ...
see comments in the STIS acquisition for details about the hybrid model used
vcheck; Any screening violations?; no
vcheck; M-dwarf check complete and added to box folder?; yes ...
located at: ~/Box/ullyses_tech/ullyses_proposals/survey_c29/16856/sz-103/mdwarf/
vcheck; S/N ETC calcs done & documented?; yes
vcheck; Field images checked & saved?; yes, no GALEX coverage ...
located at: ~/Box/ullyses_tech/ullyses_proposals/survey_c29/16856/sz-103/
vcheck; Selected ACQ strategy?; yes, F28X50LP
vcheck; Possible ACQ or Sci spoilers?; no
vcheck; Field BOT clear?; yes, nothing in the G230L macroaperture
vcheck; Visual BOT check for stars not in catalog?; yes
vcheck; Orbit packing finalized?; yes ...
both orbits are needed; exposure times were increased to 131% of ETC result for G430L and doubled for other gratings ...
use of MAMA + CCD in same visit is needed to ensure near-simultaneous measurement of NUV and optical continuum in this rapidly variable source
vcheck; Buffer times optimized?; yes
vcheck; Verify visit grouping correct; yes
vcheck; phase constraint for ground based observations added?; N/A
vcheck; BETWEENS for coordinated observations added?; yes
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)	SZ103	RA: 16 08 30.2565 (242.1260688d)	Proper Motion RA: -9.376732097 mas/yr	V=16.58	Reference Frame: ICRS
	Alt Name1: HBC-618	Dec: -39 06 11.54 (-39.10321d)	Proper Motion Dec: -23.37784849 mas/yr	SpT=M4; A_V=0.70; V=16.58; J=11.38	
		Equinox: J2000	Parallax: 0.006269607469"		
			Epoch of Position: 2015.5		

Comments: SZ103 : HBC 618
Region: Lupus III
Simbad: http://simbad.u-strasbg.fr/simbad/sim-id?Ident=sz103&submit=submit+id
Target coordinates are from Gaia DR2.
Spectral type: M4 ; A_V: 0.7 ; Distance (pc): 200
M: 0.22 ; log(dm/dt): -8.99*
Input file: lowmass_survey_Input-gaia.csv
sz103_lya2_etc_scaled_pAV0.50.txt
Calculation performed 2021-10-21T02:38:32, v0.8
---
tstatus; SZ103; P/COS approved for submission; S/STIS approved for submission; P/WF 10/01/22; S/WF 10/01/22
tcheck; APT/SIMBAD target names: ; 2MASS J16083026-3906111; HBC 618
tcheck; Target info verification status?; OK
tcheck; Coordinates & P.M. verified, epoch checked?; yes
tcheck; Adopted SED compared to Observations?; yes ...
VRI photometry is only 12-61% of CTTS template; use M4 model in optical
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 (1666805)	(1) SZ103	STIS/CCD, ACQ, F28X50LP	MIRROR				1 Secs (1 Secs) *[==>]*	***[1]***

Comments: Nominal ETC run gives 0.20 sec for S/N = 40
Worst-case ETC run (1548748) gives saturation in 11.4 sec

Used a hybrid model: CTTS template below 3700 A; M4 dwarf scaled to V = 16.58 above 3700 A
For S/N calcs, A_V = 1.2 is used instead of nominal A_V = 0.7; see sz110_lya2_etc_scaled_pAV0.50_M4phot.txt
For BOP calcs, nominal A_V is used and both components are scaled up by 4x; see sz110_lya2_x4.00_etc_M4phot.txt
Above SEDs and an IDL program to make them are in ~/Box/ullyses_tech/ullyses_proposals/survey_c29/16856/sz-103/seds/

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
2	G230L/2376 (1666802)	(1) SZ103	STIS/NUV-MAMA, TIME-TAG, 52X2	G230L 2376 A	WAVECAL=NO; BUFFER-TIME=298			598 Secs (598 Secs) *[==>]*	***[1]***

Comments: Exposure time of 299 s was doubled to 598 s
Worst-case ETC run (1666803) gives 2.72 cts/s in brightest pixel and buffer time of 763 s
M dwarf flare ETC run (1666804) gives 6.5 cts/s in brightest pixel
Buffer time set to just under half the exposure time

sz103_lya2_etc_scaled_pAV0.50.txt; stis,nuvmama,g230l,c2376,52x2,mjd#59670
Input file: lowmass_survey_Input-gaia.csv
Spectral type: M4 ; A_V: 0.7 ; Distance (pc): 200
M: 0.22 ; log(dm/dt): -8.99*
For exptime=299.2 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): 2345.0 cts/s/segment
brightest pixel: 0.282 cts/s/pix at 2796.8 A
Calculation performed 2021-10-21T02:38:31, v0.23

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
3	G230L/2376 WAVECAL	WAVE	STIS/NUV-MAMA, ACCUM, 52X0.1	G230L 2376 A				*[==>]*	***[1]***
4	G430L/4300 WAVECAL	WAVE	STIS/CCD, ACCUM, 52X0.1	G430L 4300 A				*[==>]*	***[1]***
5	G430L/4300 (1679038)	(1) SZ103	STIS/CCD, ACCUM, 52X2	G430L 4300 A	WAVECAL=NO; CR-SPLIT=2; GAIN=4			308 Secs (308 Secs) *[==>(Split 1)]* *[==>(Split 2)]*	***[1]***

Comments: ETC exposure time is 1932 s. This exposure will be coadded with a longer one.
ETC exposure time is larger than automatically calculated below due to use of an M dwarf SED
Worst-case ETC run (1666808) gives saturation in 4160 s
Used GAIN = 4 to guard against saturation on emission lines in 1281 s (ETC 1666809)

sz103_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: M4 ; A_V: 0.7 ; Distance (pc): 200
M: 0.22 ; log(dm/dt): -8.99*
For exptime=98.1 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): 37862.9 cts/s/segment
brightest pixel: 11.945 cts/s/pix at 4560.5 A
Calculation performed 2021-10-21T02:38:31, v0.23

6	G750L/7751 (1) SZ103 (1679039)	STIS/CCD, ACCUM, 52X2	G750L 7751 A	WAVECAL=NO; CR-SPLIT=4; GAIN=4	232 Secs (232 Secs) *[==>(Split 1)]* *[==>(Split 2)]* *[==>(Split 3)]* *[==>(Split 4)]*	***[1]***

Comments: Exposure time of 116 s was doubled to 232 s
Exposure time is larger than automatically calculated below due to use of an M dwarf SED
Worst-case ETC run (1666813) gives saturation in 950 s
Used CR-SPLIT = 4 and GAIN = 4 to guard against saturation on emission lines in 166 s (ETC 1666814)

sz103_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: M4 ; A_V: 0.7 ; Distance (pc): 200
M: 0.22 ; log(dm/dt): -8.99*
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): 71333.6 cts/s/segment
brightest pixel: 106.038 cts/s/pix at 6563.9 A
Calculation performed 2021-10-21T02:38:32, v0.23

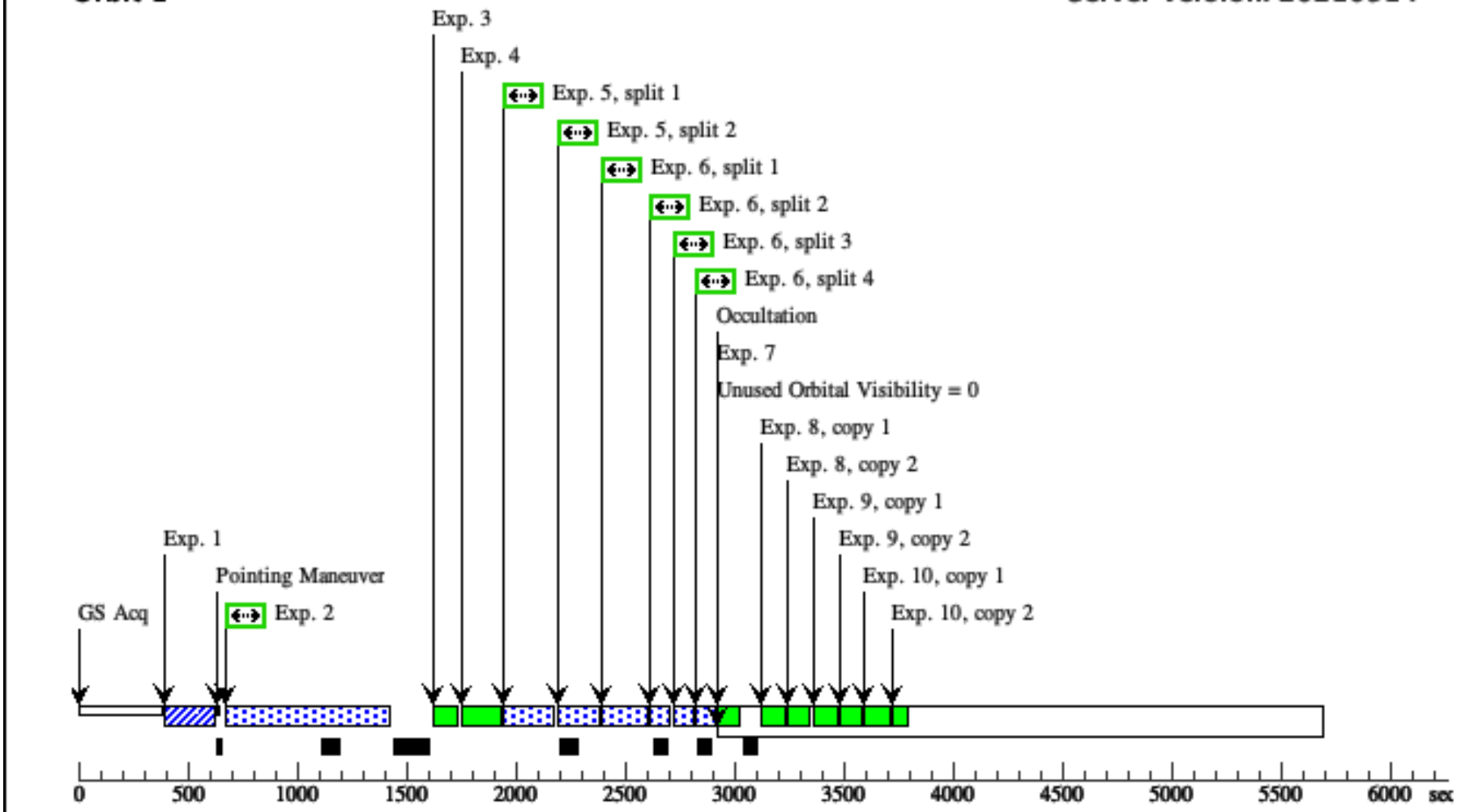
7	G750L/7751 WAVE WAVECAL	STIS/CCD, ACCUM, 52X0.1	G750L 7751 A		*[==>]*	***[1]***
8	G750L/7751 CCDFLAT CCDFLAT 1	STIS/CCD, ACCUM, 0.3X0.09	G750L 7751 A		*[==>(Copy 1)]* *[==>(Copy 2)]*	***[1]***
9	G750L/7751 CCDFLAT CCDFLAT 2	STIS/CCD, ACCUM, 52X0.1	G750L 7751 A		*[==>(Copy 1)]* *[==>(Copy 2)]*	***[1]***
10	G750L/7751 CCDFLAT CCDFLAT 3	STIS/CCD, ACCUM, 52X2	G750L 7751 A		*[==>(Copy 1)]* *[==>(Copy 2)]*	***[1]***
11	G430L/4300 (1) SZ103 (1679038)	STIS/CCD, ACCUM, 52X2	G430L 4300 A	WAVECAL=NO; CR-SPLIT=4; GAIN=4	2228 Secs (2228 Secs) *[==>(Split 1)]* *[==>(Split 2)]* *[==>(Split 3)]* *[==>(Split 4)]*	***[2]***

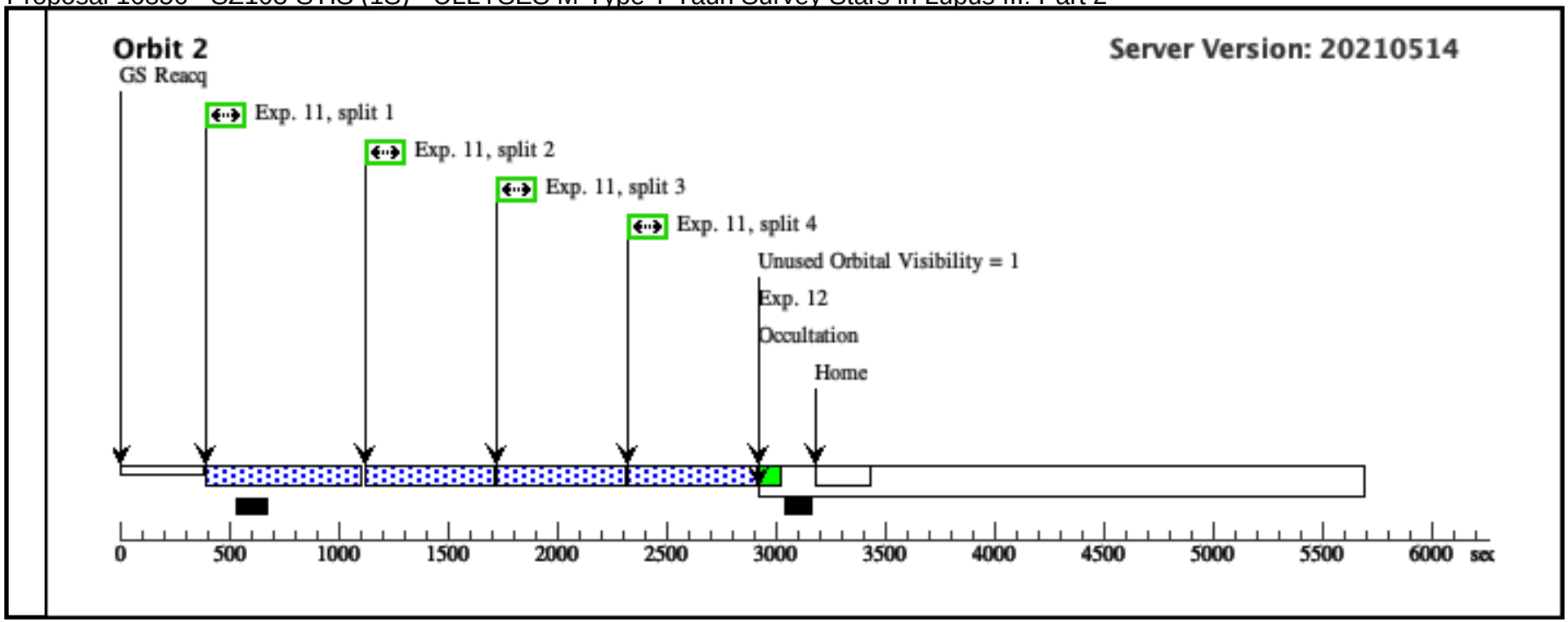
Comments: ETC exposure time is 1932 s. This exposure will be coadded with another one to reach 131% of this.
ETC exposure time is larger than automatically calculated below due to use of an M dwarf SED
Worst-case ETC run (1666808) gives saturation in 4160 s
Used CR-SPLIT = 4 and GAIN = 4 to guard against saturation on emission lines in 1281 s (ETC 1666809)

sz103_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: M4 ; A_V: 0.7 ; Distance (pc): 200
M: 0.22 ; log(dm/dt): -8.99*
For exptime=98.1 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): 37862.9 cts/s/segment
brightest pixel: 11.945 cts/s/pix at 4560.5 A
Calculation performed 2021-10-21T02:38:31, v0.23

12	G430L/4300 WAVE WAVECAL	STIS/CCD, ACCUM, 52X0.1	G430L 4300 A		*[==>]*	***[2]***

Orbit Structure




Orbit 2
Server Version: 20210514
GS Reacq
Exp. 11, split 1
Exp. 11, split 2
Exp. 11, split 3
Exp. 11, split 4
Unused Orbital Visibility = 1
Exp. 12
Occultation
Home
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
6000
sec

Visit

Proposal 16856, SZ110-COS (2C) Mon Jan 10 21:01:34 GMT 2022

Diagnostic Status: No Diagnostics

Scientific Instruments: COS/FUV, COS/NUV

Special Requirements: SCHED 100%; BETWEEN 26-MAR-2022:00:00:00 AND 29-JUL-2022:00:00:00

Comments: vstatus; 2C; SZ110; P/COS approved for submission; P/WF 10/01/22 ; intrev: complete ; P/JRD 10/01/22
vcheck; Enter targ name & Inst. & Resp. Sci.; Sz 110 ; COS ; WF
vcheck; ETC numbers entered in APT?; yes ...
see comments in the COS acquisition for details about the hybrid model used
vcheck; Any screening violations?; no
vcheck; M-dwarf check complete and added to box folder?; yes ...
located at: ~/Box/ullyses_tech/ullyses_proposals/survey_c29/16856/sz-110/mdwarf/
vcheck; S/N ETC calcs done & documented?; yes
vcheck; Field images checked & saved?; yes, no GALEX coverage ...
located at: ~/Box/ullyses_tech/ullyses_proposals/survey_c29/16856/sz-110/
vcheck; Selected ACQ strategy?; yes; dispersed with G230L/2635 ...
see ~/Box/ullyses_tech/ullyses_proposals/survey_c29/16856/sz-110/acq_strategies.xlsx for assessment of strategies
vcheck; Possible ACQ or Sci spoilers?; no
vcheck; Field BOT clear?; yes ...
see ~/Box/ullyses_tech/ullyses_proposals/survey_c29/16856/sz-110/field/
vcheck; Visual BOT check for stars not in catalog?; yes
vcheck; Orbit packing finalized?; yes ...
Both gratings are at 147% of requested times
vcheck; Buffer times optimized?; yes, all are texp - 110 sec
vcheck; Verify visit grouping correct; yes
vcheck; phase constraint for ground based observations added?; N/A
vcheck; BETWEENS for coordinated observations added?; yes
vcheck; Is visit ready for int. review?; yes
Allocated COS orbits = 2

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(2)	SZ110	RA: 16 08 51.5567 (242.2148196d)	Proper Motion RA: -9.578894532 mas/yr	V=14.995	Reference Frame: ICRS
	Alt Name1: V1193-SCO	Dec: -39 03 18.07 (-39.05502d)	Proper Motion Dec: -23.38886823 mas/yr	SpT=M4; A_V=0.00; B=15.95; V=14.99; J=10.97	
		Equinox: J2000	Parallax: 0.006269322537"		
			Epoch of Position: 2015.5		

Comments: SZ110 : V1193 Sco
Region: Lupus III
Simbad: http://simbad.u-strasbg.fr/simbad/sim-id?Ident=sz110&submit=submit+id
Target coordinates are from Gaia DR2.
Spectral type: M4 ; A_V: 0.0 ; Distance (pc): 200
M: 0.22 ; log(dm/dt): -8.53*
Input file: lowmass_survey_Input-gaia.csv
sz110_lya2_etc_scaled_pAV0.50.txt
Calculation performed 2021-10-21T02:38:41, v0.8
---
tstatus; SZ110; P/COS approved for submission; S/STIS approved for submission; P/WF 10/01/22; S/WF 10/01/22
tcheck; APT/SIMBAD target names: ; HBC 621; V1193 Sco
tcheck; Target info verification status?; OK
tcheck; Coordinates & P.M. verified, epoch checked?; yes
tcheck; Adopted SED compared to Observations?; yes ...
BVRI photometry is only 16-59% of CTTS template; use M4 model in optical
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	NUV PEAK XD (1666741)	(2) SZ110	COS/NUV, ACQ/PEAKXD, PSA	G230L 2635 A	STRIPE=DEF			74 Secs (74 Secs) *[==>]*	*[1]*

Comments: Exposure time doubled from 37 s in case target is faint
Worst-case ETC run (1666745) gives 5.1 cts/s in brightest pixel
M dwarf flare ETC run (1666747) gives 4.8 cts/s in brightest pixel

Used a hybrid model: CTTS template below 3700 A; M4 dwarf scaled to B = 15.945 above 3700 A
For S/N calcs, A_V = 0.5 is used instead of nominal A_V = 0.0; see sz110_lya2_etc_scaled_pAV0.50_M4phot.txt
For BOP calcs, nominal A_V is used and both components are scaled up by 4x; see sz110_lya2_x4.00_etc_M4phot.txt
Above SEDs and an IDL program to make them are in ~/Box/ullyses_tech/ullyses_proposals/survey_c29/16856/sz-110/seds/
For M dwarf flaring, see ~/Box/ullyses_tech/ullyses_proposals/survey_c29/16856/sz-110/mdwarf/

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
2	NUV PEAK D (1666740)	(2) SZ110	COS/NUV, ACQ/PEAKD, PSA	G230L 2635 A	CENTER=DEF; NUM-POS=5; STEP-SIZE=0.9			102 Secs (102 Secs) *[==>]*	*[1]*

Comments: Exposure time doubled from 51 s in case target is faint
Worst-case ETC run (1666746) gives 5.1 cts/s in brightest pixel
M dwarf flare ETC run (1666748) gives 4.8 cts/s in brightest pixel

Used a hybrid model: CTTS template below 3700 A; M4 dwarf scaled to B = 15.945 above 3700 A
For S/N calcs, A_V = 0.5 is used instead of nominal A_V = 0.0; see sz110_lya2_etc_scaled_pAV0.50_M4phot.txt
For BOP calcs, nominal A_V is used and both components are scaled up by 4x; see sz110_lya2_x4.00_etc_M4phot.txt
Above SEDs and an IDL program to make them are in ~/Box/ullyses_tech/ullyses_proposals/survey_c29/16856/sz-110/seds/
For M dwarf flaring, see ~/Box/ullyses_tech/ullyses_proposals/survey_c29/16856/sz-110/mdwarf/

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
3	G160M/1623-1 (1666643)	(2) SZ110	COS/FUV, TIME-TAG, PSA	G160M 1623 A	BUFFER-TIME=573; FP-POS=1			683 Secs (683 Secs) *[==>]*	*[1]*

Comments: Exposure time of 229 s per G160M setting was doubled to 458 s and extended to help fill the orbit
Worst-case ETC run (1666644) gives 0.36 cts/s in brightest pixel and buffer time of 2464 s
M dwarf flare ETC run (1666645) gives 2.43 cts/s in brightest pixel
Buffer time is exp time - 110 s

sz110_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: M4 ; A_V: 0.0 ; Distance (pc): 200
M: 0.22 ; log(dm/dt): -8.53*
For exptime=457.6 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): 130.0 cts/s/segment
brightest pixel: 0.025 cts/s/pix at 1446.2 A
Calculation performed 2021-10-21T02:38:39, v0.23

4	G160M/162 3-2 (1666643)	(2) SZ110	COS/FUV, TIME-TAG, PSA	G160M 1623 A	BUFFER-TIME=573; FP-POS=2	683 Secs (683 Secs) *[==>]*	***[1]***

Comments: Exposure time of 229 s per G160M setting was doubled to 458 s and extended to help fill the orbit
Worst-case ETC run (1666644) gives 0.36 cts/s in brightest pixel and buffer time of 2464 s
M dwarf flare ETC run (1666645) gives 2.43 cts/s in brightest pixel
Buffer time is exp time - 110 s

sz110_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: M4 ; A_V: 0.0 ; Distance (pc): 200
M: 0.22 ; log(dm/dt): -8.53*
For exptime=457.6 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): 130.0 cts/s/segment
brightest pixel: 0.025 cts/s/pix at 1446.2 A
Calculation performed 2021-10-21T02:38:39, v0.23

5	G160M/158 9-3 (1666640)	(2) SZ110	COS/FUV, TIME-TAG, PSA	G160M 1589 A	BUFFER-TIME=538; FP-POS=3	648 Secs (648 Secs) *[==>]*	***[2]***

Comments: Exposure time of 224 s per G160M setting was doubled to 448 s and extended to help fill the orbit
Worst-case ETC run (1666641) gives 0.38 cts/s in brightest pixel and buffer time of 2081 s
M dwarf flare ETC run (1666642) gives 2.41 cts/s in brightest pixel
Buffer time is exp time - 110 s

sz110_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: M4 ; A_V: 0.0 ; Distance (pc): 200
M: 0.22 ; log(dm/dt): -8.53*
For exptime=447.2 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): 142.4 cts/s/segment
brightest pixel: 0.027 cts/s/pix at 1446.2 A
Calculation performed 2021-10-21T02:38:37, v0.23

6	G160M/158 9-4 (1666640)	(2) SZ110	COS/FUV, TIME-TAG, PSA	G160M 1589 A	BUFFER-TIME=538; FP-POS=4	648 Secs (648 Secs) *[==>]*	***[2]***

Comments: Exposure time of 224 s per G160M setting was doubled to 448 s and extended to help fill the orbit
Worst-case ETC run (1666641) gives 0.38 cts/s in brightest pixel and buffer time of 2081 s
M dwarf flare ETC run (1666642) gives 2.41 cts/s in brightest pixel
Buffer time is exp time - 110 s

sz110_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: M4 ; A_V: 0.0 ; Distance (pc): 200
M: 0.22 ; log(dm/dt): -8.53*
For exptime=447.2 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): 142.4 cts/s/segment
brightest pixel: 0.027 cts/s/pix at 1446.2 A
Calculation performed 2021-10-21T02:38:37, v0.23

7	G130M/129 (2) SZ110 1-3 (1666637)	COS/FUV, TIME-TAG, PSA	G130M 1291 A	BUFFER-TIME=229; FP-POS=3	339 Secs (339 Secs) *[==>]*		
							[2]

Comments: Exposure time of 115 s per G130M setting was doubled to 230 s and extended to help fill the orbit
Worst-case ETC run (1666639) gives 0.50 cts/s in brightest pixel and buffer time of 660 s
M dwarf flare ETC run (1666638) gives 1.66 cts/s in brightest pixel
Buffer time is exp time - 110 s

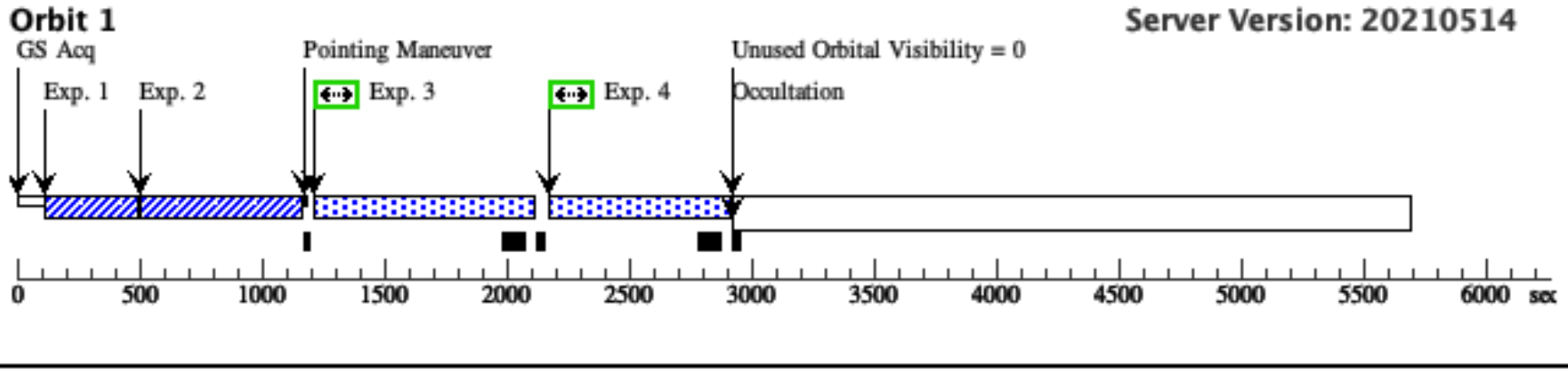
sz110_lya2_etc_scaled_pAV0.50.txt; cos,fuv,g130m,c1291,psa,mjd#59670; fp-pos=None, segment=None)
Input file: lowmass_survey_Input-gaia.csv
Spectral type: M4 ; A_V: 0.0 ; Distance (pc): 200
M: 0.22 ; log(dm/dt): -8.53*
For exptime=229.9 s, spectral region:
1239.0 +- 1.0 A achieves SNR=10.0 / 6-pix-resel
A factor of 2.0 has been applied to the exptime in each exposure.
global countrate (brightest segment): 555.6 cts/s/segment
brightest pixel: 0.103 cts/s/pix at 1304.8 A
Calculation performed 2021-10-21T02:38:41, v0.23

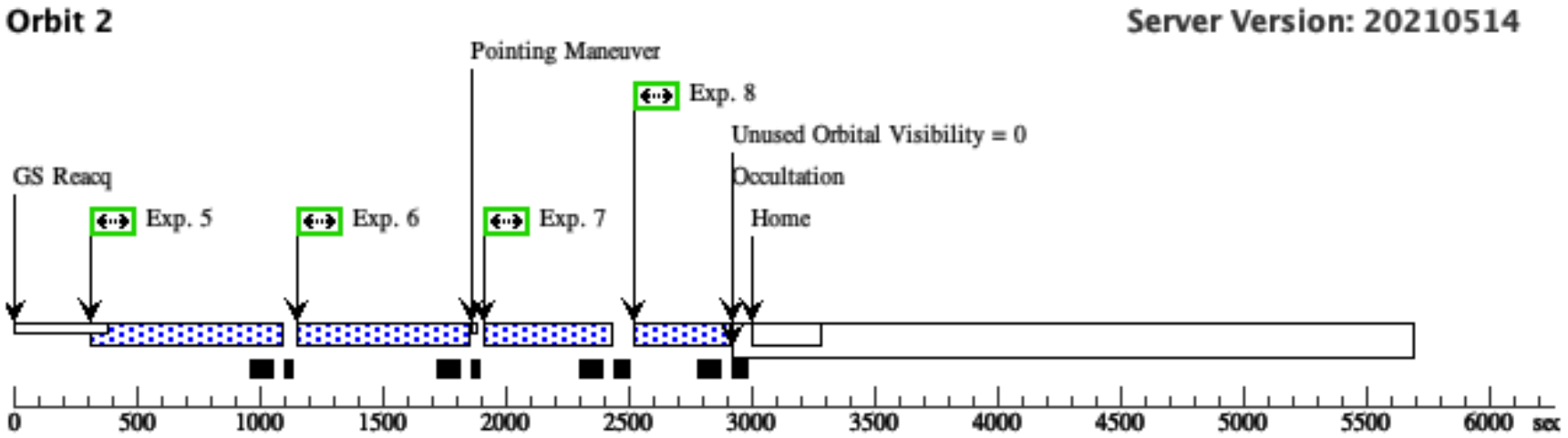
8	G130M/129 (2) SZ110 1-4 (1666637)	COS/FUV, TIME-TAG, PSA	G130M 1291 A	BUFFER-TIME=229; FP-POS=4	339 Secs (339 Secs) *[==>]*		
							[2]

Comments: Exposure time of 115 s per G130M setting was doubled to 230 s and extended to help fill the orbit
Worst-case ETC run (1666639) gives 0.50 cts/s in brightest pixel and buffer time of 660 s
M dwarf flare ETC run (1666638) gives 1.66 cts/s in brightest pixel
Buffer time is exp time - 110 s

sz110_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: M4 ; A_V: 0.0 ; Distance (pc): 200
M: 0.22 ; log(dm/dt): -8.53*
For exptime=229.9 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): 555.6 cts/s/segment
brightest pixel: 0.103 cts/s/pix at 1304.8 A
Calculation performed 2021-10-21T02:38:41, v0.23

Orbit Structure





Visit

Proposal 16856, SZ110-STIS (2S) Mon Jan 10 21:01:34 GMT 2022

Diagnostic Status: No Diagnostics

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

Special Requirements: SCHED 100%; BETWEEN 26-MAR-2022:00:00:00 AND 29-JUL-2022:00:00:00; GROUP 2S,2C WITHIN 1D

Comments: vstatus; 2S; SZ110; S/STIS approved for submission; S/WF 10/01/22 ; intrev: complete ; S/JRD 10/01/22
vcheck; Enter targ name & Inst. & Resp. Sci.; Sz 110 ; STIS ; WF
vcheck; ETC numbers entered in APT?; yes ...
see comments in the COS acquisition for details about the hybrid model used
vcheck; Any screening violations?; no
vcheck; M-dwarf check complete and added to box folder?; yes ...
located at: ~/Box/ullyses_tech/ullyses_proposals/survey_c29/16856/sz-110/mdwarf/
vcheck; S/N ETC calcs done & documented?; yes
vcheck; Field images checked & saved?; yes, no GALEX coverage ...
located at: box/ullyses_tech/ullyses_proposals/survey_c29/16856/sz-110/
vcheck; Selected ACQ strategy?; yes, F28X50LP
vcheck; Possible ACQ or Sci spoilers?; no
vcheck; Field BOT clear?; yes
vcheck; Visual BOT check for stars not in catalog?; yes
vcheck; Orbit packing finalized?; yes ...
Exposure times were increased to about 5.9x ETC results. Only one orbit needed.
vcheck; Buffer times optimized?; yes
vcheck; Verify visit grouping correct; yes
vcheck; phase constraint for ground based observations added?; N/A
vcheck; BETWEENS for coordinated observations added?; yes
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)	SZ110	RA: 16 08 51.5567 (242.2148196d)	Proper Motion RA: -9.578894532 mas/yr	V=14.995	Reference Frame: ICRS
	Alt Name1: V1193-SCO	Dec: -39 03 18.07 (-39.05502d)	Proper Motion Dec: -23.38886823 mas/yr	SpT=M4; A_V=0.00; B=15.95; V=14.99; J=10.97	
		Equinox: J2000	Parallax: 0.006269322537"		
			Epoch of Position: 2015.5		

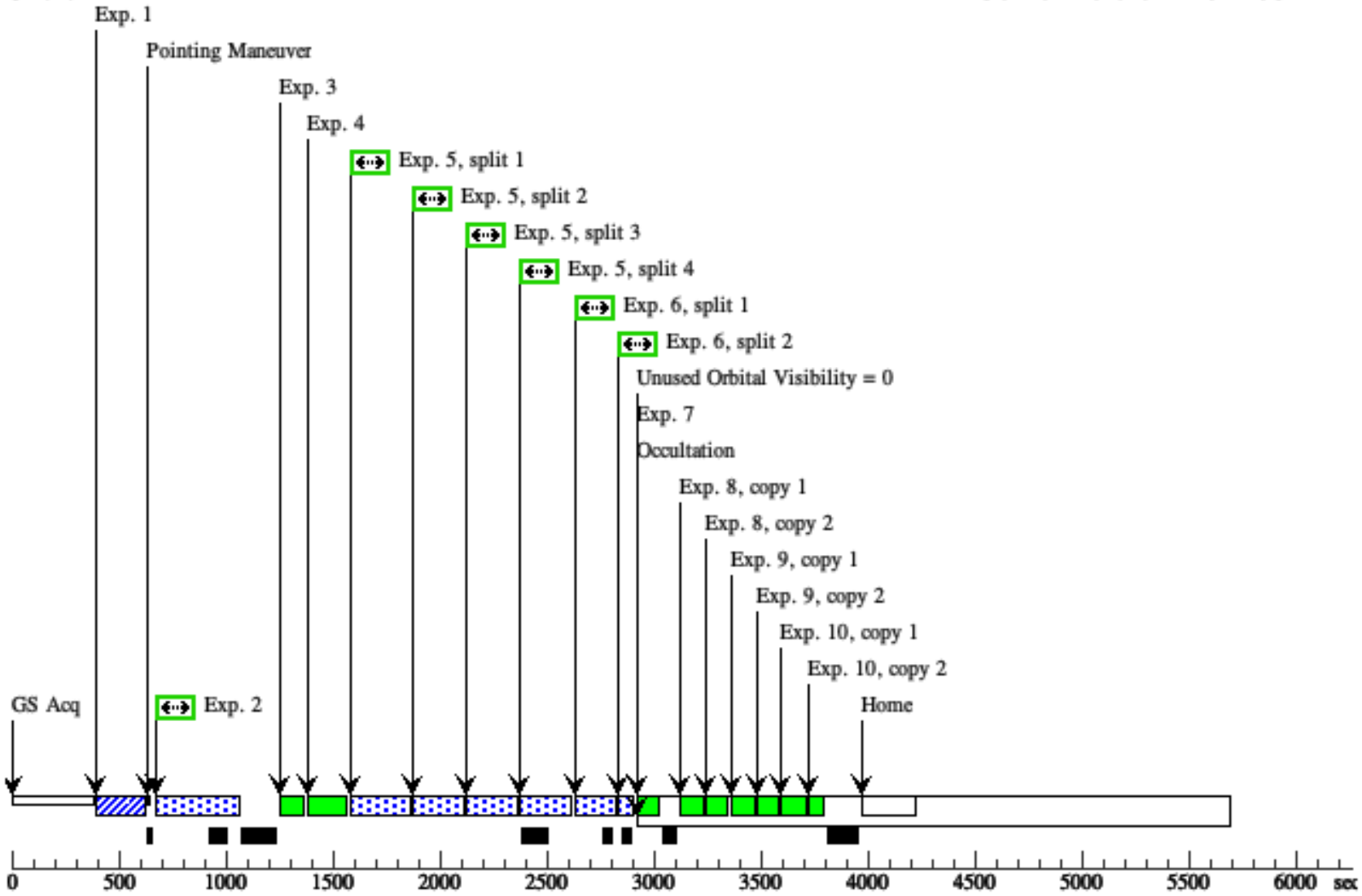
Comments: SZ110 : V1193 Sco
Region: Lupus III
Simbad: http://simbad.u-strasbg.fr/simbad/sim-id?Ident=sz110&submit=submit+id
Target coordinates are from Gaia DR2.
Spectral type: M4 ; A_V: 0.0 ; Distance (pc): 200
M: 0.22 ; log(dm/dt): -8.53*
Input file: lowmass_survey_Input-gaia.csv
sz110_lya2_etc_scaled_pAV0.50.txt
Calculation performed 2021-10-21T02:38:41, v0.8
---
tstatus; SZ110; P/COS approved for submission; S/STIS approved for submission; P/WF 10/01/22; S/WF 10/01/22
tcheck; APT/SIMBAD target names: ; HBC 621; V1193 Sco
tcheck; Target info verification status?; OK
tcheck; Coordinates & P.M. verified, epoch checked?; yes
tcheck; Adopted SED compared to Observations?; yes ...
BVRI photometry is only 16-59% of CTTS template; use M4 model in optical
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 (1666647)	(2) SZ110	STIS/CCD, ACQ, F28X50LP	MIRROR				0.4 Secs (0.4 Secs) *[==>]*	 ***[1]***
	Comments: Nominal ETC run gives 0.03 s for S/N = 40 *Worst-case ETC run (1666648) gives saturation in 1.9 s*								
2	G230L/2376 (1666652)	(2) SZ110	STIS/NUV-MAMA, TIME-TAG, 52X2	G230L 2376 A	WAVECAL=NO; BUFFER-TIME=117			236 Secs (236 Secs) *[==>]*	 ***[1]***
	Comments: Exposure time of 40 s was doubled to 80 s and extended to help fill the orbit *Worst-case ETC run (1666650) gives 19.9 cts/s in brightest pixel and buffer time of 389 s* *M dwarf flare ETC run (1666651) gives 17.5 cts/s in brightest pixel* *Buffer time set to just under half the exposure time* *sz110_lya2_etc_scaled_pAV0.50.txt; stis,nuvmama,g230l,c2376,52x2,mjd#59670* *Input file: lowmass_survey_Input-gaia.csv* *Spectral type: M4 ; A_V: 0.0 ; Distance (pc): 200* *M*: 0.22 ; log(dm/dt): -8.53* *For exptime=39.8 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): 2587.6 cts/s/segment* *brightest pixel: 2.042 cts/s/pix at 2796.8 A* *Calculation performed 2021-10-21T02:38:41, v0.23*								
3	G230L/2376 WAVECAL	WAVE	STIS/NUV-MAMA, ACCUM, 52X0.1	G230L 2376 A				*[==>]*	***[1]***
4	G430L/4300 WAVECAL	WAVE	STIS/CCD, ACCUM, 52X0.1	G430L 4300 A				*[==>]*	***[1]***
5	G430L/4300 (1679029)	(2) SZ110	STIS/CCD, ACCUM, 52X2	G430L 4300 A	WAVECAL=NO; CR-SPLIT=4; GAIN=4			824 Secs (824 Secs) *[==>(Split 1)]* *[==>(Split 2)]* *[==>(Split 3)]* *[==>(Split 4)]*	 ***[1]***
	Comments: Exposure time of 139 s was doubled to 278 s and extended to help fill the orbit *Exposure time is larger than automatically calculated below due to use of an M dwarf SED* *Worst-case ETC run (1666654) gives saturation in 783 s* *Used CR-SPLIT = 4 and GAIN = 4 to guard against saturation on emission lines in 312 s (ETC 1666656)* *sz110_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: M4 ; A_V: 0.0 ; Distance (pc): 200* *M*: 0.22 ; log(dm/dt): -8.53* *For exptime=20.7 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): 60180.5 cts/s/segment* *brightest pixel: 48.962 cts/s/pix at 4560.5 A* *Calculation performed 2021-10-21T02:38:41, v0.23*								

	6	G750L/7751 (2) SZ110 (1679030)	STIS/CCD, ACCUM, 52X2	G750L 7751 A	WAVECAL=NO; CR-SPLIT=2; GAIN=4	82 Secs (82 Secs) *[==>(Split 1)]* *[==>(Split 2)]*	***[1]***
		Comments: Exposure time of 14 s was doubled to 28 s and extended to help fill the orbit *Exposure time is larger than automatically calculated below due to use of an M dwarf SED* *Worst-case ETC run (1666658) gives saturation in 156 s* *Used GAIN = 4 to guard against saturation on emission lines in 63 s (ETC 1666659)* *sz110_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: M4 ; A_V: 0.0 ; Distance (pc): 200* *M*: 0.22 ; log(dm/dt): -8.53* *For exptime=2.1 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): 131388.6 cts/s/segment* *brightest pixel: 279.580 cts/s/pix at 6563.9 A* *Calculation performed 2021-10-21T02:38:41, v0.23*					
	7	G750L/7751 WAVE WAVECAL	STIS/CCD, ACCUM, 52X0.1	G750L 7751 A		*[==>]*	***[1]***
	8	G750L/7751 CCDFLAT CCDFLAT 1	STIS/CCD, ACCUM, 0.3X0.09	G750L 7751 A		*[==>(Copy 1)]* *[==>(Copy 2)]*	***[1]***
	9	G750L/7751 CCDFLAT CCDFLAT 2	STIS/CCD, ACCUM, 52X0.1	G750L 7751 A		*[==>(Copy 1)]* *[==>(Copy 2)]*	***[1]***
	10	G750L/7751 CCDFLAT CCDFLAT 3	STIS/CCD, ACCUM, 52X2	G750L 7751 A		*[==>(Copy 1)]* *[==>(Copy 2)]*	***[1]***

Orbit Structure



Visit

Proposal 16856, SZ99-COS (3C) Mon Jan 10 21:01:34 GMT 2022

Diagnostic Status: No Diagnostics

Scientific Instruments: COS/FUV, COS/NUV

Special Requirements: SCHED 100%; BETWEEN 26-MAR-2022:00:00:00 AND 29-JUL-2022:00:00:00

Comments: vstatus; 3C; SZ99; P/COS approved for submission; P/WF 10/01/22 ; intrev: complete ; P/JRD 10/01/22
vcheck; Enter targ name & Inst. & Resp. Sci.; Sz 99 ; COS ; WF
vcheck; ETC numbers entered in APT?; yes ...
see comments in the COS acquisition for details about the hybrid model used
vcheck; Any screening violations?; no
vcheck; M-dwarf check complete and added to box folder?; yes ...
located at: ~/Box/ullyses_tech/ullyses_proposals/survey_c29/16856/sz-99/mdwarf/
vcheck; S/N ETC calcs done & documented?; yes
vcheck; Field images checked & saved?; yes, no GALEX coverage ...
located at: ~/Box/ullyses_tech/ullyses_proposals/survey_c29/16856/sz-99/
vcheck; Selected ACQ strategy?; yes; PSA/MirrorB
vcheck; Possible ACQ or Sci spoilers?; no
vcheck; Field BOT clear?; yes, nothing in the macroapertures
vcheck; Visual BOT check for stars not in catalog?; yes
vcheck; Orbit packing finalized?; yes ...
G130M gets 108% of requested time and G160M gets 85% of requested time
vcheck; Buffer times optimized?; yes, all are texp - 110 sec
vcheck; Verify visit grouping correct; yes
vcheck; phase constraint for ground based observations added?; N/A
vcheck; BETWEENS for coordinated observations added?; yes
vcheck; Is visit ready for int. review?; yes
Allocated COS orbits = 5

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(3)	SZ99	RA: 16 08 24.0300 (242.1001250d) Dec: -39 05 49.80 (-39.09717d) Equinox: J2000	Proper Motion RA: -8.998766818 mas/yr Proper Motion Dec: -23.6091 mas/yr Parallax: 0.006288103844" Epoch of Position: 2015.5	V=17.047 SpT=M4; A_V=0.00; B=17.69; V=17.05; J=11.93	Reference Frame: ICRS

Comments: SZ99
Region: Lupus III
Simbad: http://simbad.u-strasbg.fr/simbad/sim-id?Ident=sz99&submit=submit+id
Target coordinates are from Gaia DR2.
Spectral type: M4 ; A_V: 0.0 ; Distance (pc): 200
M: 0.23 ; log(dm/dt): -9.41*
Input file: lowmass_survey_Input-gaia.csv
sz99_lya2_etc_scaled_pAV0.50.txt
Calculation performed 2021-10-21T02:38:22, v0.8
---
tstatus; SZ99; P/COS approved for submission; S/STIS approved for submission; P/WF 10/01/22; S/WF 10/01/22
tcheck; APT/SIMBAD target names: ; 2MASS J16082404-3905494
tcheck; Target info verification status?; OK
tcheck; Coordinates & P.M. verified, epoch checked?; yes
tcheck; Adopted SED compared to Observations?; Adopted SED compared to Observations?; yes ...
BVRI photometry is only 7-25% of CTTS template; use M4 model in optical

For the M dwarf check of Sz 99, we use A_V = 0.4, reported by Mortier et al. (2011, MNRAS, 418, 1194); henceforth M11. This is more reasonable than the A_V = 0.0 reported by Alcala et al. (2014, A&A, 561, A2); henceforth A14. Both M11 and A14 compare spectra of Sz 99 to templates to derive A_V. M11 use a field dwarf as a template, which almost certainly has A_V = 0. A14 use TWA 9B as a template and do not seem to allow for the fact that it may have A_V > 0. This does not affect exposure time estimates, since these were conservatively calculated assuming A_V = 0.5.
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 (1666756)	(3) SZ99	COS/NUV, ACQ/IMAGE, PSA	MIRRORB				178 Secs (178 Secs) *[==>]*	***[1]***

Comments: Exposure time doubled from 89 s in case target is faint
Worst-case ETC run (1666757) gives 6.9 cts/s in brightest pixel
M dwarf flare ETC run (1666758) gives 97 cts/s in brightest pixel

Used a hybrid model: CTTS template below 3700 A; M4 dwarf scaled to B = 17.687 above 3700 A
For S/N calcs, A_V = 0.5 is used instead of nominal A_V = 0.0; see sz99_lya2_etc_scaled_pAV0.50_M4phot.txt
For BOP calcs, nominal A_V is used and both components are scaled up by 4x; see sz99_lya2_x4.00_etc_M4phot.txt
Above SEDs and an IDL program to make them are in ~/Box/ullyses_tech/ullyses_proposals/survey_c29/16856/sz-99/seds/
For M dwarf flaring, see ~/Box/ullyses_tech/ullyses_proposals/survey_c29/16856/sz-99/mdwarf/

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
2	G130M/1291 1-3 (1666760)	(3) SZ99	COS/FUV, TIME-TAG, PSA	G130M 1291 A	BUFFER-TIME=1755; FP-POS=3			1865 Secs (1865 Secs) *[==>]*	***[1]***

Comments: Exposure time of 865 s per G130M setting was doubled to 1730 s and extended to fill the orbit
Worst-case ETC run (1666761) gives 0.10 cts/s in brightest pixel and buffer time of 3409 s
M dwarf flare ETC run (1666762) gives 0.30 cts/s in brightest pixel
Buffer time is exp time - 110 s

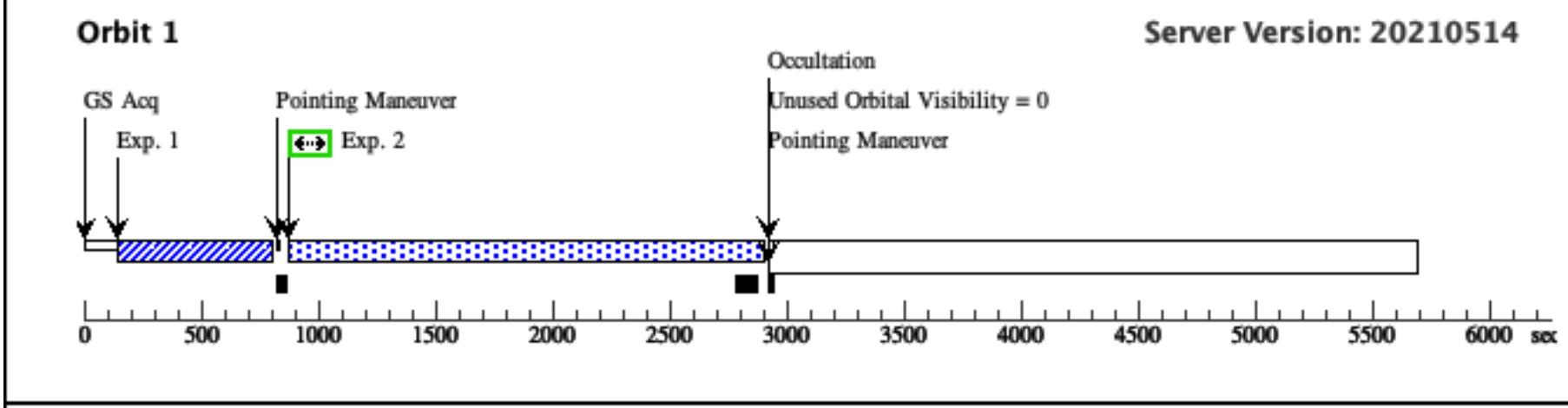
sz99_lya2_etc_scaled_pAV0.50.txt; cos,fuv,g130m,c1291,psa,mjd#59670; fp-pos=None, segment=None)
Input file: lowmass_survey_Input-gaia.csv
Spectral type: M4 ; A_V: 0.0 ; Distance (pc): 200
M: 0.23 ; log(dm/dt): -9.41*
For exptime=1730.6 s, spectral region:
1239.0 +- 1.0 A achieves SNR=10.0 / 6-pix-resel
A factor of 2.0 has been applied to the exptime in each exposure.
global countrate (brightest segment): 315.5 cts/s/segment
brightest pixel: 0.013 cts/s/pix at 1304.8 A
Calculation performed 2021-10-21T02:38:22, v0.23

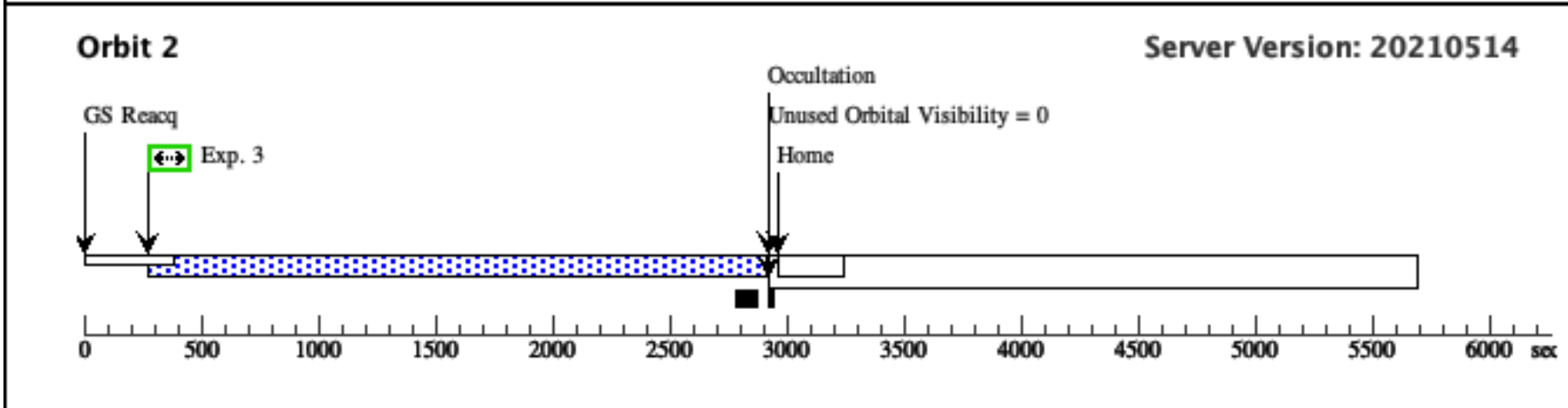
#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
3	G160M/1589 9-3 (1666763)	(3) SZ99	COS/FUV, TIME-TAG, PSA	G160M 1589 A	BUFFER-TIME=2359; FP-POS=3			2469 Secs (2469 Secs) *[==>]*	***[2]***

Comments: Exposure time of 1050 s per G160M setting was doubled to 2100 s and extended to fill the orbit
Worst-case ETC run (1666764) gives 0.05 cts/s in brightest pixel and buffer time of 10487 s
M dwarf flare ETC run (1666765) gives 0.56 cts/s in brightest pixel
Buffer time is exp time - 110 s

sz99_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: M4 ; A_V: 0.0 ; Distance (pc): 200
M: 0.23 ; log(dm/dt): -9.41*
For exptime=2098.8 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): 74.5 cts/s/segment
brightest pixel: 0.003 cts/s/pix at 1446.2 A
Calculation performed 2021-10-21T02:38:18, v0.23

Orbit Structure





Visit

Proposal 16856, SZ99-COS (3D) Mon Jan 10 21:01:34 GMT 2022

Diagnostic Status: No Diagnostics

Scientific Instruments: COS/FUV, COS/NUV

Special Requirements: SCHED 100%; BETWEEN 26-MAR-2022:00:00:00 AND 29-JUL-2022:00:00:00

Comments: vstatus; 3D; SZ99; P/COS approved for submission; P/WF 10/01/22 ; intrev: complete ; P/JRD 10/01/22
vcheck; Enter targ name & Inst. & Resp. Sci.; Sz 99 ; COS ; WF
vcheck; ETC numbers entered in APT?; yes ...
see comments in the COS acquisition for details about the hybrid model used
vcheck; Any screening violations?; no
vcheck; M-dwarf check complete and added to box folder?; yes ...
located at: ~/Box/ullyses_tech/ullyses_proposals/survey_c29/16856/sz-99/mdwarf/
vcheck; S/N ETC calcs done & documented?; yes
vcheck; Field images checked & saved?; yes, no GALEX coverage ...
located at: ~/Box/ullyses_tech/ullyses_proposals/survey_c29/16856/sz-99/
vcheck; Selected ACQ strategy?; yes; PSA/MirrorB
vcheck; Possible ACQ or Sci spoilers?; no
vcheck; Field BOT clear?; yes, nothing in the macroapertures
vcheck; Visual BOT check for stars not in catalog?; yes
vcheck; Orbit packing finalized?; yes ...
G130M gets 108% of requested time and G160M gets 85% of requested time
vcheck; Buffer times optimized?; yes, all are texp - 110 sec
vcheck; Verify visit grouping correct; yes
vcheck; phase constraint for ground based observations added?; N/A
vcheck; BETWEENS for coordinated observations added?; yes
vcheck; Is visit ready for int. review?; yes
Allocated COS orbits = 5

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(3)	SZ99	RA: 16 08 24.0300 (242.1001250d) Dec: -39 05 49.80 (-39.09717d) Equinox: J2000	Proper Motion RA: -8.998766818 mas/yr Proper Motion Dec: -23.6091 mas/yr Parallax: 0.006288103844" Epoch of Position: 2015.5	V=17.047 SpT=M4; A_V=0.00; B=17.69; V=17.05; J=11.93	Reference Frame: ICRS

Comments: SZ99
Region: Lupus III
Simbad: http://simbad.u-strasbg.fr/simbad/sim-id?Ident=sz99&submit=submit+id
Target coordinates are from Gaia DR2.
Spectral type: M4 ; A_V: 0.0 ; Distance (pc): 200
M: 0.23 ; log(dm/dt): -9.41*
Input file: lowmass_survey_Input-gaia.csv
sz99_lya2_etc_scaled_pAV0.50.txt
Calculation performed 2021-10-21T02:38:22, v0.8
---
tstatus; SZ99; P/COS approved for submission; S/STIS approved for submission; P/WF 10/01/22; S/WF 10/01/22
tcheck; APT/SIMBAD target names: ; 2MASS J16082404-3905494
tcheck; Target info verification status?; OK
tcheck; Coordinates & P.M. verified, epoch checked?; yes
tcheck; Adopted SED compared to Observations?; Adopted SED compared to Observations?; yes ...
BVRI photometry is only 7-25% of CTTS template; use M4 model in optical

For the M dwarf check of Sz 99, we use A_V = 0.4, reported by Mortier et al. (2011, MNRAS, 418, 1194); henceforth M11. This is more reasonable than the A_V = 0.0 reported by Alcala et al. (2014, A&A, 561, A2); henceforth A14. Both M11 and A14 compare spectra of Sz 99 to templates to derive A_V. M11 use a field dwarf as a template, which almost certainly has A_V = 0. A14 use TWA 9B as a template and do not seem to allow for the fact that it may have A_V > 0. This does not affect exposure time estimates, since these were conservatively calculated assuming A_V = 0.5.
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 (1666756)	(3) SZ99	COS/NUV, ACQ/IMAGE, PSA	MIRRORB				178 Secs (178 Secs) *[==>]*	*[1]*

Comments: Exposure time doubled from 89 s in case target is faint
Worst-case ETC run (1666757) gives 6.9 cts/s in brightest pixel
M dwarf flare ETC run (1666758) gives 97 cts/s in brightest pixel

Used a hybrid model: CTTS template below 3700 A; M4 dwarf scaled to B = 17.687 above 3700 A
For S/N calcs, A_V = 0.5 is used instead of nominal A_V = 0.0; see sz99_lya2_etc_scaled_pAV0.50_M4phot.txt
For BOP calcs, nominal A_V is used and both components are scaled up by 4x; see sz99_lya2_x4.00_etc_M4phot.txt
Above SEDs and an IDL program to make them are in ~/Box/ullyses_tech/ullyses_proposals/survey_c29/16856/sz-99/seds/
For M dwarf flaring, see ~/Box/ullyses_tech/ullyses_proposals/survey_c29/16856/sz-99/mdwarf/

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
2	G130M/1291 1-4 (1666760)	(3) SZ99	COS/FUV, TIME-TAG, PSA	G130M 1291 A	BUFFER-TIME=1755; FP-POS=4			1865 Secs (1865 Secs) *[==>]*	*[1]*

Comments: Exposure time of 865 s per G130M setting was doubled to 1730 s and extended to fill the orbit
Worst-case ETC run (1666761) gives 0.10 cts/s in brightest pixel and buffer time of 3409 s
M dwarf flare ETC run (1666762) gives 0.30 cts/s in brightest pixel
Buffer time is exp time - 110 s

sz99_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: M4 ; A_V: 0.0 ; Distance (pc): 200
M: 0.23 ; log(dm/dt): -9.41*
For exptime=1730.6 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): 315.5 cts/s/segment
brightest pixel: 0.013 cts/s/pix at 1304.8 A
Calculation performed 2021-10-21T02:38:22, 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 3-1 (1666766)	(3) SZ99	COS/FUV, TIME-TAG, PSA	G160M 1623 A	BUFFER-TIME=2359; FP-POS=1			2469 Secs (2469 Secs) *[==>]*	*[2]*

Comments: Exposure time of 1074 s per G160M setting was doubled to 2148 s and extended to fill the orbit
Worst-case ETC run (1666767) gives 0.05 cts/s in brightest pixel and buffer time of 12035 s
M dwarf flare ETC run (1666768) gives 0.56 cts/s in brightest pixel
Buffer time is exp time - 110 s

sz99_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: M4 ; A_V: 0.0 ; Distance (pc): 200
M: 0.23 ; log(dm/dt): -9.41*
For exptime=2147.8 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): 72.4 cts/s/segment
brightest pixel: 0.003 cts/s/pix at 1446.2 A
Calculation performed 2021-10-21T02:38:20, v0.23

4	G160M/162 (3) SZ99 3-2 (1666766)	COS/FUV, TIME-TAG, PSA	G160M 1623 A	BUFFER-TIME=10 34; FP-POS=2	1144 Secs (1144 Secs) *[==>]*	***[3]***

Comments: ETC exposure time is 1074 s per G160M setting. This exposure will be coadded with a longer one.
Worst-case ETC run (1666767) gives 0.05 cts/s in brightest pixel and buffer time of 12035 s
M dwarf flare ETC run (1666768) gives 0.56 cts/s in brightest pixel
Buffer time is exp time - 110 s

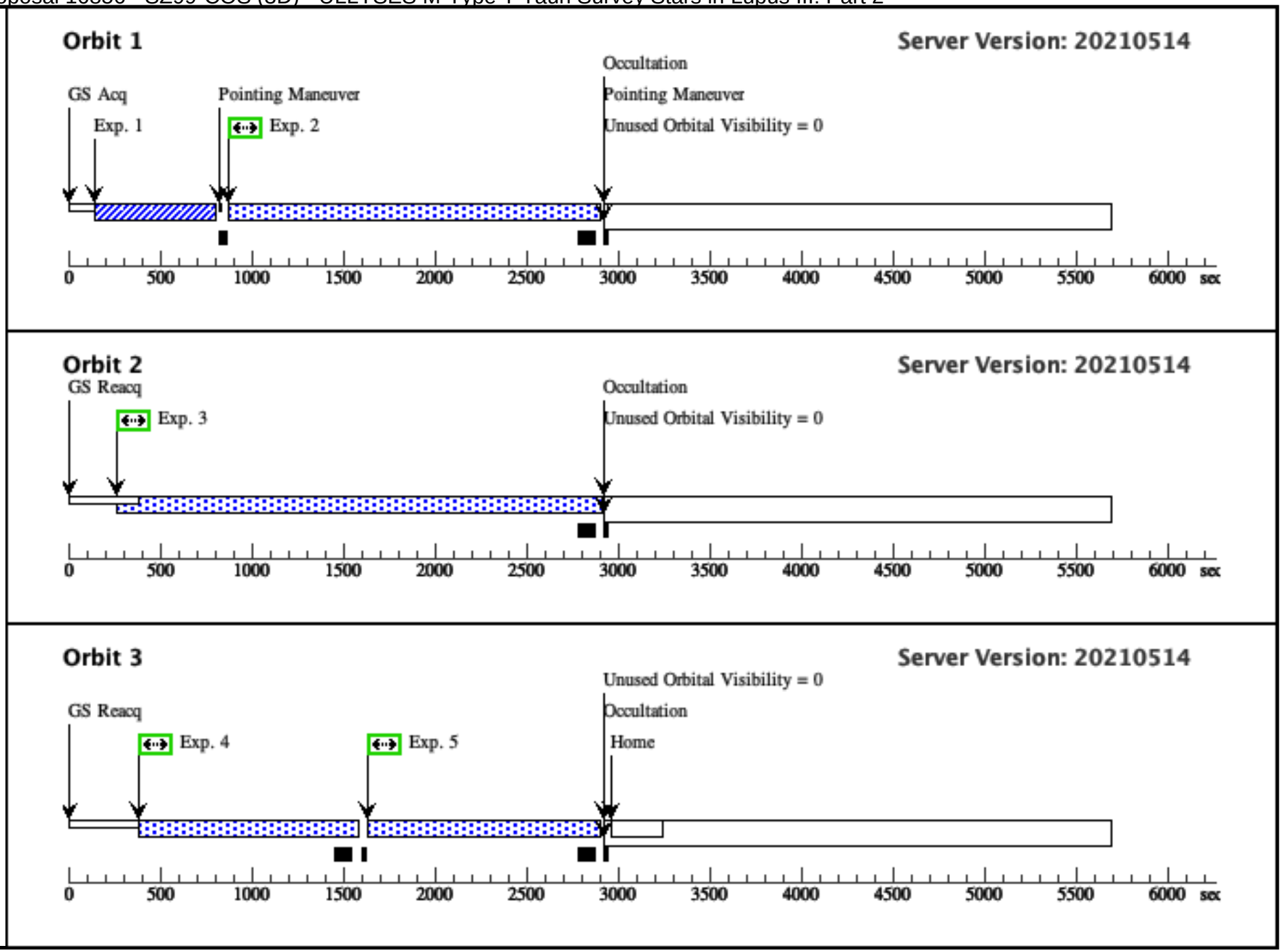
sz99_lya2_etc_scaled_pAV0.50.txt; cos,fuv,g160m,c1623,psa,mjd#59670; fp-pos=None, segment=None)
Input file: lowmass_survey_Input-gaia.csv
Spectral type: M4 ; A_V: 0.0 ; Distance (pc): 200
M: 0.23 ; log(dm/dt): -9.41*
For exptime=2147.8 s, spectral region:
1549.0 +- 1.0 A achieves SNR=20.0 / 6-pix-resel 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): 72.4 cts/s/segment
brightest pixel: 0.003 cts/s/pix at 1446.2 A
Calculation performed 2021-10-21T02:38:20, v0.23

5	G160M/158 (3) SZ99 9-4 (1666763)	COS/FUV, TIME-TAG, PSA	G160M 1589 A	BUFFER-TIME=10 33; FP-POS=4	1143 Secs (1143 Secs) *[==>]*	***[3]***

Comments: ETC exposure time is 1050 s per G160M setting. This exposure will be coadded with a longer one.
Worst-case ETC run (1666764) gives 0.05 cts/s in brightest pixel and buffer time of 10487 s
M dwarf flare ETC run (1666765) gives 0.56 cts/s in brightest pixel
Buffer time is exp time - 110 s

sz99_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: M4 ; A_V: 0.0 ; Distance (pc): 200
M: 0.23 ; log(dm/dt): -9.41*
For exptime=2098.8 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): 74.5 cts/s/segment
brightest pixel: 0.003 cts/s/pix at 1446.2 A
Calculation performed 2021-10-21T02:38:18, v0.23

Orbit Structure



Visit

Proposal 16856, SZ99-STIS (3S) Mon Jan 10 21:01:34 GMT 2022

Diagnostic Status: No Diagnostics

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

Special Requirements: SCHED 100%; BETWEEN 26-MAR-2022:00:00:00 AND 29-JUL-2022:00:00:00; GROUP 3S,3C,3D WITHIN 1D

Comments: vstatus; 3S; SZ99; S/STIS approved for submission; S/WF 10/01/22 ; intrev: complete ; S/JRD 10/01/22
vcheck; Enter targ name & Inst. & Resp. Sci.; Sz 99 ; STIS ; WF
vcheck; ETC numbers entered in APT?; yes ...
see comments in the COS acquisition for details about the hybrid model used
vcheck; Any screening violations?; no
vcheck; M-dwarf check complete and added to box folder?; yes ...
located at: ~/Box/ullyses_tech/ullyses_proposals/survey_c29/16856/sz-99/mdwarf/
vcheck; S/N ETC calcs done & documented?; yes
vcheck; Field images checked & saved?; yes, no GALEX coverage ...
located at: ~/Box/ullyses_tech/ullyses_proposals/survey_c29/16856/sz-110/
vcheck; Selected ACQ strategy?; yes, F28X50LP
vcheck; Possible ACQ or Sci spoilers?; no
vcheck; Field BOT clear?; yes
vcheck; Visual BOT check for stars not in catalog?; yes
vcheck; Orbit packing finalized?; yes ...
both orbits are needed; exposure times were increased to 3x ETC result for G430L and about 5.9x for other gratings ...
use of MAMA + CCD in same visit is needed to ensure near-simultaneous measurement of NUV and optical continuum in this rapidly variable source
vcheck; Buffer times optimized?; yes
vcheck; Verify visit grouping correct; yes
vcheck; phase constraint for ground based observations added?; N/A
vcheck; BETWEENS for coordinated observations added?; yes
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
(3)	SZ99	RA: 16 08 24.0300 (242.1001250d) Dec: -39 05 49.80 (-39.09717d) Equinox: J2000	Proper Motion RA: -8.998766818 mas/yr Proper Motion Dec: -23.6091 mas/yr Parallax: 0.006288103844" Epoch of Position: 2015.5	V=17.047 SpT=M4; A_V=0.00; B=17.69; V=17.05; J=11.93	Reference Frame: ICRS

Comments: SZ99
Region: Lupus III
Simbad: http://simbad.u-strasbg.fr/simbad/sim-id?Ident=sz99&submit=submit+id
Target coordinates are from Gaia DR2.
Spectral type: M4 ; A_V: 0.0 ; Distance (pc): 200
M: 0.23 ; log(dm/dt): -9.41*
Input file: lowmass_survey_Input-gaia.csv
sz99_lya2_etc_scaled_pAV0.50.txt
Calculation performed 2021-10-21T02:38:22, v0.8
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tstatus; SZ99; P/COS approved for submission; S/STIS approved for submission; P/WF 10/01/22; S/WF 10/01/22
tcheck; APT/SIMBAD target names: ; 2MASS J16082404-3905494
tcheck; Target info verification status?; OK
tcheck; Coordinates & P.M. verified, epoch checked?; yes
tcheck; Adopted SED compared to Observations?; Adopted SED compared to Observations?; yes ...
BVRI photometry is only 7-25% of CTTS template; use M4 model in optical

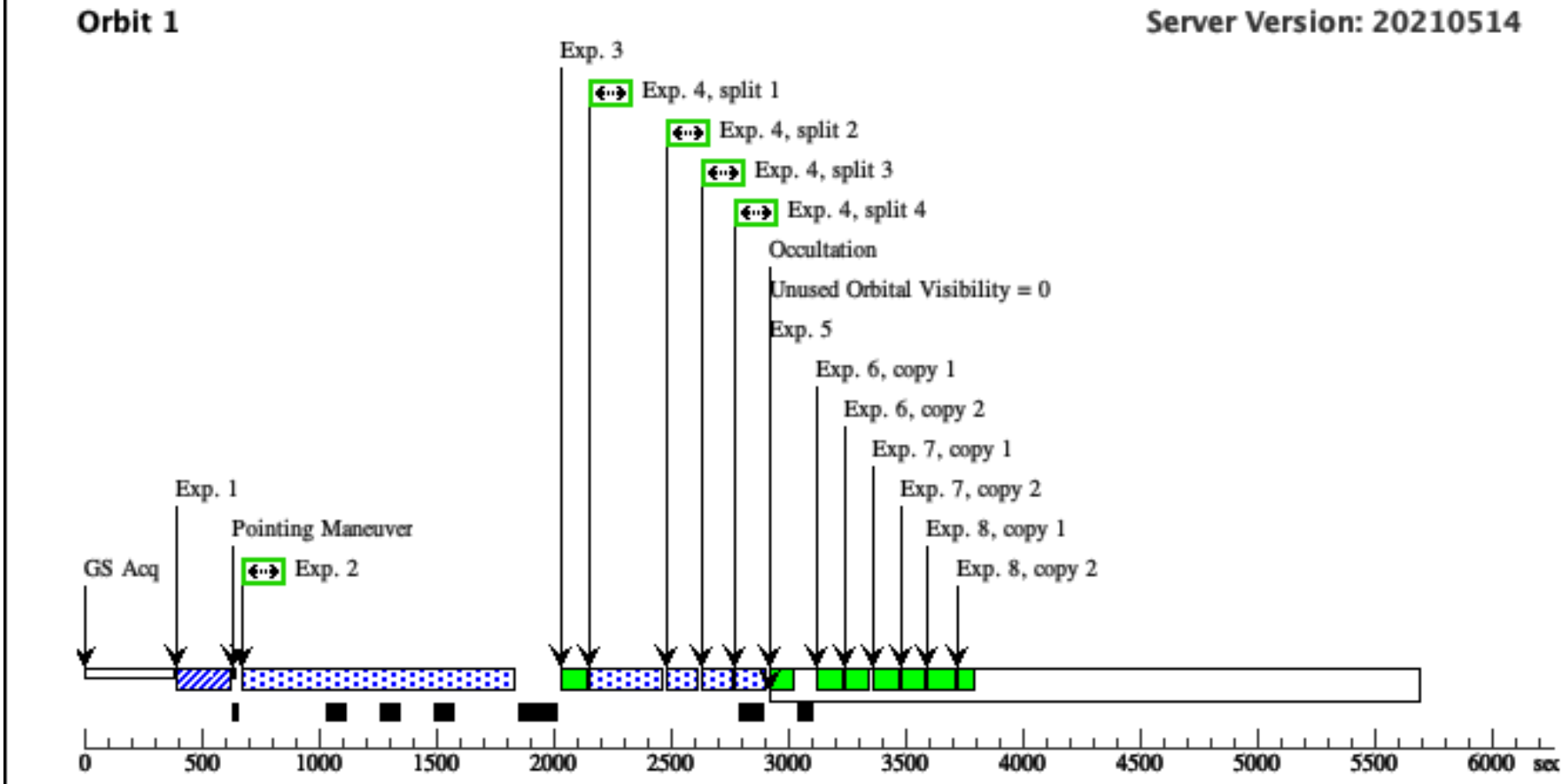
For the M dwarf check of Sz 99, we use A_V = 0.4, reported by Mortier et al. (2011, MNRAS, 418, 1194); henceforth M11. This is more reasonable than the A_V = 0.0 reported by Alcala et al. (2014, A&A, 561, A2); henceforth A14. Both M11 and A14 compare spectra of Sz 99 to templates to derive A_V. M11 use a field dwarf as a template, which almost certainly has A_V = 0. A14 use TWA 9B as a template and do not seem to allow for the fact that it may have A_V > 0. This does not affect exposure time estimates, since these were conservatively calculated assuming A_V = 0.5.
Category=STAR
Description=[T TAURI STAR, PRE-MAIN SEQUENCE STAR]
Extended=NO

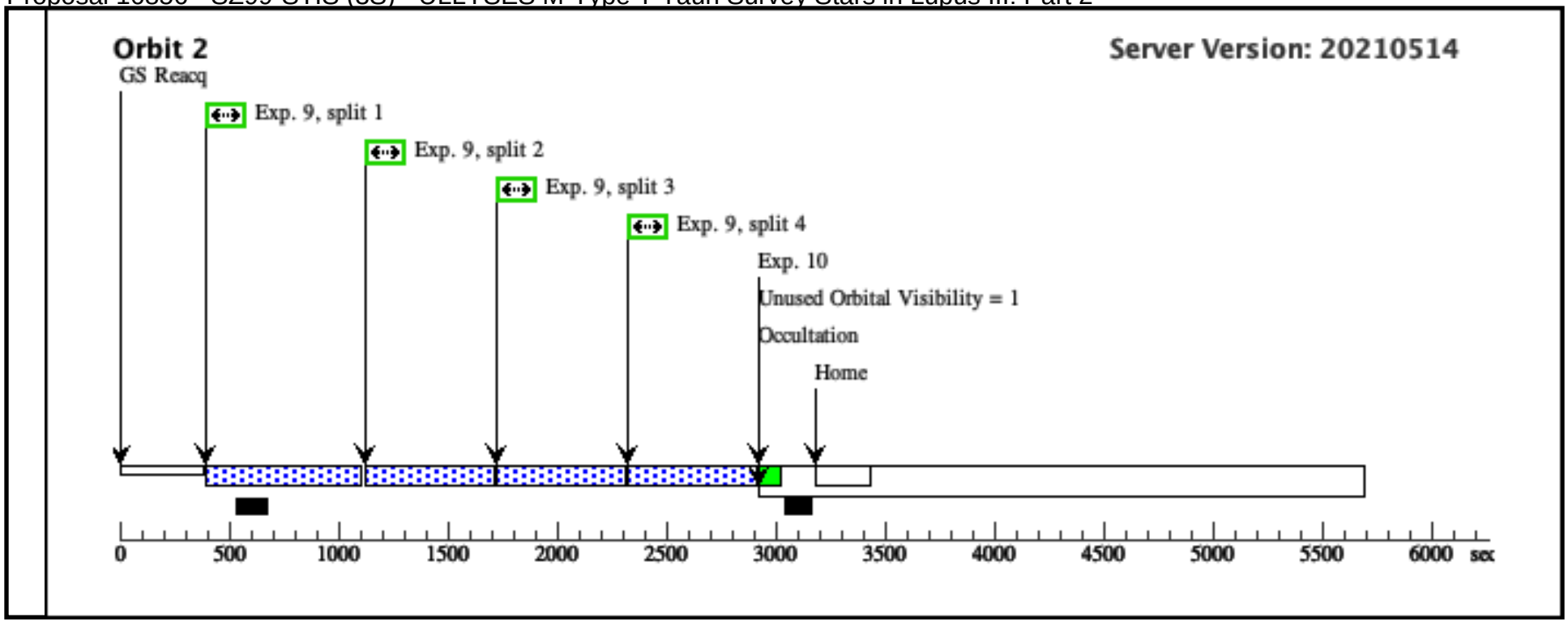
Exposures

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	ACQ (1666778)	(3) SZ99	STIS/CCD, ACQ, F28X50LP	MIRROR				1 Secs (1 Secs) *[==>]*	*[1]*
	Comments: Nominal ETC run gives 0.2 sec for S/N = 40 *Worst-case ETC run (1666779) gives saturation in 9.5 sec*								
2	G230L/2376 (1666775)	(3) SZ99	STIS/NUV-MAMA, TIME-TAG, 52X2	G230L 2376 A	WAVECAL=NO; BUFFER-TIME=224			1007 Secs (1007 Secs) *[==>]*	*[1]*
	Comments: Exposure time of 170 s was doubled to 340 s and extended to help fill the orbit *Worst-case ETC run (1666776) gives 4.8 cts/s in brightest pixel and buffer time of 713 s* *M dwarf flare ETC run (1666777) gives 5.7 cts/s in brightest pixel* *Buffer time: STIS observations are based on B=17.69, V=17.05. But there is literature photometry V=16.00. In case this 2.5x brighter measurement is more accurate, we apply an additional factor of 1/2.5 = 0.4 beyond the usual factor of 0.8: 700 x 0.4 x 0.8 = 224 sec.* *sz99_lya2_etc_scaled_pAV0.50.txt; stis,nuvmama,g230l,c2376,52x2,mjd#59670* *Input file: lowmass_survey_Input-gaia.csv* *Spectral type: M4 ; A_V: 0.0 ; Distance (pc): 200* *M*: 0.23 ; log(dm/dt): -9.41* *For exptime=170.0 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): 2362.6 cts/s/segment* *brightest pixel: 0.487 cts/s/pix at 2796.8 A* *Calculation performed 2021-10-21T02:38:22, v0.23*								
3	G230L/2376 WAVECAL	WAVE	STIS/NUV-MAMA, ACCUM, 52X0.1	G230L 2376 A				*[==>]*	*[1]*
4	G750L/7751 (1679034)	(3) SZ99	STIS/CCD, ACCUM, 52X2	G750L 7751 A	WAVECAL=NO; CR-SPLIT=4; GAIN=4			406 Secs (406 Secs) *[==>(Split 1)]* *[==>(Split 2)]* *[==>(Split 3)]* *[==>(Split 4)]*	*[1]*
	Comments: Exposure time of 69 s was doubled to 138 s and extended to help fill the orbit *Exposure time is larger than automatically calculated below due to use of an M dwarf SED* *Worst-case ETC run (1666786) gives saturation in 778 s* *Used GAIN = 4 to guard against saturation on emission lines in 152 s (ETC 1666787)* *sz99_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: M4 ; A_V: 0.0 ; Distance (pc): 200* *M*: 0.23 ; log(dm/dt): -9.41* *For exptime=6.8 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): 71272.6 cts/s/segment* *brightest pixel: 115.583 cts/s/pix at 6563.9 A* *Calculation performed 2021-10-21T02:38:22, 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 (3) SZ99 (1679032)	STIS/CCD, ACCUM, 52X2	G430L 4300 A	WAVECAL=NO; CR-SPLIT=4; GAIN=4	2228 Secs (2228 Secs) *[==>(Split 1)]* *[==>(Split 2)]* *[==>(Split 3)]* *[==>(Split 4)]*	***[2]***
		Comments: Exposure time of 742 s was doubled to 1484 s and extended to fill the orbit *Exposure time is larger than automatically calculated below due to use of an M dwarf SED* *Worst-case ETC run (1666782) gives saturation in 2650 s* *Used CR-SPLIT = 4 and GAIN = 4 to guard against saturation on emission lines in 1029 s (ETC 1666783)* *sz99_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: M4 ; A_V: 0.0 ; Distance (pc): 200* *M*: 0.23 ; log(dm/dt): -9.41* *For exptime=70.6 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): 39079.2 cts/s/segment* *brightest pixel: 14.863 cts/s/pix at 4560.5 A* *Calculation performed 2021-10-21T02:38:22, v0.23*						
	10	G430L/4300 WAVE WAVECAL	STIS/CCD, ACCUM, 52X0.1	G430L 4300 A		*[==>]*	***[2]***

Orbit Structure




Orbit 2
Server Version: 20210514
GS Reacq
Exp. 9, split 1
Exp. 9, split 2
Exp. 9, split 3
Exp. 9, split 4
Exp. 10
Unused Orbital Visibility = 1
Occultation
Home
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
6000
sec