16859 - ULLYSES T Tauri Survey Stars in Corona Australis

Cycle: 29, Proposal Category: GO/DD

(Availability Mode: SUPPORTED)

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VISITS

Visit	*Targets used in Visit*	*Configurations used in Visit*	*Orbits Used*	*Last Orbit Planner Run*	*OP Current with Visit?*
1C	(1) RXJ1842.9-3532	COS/FUV COS/NUV	3	17-Feb-2022 12:00:40.0	yes
1S	(1) RXJ1842.9-3532 CCDFLAT WAVE	STIS/CCD STIS/NUV-MAMA	1	17-Feb-2022 12:00:41.0	yes
2C	(2) RXJ1852.3-3700	COS/FUV COS/NUV	3	17-Feb-2022 12:00:43.0	yes
2D	(2) RXJ1852.3-3700	COS/FUV COS/NUV	2	17-Feb-2022 12:00:43.0	yes
2E	(2) RXJ1852.3-3700	COS/FUV COS/NUV	3	17-Feb-2022 12:00:44.0	yes
2S	(2) RXJ1852.3-3700 CCDFLAT WAVE	STIS/CCD STIS/NUV-MAMA	1	17-Feb-2022 12:00:46.0	yes

13 Total Orbits Used

ABSTRACT

The Space Telescope Science Institute (STScI) Director has decided to devote up to 1000 orbits of Director's Discretionary time in observing Cycles 27-29 to a new Hubble Ultraviolet Legacy program focused on star formation and associated stellar physics. This new program, ULLYSES (UV Legacy Library of Young Stars as Essential Standards), will provide a UV spectroscopic reference sample of young (< 10 Myr) high- and low-mass stars. It will target over ~150 OB stars in the Magellanic Clouds and lower metallicity galaxies in the Local Group, and ~40 T Tauri stars and brown dwarfs in the Milky Way. In addition, ULLYSES will monitor 4 typical T Tauri stars over different rotational phases through at least three rotation periods, and over timescales of months to years. The resulting library will provide template spectra of massive stars at metallicities substantially below the well studied, while the low mass sample will cover a wide range of ages, accretion rates, and masses, including objects down to well below 0.5 M_sun. The legacy of this large UV dataset on the first 10 Myr of stellar evolution will be enhanced by complementary datasets obtained by the scientific community. In addition to the core goals of the program related to stellar astrophysics of low and high mass stars, this data will also enable exciting science in the fields of ISM, CGM, jets, and exoplanets. ULLYSES will be modeled after the Frontier Fields program: all data obtained will be non-proprietary. The implementation team at STScI is developing high-level science data products and a sophisticated database and website for disseminating data from the ULLYSES program and ancillary datasets for the ULLYSES target sample from space and ground-based facilities.

OBSERVING DESCRIPTION

This proposal includes a subset of the 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 16859, RXJ1842.9-3532-COS (1C) Thu Feb 17 17:00:47 GMT 2022

Diagnostic Status: No Diagnostics

Scientific Instruments: COS/FUV, COS/NUV

Special Requirements: SCHED 100%; BETWEEN 01-MAY-2022:00:00:00 AND 04-SEP-2022:00:00:00

Comments: vstatus; 1C; RXJ1842.9-3532; P/COS approved for submission; P/WF 17/02/22 ; intrev complete ; P/AH 04/02/22
vcheck; Enter targ name & Inst. & Resp. Sci.; RX J1842.9-3532 ; COS ; WF
vcheck; ETC numbers entered in APT?; yes
vcheck; Any screening violations?; no
vcheck; M-dwarf check complete and added to box folder?; N/A
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_c29/16859/rxj1842.9-3532/
vcheck; Selected ACQ strategy?; yes; PSA/MirrorB
vcheck; Possible ACQ or Sci spoilers?; no
vcheck; Field BOT clear?; yes ...
BOT marks target unsafe for acquisition and cenwave 1291 under incorrect assumption that it is type O5V ...
all bright macroaperture stars are marked safe and have Gaia colors too blue to be M dwarfs
vcheck; Visual BOT check for stars not in catalog?; yes
vcheck; Orbit packing finalized?; yes ...
G130M has 156% of requested time and G160M has 149% 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 = 3

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	RXJ1842.9-3532	RA: 18 42 57.9830 (280.7415958d) Dec: -35 32 43.24 (-35.54534d) Equinox: J2000	Proper Motion RA: 1.401953158 mas/yr Proper Motion Dec: -27.10126196 mas/yr Parallax: 0.006497953147" Epoch of Position: 2015.5	V=12.105 SpT=K2; A_V=0.40; B=13.21; V=12.11; J=9.499	Reference Frame: ICRS

Comments: RXJ1842.9-3532
Region: Corona Australis
Simbad: http://simbad.u-strasbg.fr/simbad/sim-id?Ident=rxj18429-3532&submit=submit+id
Target coordinates are from Gaia DR2.
Spectral type: K2 ; A_V: 0.4 ; Distance (pc): 130
M: 0.93 ; log(dm/dt): -8.8*
Input file: lowmass_survey_Input-gaia.csv
rxj18429-3532_lya2_etc_scaled_pAV0.50.txt
Calculation performed 2021-10-21T02:36:57, v0.8
---
tstatus; RXJ1842.9-3532; P/COS approved for submission; S/STIS approved for submission; P/WF 17/02/22; S/WF 17/02/22
tcheck; APT/SIMBAD target names: ; 2MASS J18425797-3532427
tcheck; Target info verification status?; OK
tcheck; Coordinates & P.M. verified, epoch checked?; yes
tcheck; Adopted SED compared to Observations?; yes ...
BV photometry is 2.68x and 1.95x CTTS template ...
For the worst-case scenario, use the 4x template scaled to B=11.40, 4x the brightest available magnitude (SIMBAD)
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 (1683672)	(1) RXJ1842.9-3532	COS/NUV, ACQ/IMAGE, PSA	MIRRORB				47 Secs (47 Secs) *[==>]*	*[1]*

Comments: Exposure time doubled from 23 s in case target is faint.
Worst-case ETC run (1691342) gives 47.7 cts/s in brightest pixel.

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
2	G130M/1291-3 (1683675)	(1) RXJ1842.9-3532	COS/FUV, TIME-TAG, PSA	G130M 1291 A	BUFFER-TIME=453; FP-POS=3			1006 Secs (1006 Secs) *[==>]*	*[1]*

Comments: Exposure time of 325 s per G130M setting was doubled to 650 s and extended to help fill the orbit
Worst-case ETC run (1691343) gives 0.35 cts/s in brightest pixel and buffer time of 1078 s
Buffer time is (exp time - 100 s) / 2 to stay below 2/3 of 1078 s and minimize delay before the next exposure

rxj18429-3532_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: K2 ; A_V: 0.4 ; Distance (pc): 130
M: 0.93 ; log(dm/dt): -8.8*
For exptime=645.3 s, spectral region:
1239.0 +- 1.0 A achieves SNR=10.0 / 6-pix-resel
A factor of 2.0 has been applied to the exptime in each exposure.
global countrate (brightest segment): 379.0 cts/s/segment
brightest pixel: 0.041 cts/s/pix at 1304.8 A
Calculation performed 2021-10-21T02:36:54, v0.23

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
3	G130M/1291-4 (1683675)	(1) RXJ1842.9-3532	COS/FUV, TIME-TAG, PSA	G130M 1291 A	BUFFER-TIME=718; FP-POS=4			1006 Secs (1006 Secs) *[==>]*	*[1]*

Comments: Exposure time of 325 s per G130M setting was doubled to 650 s and extended to help fill the orbit
Worst-case ETC run (1691343) gives 0.35 cts/s in brightest pixel and buffer time of 1078 s
Buffer time is 2/3 of 1078 s

rxj18429-3532_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: K2 ; A_V: 0.4 ; Distance (pc): 130
M: 0.93 ; log(dm/dt): -8.8*
For exptime=645.3 s, spectral region:
1239.0 +- 1.0 A achieves SNR=10.0 / 6-pix-resel
A factor of 2.0 has been applied to the exptime in each exposure.
global countrate (brightest segment): 379.0 cts/s/segment
brightest pixel: 0.041 cts/s/pix at 1304.8 A
Calculation performed 2021-10-21T02:36:54, v0.23

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
4	G160M/1589-3 (1683681)	(1) RXJ1842.9-3532	COS/FUV, TIME-TAG, PSA	G160M 1589 A	BUFFER-TIME=1072; FP-POS=3			1182 Secs (1182 Secs) *[==>]*	*[2]*

Comments: Exposure time of 399 s per G160M setting was doubled to 798 s and extended to help fill the orbit
Worst-case ETC run (1691344) gives 0.31 cts/s in brightest pixel and buffer time of 2347 s
Buffer time is exp time - 110 s to minimize delay before the next exposure

rxj18429-3532_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: K2 ; A_V: 0.4 ; Distance (pc): 130
M: 0.93 ; log(dm/dt): -8.8*
For exptime=782.6 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): 102.2 cts/s/segment
brightest pixel: 0.012 cts/s/pix at 1446.2 A
Calculation performed 2021-10-21T02:36:49, v0.23

5	G160M/158 9-4 (1683681)	(1) RXJ1842.9-3532	COS/FUV, TIME-TAG, PSA	G160M 1589 A	BUFFER-TIME=1182; FP-POS=4	1182 Secs (1182 Secs) *[==>]*	***[2]***

Comments: Exposure time of 399 s per G160M setting was doubled to 798 s and extended to help fill the orbit
Worst-case ETC run (1691344) gives 0.31 cts/s in brightest pixel and buffer time of 2347 s
Buffer time is equal to exp time for extra protection against data loss

rxj18429-3532_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: K2 ; A_V: 0.4 ; Distance (pc): 130
M: 0.93 ; log(dm/dt): -8.8*
For exptime=782.6 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): 102.2 cts/s/segment
brightest pixel: 0.012 cts/s/pix at 1446.2 A
Calculation performed 2021-10-21T02:36:49, v0.23

6	G160M/162 3-1 (1683683)	(1) RXJ1842.9-3532	COS/FUV, TIME-TAG, PSA	G160M 1623 A	BUFFER-TIME=1073; FP-POS=1	1183 Secs (1183 Secs) *[==>]*	***[3]***

Comments: Exposure time of 408 s per G160M setting was doubled to 816 s and extended to help fill the orbit
Worst-case ETC run (1691345) gives 0.29 cts/s in brightest pixel and buffer time of 2744 s
Buffer time is exp time - 110 s to minimize delay before the next exposure

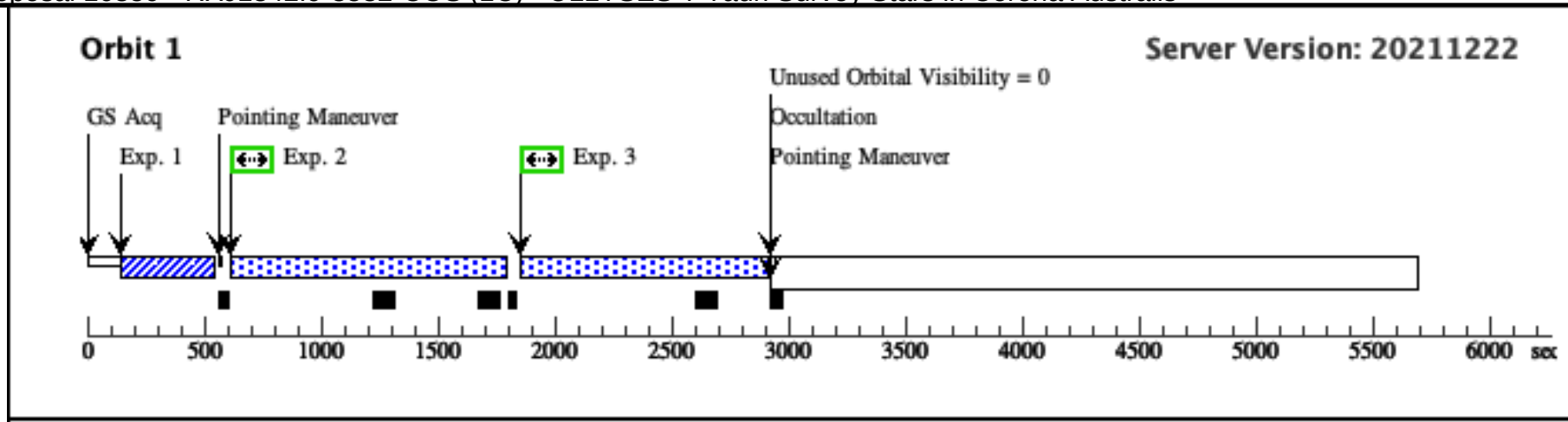
rxj18429-3532_lya2_etc_scaled_pAV0.50.txt; cos,fuv,g160m,c1623,psa,mjd#59670; fp-pos=None, segment=None)
Input file: lowmass_survey_Input-gaia.csv
Spectral type: K2 ; A_V: 0.4 ; Distance (pc): 130
M: 0.93 ; log(dm/dt): -8.8*
For exptime=800.9 s, spectral region:
1549.0 +- 1.0 A achieves SNR=20.0 / 6-pix-resel 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): 96.4 cts/s/segment
brightest pixel: 0.012 cts/s/pix at 1446.2 A
Calculation performed 2021-10-21T02:36:51, v0.23

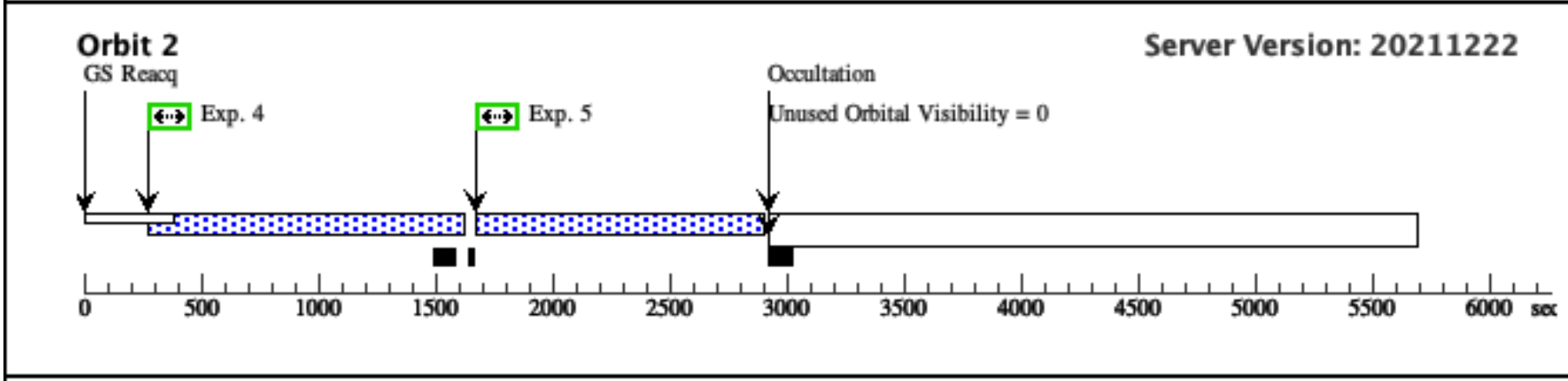
7	G160M/162 3-2 (1683683)	(1) RXJ1842.9-3532	COS/FUV, TIME-TAG, PSA	G160M 1623 A	BUFFER-TIME=1183; FP-POS=2	1183 Secs (1183 Secs) *[==>]*	***[3]***

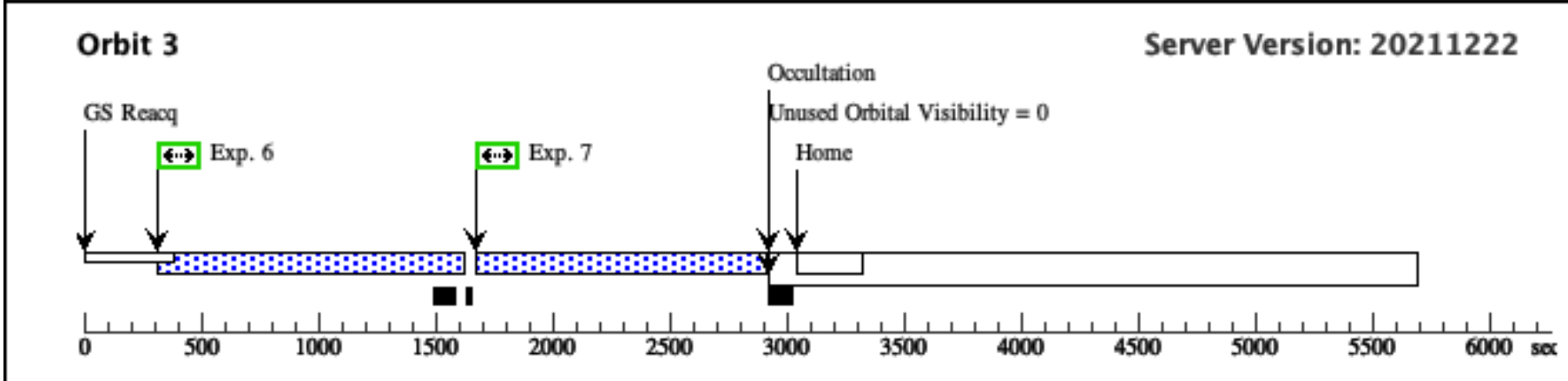
Comments: Exposure time of 408 s per G160M setting was doubled to 816 s and extended to help fill the orbit
Worst-case ETC run (1691345) gives 0.29 cts/s in brightest pixel and buffer time of 2744 s
Buffer time is equal to exp time for extra protection against data loss

rxj18429-3532_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: K2 ; A_V: 0.4 ; Distance (pc): 130
M: 0.93 ; log(dm/dt): -8.8*
For exptime=800.9 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): 96.4 cts/s/segment
brightest pixel: 0.012 cts/s/pix at 1446.2 A
Calculation performed 2021-10-21T02:36:51, v0.23

Orbit Structure







Visit

Proposal 16859, RXJ1842.9-3532-STIS (1S) Thu Feb 17 17:00:47 GMT 2022

Diagnostic Status: No Diagnostics

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

Special Requirements: SCHED 100%; BETWEEN 01-MAY-2022:00:00:00 AND 04-SEP-2022:00:00:00; GROUP 1S,1C WITHIN 1D

Comments: vstatus; 1S; RXJ1842.9-3532; S/STIS approved for submission; S/WF 17/02/22 ; intrev complete ; P/AH 04/02/22
vcheck; Enter targ name & Inst. & Resp. Sci.; RX J1842.9-3532 ; STIS ; WF
vcheck; ETC numbers entered in APT?; yes
vcheck; Any screening violations?; no
vcheck; M-dwarf check complete and added to box folder?; N/A
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_c29/16859/rxj1842.9-3532/
vcheck; Selected ACQ strategy?; yes, F28X50LP
vcheck; Possible ACQ or Sci spoilers?; no ...
brightest nearby star is 2.6 mag fainter than target in Gaia G
vcheck; Field BOT clear?; yes ...
BOT marks target unsafe for G230L under incorrect assumption that it is type O5V ...
both bright macroaperture stars are marked safe and have Gaia colors too blue to be M dwarfs
vcheck; Visual BOT check for stars not in catalog?; yes
vcheck; Orbit packing finalized?; yes ...
Exposure times were increased to about 5x ETC results, and the remaining time is used for G230L
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 = 1

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	RXJ1842.9-3532	RA: 18 42 57.9830 (280.7415958d) Dec: -35 32 43.24 (-35.54534d) Equinox: J2000	Proper Motion RA: 1.401953158 mas/yr Proper Motion Dec: -27.10126196 mas/yr Parallax: 0.006497953147" Epoch of Position: 2015.5	V=12.105 SpT=K2; A_V=0.40; B=13.21; V=12.11; J=9.499	Reference Frame: ICRS

Comments: RXJ1842.9-3532
Region: Corona Australis
Simbad: http://simbad.u-strasbg.fr/simbad/sim-id?Ident=rxj18429-3532&submit=submit+id
Target coordinates are from Gaia DR2.
Spectral type: K2 ; A_V: 0.4 ; Distance (pc): 130
M: 0.93 ; log(dm/dt): -8.8*
Input file: lowmass_survey_Input-gaia.csv
rxj18429-3532_lya2_etc_scaled_pAV0.50.txt
Calculation performed 2021-10-21T02:36:57, v0.8
---
tstatus; RXJ1842.9-3532; P/COS approved for submission; S/STIS approved for submission; P/WF 17/02/22; S/WF 17/02/22
tcheck; APT/SIMBAD target names: ; 2MASS J18425797-3532427
tcheck; Target info verification status?; OK
tcheck; Coordinates & P.M. verified, epoch checked?; yes
tcheck; Adopted SED compared to Observations?; yes ...
BV photometry is 2.68x and 1.95x CTTS template ...
For the worst-case scenario, use the 4x template scaled to B=11.40, 4x the brightest available magnitude (SIMBAD)
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 (1683717)	(1) RXJ1842.9-3532	STIS/CCD, ACQ, F28X50LP	MIRROR				0.1 Secs (0.1 Secs) *[==>]*	*[1]*

Comments: Nominal ETC run gives 0.02 s for S/N = 40
Worst-case ETC run (1691346) gives saturation in 0.29 s

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
2	G230L/2376 (1683715)	(1) RXJ1842.9-3532	STIS/NUV-MAMA, TIME-TAG, 52X2	G230L 2376 A	WAVECAL=NO; BUFFER-TIME=277			834 Secs (834 Secs) *[==>]*	*[1]*

Comments: Exposure time of 54 s was doubled to 108 s and extended to help fill the orbit
Worst-case ETC run (1691347) gives 26.9 cts/s in brightest pixel and buffer time of 357 s
Buffer time set to just under one third of the exposure time for extra protection against data loss

rxj18429-3532_lya2_etc_scaled_pAV0.50.txt; stis,nuvmama,g230l,c2376,52x2,mjd#59670
Input file: lowmass_survey_Input-gaia.csv
Spectral type: K2 ; A_V: 0.4 ; Distance (pc): 130
M: 0.93 ; log(dm/dt): -8.8*
For exptime=53.1 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): 2492.1 cts/s/segment
brightest pixel: 1.534 cts/s/pix at 2796.8 A
Calculation performed 2021-10-21T02:36:55, v0.23

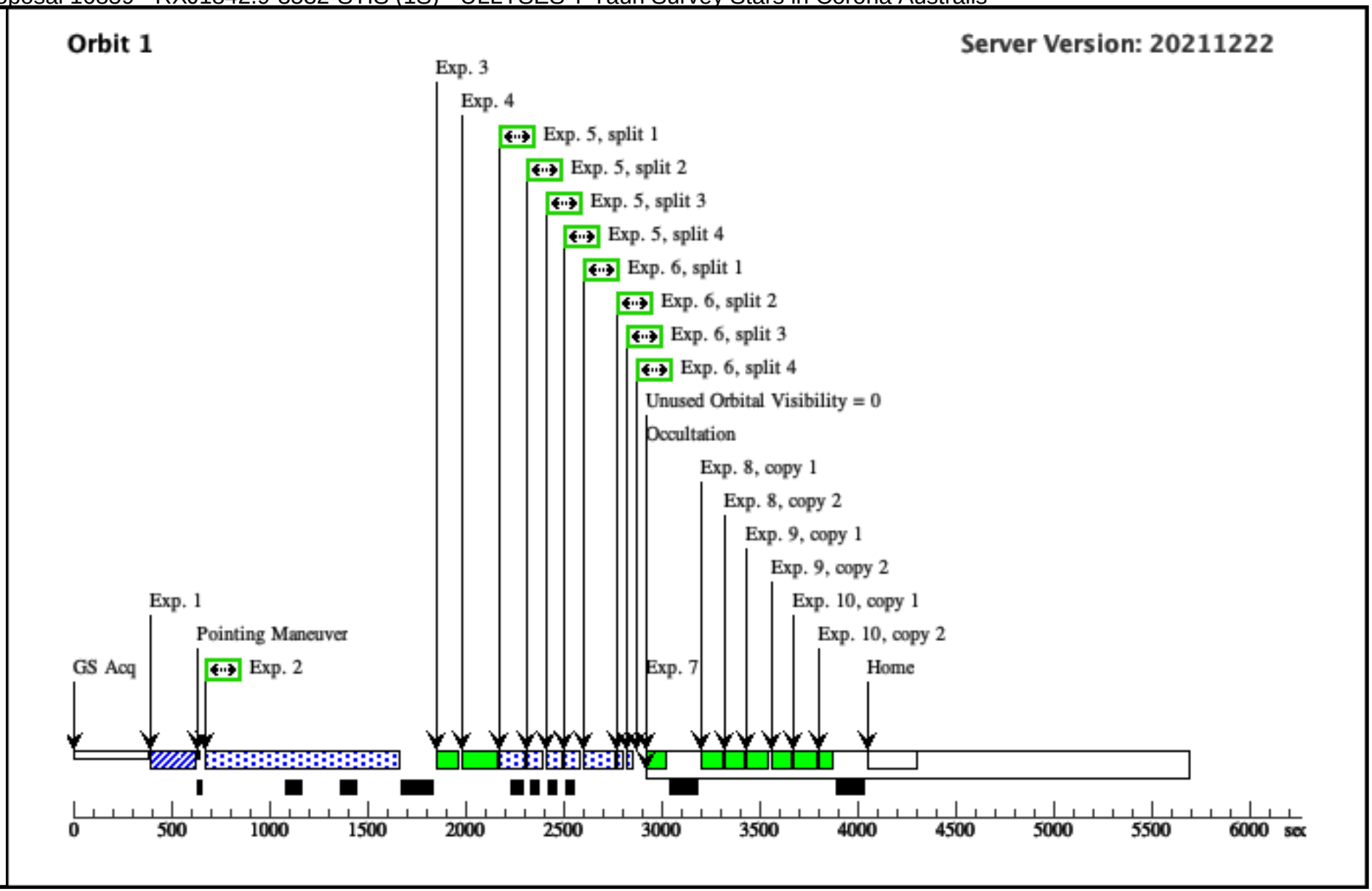
#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
3	G230L/2376 WAVECAL	WAVE	STIS/NUV-MAMA, ACCUM, 52X0.1	G230L 2376 A				*[==>]*	*[1]*
4	G430L/4300 WAVECAL	WAVE	STIS/CCD, ACCUM, 52X0.1	G430L 4300 A				*[==>]*	*[1]*
5	G430L/4300 (1683804)	(1) RXJ1842.9-3532	STIS/CCD, ACCUM, 52X2	G430L 4300 A	WAVECAL=NO; CR-SPLIT=4; GAIN=4			200 Secs (200 Secs) *[==>(Split 1)]* *[==>(Split 2)]* *[==>(Split 3)]* *[==>(Split 4)]*	*[1]*

Comments: Exposure time of 40 s was doubled to 80 s and extended to help fill the orbit
Worst-case ETC run (1691363) gives saturation in 165 s with GAIN = 4; individual subexposures are 50 s

rxj18429-3532_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: K2 ; A_V: 0.4 ; Distance (pc): 130
M: 0.93 ; log(dm/dt): -8.8*
For exptime=20.8 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): 62913.2 cts/s/segment
brightest pixel: 51.202 cts/s/pix at 4560.5 A
Calculation performed 2021-10-21T02:36:56, v0.23

6	G750L/7751 (1683806)	(1) RXJ1842.9-3532	STIS/CCD, ACCUM, 52X2	G750L 7751 A	WAVECAL=NO; CR-SPLIT=4; GAIN=4	20 Secs (20 Secs) *[==>(Split 1)]* *[==>(Split 2)]* *[==>(Split 3)]* *[==>(Split 4)]*	 ***[1]***
	Comments: Exposure time of 3.5 s was doubled to 7 s and extended to help fill the orbit *Worst-case ETC run (1691364) gives saturation in 25 s with GAIN = 4; individual subexposures are 5 s* *rxj18429-3532_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: K2 ; A_V: 0.4 ; Distance (pc): 130* *M*: 0.93 ; log(dm/dt): -8.8* *For exptime=1.8 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): 171803.8 cts/s/segment* *brightest pixel: 377.505 cts/s/pix at 6563.9 A* *Calculation performed 2021-10-21T02:36:57, v0.23*						
7	G750L/7751 WAVECAL	WAVE	STIS/CCD, ACCUM, 52X0.1	G750L 7751 A		*[==>]*	***[1]***
8	G750L/7751 CCDFLAT 1	CCDFLAT	STIS/CCD, ACCUM, 0.3X0.09	G750L 7751 A		*[==>(Copy 1)]* *[==>(Copy 2)]*	***[1]***
9	G750L/7751 CCDFLAT 2	CCDFLAT	STIS/CCD, ACCUM, 52X0.1	G750L 7751 A		*[==>(Copy 1)]* *[==>(Copy 2)]*	***[1]***
10	G750L/7751 CCDFLAT 3	CCDFLAT	STIS/CCD, ACCUM, 52X2	G750L 7751 A		*[==>(Copy 1)]* *[==>(Copy 2)]*	***[1]***

Orbit Structure



Visit

Proposal 16859, RXJ1852.3-3700-COS (2C) Thu Feb 17 17:00:47 GMT 2022

Diagnostic Status: Warning

Scientific Instruments: COS/FUV, COS/NUV

Special Requirements: SCHED 100%; BETWEEN 01-MAY-2022:00:00:00 AND 04-SEP-2022:00:00:00

Comments: vstatus; 2C; RXJ1852.3-3700; P/COS approved for submission; P/WF 17/02/22 ; intrev complete ; P/AH 04/02/22
vcheck; Enter targ name & Inst. & Resp. Sci.; RX J1852.3-3700 ; COS ; WF
vcheck; ETC numbers entered in APT?; yes
vcheck; Any screening violations?; no
vcheck; M-dwarf check complete and added to box folder?; N/A
vcheck; S/N ETC calcs done & documented?; yes
vcheck; Field images checked & saved?; yes ...
located at: ~/Box/ullyses_tech/ullyses_proposals/survey_c29/16859/rxj1852.3-3700/
vcheck; Selected ACQ strategy?; yes; PSA/MirrorB
vcheck; Possible ACQ or Sci spoilers?; no
vcheck; Field BOT clear?; yes ...
in GALEX, target appears twice and is marked safe; no macroaperture stars ...
in GSC, BOT marks target unknown due to lack of color info ...
all bright macroaperture stars are marked safe and have Gaia colors too blue to be M dwarfs
vcheck; Visual BOT check for stars not in catalog?; yes
vcheck; Orbit packing finalized?; yes ...
G130M has 97% of requested time and G160M has 99% 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 = 8

Diagnostics

(RXJ1852.3-3700-COS (2C)) Warning (Orbit Planner): INEFFICIENT ORDERING OF FP-POS POSITIONS

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(2)	RXJ1852.3-3700	RA: 18 52 17.3052 (283.0721050d) Dec: -37 00 12.39 (-37.00344d) Equinox: J2000	Proper Motion RA: 3.249331113 mas/yr Proper Motion Dec: -28.17352659 mas/yr Parallax: 0.006856945502" Epoch of Position: 2015.5	V=12.184 SpT=K2; A_V=1.00; B=13.32; V=12.18; J=9.772	Reference Frame: ICRS

Comments: RXJ1852.3-3700
Region: Corona Australis
Simbad: http://simbad.u-strasbg.fr/simbad/sim-id?Ident=rxj18523-3700&submit=submit+id
Target coordinates are from Gaia DR2.
Spectral type: K2 ; A_V: 1.0 ; Distance (pc): 130
M: 1.04 ; log(dm/dt): -8.7*
Input file: lowmass_survey_Input-gaia.csv
rxj18523-3700_lya2_etc_scaled_pAV0.50.txt
Calculation performed 2021-10-21T02:37:06, v0.8
---
tstatus; RXJ1852.3-3700; P/COS approved for submission; S/STIS approved for submission; P/WF 17/02/22; S/WF 17/02/22
tcheck; APT/SIMBAD target names: ; 2MASS J18521730-3700119
tcheck; Target info verification status?; OK
tcheck; Coordinates & P.M. verified, epoch checked?; yes
tcheck; Adopted SED compared to Observations?; yes ...
BV photometry is 4.14x and 2.76x CTTS template ...
For the worst-case scenario, use the 4x template scaled to B=11.19, 4x the brightest available magnitude (SIMBAD)
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 (1688595)	(2) RXJ1852.3-3700	COS/NUV, ACQ/IMAGE, PSA	MIRRORB				114 Secs (114 Secs) *[==>]*	*[1]*
	Comments: Exposure time doubled from 57 s in case target is faint. *Worst-case ETC run (1691350) gives 37.7 cts/s in brightest pixel.*								
2	G130M/1291 A 1-3 (1688597)	(2) RXJ1852.3-3700	COS/FUV, TIME-TAG, PSA	G130M 1291 A	BUFFER-TIME=1470; FP-POS=3			1993 Secs (1993 Secs) *[==>]*	*[1]*
	Comments: ETC exposure time is 1765 s per G130M setting *Worst-case ETC run (1691351) gives 0.15 cts/s in brightest pixel and buffer time of 2205 s* *Buffer time is 2/3 of 2205 s* *rxj18523-3700_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: K2 ; A_V: 1.0 ; Distance (pc): 130* *M*: 1.04 ; log(dm/dt): -8.7* *For exptime=3506.9 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): 301.0 cts/s/segment* *brightest pixel: 0.009 cts/s/pix at 1304.8 A* *Calculation performed 2021-10-21T02:37:06, v0.23*								
3	G130M/1291 A 1-4 (1688597)	(2) RXJ1852.3-3700	COS/FUV, TIME-TAG, PSA	G130M 1291 A	BUFFER-TIME=1470; FP-POS=4			2471 Secs (2471 Secs) *[==>]*	*[2]*
	Comments: ETC exposure time is 1765 s per G130M setting *Worst-case ETC run (1691351) gives 0.15 cts/s in brightest pixel and buffer time of 2205 s* *Buffer time is 2/3 of 2205 s* *rxj18523-3700_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: K2 ; A_V: 1.0 ; Distance (pc): 130* *M*: 1.04 ; log(dm/dt): -8.7* *For exptime=3506.9 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): 301.0 cts/s/segment* *brightest pixel: 0.009 cts/s/pix at 1304.8 A* *Calculation performed 2021-10-21T02:37:06, v0.23*								
4	G130M/1291 A 1-3 (1688597)	(2) RXJ1852.3-3700	COS/FUV, TIME-TAG, PSA	G130M 1291 A	BUFFER-TIME=1312; FP-POS=3			1422 Secs (1422 Secs) *[==>]*	*[3]*
	Comments: ETC exposure time is 1765 s per G130M setting *Worst-case ETC run (1691351) gives 0.15 cts/s in brightest pixel and buffer time of 2205 s* *Buffer time is exp time - 110 s to minimize delay before the next exposure* *rxj18523-3700_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: K2 ; A_V: 1.0 ; Distance (pc): 130* *M*: 1.04 ; log(dm/dt): -8.7* *For exptime=3506.9 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): 301.0 cts/s/segment* *brightest pixel: 0.009 cts/s/pix at 1304.8 A* *Calculation performed 2021-10-21T02:37:06, v0.23*								

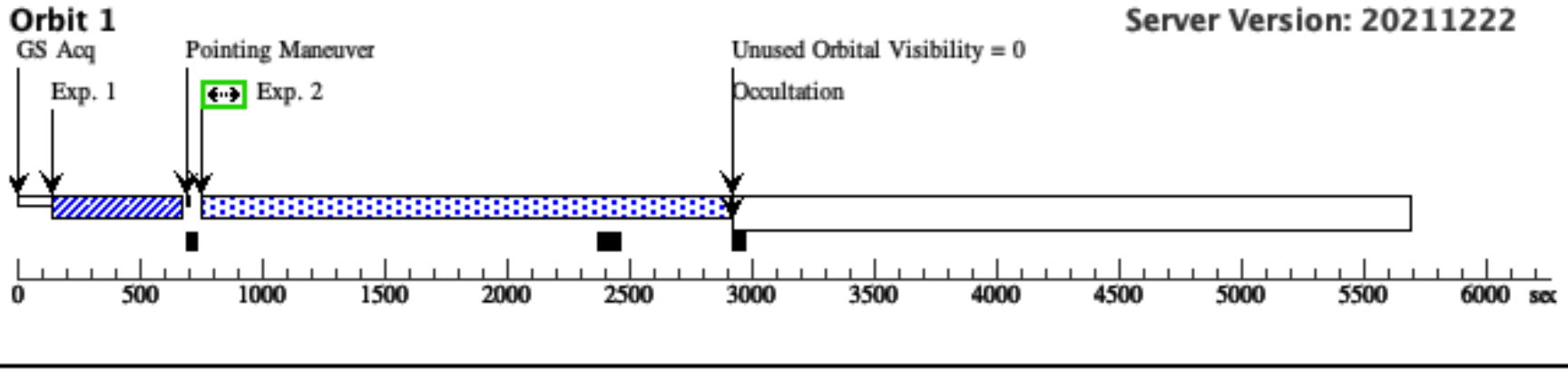
	5	G130M/129 1-4 (1688597)	(2) RXJ1852.3-3700	COS/FUV, TIME-TAG, PSA	G130M 1291 A	BUFFER-TIME=944; FP-POS=4	944 Secs (944 Secs) *[==>]*

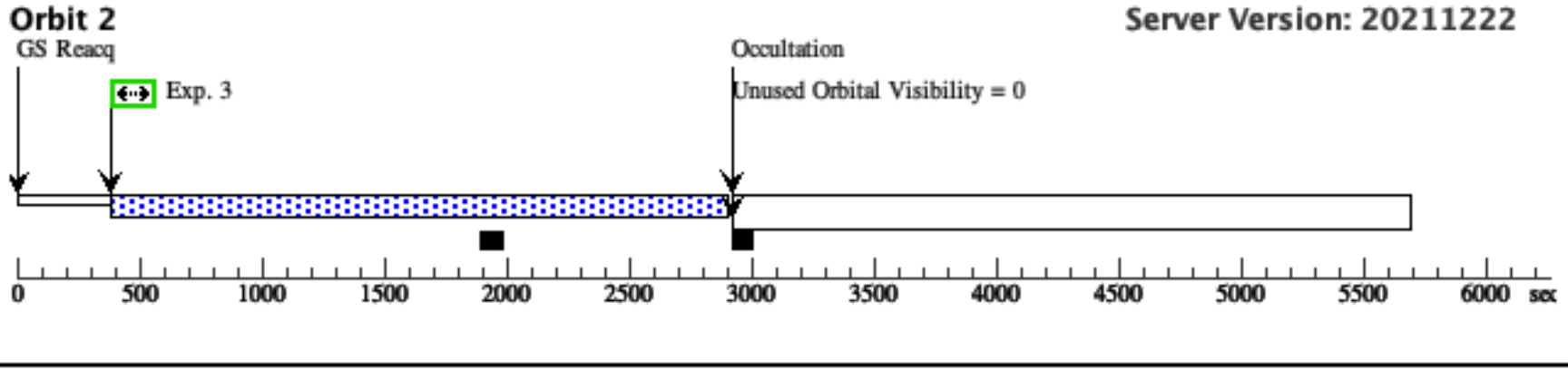
[3]

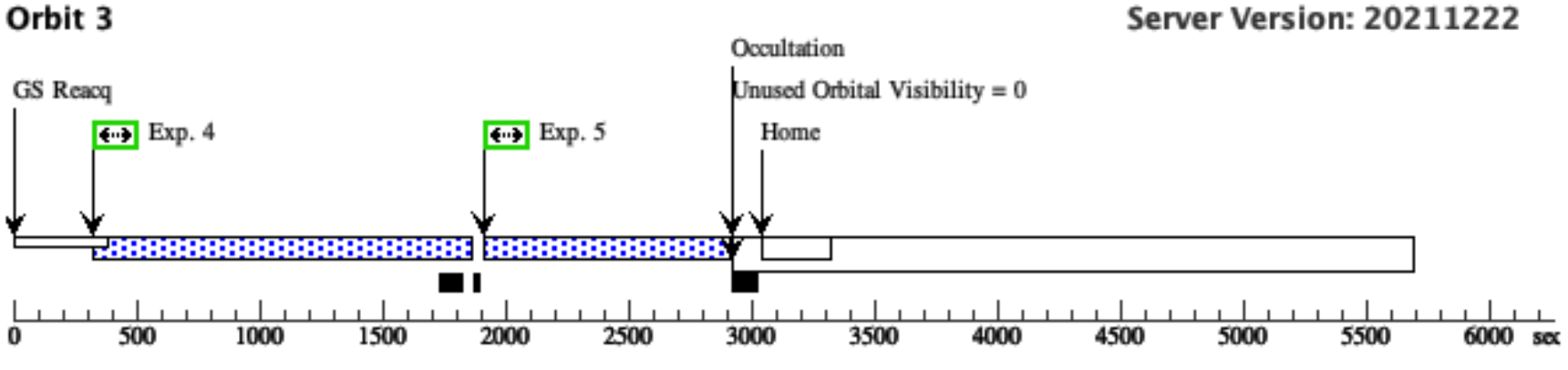
Comments: ETC exposure time is 1765 s per G130M setting
Worst-case ETC run (1691351) gives 0.15 cts/s in brightest pixel and buffer time of 2205 s
Buffer time is equal to exp time for extra protection against data loss

rxj18523-3700_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: K2 ; A_V: 1.0 ; Distance (pc): 130
M: 1.04 ; log(dm/dt): -8.7*
For exptime=3506.9 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): 301.0 cts/s/segment
brightest pixel: 0.009 cts/s/pix at 1304.8 A
Calculation performed 2021-10-21T02:37:06, v0.23

Orbit Structure







Visit

Proposal 16859, RXJ1852.3-3700-COS (2D) Thu Feb 17 17:00:47 GMT 2022

Diagnostic Status: No Diagnostics

Scientific Instruments: COS/FUV, COS/NUV

Special Requirements: SCHED 100%; BETWEEN 01-MAY-2022:00:00:00 AND 04-SEP-2022:00:00:00

Comments: vstatus; 2D; RXJ1852.3-3700; P/COS approved for submission; P/WF 17/02/22 ; intrev complete ; P/AH 04/02/22
vcheck; Enter targ name & Inst. & Resp. Sci.; RX J1852.3-3700 ; COS ; WF
vcheck; ETC numbers entered in APT?; yes
vcheck; Any screening violations?; no
vcheck; M-dwarf check complete and added to box folder?; N/A
vcheck; S/N ETC calcs done & documented?; yes
vcheck; Field images checked & saved?; yes ...
located at: ~/Box/ullyses_tech/ullyses_proposals/survey_c29/16859/rxj1852.3-3700/
vcheck; Selected ACQ strategy?; yes; PSA/MirrorB
vcheck; Possible ACQ or Sci spoilers?; no
vcheck; Field BOT clear?; yes ...
in GALEX, target appears twice and is marked safe; no macroaperture stars ...
in GSC, BOT marks target unknown due to lack of color info ...
all bright macroaperture stars are marked safe and have Gaia colors too blue to be M dwarfs
vcheck; Visual BOT check for stars not in catalog?; yes
vcheck; Orbit packing finalized?; yes ...
G130M has 97% of requested time and G160M has 99% 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 = 8

Fixed Targets

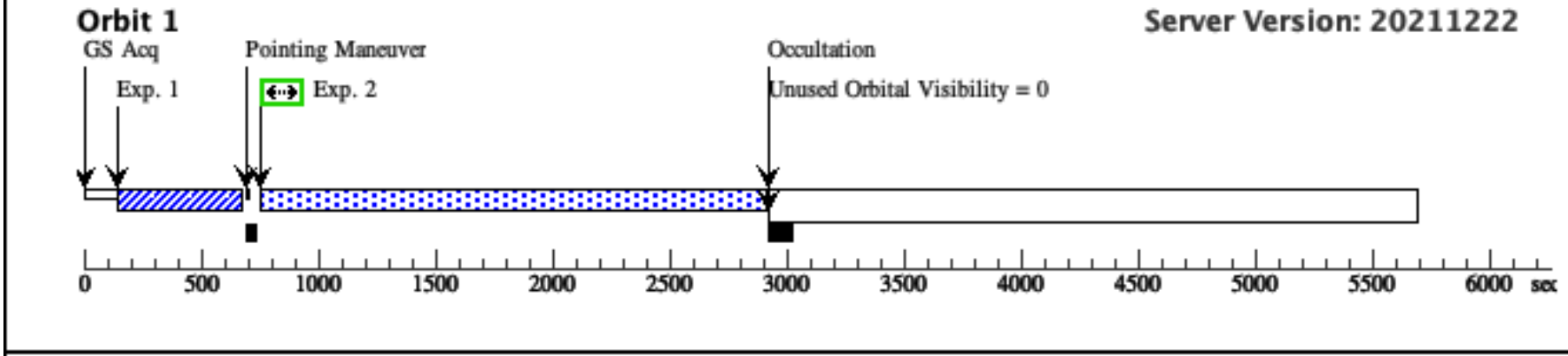
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(2)	RXJ1852.3-3700	RA: 18 52 17.3052 (283.0721050d) Dec: -37 00 12.39 (-37.00344d) Equinox: J2000	Proper Motion RA: 3.249331113 mas/yr Proper Motion Dec: -28.17352659 mas/yr Parallax: 0.006856945502" Epoch of Position: 2015.5	V=12.184 SpT=K2; A_V=1.00; B=13.32; V=12.18; J=9.772	Reference Frame: ICRS

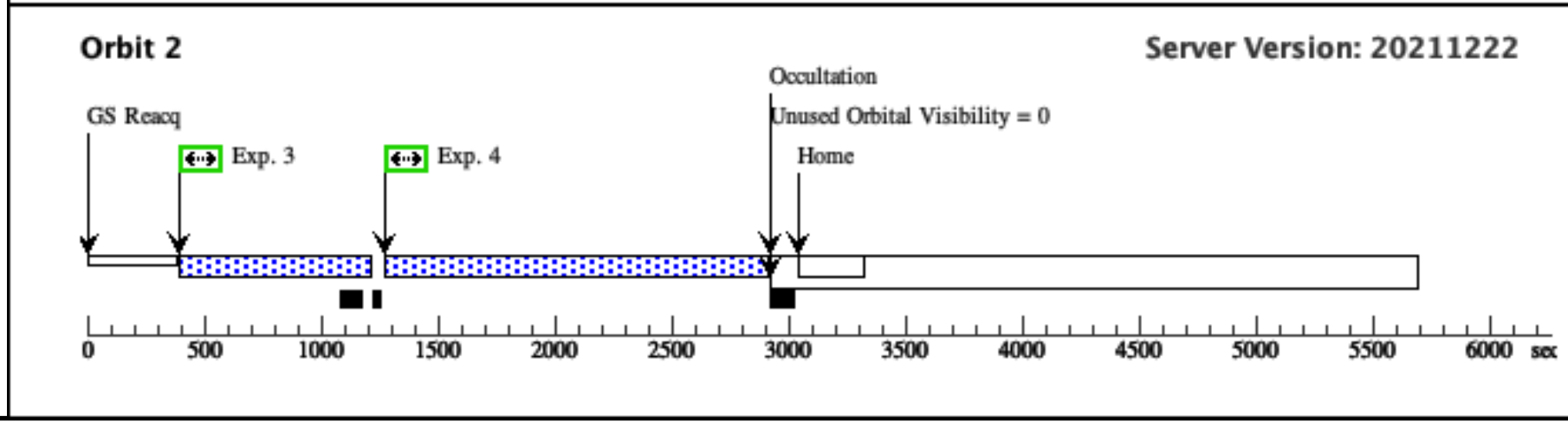
Comments: RXJ1852.3-3700
Region: Corona Australis
Simbad: http://simbad.u-strasbg.fr/simbad/sim-id?Ident=rxj18523-3700&submit=submit+id
Target coordinates are from Gaia DR2.
Spectral type: K2 ; A_V: 1.0 ; Distance (pc): 130
M: 1.04 ; log(dm/dt): -8.7*
Input file: lowmass_survey_Input-gaia.csv
rxj18523-3700_lya2_etc_scaled_pAV0.50.txt
Calculation performed 2021-10-21T02:37:06, v0.8
---
tstatus; RXJ1852.3-3700; P/COS approved for submission; S/STIS approved for submission; P/WF 17/02/22; S/WF 17/02/22
tcheck; APT/SIMBAD target names: ; 2MASS J18521730-3700119
tcheck; Target info verification status?; OK
tcheck; Coordinates & P.M. verified, epoch checked?; yes
tcheck; Adopted SED compared to Observations?; yes ...
BV photometry is 4.14x and 2.76x CTTS template ...
For the worst-case scenario, use the 4x template scaled to B=11.19, 4x the brightest available magnitude (SIMBAD)
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 (1688595)	(2) RXJ1852.3-3700	COS/NUV, ACQ/IMAGE, PSA	MIRRORB				114 Secs (114 Secs) *[==>]*	*[1]*
	Comments: Exposure time doubled from 57 s in case target is faint. *Worst-case ETC run (1691350) gives 37.7 cts/s in brightest pixel.*								
2	G160M/1589-3 (1688600)	(2) RXJ1852.3-3700	COS/FUV, TIME-TAG, PSA	G160M 1589 A	BUFFER-TIME=1951; FP-POS=3			1951 Secs (1951 Secs) *[==>]*	*[1]*
	Comments: ETC exposure time is 1389 s per G160M setting *Worst-case ETC run (1691352) gives 0.18 cts/s in brightest pixel and buffer time of 3759 s* *Buffer time is equal to exp time for extra protection against data loss* *rxj18523-3700_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: K2 ; A_V: 1.0 ; Distance (pc): 130* *M*: 1.04 ; log(dm/dt): -8.7* *For exptime=2726.8 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): 73.8 cts/s/segment* *brightest pixel: 0.003 cts/s/pix at 1446.2 A* *Calculation performed 2021-10-21T02:37:02, v0.23*								
3	G160M/1589-3 (1688600)	(2) RXJ1852.3-3700	COS/FUV, TIME-TAG, PSA	G160M 1589 A	BUFFER-TIME=662; FP-POS=3			772 Secs (772 Secs) *[==>]*	*[2]*
	Comments: ETC exposure time is 1389 s per G160M setting *Worst-case ETC run (1691352) gives 0.18 cts/s in brightest pixel and buffer time of 3759 s* *Buffer time is exp time - 110 s to minimize delay before the next exposure* *rxj18523-3700_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: K2 ; A_V: 1.0 ; Distance (pc): 130* *M*: 1.04 ; log(dm/dt): -8.7* *For exptime=2726.8 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): 73.8 cts/s/segment* *brightest pixel: 0.003 cts/s/pix at 1446.2 A* *Calculation performed 2021-10-21T02:37:02, v0.23*								
4	G160M/1589-4 (1688600)	(2) RXJ1852.3-3700	COS/FUV, TIME-TAG, PSA	G160M 1589 A	BUFFER-TIME=1584; FP-POS=4			1584 Secs (1584 Secs) *[==>]*	*[2]*
	Comments: ETC exposure time is 1389 s per G160M setting *Worst-case ETC run (1691352) gives 0.18 cts/s in brightest pixel and buffer time of 3759 s* *Buffer time is equal to exp time for extra protection against data loss* *rxj18523-3700_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: K2 ; A_V: 1.0 ; Distance (pc): 130* *M*: 1.04 ; log(dm/dt): -8.7* *For exptime=2726.8 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): 73.8 cts/s/segment* *brightest pixel: 0.003 cts/s/pix at 1446.2 A* *Calculation performed 2021-10-21T02:37:02, v0.23*								

Orbit Structure





Visit

Proposal 16859, RXJ1852.3-3700-COS (2E) Thu Feb 17 17:00:47 GMT 2022

Diagnostic Status: No Diagnostics

Scientific Instruments: COS/FUV, COS/NUV

Special Requirements: SCHED 100%; BETWEEN 01-MAY-2022:00:00:00 AND 04-SEP-2022:00:00:00

Comments: vstatus; 2E; RXJ1852.3-3700; P/COS approved for submission; P/WF 17/02/22 ; intrev complete ; P/AH 04/02/22
vcheck; Enter targ name & Inst. & Resp. Sci.; RX J1852.3-3700 ; COS ; WF
vcheck; ETC numbers entered in APT?; yes
vcheck; Any screening violations?; no
vcheck; M-dwarf check complete and added to box folder?; N/A
vcheck; S/N ETC calcs done & documented?; yes
vcheck; Field images checked & saved?; yes ...
located at: ~/Box/ullyses_tech/ullyses_proposals/survey_c29/16859/rxj1852.3-3700/
vcheck; Selected ACQ strategy?; yes; PSA/MirrorB
vcheck; Possible ACQ or Sci spoilers?; no
vcheck; Field BOT clear?; yes ...
in GALEX, target appears twice and is marked safe; no macroaperture stars ...
in GSC, BOT marks target unknown due to lack of color info ...
all bright macroaperture stars are marked safe and have Gaia colors too blue to be M dwarfs
vcheck; Visual BOT check for stars not in catalog?; yes
vcheck; Orbit packing finalized?; yes ...
G130M has 97% of requested time and G160M has 99% 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 = 8

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(2)	RXJ1852.3-3700	RA: 18 52 17.3052 (283.0721050d) Dec: -37 00 12.39 (-37.00344d) Equinox: J2000	Proper Motion RA: 3.249331113 mas/yr Proper Motion Dec: -28.17352659 mas/yr Parallax: 0.006856945502" Epoch of Position: 2015.5	V=12.184 SpT=K2; A_V=1.00; B=13.32; V=12.18; J=9.772	Reference Frame: ICRS

Comments: RXJ1852.3-3700
Region: Corona Australis
Simbad: http://simbad.u-strasbg.fr/simbad/sim-id?Ident=rxj18523-3700&submit=submit+id
Target coordinates are from Gaia DR2.
Spectral type: K2 ; A_V: 1.0 ; Distance (pc): 130
M: 1.04 ; log(dm/dt): -8.7*
Input file: lowmass_survey_Input-gaia.csv
rxj18523-3700_lya2_etc_scaled_pAV0.50.txt
Calculation performed 2021-10-21T02:37:06, v0.8
---
tstatus; RXJ1852.3-3700; P/COS approved for submission; S/STIS approved for submission; P/WF 17/02/22; S/WF 17/02/22
tcheck; APT/SIMBAD target names: ; 2MASS J18521730-3700119
tcheck; Target info verification status?; OK
tcheck; Coordinates & P.M. verified, epoch checked?; yes
tcheck; Adopted SED compared to Observations?; yes ...
BV photometry is 4.14x and 2.76x CTTS template ...
For the worst-case scenario, use the 4x template scaled to B=11.19, 4x the brightest available magnitude (SIMBAD)
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 (1688595)	(2) RXJ1852.3-3700	COS/NUV, ACQ/IMAGE, PSA	MIRRORB				114 Secs (114 Secs) *[==>]*	 ***[1]***
	Comments: Exposure time doubled from 57 s in case target is faint. *Worst-case ETC run (1691350) gives 37.7 cts/s in brightest pixel.*								
2	G160M/1623-1 (1688602)	(2) RXJ1852.3-3700	COS/FUV, TIME-TAG, PSA	G160M 1623 A	BUFFER-TIME=1941; FP-POS=1			1941 Secs (1941 Secs) *[==>]*	 ***[1]***
	Comments: ETC exposure time is 1420 s per G160M setting *Worst-case ETC run (1691353) gives 0.17 cts/s in brightest pixel and buffer time of 4266 s* *Buffer time is equal to exp time for extra protection against data loss* *rxj18523-3700_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: K2 ; A_V: 1.0 ; Distance (pc): 130* *M*: 1.04 ; log(dm/dt): -8.7* *For exptime=2790.6 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): 72.4 cts/s/segment* *brightest pixel: 0.003 cts/s/pix at 1446.2 A* *Calculation performed 2021-10-21T02:37:04, v0.23*								
3	G160M/1623-1 (1688602)	(2) RXJ1852.3-3700	COS/FUV, TIME-TAG, PSA	G160M 1623 A	BUFFER-TIME=672; FP-POS=1			782 Secs (782 Secs) *[==>]*	 ***[2]***
	Comments: ETC exposure time is 1420 s per G160M setting *Worst-case ETC run (1691353) gives 0.17 cts/s in brightest pixel and buffer time of 4266 s* *Buffer time is exp time - 110 s to minimize delay before the next exposure* *rxj18523-3700_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: K2 ; A_V: 1.0 ; Distance (pc): 130* *M*: 1.04 ; log(dm/dt): -8.7* *For exptime=2790.6 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): 72.4 cts/s/segment* *brightest pixel: 0.003 cts/s/pix at 1446.2 A* *Calculation performed 2021-10-21T02:37:04, v0.23*								
4	G160M/1623-2 (1688602)	(2) RXJ1852.3-3700	COS/FUV, TIME-TAG, PSA	G160M 1623 A	BUFFER-TIME=1574; FP-POS=2			1574 Secs (1574 Secs) *[==>]*	 ***[2]***
	Comments: ETC exposure time is 1420 s per G160M setting *Worst-case ETC run (1691353) gives 0.17 cts/s in brightest pixel and buffer time of 4266 s* *Buffer time is equal to exp time for extra protection against data loss* *rxj18523-3700_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: K2 ; A_V: 1.0 ; Distance (pc): 130* *M*: 1.04 ; log(dm/dt): -8.7* *For exptime=2790.6 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): 72.4 cts/s/segment* *brightest pixel: 0.003 cts/s/pix at 1446.2 A* *Calculation performed 2021-10-21T02:37:04, v0.23*								

5	G160M/162 3-2 (1688602)	(2) RXJ1852.3-3700	COS/FUV, TIME-TAG, PSA	G160M 1623 A	BUFFER-TIME=1039; FP-POS=2	1149 Secs (1149 Secs) *[==>]*	***[3]***

Comments: ETC exposure time is 1420 s per G160M setting
Worst-case ETC run (1691353) gives 0.17 cts/s in brightest pixel and buffer time of 4266 s
Buffer time is exp time - 110 s to minimize delay before the next exposure

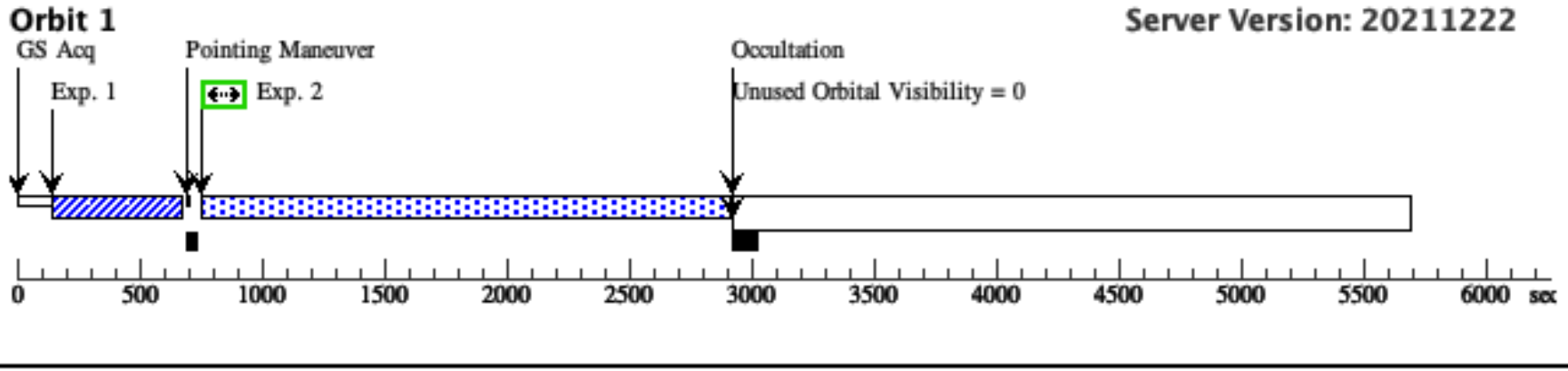
rxj18523-3700_lya2_etc_scaled_pAV0.50.txt; cos,fuv,g160m,c1623,psa,mjd#59670; fp-pos=None, segment=None)
Input file: lowmass_survey_Input-gaia.csv
Spectral type: K2 ; A_V: 1.0 ; Distance (pc): 130
M: 1.04 ; log(dm/dt): -8.7*
For exptime=2790.6 s, spectral region:
1549.0 +- 1.0 A achieves SNR=20.0 / 6-pix-resel 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): 72.4 cts/s/segment
brightest pixel: 0.003 cts/s/pix at 1446.2 A
Calculation performed 2021-10-21T02:37:04, v0.23

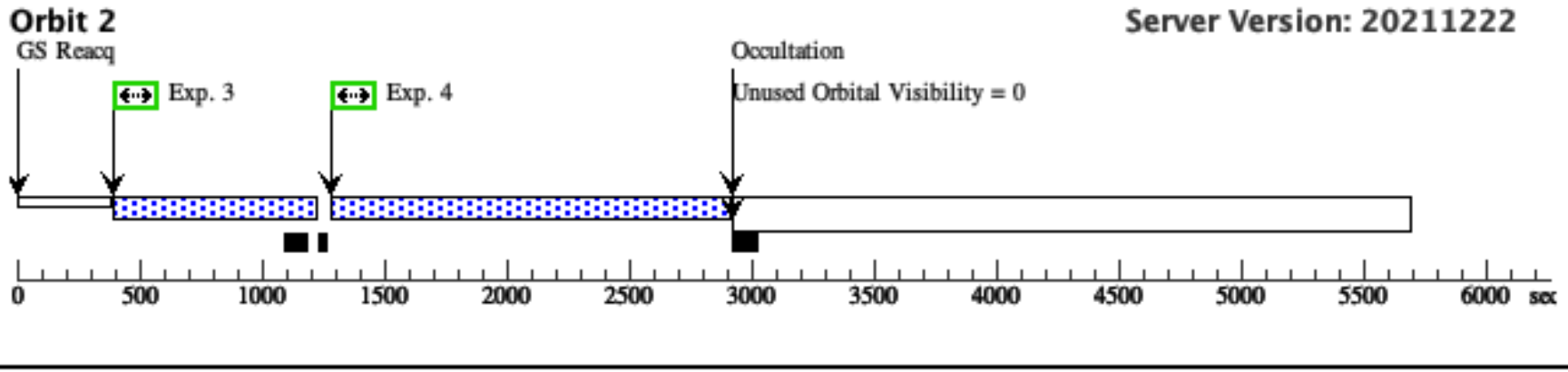
6	G160M/158 9-4 (1688600)	(2) RXJ1852.3-3700	COS/FUV, TIME-TAG, PSA	G160M 1589 A	BUFFER-TIME=1138; FP-POS=4	1138 Secs (1138 Secs) *[==>]*	***[3]***

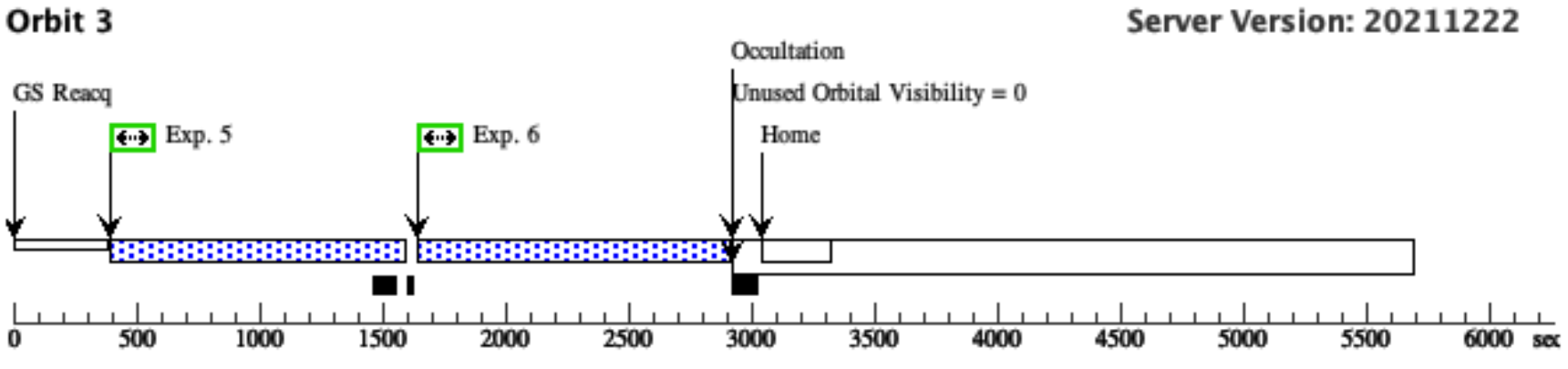
Comments: ETC exposure time is 1389 s per G160M setting
Worst-case ETC run (1691352) gives 0.18 cts/s in brightest pixel and buffer time of 3759 s
Buffer time is equal to exp time for extra protection against data loss

rxj18523-3700_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: K2 ; A_V: 1.0 ; Distance (pc): 130
M: 1.04 ; log(dm/dt): -8.7*
For exptime=2726.8 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): 73.8 cts/s/segment
brightest pixel: 0.003 cts/s/pix at 1446.2 A
Calculation performed 2021-10-21T02:37:02, v0.23

Orbit Structure







Visit

Proposal 16859, RXJ1852.3-3700-STIS (2S) Thu Feb 17 17:00:47 GMT 2022

Diagnostic Status: No Diagnostics

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

Special Requirements: SCHED 100%; BETWEEN 01-MAY-2022:00:00:00 AND 04-SEP-2022:00:00:00; GROUP 2S,2C,2D,2E WITHIN 2D

Comments: vstatus; 2S; RXJ1852.3-3700; S/STIS approved for submission; S/WF 17/02/22 ; intrev complete ; P/AH 04/02/22
vcheck; Enter targ name & Inst. & Resp. Sci.; RX J1852.3-3700 ; STIS ; WF
vcheck; ETC numbers entered in APT?; yes
vcheck; Any screening violations?; no
vcheck; M-dwarf check complete and added to box folder?; N/A
vcheck; S/N ETC calcs done & documented?; yes
vcheck; Field images checked & saved?; yes ...
located at: ~/Box/ullyses_tech/ullyses_proposals/survey_c29/16859/rxj1852.3-3700/
vcheck; Selected ACQ strategy?; yes, F28X50LP
vcheck; Possible ACQ or Sci spoilers?; no ...
brightest nearby star is 3.2 mag fainter than target in Gaia G
vcheck; Field BOT clear?; yes ...
in GALEX, target appears twice and is marked safe; no macroaperture stars ...
in GSC, BOT marks target unknown due to lack of color info ...
all bright macroaperture stars are marked safe and have Gaia colors too blue to be M dwarfs
vcheck; Visual BOT check for stars not in catalog?; yes
vcheck; Orbit packing finalized?; yes ...
Exposure times were increased to 4x ETC results, and the remaining time is used for G230L
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 = 1

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(2)	RXJ1852.3-3700	RA: 18 52 17.3052 (283.0721050d) Dec: -37 00 12.39 (-37.00344d) Equinox: J2000	Proper Motion RA: 3.249331113 mas/yr Proper Motion Dec: -28.17352659 mas/yr Parallax: 0.006856945502" Epoch of Position: 2015.5	V=12.184 SpT=K2; A_V=1.00; B=13.32; V=12.18; J=9.772	Reference Frame: ICRS

Comments: RXJ1852.3-3700
Region: Corona Australis
Simbad: http://simbad.u-strasbg.fr/simbad/sim-id?Ident=rxj18523-3700&submit=submit+id
Target coordinates are from Gaia DR2.
Spectral type: K2 ; A_V: 1.0 ; Distance (pc): 130
M: 1.04 ; log(dm/dt): -8.7*
Input file: lowmass_survey_Input-gaia.csv
rxj18523-3700_lya2_etc_scaled_pAV0.50.txt
Calculation performed 2021-10-21T02:37:06, v0.8
---
tstatus; RXJ1852.3-3700; P/COS approved for submission; S/STIS approved for submission; P/WF 17/02/22; S/WF 17/02/22
tcheck; APT/SIMBAD target names: ; 2MASS J18521730-3700119
tcheck; Target info verification status?; OK
tcheck; Coordinates & P.M. verified, epoch checked?; yes
tcheck; Adopted SED compared to Observations?; yes ...
BV photometry is 4.14x and 2.76x CTTS template ...
For the worst-case scenario, use the 4x template scaled to B=11.19, 4x the brightest available magnitude (SIMBAD)
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 (1688606)	(2) RXJ1852.3-3700	STIS/CCD, ACQ, F28X50LP	MIRROR				0.1 Secs (0.1 Secs) *[==>]*	*[1]*

Comments: Nominal ETC run gives 0.03 s for S/N = 40
Worst-case ETC run (1691354) gives saturation in 0.19 s

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
2	G230L/2376 (1688604)	(2) RXJ1852.3-3700	STIS/NUV-MAMA, TIME-TAG, 52X2	G230L 2376 A	WAVECAL=NO; BUFFER-TIME=273			822 Secs (822 Secs) *[==>]*	*[1]*

Comments: Exposure time of 132 s was doubled to 264 s and extended to help fill the orbit
Worst-case ETC run (1691355) gives 22.8 cts/s in brightest pixel and buffer time of 399 s
Buffer time set to just under one third of the exposure time for extra protection against data loss

rxj18523-3700_lya2_etc_scaled_pAV0.50.txt; stis,nuvmama,g230l,c2376,52x2,mjd#59670
Input file: lowmass_survey_Input-gaia.csv
Spectral type: K2 ; A_V: 1.0 ; Distance (pc): 130
M: 1.04 ; log(dm/dt): -8.7*
For exptime=131.2 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): 2386.4 cts/s/segment
brightest pixel: 0.628 cts/s/pix at 2796.8 A
Calculation performed 2021-10-21T02:37:06, 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 (1688608)	(2) RXJ1852.3-3700	STIS/CCD, ACCUM, 52X2	G430L 4300 A	WAVECAL=NO; CR-SPLIT=4; GAIN=4			300 Secs (300 Secs) *[==>(Split 1)]* *[==>(Split 2)]* *[==>(Split 3)]* *[==>(Split 4)]*	*[1]*

Comments: Exposure time of 75 s was doubled to 150 s and extended to help fill the orbit
Worst-case ETC run (1691365) gives saturation in 136 s with GAIN = 4; individual subexposures are 75 s

rxj18523-3700_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: K2 ; A_V: 1.0 ; Distance (pc): 130
M: 1.04 ; log(dm/dt): -8.7*
For exptime=39.2 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): 50492.1 cts/s/segment
brightest pixel: 29.839 cts/s/pix at 4560.5 A
Calculation performed 2021-10-21T02:37:06, v0.23

	6	G750L/7751 (2) RXJ1852.3-3700 (1688610)	STIS/CCD, ACCUM, 52X2	G750L 7751 A	WAVECAL=NO; CR-SPLIT=2; GAIN=4	20 Secs (20 Secs) *[==>(Split 1)]* *[==>(Split 2)]*	***[1]***
		Comments: Exposure time of 5 s was doubled to 10 s and extended to help fill the orbit *Worst-case ETC run (1691366) gives saturation in 17 s with GAIN = 4; individual subexposures are 10 s* *rxj18523-3700_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: K2 ; A_V: 1.0 ; Distance (pc): 130* *M*: 1.04 ; log(dm/dt): -8.7* *For exptime=2.6 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): 139283.4 cts/s/segment* *brightest pixel: 270.076 cts/s/pix at 6563.9 A* *Calculation performed 2021-10-21T02:37:06, 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