16590 - ULLYSES Monitoring Observations of the T Tauri Star GM Aur: Second Epoch

Cycle: 29, Proposal Category: GO/DD

(Availability Mode: SUPPORTED)

INVESTIGATORS

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VISITS

Visit	*Targets used in Visit*	*Configurations used in Visit*	*Orbits Used*	*Last Orbit Planner Run*	*OP Current with Visit?*
1C	(1) V-GM-AUR	COS/FUV COS/NUV	1	28-Jul-2022 11:00:57.0	yes
1D	(1) V-GM-AUR	COS/FUV COS/NUV	1	28-Jul-2022 11:00:59.0	yes
1E	(1) V-GM-AUR	COS/FUV COS/NUV	1	28-Jul-2022 11:01:00.0	yes
1F	(1) V-GM-AUR	COS/FUV COS/NUV	1	28-Jul-2022 11:01:01.0	yes
1G	(1) V-GM-AUR	COS/FUV COS/NUV	1	28-Jul-2022 11:01:03.0	yes
1H	(1) V-GM-AUR	COS/FUV COS/NUV	1	28-Jul-2022 11:01:04.0	yes

Visit	*Targets used in Visit*	*Configurations used in Visit*	*Orbits Used*	*Last Orbit Planner Run*	*OP Current with Visit?*
1I	(1) V-GM-AUR	COS/FUV COS/NUV	1	28-Jul-2022 11:01:05.0	yes
1J	(1) V-GM-AUR	COS/FUV COS/NUV	1	28-Jul-2022 11:01:07.0	yes
1K	(1) V-GM-AUR	COS/FUV COS/NUV	1	28-Jul-2022 11:01:09.0	yes
1L	(1) V-GM-AUR	COS/FUV COS/NUV	1	28-Jul-2022 11:01:10.0	yes
1M	(1) V-GM-AUR	COS/FUV COS/NUV	1	28-Jul-2022 11:01:11.0	yes
1N	(1) V-GM-AUR	COS/FUV COS/NUV	1	28-Jul-2022 11:01:13.0	yes

12 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 ~165 OB stars in the Magellanic Clouds and lower metallicity galaxies in the Local Group, and ~67 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

Observations use COS NUV + FUV and all visits are single orbit with SCHED=100.

This target will be observed by TESS in Sector 59, which runs from 2022-Nov-26 to 2022-Dec-23. For the purpose of coordinated observations, this version sets the BETWEEN for all visits to be from 2022-Nov-26 to 2022-Dec-23. The target should be scheduled as early in this window as possible. This window will be refined when more detailed information about the timing of TESS observations is available.

The rotation period of the target is 6.1 days = 92.2 orbits. We want to schedule 4 visits/period over three consecutive rotation periods, but we don't care about zero point shifts in the whole pattern. Ideal visit spacing would be 23.1 orbits. If we allow windows that are multiples of 23.1 +/- 4.1 orbits after visit 1 the required AFTER BY orbit values are as follows

Visit	2	3	4	5	6	7	8	9	10	11	12
Start	19.0	42.0	65.1	88.2	111.2	134.3	157.4	180.4	203.5	226.6	249.6
End	27.2	50.2	73.3	96.4	119.4	142.5	165.6	188.6	211.7	234.8	257.8

The windows could be widened a bit if needed to facilitate scheduling.

If possible, we would like to schedule visits during the period from roughly 0h to 16h UT every day when the target will be visible from LCOGT telescopes. More precise windows can be provided, and these can be enforced manually instead of as rigid BETWEENs.

Visit

Proposal 16590, V-GM-AUR-COS-1 (1C), implementation Thu Jul 28 15:01:13 GMT 2022

Diagnostic Status: Warning

Scientific Instruments: COS/FUV, COS/NUV

Special Requirements: SCHED 100%; BETWEEN 26-NOV-2022 AND 23-DEC-2022

Comments: vstatus; 1C; V-GM-AUR; P/COS approved for submission; P/JRD 21/07/21 ; intrev: complete ; P/WF 26/7/21
vcheck; Enter targ name & Inst. & Resp. Sci.; GM Aur ; COS ; AH
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/monitor/16018/images/
vcheck; Selected ACQ strategy?; Double ACQ/PeakXD+ACQ/PeakD, G230L, S/N = 40
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
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 = 12

Diagnostics

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

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	V-GM-AUR Alt Name1: 2MASS-J04551098+3021595 Alt Name2: HBC-77	RA: 04 55 10.9860 (73.7957750d) Dec: +30 21 59.00 (30.36639d) Equinox: J2000	Proper Motion RA: 3.012635677084487E-4 sec of time/yr Proper Motion Dec: -0.02445099994474731 arcsec/yr Epoch of Position: 2015.5	V=12.242 SpT=K3, U=14.59, B=13.35, V=12.24, R=11.80, G=11.70, J=9.34, H=8.60, K=8.28	Reference Frame: ICRS

Comments: tstatus; V-GM-AUR ; P/COS approved for submission; S/ins not started; P/JRD 21/07/21; S/xx DD/MM/YY
tcheck; APT/SIMBAD target names: ; V-GM-AUR ...
Default SIMBAD name is V GM Aur, aka 2MASS J04551098+3021595*
tcheck; Target info verification status?; OK ...
spectral type and magnitudes seem to be consistent
Flam(B) = 2.6e-10 at 4444 Angstroms and Flam(V) = 4.7e-10 at 5540 Angstroms from Vizier photometry viewer linked from SIMBAD
tcheck; Coordinates & P.M. verified, epoch checked?; OK ...
SIMBAD coordinates check out with what's here, SIMBAD PM values check out with what's here
tcheck; Adopted SED compared to Observations?; Yes ...
located at: box/ullyses_tech/ullyses_proposals/monitor/16018/seds/
Category=STAR
Description=[PRE-MAIN SEQUENCE STAR, T TAURI 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	G230L PEAKXD (COS.sa.1522537)	(1) V-GM-AUR	COS/NUV, ACQ/PEAKXD, PSA	G230L 2950 A	STRIPE=DEF			5.8 Secs (5.8 Secs) *[==>]*	*[1]*

Comments: Used model spectrum gmaur_lya2_etc.txt in the ETC (COS.sa.1522537) in order to determine exposure times. This is the one listed as the ETC run for the exposure. ACQ/PEAKXD with PSA takes 5.8 seconds for S/N=40.

Used model spectrum gmaur_lya2_x4.00_etc.txt in the ETC (COS.sa.1522540) in order to determine bright object safety. ACQ/PEAKXD with PSA has peak pixel rate of 5.943 counts per second and global rate of 2997.808, so it is safe.

This is the first of two ACQ/PEAKXD+ACQ/PEAKD used in order to improve the likelihood of a successful acquisition.

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
2	G230L PEAKD (COS.sa.1522538)	(1) V-GM-AUR	COS/NUV, ACQ/PEAKD, PSA	G230L 2950 A	CENTER=FLUX-WT-FLR; NUM-POS=5; STEP-SIZE=0.9			5.3 Secs (5.3 Secs) *[==>]*	*[1]*

Comments: Used model spectrum gmaur_lya2_etc.txt in the ETC (COS.sa.1522538) in order to determine exposure times. This is the one listed as the ETC run for the exposure. ACQ/PEAKD with PSA takes 5.3 seconds for S/N=40.

Used model spectrum gmaur_lya2_x4.00_etc.txt in the ETC (COS.sa.1522541) in order to determine bright object safety. ACQ/PEAKD with PSA has peak pixel rate of 5.943 counts per second and global rate of 2997.808, so it is safe.

This is the first of two ACQ/PEAKXD+ACQ/PEAKD used in order to improve the likelihood of a successful acquisition.

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
3	G230L PEAKXD (COS.sa.1522537)	(1) V-GM-AUR	COS/NUV, ACQ/PEAKXD, PSA	G230L 2950 A	STRIPE=DEF			5.8 Secs (5.8 Secs) *[==>]*	*[1]*

Comments: Used model spectrum gmaur_lya2_etc.txt in the ETC (COS.sa.1522537) in order to determine exposure times. This is the one listed as the ETC run for the exposure. ACQ/PEAKXD with PSA takes 5.8 seconds for S/N=40.

Used model spectrum gmaur_lya2_x4.00_etc.txt in the ETC (COS.sa.1522540) in order to determine bright object safety. ACQ/PEAKXD with PSA has peak pixel rate of 5.943 counts per second and global rate of 2997.808, so it is safe.

This is the second of two ACQ/PEAKXD+ACQ/PEAKD used in order to improve the likelihood of a successful acquisition.

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
4	G230L PEAKD (COS.sa.1522538)	(1) V-GM-AUR	COS/NUV, ACQ/PEAKD, PSA	G230L 2950 A	CENTER=FLUX-WT-FLR; NUM-POS=5; STEP-SIZE=0.9			5.3 Secs (5.3 Secs) *[==>]*	*[1]*

Comments: Used model spectrum gmaur_lya2_etc.txt in the ETC (COS.sa.1522538) in order to determine exposure times. This is the one listed as the ETC run for the exposure. ACQ/PEAKD with PSA takes 5.3 seconds for S/N=40.

Used model spectrum gmaur_lya2_x4.00_etc.txt in the ETC (COS.sa.1522541) in order to determine bright object safety. ACQ/PEAKD with PSA has peak pixel rate of 5.943 counts per second and global rate of 2997.808, so it is safe.

This is the second of two ACQ/PEAKXD+ACQ/PEAKD used in order to improve the likelihood of a successful acquisition.

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
5	G230L 2950 (COS.sp.1522735)	(1) V-GM-AUR	COS/NUV, TIME-TAG, PSA	G230L 2950 A	FP-POS=4; BUFFER-TIME=524			184 Secs (184 Secs) *[==>]*	*[1]*

Comments: Used model spectrum gmaur_lya2_etc.txt in the ETC in order to determine exposure times (COS.sp.1522552). 362.4388 seconds to achieve S/N = 20 at 2825 A. This time is halved (= 181.2194 seconds) to account for the other G230L cenwave also observing this spectral feature.

The listed ETC Run # for this exposure (COS.sp.1522735) uses the expanded exposure time to fill the orbit (184 seconds). The G160M exposures received priority for Unused Orbital Visibility, so the increased exposure time here is minimal.

Used model spectrum gmaur_lya2_x4.00_etc.txt in the ETC (COS.sp.1522691) in order to determine bright object safety. Peak local rate of 5.943 counts per second and global rate of 2997.808, so it is safe. Buffer fill time = 786 seconds, and 2/3 of this is 524 seconds.

6	G230L 2635 (COS.sp.152 2737)	(1) V-GM-AUR	COS/NUV, TIME-TAG, PSA	G230L 2635 A	FP-POS=1; BUFFER-TIME=44 8	184 Secs (184 Secs) [==>]	[1]

Comments: Used model spectrum gmaur_lya2_etc.txt in the ETC in order to determine exposure times (COS.sp.1522553). 364.1707 seconds to achieve S/N = 20 at 2825 A. This time is halved (= 182.08535 seconds) to account for the other G230L cenwave also observing this spectral feature.

The listed ETC Run # for this exposure (COS.sp.1522737) uses the expanded exposure time to fill the orbit (184 seconds). The G160M exposures received priority for Unused Orbital Visibility, so the increased exposure time here is minimal.

Used model spectrum gmaur_lya2_x4.00_etc.txt in the ETC (COS.sp.1522690) in order to determine bright object safety. Peak local rate of 5.927 counts per second and global rate of 2199.263, so it is safe. Buffer fill time = 672 seconds, and 2/3 of this is 448 seconds.

7	G160M 158 9-3 (COS.sp.152 2739)	(1) V-GM-AUR	COS/FUV, TIME-TAG, PSA	G160M 1589 A	FP-POS=3; BUFFER-TIME=28 65	186 Secs (186 Secs) [==>]	[1]

Comments: Used model spectrum gmaur_lya2_etc.txt in the ETC in order to determine exposure times (COS.sp.1522544). 376.7304 seconds to achieve S/N = 30 at 1548.5 A. This time is quartered (= 94.1826 seconds) to account for both the other G160M cenwave and the two FP-POS settings per cenwave also observing this spectral feature.

The listed ETC Run # for this exposure (COS.sp.1522739) uses the expanded exposure time to fill the orbit (186 seconds). The G160M exposures received priority for Unused Orbital Visibility, so the increased exposure time here is significant compared to the G230L exposures.

Used model spectrum gmaur_lya2_x4.00_etc.txt in the ETC (COS.sp.1522682) in order to determine bright object safety. Peak local rate of 0.315 counts per second and global rate of 548.875, so it is safe. Buffer fill time = 4297 seconds, and 2/3 of this is 2864.667 seconds.

8	G160M 158 9-4 (COS.sp.152 2739)	(1) V-GM-AUR	COS/FUV, TIME-TAG, PSA	G160M 1589 A	FP-POS=4; BUFFER-TIME=28 65	186 Secs (186 Secs) [==>]	[1]

Comments: Used model spectrum gmaur_lya2_etc.txt in the ETC in order to determine exposure times (COS.sp.1522544). 376.7304 seconds to achieve S/N = 30 at 1548.5 A. This time is quartered (= 94.1826 seconds) to account for both the other G160M cenwave and the two FP-POS settings per cenwave also observing this spectral feature.

The listed ETC Run # for this exposure (COS.sp.1522739) uses the expanded exposure time to fill the orbit (186 seconds). The G160M exposures received priority for Unused Orbital Visibility, so the increased exposure time here is significant compared to the G230L exposures.

Used model spectrum gmaur_lya2_x4.00_etc.txt in the ETC (COS.sp.1522682) in order to determine bright object safety. Peak local rate of 0.315 counts per second and global rate of 548.875, so it is safe. Buffer fill time = 4297 seconds, and 2/3 of this is 2864.667 seconds.

9	G160M 162 3-1 (COS.sp.152 2741)	(1) V-GM-AUR	COS/FUV, TIME-TAG, PSA	G160M 1623 A	FP-POS=1; BUFFER-TIME=31 54	186 Secs (186 Secs) [==>]	[1]

Comments: Used model spectrum gmaur_lya2_etc.txt in the ETC in order to determine exposure times (COS.sp.1522545). 393.2034 seconds to achieve S/N = 30 at 1548.5 A. This time is quartered (= 98.30085 seconds) to account for both the other G160M cenwave and the two FP-POS settings per cenwave also observing this spectral feature.

The listed ETC Run # for this exposure (COS.sp.1522741) uses the expanded exposure time to fill the orbit (186 seconds). The G160M exposures received priority for Unused Orbital Visibility, so the increased exposure time here is significant compared to the G230L exposures.

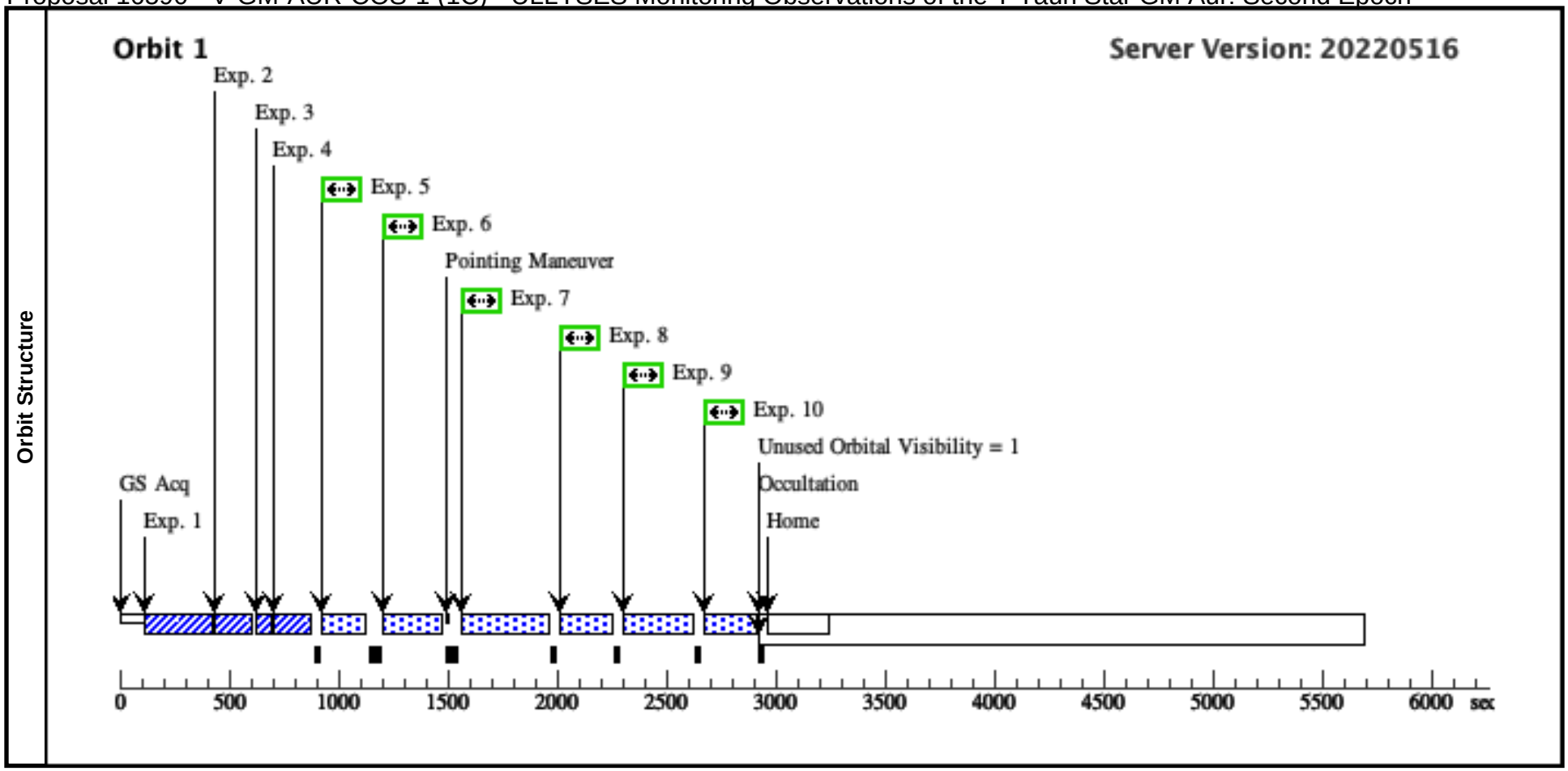
Used model spectrum gmaur_lya2_x4.00_etc.txt in the ETC (COS.sp.1522683) in order to determine bright object safety. Peak local rate of 0.317 counts per second and global rate of 498.525, so it is safe. Buffer fill time = 4731 seconds, and 2/3 of this is 3154 seconds.

10	G160M 162 3-2 (COS.sp.152 2741)	(1) V-GM-AUR	COS/FUV, TIME-TAG, PSA	G160M 1623 A	FP-POS=2; BUFFER-TIME=31 54	186 Secs (186 Secs) [==>]	[1]

Comments: Used model spectrum gmaur_lya2_etc.txt in the ETC in order to determine exposure times (COS.sp.1522545). 393.2034 seconds to achieve S/N = 30 at 1548.5 A. This time is quartered (= 98.30085 seconds) to account for both the other G160M cenwave and the two FP-POS settings per cenwave also observing this spectral feature.

The listed ETC Run # for this exposure (COS.sp.1522741) uses the expanded exposure time to fill the orbit (186 seconds). The G160M exposures received priority for Unused Orbital Visibility, so the increased exposure time here is significant compared to the G230L exposures.

Used model spectrum gmaur_lya2_x4.00_etc.txt in the ETC (COS.sp.1522683) in order to determine bright object safety. Peak local rate of 0.317 counts per second and global rate of 498.525, so it is safe. Buffer fill time = 4731 seconds, and 2/3 of this is 3154 seconds.


Orbit Structure
Orbit 1
Server Version: 20220516
Exp. 2
Exp. 3
Exp. 4
Exp. 5
Exp. 6
Pointing Maneuver
Exp. 7
Exp. 8
Exp. 9
Exp. 10
Unused Orbital Visibility = 1
Occultation
Home
GS Acq
Exp. 1
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
6000
sec

Visit

Proposal 16590, V-GM-AUR-COS-2 (1D), implementation Thu Jul 28 15:01:13 GMT 2022

Diagnostic Status: Warning

Scientific Instruments: COS/FUV, COS/NUV

Special Requirements: SCHED 100%; AFTER 1C BY 19.0 Orbits TO 27.2 Orbits; BETWEEN 26-NOV-2022 AND 23-DEC-2022

Comments: vstatus; 1D; V-GM-AUR; P/COS approved for submission; P/JRD 21/07/21 ; intrev: complete ; P/WF 26/7/21
vcheck; Enter targ name & Inst. & Resp. Sci.; GM Aur ; COS ; AH
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/monitor/16018/images/
vcheck; Selected ACQ strategy?; Double ACQ/PeakXD+ACQ/PeakD, G230L, S/N = 40
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
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 = 12

Diagnostics

(V-GM-AUR-COS-2 (1D)) Warning (Form): For the best data quality, it is generally required to use all four FP-POS positions when observing at a given COS cenwave. See the COS Instrument Handbook for exceptions that may apply to observations with G130M/1291 or G160M.

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	V-GM-AUR Alt Name1: 2MASS-J04551098+3021595 Alt Name2: HBC-77	RA: 04 55 10.9860 (73.7957750d) Dec: +30 21 59.00 (30.36639d) Equinox: J2000	Proper Motion RA: 3.012635677084487E-4 sec of time/yr Proper Motion Dec: -0.02445099994474731 arcsec/yr Epoch of Position: 2015.5	V=12.242 SpT=K3, U=14.59, B=13.35, V=12.24, R=11.80, G=11.70, J=9.34, H=8.60, K=8.28	Reference Frame: ICRS

Comments: tstatus; V-GM-AUR ; P/COS approved for submission; S/ins not started; P/JRD 21/07/21; S/xx DD/MM/YY
tcheck; APT/SIMBAD target names: ; V-GM-AUR ...
Default SIMBAD name is V GM Aur, aka 2MASS J04551098+3021595*
tcheck; Target info verification status?; OK ...
spectral type and magnitudes seem to be consistent
Flam(B) = 2.6e-10 at 4444 Angstroms and Flam(V) = 4.7e-10 at 5540 Angstroms from Vizier photometry viewer linked from SIMBAD
tcheck; Coordinates & P.M. verified, epoch checked?; OK ...
SIMBAD coordinates check out with what's here, SIMBAD PM values check out with what's here
tcheck; Adopted SED compared to Observations?; Yes ...
located at: box/ullyses_tech/ullyses_proposals/monitor/16018/seds/
Category=STAR
Description=[PRE-MAIN SEQUENCE STAR, T TAURI 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	G230L PEAKXD (COS.sa.1522537)	(1) V-GM-AUR	COS/NUV, ACQ/PEAKXD, PSA	G230L 2950 A	STRIPE=DEF			5.8 Secs (5.8 Secs) *[==>]*	***[1]***

Comments: Used model spectrum gmaur_lya2_etc.txt in the ETC (COS.sa.1522537) in order to determine exposure times. This is the one listed as the ETC run for the exposure. ACQ/PEAKXD with PSA takes 5.8 seconds for S/N=40.

Used model spectrum gmaur_lya2_x4.00_etc.txt in the ETC (COS.sa.1522540) in order to determine bright object safety. ACQ/PEAKXD with PSA has peak pixel rate of 5.943 counts per second and global rate of 2997.808, so it is safe.

This is the first of two ACQ/PEAKXD+ACQ/PEAKD used in order to improve the likelihood of a successful acquisition.

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
2	G230L PEAKD (COS.sa.1522538)	(1) V-GM-AUR	COS/NUV, ACQ/PEAKD, PSA	G230L 2950 A	CENTER=FLUX-WT-FLR; NUM-POS=5; STEP-SIZE=0.9			5.3 Secs (5.3 Secs) *[==>]*	***[1]***

Comments: Used model spectrum gmaur_lya2_etc.txt in the ETC (COS.sa.1522538) in order to determine exposure times. This is the one listed as the ETC run for the exposure. ACQ/PEAKD with PSA takes 5.3 seconds for S/N=40.

Used model spectrum gmaur_lya2_x4.00_etc.txt in the ETC (COS.sa.1522541) in order to determine bright object safety. ACQ/PEAKD with PSA has peak pixel rate of 5.943 counts per second and global rate of 2997.808, so it is safe.

This is the first of two ACQ/PEAKXD+ACQ/PEAKD used in order to improve the likelihood of a successful acquisition.

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
3	G230L PEAKXD (COS.sa.1522537)	(1) V-GM-AUR	COS/NUV, ACQ/PEAKXD, PSA	G230L 2950 A	STRIPE=DEF			5.8 Secs (5.8 Secs) *[==>]*	***[1]***

Comments: Used model spectrum gmaur_lya2_etc.txt in the ETC (COS.sa.1522537) in order to determine exposure times. This is the one listed as the ETC run for the exposure. ACQ/PEAKXD with PSA takes 5.8 seconds for S/N=40.

Used model spectrum gmaur_lya2_x4.00_etc.txt in the ETC (COS.sa.1522540) in order to determine bright object safety. ACQ/PEAKXD with PSA has peak pixel rate of 5.943 counts per second and global rate of 2997.808, so it is safe.

This is the second of two ACQ/PEAKXD+ACQ/PEAKD used in order to improve the likelihood of a successful acquisition.

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
4	G230L PEAKD (COS.sa.1522538)	(1) V-GM-AUR	COS/NUV, ACQ/PEAKD, PSA	G230L 2950 A	CENTER=FLUX-WT-FLR; NUM-POS=5; STEP-SIZE=0.9			5.3 Secs (5.3 Secs) *[==>]*	***[1]***

Comments: Used model spectrum gmaur_lya2_etc.txt in the ETC (COS.sa.1522538) in order to determine exposure times. This is the one listed as the ETC run for the exposure. ACQ/PEAKD with PSA takes 5.3 seconds for S/N=40.

Used model spectrum gmaur_lya2_x4.00_etc.txt in the ETC (COS.sa.1522541) in order to determine bright object safety. ACQ/PEAKD with PSA has peak pixel rate of 5.943 counts per second and global rate of 2997.808, so it is safe.

This is the second of two ACQ/PEAKXD+ACQ/PEAKD used in order to improve the likelihood of a successful acquisition.

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
5	G230L 2950 (COS.sp.1522735)	(1) V-GM-AUR	COS/NUV, TIME-TAG, PSA	G230L 2950 A	FP-POS=4; BUFFER-TIME=524			184 Secs (184 Secs) *[==>]*	***[1]***

Comments: Used model spectrum gmaur_lya2_etc.txt in the ETC in order to determine exposure times (COS.sp.1522552). 362.4388 seconds to achieve S/N = 20 at 2825 A. This time is halved (= 181.2194 seconds) to account for the other G230L cenwave also observing this spectral feature.

The listed ETC Run # for this exposure (COS.sp.1522735) uses the expanded exposure time to fill the orbit (184 seconds). The G160M exposures received priority for Unused Orbital Visibility, so the increased exposure time here is minimal.

Used model spectrum gmaur_lya2_x4.00_etc.txt in the ETC (COS.sp.1522691) in order to determine bright object safety. Peak local rate of 5.943 counts per second and global rate of 2997.808, so it is safe. Buffer fill time = 786 seconds, and 2/3 of this is 524 seconds.

6	G230L 2635 (COS.sp.152 2737)	(1) V-GM-AUR	COS/NUV, TIME-TAG, PSA	G230L 2635 A	FP-POS=1; BUFFER-TIME=44 8	184 Secs (184 Secs) [==>]		[1]

Comments: Used model spectrum gmaur_lya2_etc.txt in the ETC in order to determine exposure times (COS.sp.1522553). 364.1707 seconds to achieve S/N = 20 at 2825 A. This time is halved (= 182.08535 seconds) to account for the other G230L cenwave also observing this spectral feature.

The listed ETC Run # for this exposure (COS.sp.1522737) uses the expanded exposure time to fill the orbit (184 seconds). The G160M exposures received priority for Unused Orbital Visibility, so the increased exposure time here is minimal.

Used model spectrum gmaur_lya2_x4.00_etc.txt in the ETC (COS.sp.1522690) in order to determine bright object safety. Peak local rate of 5.927 counts per second and global rate of 2199.263, so it is safe. Buffer fill time = 672 seconds, and 2/3 of this is 448 seconds.

7	G160M 158 9-3 (COS.sp.152 2739)	(1) V-GM-AUR	COS/FUV, TIME-TAG, PSA	G160M 1589 A	FP-POS=3; BUFFER-TIME=28 65	186 Secs (186 Secs) [==>]		[1]

Comments: Used model spectrum gmaur_lya2_etc.txt in the ETC in order to determine exposure times (COS.sp.1522544). 376.7304 seconds to achieve S/N = 30 at 1548.5 A. This time is quartered (= 94.1826 seconds) to account for both the other G160M cenwave and the two FP-POS settings per cenwave also observing this spectral feature.

The listed ETC Run # for this exposure (COS.sp.1522739) uses the expanded exposure time to fill the orbit (186 seconds). The G160M exposures received priority for Unused Orbital Visibility, so the increased exposure time here is significant compared to the G230L exposures.

Used model spectrum gmaur_lya2_x4.00_etc.txt in the ETC (COS.sp.1522682) in order to determine bright object safety. Peak local rate of 0.315 counts per second and global rate of 548.875, so it is safe. Buffer fill time = 4297 seconds, and 2/3 of this is 2864.667 seconds.

8	G160M 158 9-4 (COS.sp.152 2739)	(1) V-GM-AUR	COS/FUV, TIME-TAG, PSA	G160M 1589 A	FP-POS=4; BUFFER-TIME=28 65	186 Secs (186 Secs) [==>]		[1]

Comments: Used model spectrum gmaur_lya2_etc.txt in the ETC in order to determine exposure times (COS.sp.1522544). 376.7304 seconds to achieve S/N = 30 at 1548.5 A. This time is quartered (= 94.1826 seconds) to account for both the other G160M cenwave and the two FP-POS settings per cenwave also observing this spectral feature.

The listed ETC Run # for this exposure (COS.sp.1522739) uses the expanded exposure time to fill the orbit (186 seconds). The G160M exposures received priority for Unused Orbital Visibility, so the increased exposure time here is significant compared to the G230L exposures.

Used model spectrum gmaur_lya2_x4.00_etc.txt in the ETC (COS.sp.1522682) in order to determine bright object safety. Peak local rate of 0.315 counts per second and global rate of 548.875, so it is safe. Buffer fill time = 4297 seconds, and 2/3 of this is 2864.667 seconds.

9	G160M 162 3-1 (COS.sp.152 2741)	(1) V-GM-AUR	COS/FUV, TIME-TAG, PSA	G160M 1623 A	FP-POS=1; BUFFER-TIME=31 54	186 Secs (186 Secs) [==>]		[1]

Comments: Used model spectrum gmaur_lya2_etc.txt in the ETC in order to determine exposure times (COS.sp.1522545). 393.2034 seconds to achieve S/N = 30 at 1548.5 A. This time is quartered (= 98.30085 seconds) to account for both the other G160M cenwave and the two FP-POS settings per cenwave also observing this spectral feature.

The listed ETC Run # for this exposure (COS.sp.1522741) uses the expanded exposure time to fill the orbit (186 seconds). The G160M exposures received priority for Unused Orbital Visibility, so the increased exposure time here is significant compared to the G230L exposures.

Used model spectrum gmaur_lya2_x4.00_etc.txt in the ETC (COS.sp.1522683) in order to determine bright object safety. Peak local rate of 0.317 counts per second and global rate of 498.525, so it is safe. Buffer fill time = 4731 seconds, and 2/3 of this is 3154 seconds.

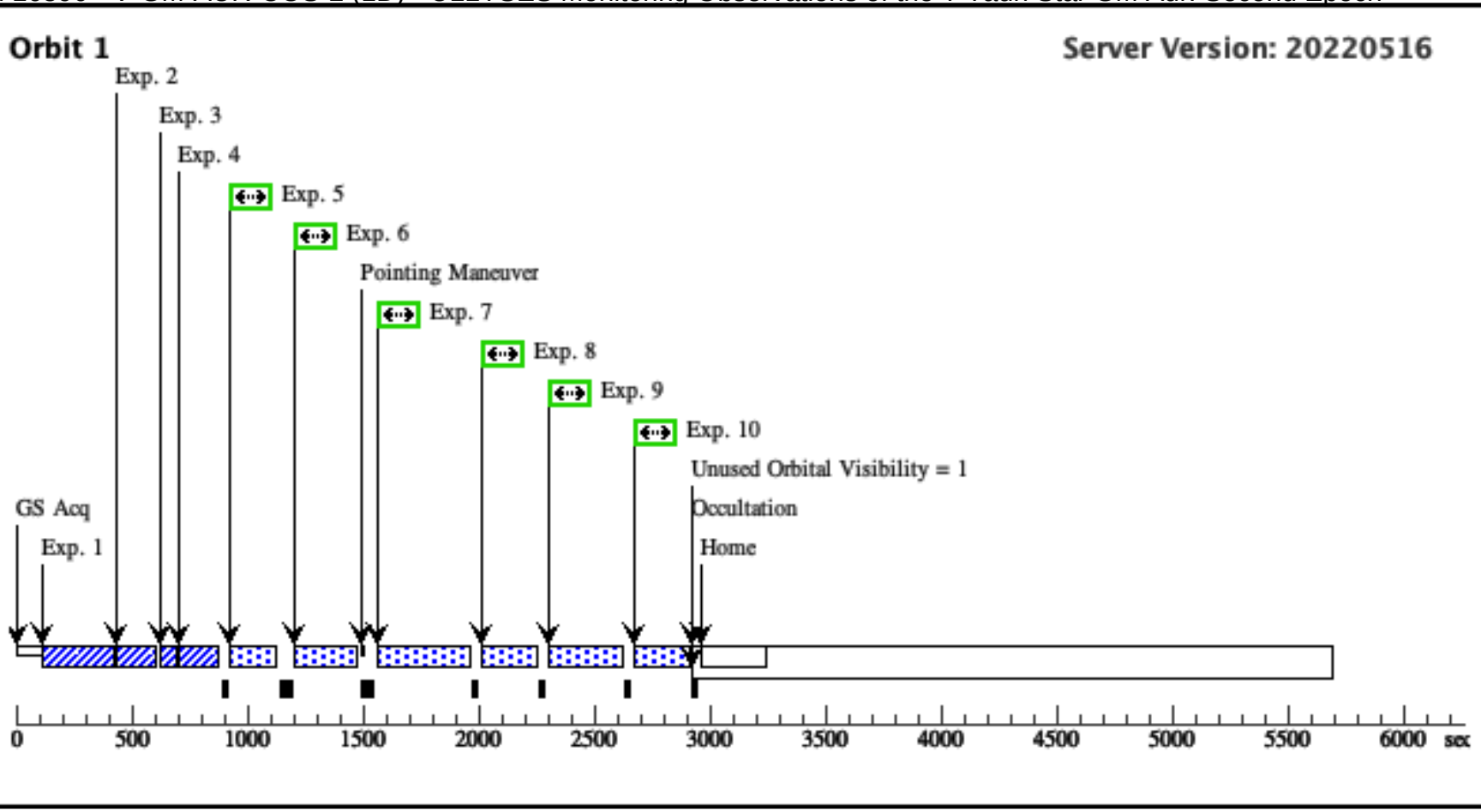
10	G160M 162 3-2 (COS.sp.152 2741)	(1) V-GM-AUR	COS/FUV, TIME-TAG, PSA	G160M 1623 A	FP-POS=2; BUFFER-TIME=31 54	186 Secs (186 Secs) [==>]		[1]

Comments: Used model spectrum gmaur_lya2_etc.txt in the ETC in order to determine exposure times (COS.sp.1522545). 393.2034 seconds to achieve S/N = 30 at 1548.5 A. This time is quartered (= 98.30085 seconds) to account for both the other G160M cenwave and the two FP-POS settings per cenwave also observing this spectral feature.

The listed ETC Run # for this exposure (COS.sp.1522741) uses the expanded exposure time to fill the orbit (186 seconds). The G160M exposures received priority for Unused Orbital Visibility, so the increased exposure time here is significant compared to the G230L exposures.

Used model spectrum gmaur_lya2_x4.00_etc.txt in the ETC (COS.sp.1522683) in order to determine bright object safety. Peak local rate of 0.317 counts per second and global rate of 498.525, so it is safe. Buffer fill time = 4731 seconds, and 2/3 of this is 3154 seconds.

Orbit Structure



Visit

Proposal 16590, V-GM-AUR-COS-3 (1E), implementation Thu Jul 28 15:01:13 GMT 2022

Diagnostic Status: Warning

Scientific Instruments: COS/FUV, COS/NUV

Special Requirements: SCHED 100%; AFTER 1C BY 42.0 Orbits TO 50.2 Orbits; BETWEEN 26-NOV-2022 AND 23-DEC-2022

Comments: vstatus; 1E; V-GM-AUR; P/COS approved for submission; P/JRD 21/07/21 ; intrev: complete ; P/WF 26/7/21
vcheck; Enter targ name & Inst. & Resp. Sci.; GM Aur ; COS ; AH
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/monitor/16018/images/
vcheck; Selected ACQ strategy?; Double ACQ/PeakXD+ACQ/PeakD, G230L, S/N = 40
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
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 = 12

Diagnostics

(V-GM-AUR-COS-3 (1E)) Warning (Form): For the best data quality, it is generally required to use all four FP-POS positions when observing at a given COS cenwave. See the COS Instrument Handbook for exceptions that may apply to observations with G130M/1291 or G160M.

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	V-GM-AUR Alt Name1: 2MASS-J04551098+3021595 Alt Name2: HBC-77	RA: 04 55 10.9860 (73.7957750d) Dec: +30 21 59.00 (30.36639d) Equinox: J2000	Proper Motion RA: 3.012635677084487E-4 sec of time/yr Proper Motion Dec: -0.02445099994474731 arcsec/yr Epoch of Position: 2015.5	V=12.242 SpT=K3, U=14.59, B=13.35, V=12.24, R=11.80, G=11.70, J=9.34, H=8.60, K=8.28	Reference Frame: ICRS

Comments: tstatus; V-GM-AUR ; P/COS approved for submission; S/ins not started; P/JRD 21/07/21; S/xx DD/MM/YY
tcheck; APT/SIMBAD target names: ; V-GM-AUR ...
Default SIMBAD name is V GM Aur, aka 2MASS J04551098+3021595*
tcheck; Target info verification status?; OK ...
spectral type and magnitudes seem to be consistent
Flam(B) = 2.6e-10 at 4444 Angstroms and Flam(V) = 4.7e-10 at 5540 Angstroms from Vizier photometry viewer linked from SIMBAD
tcheck; Coordinates & P.M. verified, epoch checked?; OK ...
SIMBAD coordinates check out with what's here, SIMBAD PM values check out with what's here
tcheck; Adopted SED compared to Observations?; Yes ...
located at: box/ullyses_tech/ullyses_proposals/monitor/16018/seds/
Category=STAR
Description=[PRE-MAIN SEQUENCE STAR, T TAURI 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	G230L PEAKXD (COS.sa.1522537)	(1) V-GM-AUR	COS/NUV, ACQ/PEAKXD, PSA	G230L 2950 A	STRIPE=DEF			5.8 Secs (5.8 Secs) *[==>]*	***[1]***

Comments: Used model spectrum gmaur_lya2_etc.txt in the ETC (COS.sa.1522537) in order to determine exposure times. This is the one listed as the ETC run for the exposure. ACQ/PEAKXD with PSA takes 5.8 seconds for S/N=40.

Used model spectrum gmaur_lya2_x4.00_etc.txt in the ETC (COS.sa.1522540) in order to determine bright object safety. ACQ/PEAKXD with PSA has peak pixel rate of 5.943 counts per second and global rate of 2997.808, so it is safe.

This is the first of two ACQ/PEAKXD+ACQ/PEAKD used in order to improve the likelihood of a successful acquisition.

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
2	G230L PEAKD (COS.sa.1522538)	(1) V-GM-AUR	COS/NUV, ACQ/PEAKD, PSA	G230L 2950 A	CENTER=FLUX-WT-FLR; NUM-POS=5; STEP-SIZE=0.9			5.3 Secs (5.3 Secs) *[==>]*	***[1]***

Comments: Used model spectrum gmaur_lya2_etc.txt in the ETC (COS.sa.1522538) in order to determine exposure times. This is the one listed as the ETC run for the exposure. ACQ/PEAKD with PSA takes 5.3 seconds for S/N=40.

Used model spectrum gmaur_lya2_x4.00_etc.txt in the ETC (COS.sa.1522541) in order to determine bright object safety. ACQ/PEAKD with PSA has peak pixel rate of 5.943 counts per second and global rate of 2997.808, so it is safe.

This is the first of two ACQ/PEAKXD+ACQ/PEAKD used in order to improve the likelihood of a successful acquisition.

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
3	G230L PEAKXD (COS.sa.1522537)	(1) V-GM-AUR	COS/NUV, ACQ/PEAKXD, PSA	G230L 2950 A	STRIPE=DEF			5.8 Secs (5.8 Secs) *[==>]*	***[1]***

Comments: Used model spectrum gmaur_lya2_etc.txt in the ETC (COS.sa.1522537) in order to determine exposure times. This is the one listed as the ETC run for the exposure. ACQ/PEAKXD with PSA takes 5.8 seconds for S/N=40.

Used model spectrum gmaur_lya2_x4.00_etc.txt in the ETC (COS.sa.1522540) in order to determine bright object safety. ACQ/PEAKXD with PSA has peak pixel rate of 5.943 counts per second and global rate of 2997.808, so it is safe.

This is the second of two ACQ/PEAKXD+ACQ/PEAKD used in order to improve the likelihood of a successful acquisition.

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
4	G230L PEAKD (COS.sa.1522538)	(1) V-GM-AUR	COS/NUV, ACQ/PEAKD, PSA	G230L 2950 A	CENTER=FLUX-WT-FLR; NUM-POS=5; STEP-SIZE=0.9			5.3 Secs (5.3 Secs) *[==>]*	***[1]***

Comments: Used model spectrum gmaur_lya2_etc.txt in the ETC (COS.sa.1522538) in order to determine exposure times. This is the one listed as the ETC run for the exposure. ACQ/PEAKD with PSA takes 5.3 seconds for S/N=40.

Used model spectrum gmaur_lya2_x4.00_etc.txt in the ETC (COS.sa.1522541) in order to determine bright object safety. ACQ/PEAKD with PSA has peak pixel rate of 5.943 counts per second and global rate of 2997.808, so it is safe.

This is the second of two ACQ/PEAKXD+ACQ/PEAKD used in order to improve the likelihood of a successful acquisition.

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
5	G230L 2950 (COS.sp.1522735)	(1) V-GM-AUR	COS/NUV, TIME-TAG, PSA	G230L 2950 A	FP-POS=4; BUFFER-TIME=524			184 Secs (184 Secs) *[==>]*	***[1]***

Comments: Used model spectrum gmaur_lya2_etc.txt in the ETC in order to determine exposure times (COS.sp.1522552). 362.4388 seconds to achieve S/N = 20 at 2825 A. This time is halved (= 181.2194 seconds) to account for the other G230L cenwave also observing this spectral feature.

The listed ETC Run # for this exposure (COS.sp.1522735) uses the expanded exposure time to fill the orbit (184 seconds). The G160M exposures received priority for Unused Orbital Visibility, so the increased exposure time here is minimal.

Used model spectrum gmaur_lya2_x4.00_etc.txt in the ETC (COS.sp.1522691) in order to determine bright object safety. Peak local rate of 5.943 counts per second and global rate of 2997.808, so it is safe. Buffer fill time = 786 seconds, and 2/3 of this is 524 seconds.

6	G230L 2635 (COS.sp.152 2737)	(1) V-GM-AUR	COS/NUV, TIME-TAG, PSA	G230L 2635 A	FP-POS=1; BUFFER-TIME=448	184 Secs (184 Secs) *[==>]*	***[1]***

Comments: Used model spectrum gmaur_lya2_etc.txt in the ETC in order to determine exposure times (COS.sp.1522553). 364.1707 seconds to achieve S/N = 20 at 2825 A. This time is halved (= 182.08535 seconds) to account for the other G230L cenwave also observing this spectral feature.

The listed ETC Run # for this exposure (COS.sp.1522737) uses the expanded exposure time to fill the orbit (184 seconds). The G160M exposures received priority for Unused Orbital Visibility, so the increased exposure time here is minimal.

Used model spectrum gmaur_lya2_x4.00_etc.txt in the ETC (COS.sp.1522690) in order to determine bright object safety. Peak local rate of 5.927 counts per second and global rate of 2199.263, so it is safe. Buffer fill time = 672 seconds, and 2/3 of this is 448 seconds.

7	G160M 158 9-3 (COS.sp.152 2739)	(1) V-GM-AUR	COS/FUV, TIME-TAG, PSA	G160M 1589 A	FP-POS=3; BUFFER-TIME=2865	186 Secs (186 Secs) *[==>]*	***[1]***

Comments: Used model spectrum gmaur_lya2_etc.txt in the ETC in order to determine exposure times (COS.sp.1522544). 376.7304 seconds to achieve S/N = 30 at 1548.5 A. This time is quartered (= 94.1826 seconds) to account for both the other G160M cenwave and the two FP-POS settings per cenwave also observing this spectral feature.

The listed ETC Run # for this exposure (COS.sp.1522739) uses the expanded exposure time to fill the orbit (186 seconds). The G160M exposures received priority for Unused Orbital Visibility, so the increased exposure time here is significant compared to the G230L exposures.

Used model spectrum gmaur_lya2_x4.00_etc.txt in the ETC (COS.sp.1522682) in order to determine bright object safety. Peak local rate of 0.315 counts per second and global rate of 548.875, so it is safe. Buffer fill time = 4297 seconds, and 2/3 of this is 2864.667 seconds.

8	G160M 158 9-4 (COS.sp.152 2739)	(1) V-GM-AUR	COS/FUV, TIME-TAG, PSA	G160M 1589 A	FP-POS=4; BUFFER-TIME=2865	186 Secs (186 Secs) *[==>]*	***[1]***

Comments: Used model spectrum gmaur_lya2_etc.txt in the ETC in order to determine exposure times (COS.sp.1522544). 376.7304 seconds to achieve S/N = 30 at 1548.5 A. This time is quartered (= 94.1826 seconds) to account for both the other G160M cenwave and the two FP-POS settings per cenwave also observing this spectral feature.

The listed ETC Run # for this exposure (COS.sp.1522739) uses the expanded exposure time to fill the orbit (186 seconds). The G160M exposures received priority for Unused Orbital Visibility, so the increased exposure time here is significant compared to the G230L exposures.

Used model spectrum gmaur_lya2_x4.00_etc.txt in the ETC (COS.sp.1522682) in order to determine bright object safety. Peak local rate of 0.315 counts per second and global rate of 548.875, so it is safe. Buffer fill time = 4297 seconds, and 2/3 of this is 2864.667 seconds.

9	G160M 162 3-1 (COS.sp.152 2741)	(1) V-GM-AUR	COS/FUV, TIME-TAG, PSA	G160M 1623 A	FP-POS=1; BUFFER-TIME=3154	186 Secs (186 Secs) *[==>]*	***[1]***

Comments: Used model spectrum gmaur_lya2_etc.txt in the ETC in order to determine exposure times (COS.sp.1522545). 393.2034 seconds to achieve S/N = 30 at 1548.5 A. This time is quartered (= 98.30085 seconds) to account for both the other G160M cenwave and the two FP-POS settings per cenwave also observing this spectral feature.

The listed ETC Run # for this exposure (COS.sp.1522741) uses the expanded exposure time to fill the orbit (186 seconds). The G160M exposures received priority for Unused Orbital Visibility, so the increased exposure time here is significant compared to the G230L exposures.

Used model spectrum gmaur_lya2_x4.00_etc.txt in the ETC (COS.sp.1522683) in order to determine bright object safety. Peak local rate of 0.317 counts per second and global rate of 498.525, so it is safe. Buffer fill time = 4731 seconds, and 2/3 of this is 3154 seconds.

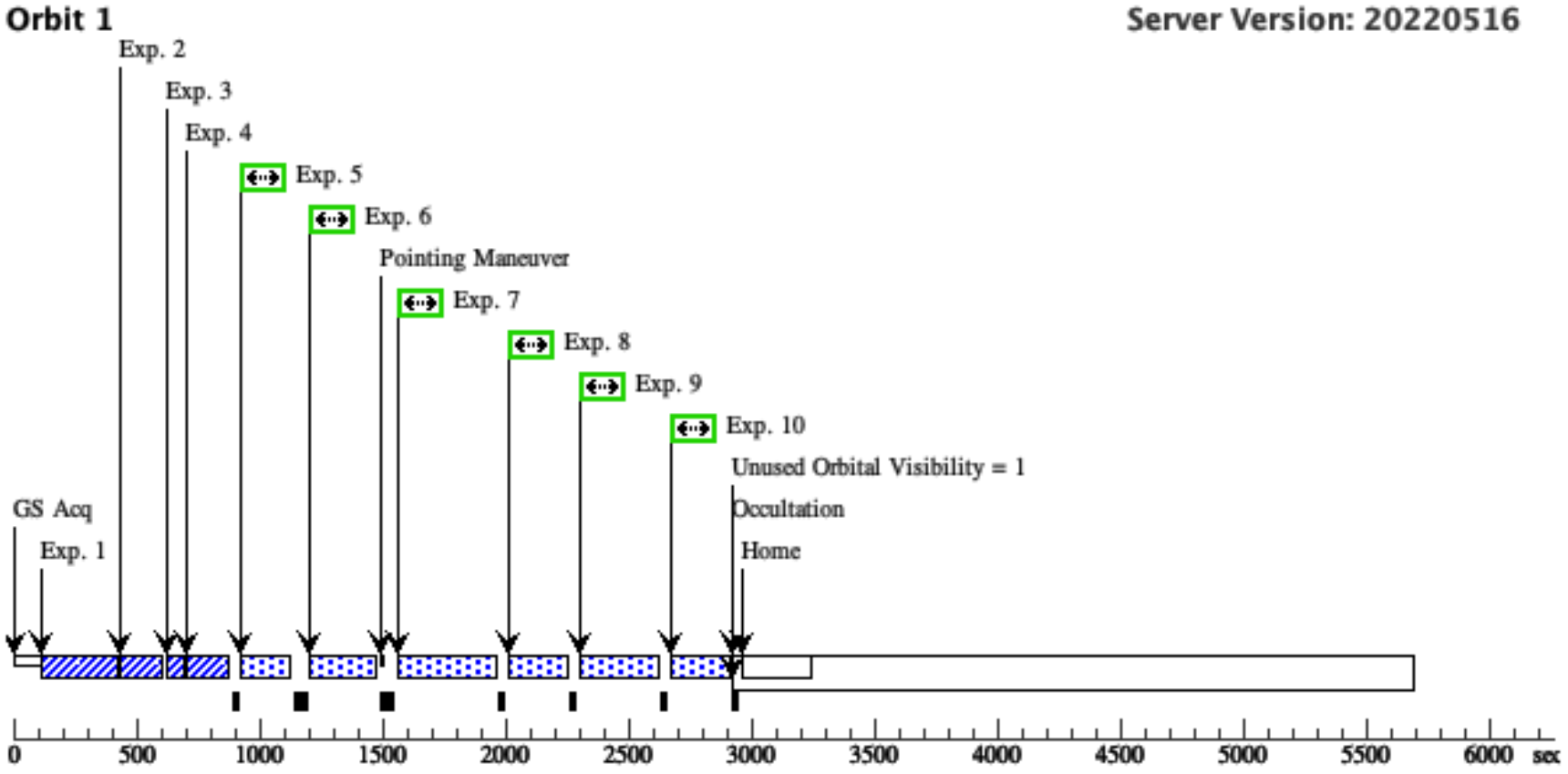
10	G160M 162 3-2 (COS.sp.152 2741)	(1) V-GM-AUR	COS/FUV, TIME-TAG, PSA	G160M 1623 A	FP-POS=2; BUFFER-TIME=3154	186 Secs (186 Secs) *[==>]*	***[1]***

Comments: Used model spectrum gmaur_lya2_etc.txt in the ETC in order to determine exposure times (COS.sp.1522545). 393.2034 seconds to achieve S/N = 30 at 1548.5 A. This time is quartered (= 98.30085 seconds) to account for both the other G160M cenwave and the two FP-POS settings per cenwave also observing this spectral feature.

The listed ETC Run # for this exposure (COS.sp.1522741) uses the expanded exposure time to fill the orbit (186 seconds). The G160M exposures received priority for Unused Orbital Visibility, so the increased exposure time here is significant compared to the G230L exposures.

Used model spectrum gmaur_lya2_x4.00_etc.txt in the ETC (COS.sp.1522683) in order to determine bright object safety. Peak local rate of 0.317 counts per second and global rate of 498.525, so it is safe. Buffer fill time = 4731 seconds, and 2/3 of this is 3154 seconds.

Orbit Structure



Visit

Proposal 16590, V-GM-AUR-COS-4 (1F), implementation Thu Jul 28 15:01:13 GMT 2022

Diagnostic Status: Warning

Scientific Instruments: COS/FUV, COS/NUV

Special Requirements: SCHED 100%; AFTER 1C BY 65.1 Orbits TO 73.3 Orbits; BETWEEN 26-NOV-2022 AND 23-DEC-2022

Comments: vstatus; 1F; V-GM-AUR; P/COS approved for submission; P/JRD 21/07/21 ; intrev: complete ; P/WF 26/7/21
vcheck; Enter targ name & Inst. & Resp. Sci.; GM Aur ; COS ; AH
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/monitor/16018/images/
vcheck; Selected ACQ strategy?; Double ACQ/PeakXD+ACQ/PeakD, G230L, S/N = 40
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
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 = 12

Diagnostics

(V-GM-AUR-COS-4 (1F)) Warning (Form): For the best data quality, it is generally required to use all four FP-POS positions when observing at a given COS cenwave. See the COS Instrument Handbook for exceptions that may apply to observations with G130M/1291 or G160M.

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	V-GM-AUR Alt Name1: 2MASS-J04551098+3021595 Alt Name2: HBC-77	RA: 04 55 10.9860 (73.7957750d) Dec: +30 21 59.00 (30.36639d) Equinox: J2000	Proper Motion RA: 3.012635677084487E-4 sec of time/yr Proper Motion Dec: -0.02445099994474731 arcsec/yr Epoch of Position: 2015.5	V=12.242 SpT=K3, U=14.59, B=13.35, V=12.24, R=11.80, G=11.70, J=9.34, H=8.60, K=8.28	Reference Frame: ICRS

Comments: tstatus; V-GM-AUR ; P/COS approved for submission; S/ins not started; P/JRD 21/07/21; S/xx DD/MM/YY
tcheck; APT/SIMBAD target names: ; V-GM-AUR ...
Default SIMBAD name is V GM Aur, aka 2MASS J04551098+3021595*
tcheck; Target info verification status?; OK ...
spectral type and magnitudes seem to be consistent
Flam(B) = 2.6e-10 at 4444 Angstroms and Flam(V) = 4.7e-10 at 5540 Angstroms from Vizier photometry viewer linked from SIMBAD
tcheck; Coordinates & P.M. verified, epoch checked?; OK ...
SIMBAD coordinates check out with what's here, SIMBAD PM values check out with what's here
tcheck; Adopted SED compared to Observations?; Yes ...
located at: box/ullyses_tech/ullyses_proposals/monitor/16018/seds/
Category=STAR
Description=[PRE-MAIN SEQUENCE STAR, T TAURI 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	G230L PEAKXD (COS.sa.1522537)	(1) V-GM-AUR	COS/NUV, ACQ/PEAKXD, PSA	G230L 2950 A	STRIPE=DEF			5.8 Secs (5.8 Secs) *[==>]*	***[1]***

Comments: Used model spectrum gmaur_lya2_etc.txt in the ETC (COS.sa.1522537) in order to determine exposure times. This is the one listed as the ETC run for the exposure. ACQ/PEAKXD with PSA takes 5.8 seconds for S/N=40.

Used model spectrum gmaur_lya2_x4.00_etc.txt in the ETC (COS.sa.1522540) in order to determine bright object safety. ACQ/PEAKXD with PSA has peak pixel rate of 5.943 counts per second and global rate of 2997.808, so it is safe.

This is the first of two ACQ/PEAKXD+ACQ/PEAKD used in order to improve the likelihood of a successful acquisition.

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
2	G230L PEAKD (COS.sa.1522538)	(1) V-GM-AUR	COS/NUV, ACQ/PEAKD, PSA	G230L 2950 A	CENTER=FLUX-WT-FLR; NUM-POS=5; STEP-SIZE=0.9			5.3 Secs (5.3 Secs) *[==>]*	***[1]***

Comments: Used model spectrum gmaur_lya2_etc.txt in the ETC (COS.sa.1522538) in order to determine exposure times. This is the one listed as the ETC run for the exposure. ACQ/PEAKD with PSA takes 5.3 seconds for S/N=40.

Used model spectrum gmaur_lya2_x4.00_etc.txt in the ETC (COS.sa.1522541) in order to determine bright object safety. ACQ/PEAKD with PSA has peak pixel rate of 5.943 counts per second and global rate of 2997.808, so it is safe.

This is the first of two ACQ/PEAKXD+ACQ/PEAKD used in order to improve the likelihood of a successful acquisition.

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
3	G230L PEAKXD (COS.sa.1522537)	(1) V-GM-AUR	COS/NUV, ACQ/PEAKXD, PSA	G230L 2950 A	STRIPE=DEF			5.8 Secs (5.8 Secs) *[==>]*	***[1]***

Comments: Used model spectrum gmaur_lya2_etc.txt in the ETC (COS.sa.1522537) in order to determine exposure times. This is the one listed as the ETC run for the exposure. ACQ/PEAKXD with PSA takes 5.8 seconds for S/N=40.

Used model spectrum gmaur_lya2_x4.00_etc.txt in the ETC (COS.sa.1522540) in order to determine bright object safety. ACQ/PEAKXD with PSA has peak pixel rate of 5.943 counts per second and global rate of 2997.808, so it is safe.

This is the second of two ACQ/PEAKXD+ACQ/PEAKD used in order to improve the likelihood of a successful acquisition.

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
4	G230L PEAKD (COS.sa.1522538)	(1) V-GM-AUR	COS/NUV, ACQ/PEAKD, PSA	G230L 2950 A	CENTER=FLUX-WT-FLR; NUM-POS=5; STEP-SIZE=0.9			5.3 Secs (5.3 Secs) *[==>]*	***[1]***

Comments: Used model spectrum gmaur_lya2_etc.txt in the ETC (COS.sa.1522538) in order to determine exposure times. This is the one listed as the ETC run for the exposure. ACQ/PEAKD with PSA takes 5.3 seconds for S/N=40.

Used model spectrum gmaur_lya2_x4.00_etc.txt in the ETC (COS.sa.1522541) in order to determine bright object safety. ACQ/PEAKD with PSA has peak pixel rate of 5.943 counts per second and global rate of 2997.808, so it is safe.

This is the second of two ACQ/PEAKXD+ACQ/PEAKD used in order to improve the likelihood of a successful acquisition.

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
5	G230L 2950 (COS.sp.1522735)	(1) V-GM-AUR	COS/NUV, TIME-TAG, PSA	G230L 2950 A	FP-POS=4; BUFFER-TIME=524			184 Secs (184 Secs) *[==>]*	***[1]***

Comments: Used model spectrum gmaur_lya2_etc.txt in the ETC in order to determine exposure times (COS.sp.1522552). 362.4388 seconds to achieve S/N = 20 at 2825 A. This time is halved (= 181.2194 seconds) to account for the other G230L cenwave also observing this spectral feature.

The listed ETC Run # for this exposure (COS.sp.1522735) uses the expanded exposure time to fill the orbit (184 seconds). The G160M exposures received priority for Unused Orbital Visibility, so the increased exposure time here is minimal.

Used model spectrum gmaur_lya2_x4.00_etc.txt in the ETC (COS.sp.1522691) in order to determine bright object safety. Peak local rate of 5.943 counts per second and global rate of 2997.808, so it is safe. Buffer fill time = 786 seconds, and 2/3 of this is 524 seconds.

6	G230L 2635 (COS.sp.1522737)	(1) V-GM-AUR	COS/NUV, TIME-TAG, PSA	G230L 2635 A	FP-POS=1; BUFFER-TIME=448	184 Secs (184 Secs) [==>]		[1]

Comments: Used model spectrum gmaur_lya2_etc.txt in the ETC in order to determine exposure times (COS.sp.1522553). 364.1707 seconds to achieve S/N = 20 at 2825 A. This time is halved (= 182.08535 seconds) to account for the other G230L cenwave also observing this spectral feature.

The listed ETC Run # for this exposure (COS.sp.1522737) uses the expanded exposure time to fill the orbit (184 seconds). The G160M exposures received priority for Unused Orbital Visibility, so the increased exposure time here is minimal.

Used model spectrum gmaur_lya2_x4.00_etc.txt in the ETC (COS.sp.1522690) in order to determine bright object safety. Peak local rate of 5.927 counts per second and global rate of 2199.263, so it is safe. Buffer fill time = 672 seconds, and 2/3 of this is 448 seconds.

7	G160M 1589-3 (COS.sp.1522739)	(1) V-GM-AUR	COS/FUV, TIME-TAG, PSA	G160M 1589 A	FP-POS=3; BUFFER-TIME=2865	186 Secs (186 Secs) [==>]		[1]

Comments: Used model spectrum gmaur_lya2_etc.txt in the ETC in order to determine exposure times (COS.sp.1522544). 376.7304 seconds to achieve S/N = 30 at 1548.5 A. This time is quartered (= 94.1826 seconds) to account for both the other G160M cenwave and the two FP-POS settings per cenwave also observing this spectral feature.

The listed ETC Run # for this exposure (COS.sp.1522739) uses the expanded exposure time to fill the orbit (186 seconds). The G160M exposures received priority for Unused Orbital Visibility, so the increased exposure time here is significant compared to the G230L exposures.

Used model spectrum gmaur_lya2_x4.00_etc.txt in the ETC (COS.sp.1522682) in order to determine bright object safety. Peak local rate of 0.315 counts per second and global rate of 548.875, so it is safe. Buffer fill time = 4297 seconds, and 2/3 of this is 2864.667 seconds.

8	G160M 1589-4 (COS.sp.1522739)	(1) V-GM-AUR	COS/FUV, TIME-TAG, PSA	G160M 1589 A	FP-POS=4; BUFFER-TIME=2865	186 Secs (186 Secs) [==>]		[1]

Comments: Used model spectrum gmaur_lya2_etc.txt in the ETC in order to determine exposure times (COS.sp.1522544). 376.7304 seconds to achieve S/N = 30 at 1548.5 A. This time is quartered (= 94.1826 seconds) to account for both the other G160M cenwave and the two FP-POS settings per cenwave also observing this spectral feature.

The listed ETC Run # for this exposure (COS.sp.1522739) uses the expanded exposure time to fill the orbit (186 seconds). The G160M exposures received priority for Unused Orbital Visibility, so the increased exposure time here is significant compared to the G230L exposures.

Used model spectrum gmaur_lya2_x4.00_etc.txt in the ETC (COS.sp.1522682) in order to determine bright object safety. Peak local rate of 0.315 counts per second and global rate of 548.875, so it is safe. Buffer fill time = 4297 seconds, and 2/3 of this is 2864.667 seconds.

9	G160M 1623-1 (COS.sp.1522741)	(1) V-GM-AUR	COS/FUV, TIME-TAG, PSA	G160M 1623 A	FP-POS=1; BUFFER-TIME=3154	186 Secs (186 Secs) [==>]		[1]

Comments: Used model spectrum gmaur_lya2_etc.txt in the ETC in order to determine exposure times (COS.sp.1522545). 393.2034 seconds to achieve S/N = 30 at 1548.5 A. This time is quartered (= 98.30085 seconds) to account for both the other G160M cenwave and the two FP-POS settings per cenwave also observing this spectral feature.

The listed ETC Run # for this exposure (COS.sp.1522741) uses the expanded exposure time to fill the orbit (186 seconds). The G160M exposures received priority for Unused Orbital Visibility, so the increased exposure time here is significant compared to the G230L exposures.

Used model spectrum gmaur_lya2_x4.00_etc.txt in the ETC (COS.sp.1522683) in order to determine bright object safety. Peak local rate of 0.317 counts per second and global rate of 498.525, so it is safe. Buffer fill time = 4731 seconds, and 2/3 of this is 3154 seconds.

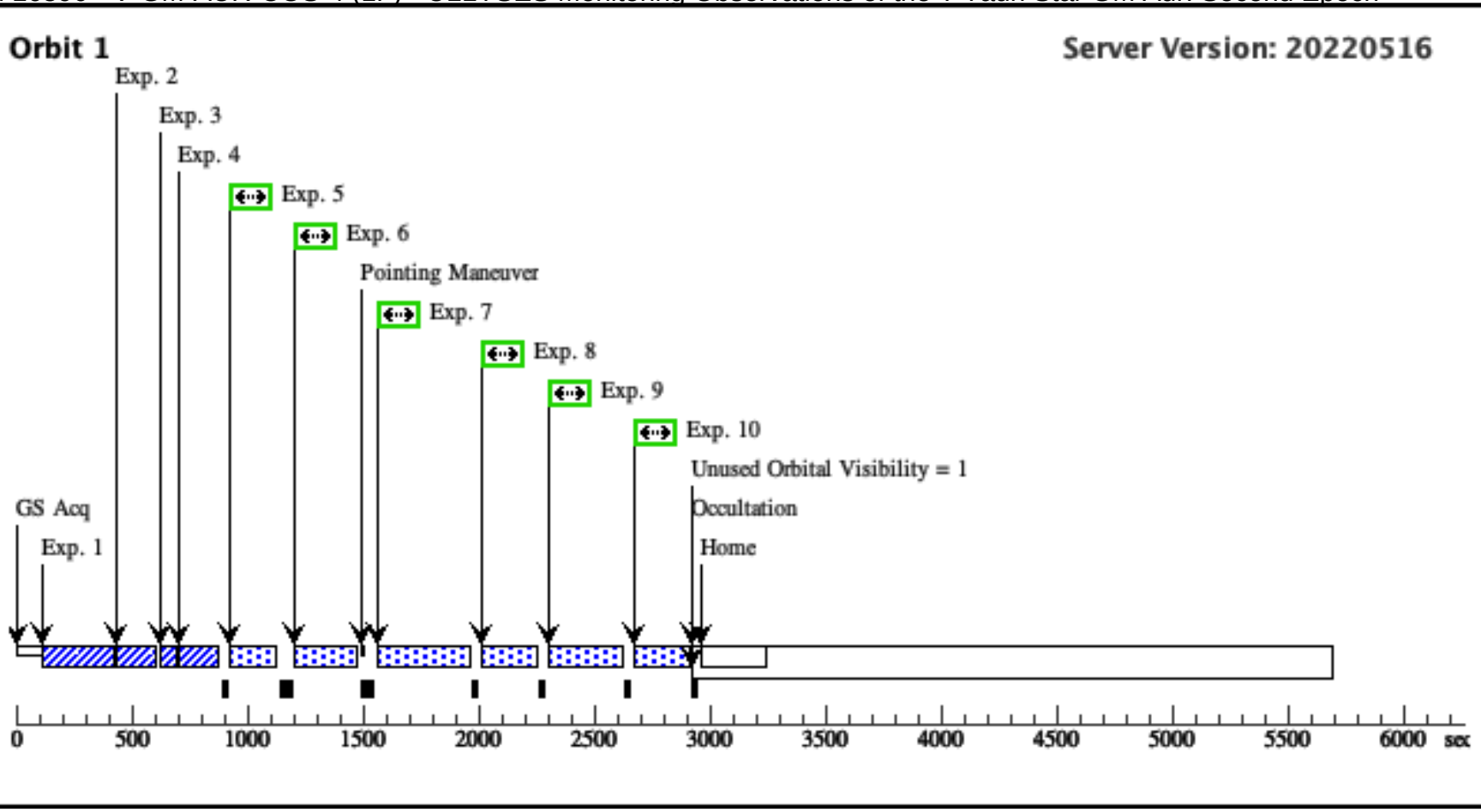
10	G160M 1623-2 (COS.sp.1522741)	(1) V-GM-AUR	COS/FUV, TIME-TAG, PSA	G160M 1623 A	FP-POS=2; BUFFER-TIME=3154	186 Secs (186 Secs) [==>]		[1]

Comments: Used model spectrum gmaur_lya2_etc.txt in the ETC in order to determine exposure times (COS.sp.1522545). 393.2034 seconds to achieve S/N = 30 at 1548.5 A. This time is quartered (= 98.30085 seconds) to account for both the other G160M cenwave and the two FP-POS settings per cenwave also observing this spectral feature.

The listed ETC Run # for this exposure (COS.sp.1522741) uses the expanded exposure time to fill the orbit (186 seconds). The G160M exposures received priority for Unused Orbital Visibility, so the increased exposure time here is significant compared to the G230L exposures.

Used model spectrum gmaur_lya2_x4.00_etc.txt in the ETC (COS.sp.1522683) in order to determine bright object safety. Peak local rate of 0.317 counts per second and global rate of 498.525, so it is safe. Buffer fill time = 4731 seconds, and 2/3 of this is 3154 seconds.

Orbit Structure



Visit

Proposal 16590, V-GM-AUR-COS-5 (1G), implementation Thu Jul 28 15:01:13 GMT 2022

Diagnostic Status: Warning

Scientific Instruments: COS/FUV, COS/NUV

Special Requirements: SCHED 100%; AFTER 1C BY 88.2 Orbits TO 96.4 Orbits; BETWEEN 26-NOV-2022 AND 23-DEC-2022

Comments: vstatus; 1G; V-GM-AUR; P/COS approved for submission; P/JRD 21/07/21 ; intrev: complete ; P/WF 26/7/21
vcheck; Enter targ name & Inst. & Resp. Sci.; GM Aur ; COS ; AH
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/monitor/16018/images/
vcheck; Selected ACQ strategy?; Double ACQ/PeakXD+ACQ/PeakD, G230L, S/N = 40
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
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 = 12

Diagnostics

(V-GM-AUR-COS-5 (1G)) Warning (Form): For the best data quality, it is generally required to use all four FP-POS positions when observing at a given COS cenwave. See the COS Instrument Handbook for exceptions that may apply to observations with G130M/1291 or G160M.

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	V-GM-AUR Alt Name1: 2MASS-J04551098+3021595 Alt Name2: HBC-77	RA: 04 55 10.9860 (73.7957750d) Dec: +30 21 59.00 (30.36639d) Equinox: J2000	Proper Motion RA: 3.012635677084487E-4 sec of time/yr Proper Motion Dec: -0.02445099994474731 arcsec/yr Epoch of Position: 2015.5	V=12.242 SpT=K3, U=14.59, B=13.35, V=12.24, R=11.80, G=11.70, J=9.34, H=8.60, K=8.28	Reference Frame: ICRS

Comments: tstatus; V-GM-AUR ; P/COS approved for submission; S/ins not started; P/JRD 21/07/21; S/xx DD/MM/YY
tcheck; APT/SIMBAD target names: ; V-GM-AUR ...
Default SIMBAD name is V GM Aur, aka 2MASS J04551098+3021595*
tcheck; Target info verification status?; OK ...
spectral type and magnitudes seem to be consistent
Flam(B) = 2.6e-10 at 4444 Angstroms and Flam(V) = 4.7e-10 at 5540 Angstroms from Vizier photometry viewer linked from SIMBAD
tcheck; Coordinates & P.M. verified, epoch checked?; OK ...
SIMBAD coordinates check out with what's here, SIMBAD PM values check out with what's here
tcheck; Adopted SED compared to Observations?; Yes ...
located at: box/ullyses_tech/ullyses_proposals/monitor/16018/seds/
Category=STAR
Description=[PRE-MAIN SEQUENCE STAR, T TAURI 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	G230L PEAKXD (COS.sa.1522537)	(1) V-GM-AUR	COS/NUV, ACQ/PEAKXD, PSA	G230L 2950 A	STRIPE=DEF			5.8 Secs (5.8 Secs) *[==>]*	***[1]***

Comments: Used model spectrum gmaur_lya2_etc.txt in the ETC (COS.sa.1522537) in order to determine exposure times. This is the one listed as the ETC run for the exposure. ACQ/PEAKXD with PSA takes 5.8 seconds for S/N=40.

Used model spectrum gmaur_lya2_x4.00_etc.txt in the ETC (COS.sa.1522540) in order to determine bright object safety. ACQ/PEAKXD with PSA has peak pixel rate of 5.943 counts per second and global rate of 2997.808, so it is safe.

This is the first of two ACQ/PEAKXD+ACQ/PEAKD used in order to improve the likelihood of a successful acquisition.

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
2	G230L PEAKD (COS.sa.1522538)	(1) V-GM-AUR	COS/NUV, ACQ/PEAKD, PSA	G230L 2950 A	CENTER=FLUX-WT-FLR; NUM-POS=5; STEP-SIZE=0.9			5.3 Secs (5.3 Secs) *[==>]*	***[1]***

Comments: Used model spectrum gmaur_lya2_etc.txt in the ETC (COS.sa.1522538) in order to determine exposure times. This is the one listed as the ETC run for the exposure. ACQ/PEAKD with PSA takes 5.3 seconds for S/N=40.

Used model spectrum gmaur_lya2_x4.00_etc.txt in the ETC (COS.sa.1522541) in order to determine bright object safety. ACQ/PEAKD with PSA has peak pixel rate of 5.943 counts per second and global rate of 2997.808, so it is safe.

This is the first of two ACQ/PEAKXD+ACQ/PEAKD used in order to improve the likelihood of a successful acquisition.

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
3	G230L PEAKXD (COS.sa.1522537)	(1) V-GM-AUR	COS/NUV, ACQ/PEAKXD, PSA	G230L 2950 A	STRIPE=DEF			5.8 Secs (5.8 Secs) *[==>]*	***[1]***

Comments: Used model spectrum gmaur_lya2_etc.txt in the ETC (COS.sa.1522537) in order to determine exposure times. This is the one listed as the ETC run for the exposure. ACQ/PEAKXD with PSA takes 5.8 seconds for S/N=40.

Used model spectrum gmaur_lya2_x4.00_etc.txt in the ETC (COS.sa.1522540) in order to determine bright object safety. ACQ/PEAKXD with PSA has peak pixel rate of 5.943 counts per second and global rate of 2997.808, so it is safe.

This is the second of two ACQ/PEAKXD+ACQ/PEAKD used in order to improve the likelihood of a successful acquisition.

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
4	G230L PEAKD (COS.sa.1522538)	(1) V-GM-AUR	COS/NUV, ACQ/PEAKD, PSA	G230L 2950 A	CENTER=FLUX-WT-FLR; NUM-POS=5; STEP-SIZE=0.9			5.3 Secs (5.3 Secs) *[==>]*	***[1]***

Comments: Used model spectrum gmaur_lya2_etc.txt in the ETC (COS.sa.1522538) in order to determine exposure times. This is the one listed as the ETC run for the exposure. ACQ/PEAKD with PSA takes 5.3 seconds for S/N=40.

Used model spectrum gmaur_lya2_x4.00_etc.txt in the ETC (COS.sa.1522541) in order to determine bright object safety. ACQ/PEAKD with PSA has peak pixel rate of 5.943 counts per second and global rate of 2997.808, so it is safe.

This is the second of two ACQ/PEAKXD+ACQ/PEAKD used in order to improve the likelihood of a successful acquisition.

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
5	G230L 2950 (COS.sp.1522735)	(1) V-GM-AUR	COS/NUV, TIME-TAG, PSA	G230L 2950 A	FP-POS=4; BUFFER-TIME=524			184 Secs (184 Secs) *[==>]*	***[1]***

Comments: Used model spectrum gmaur_lya2_etc.txt in the ETC in order to determine exposure times (COS.sp.1522552). 362.4388 seconds to achieve S/N = 20 at 2825 A. This time is halved (= 181.2194 seconds) to account for the other G230L cenwave also observing this spectral feature.

The listed ETC Run # for this exposure (COS.sp.1522735) uses the expanded exposure time to fill the orbit (184 seconds). The G160M exposures received priority for Unused Orbital Visibility, so the increased exposure time here is minimal.

Used model spectrum gmaur_lya2_x4.00_etc.txt in the ETC (COS.sp.1522691) in order to determine bright object safety. Peak local rate of 5.943 counts per second and global rate of 2997.808, so it is safe. Buffer fill time = 786 seconds, and 2/3 of this is 524 seconds.

6	G230L 2635 (COS.sp.152 2737)	(1) V-GM-AUR	COS/NUV, TIME-TAG, PSA	G230L 2635 A	FP-POS=1; BUFFER-TIME=44 8	184 Secs (184 Secs) [==>]		[1]

Comments: Used model spectrum gmaur_lya2_etc.txt in the ETC in order to determine exposure times (COS.sp.1522553). 364.1707 seconds to achieve S/N = 20 at 2825 A. This time is halved (= 182.08535 seconds) to account for the other G230L cenwave also observing this spectral feature.

The listed ETC Run # for this exposure (COS.sp.1522737) uses the expanded exposure time to fill the orbit (184 seconds). The G160M exposures received priority for Unused Orbital Visibility, so the increased exposure time here is minimal.

Used model spectrum gmaur_lya2_x4.00_etc.txt in the ETC (COS.sp.1522690) in order to determine bright object safety. Peak local rate of 5.927 counts per second and global rate of 2199.263, so it is safe. Buffer fill time = 672 seconds, and 2/3 of this is 448 seconds.

7	G160M 158 9-3 (COS.sp.152 2739)	(1) V-GM-AUR	COS/FUV, TIME-TAG, PSA	G160M 1589 A	FP-POS=3; BUFFER-TIME=28 65	186 Secs (186 Secs) [==>]		[1]

Comments: Used model spectrum gmaur_lya2_etc.txt in the ETC in order to determine exposure times (COS.sp.1522544). 376.7304 seconds to achieve S/N = 30 at 1548.5 A. This time is quartered (= 94.1826 seconds) to account for both the other G160M cenwave and the two FP-POS settings per cenwave also observing this spectral feature.

The listed ETC Run # for this exposure (COS.sp.1522739) uses the expanded exposure time to fill the orbit (186 seconds). The G160M exposures received priority for Unused Orbital Visibility, so the increased exposure time here is significant compared to the G230L exposures.

Used model spectrum gmaur_lya2_x4.00_etc.txt in the ETC (COS.sp.1522682) in order to determine bright object safety. Peak local rate of 0.315 counts per second and global rate of 548.875, so it is safe. Buffer fill time = 4297 seconds, and 2/3 of this is 2864.667 seconds.

8	G160M 158 9-4 (COS.sp.152 2739)	(1) V-GM-AUR	COS/FUV, TIME-TAG, PSA	G160M 1589 A	FP-POS=4; BUFFER-TIME=28 65	186 Secs (186 Secs) [==>]		[1]

Comments: Used model spectrum gmaur_lya2_etc.txt in the ETC in order to determine exposure times (COS.sp.1522544). 376.7304 seconds to achieve S/N = 30 at 1548.5 A. This time is quartered (= 94.1826 seconds) to account for both the other G160M cenwave and the two FP-POS settings per cenwave also observing this spectral feature.

The listed ETC Run # for this exposure (COS.sp.1522739) uses the expanded exposure time to fill the orbit (186 seconds). The G160M exposures received priority for Unused Orbital Visibility, so the increased exposure time here is significant compared to the G230L exposures.

Used model spectrum gmaur_lya2_x4.00_etc.txt in the ETC (COS.sp.1522682) in order to determine bright object safety. Peak local rate of 0.315 counts per second and global rate of 548.875, so it is safe. Buffer fill time = 4297 seconds, and 2/3 of this is 2864.667 seconds.

9	G160M 162 3-1 (COS.sp.152 2741)	(1) V-GM-AUR	COS/FUV, TIME-TAG, PSA	G160M 1623 A	FP-POS=1; BUFFER-TIME=31 54	186 Secs (186 Secs) [==>]		[1]

Comments: Used model spectrum gmaur_lya2_etc.txt in the ETC in order to determine exposure times (COS.sp.1522545). 393.2034 seconds to achieve S/N = 30 at 1548.5 A. This time is quartered (= 98.30085 seconds) to account for both the other G160M cenwave and the two FP-POS settings per cenwave also observing this spectral feature.

The listed ETC Run # for this exposure (COS.sp.1522741) uses the expanded exposure time to fill the orbit (186 seconds). The G160M exposures received priority for Unused Orbital Visibility, so the increased exposure time here is significant compared to the G230L exposures.

Used model spectrum gmaur_lya2_x4.00_etc.txt in the ETC (COS.sp.1522683) in order to determine bright object safety. Peak local rate of 0.317 counts per second and global rate of 498.525, so it is safe. Buffer fill time = 4731 seconds, and 2/3 of this is 3154 seconds.

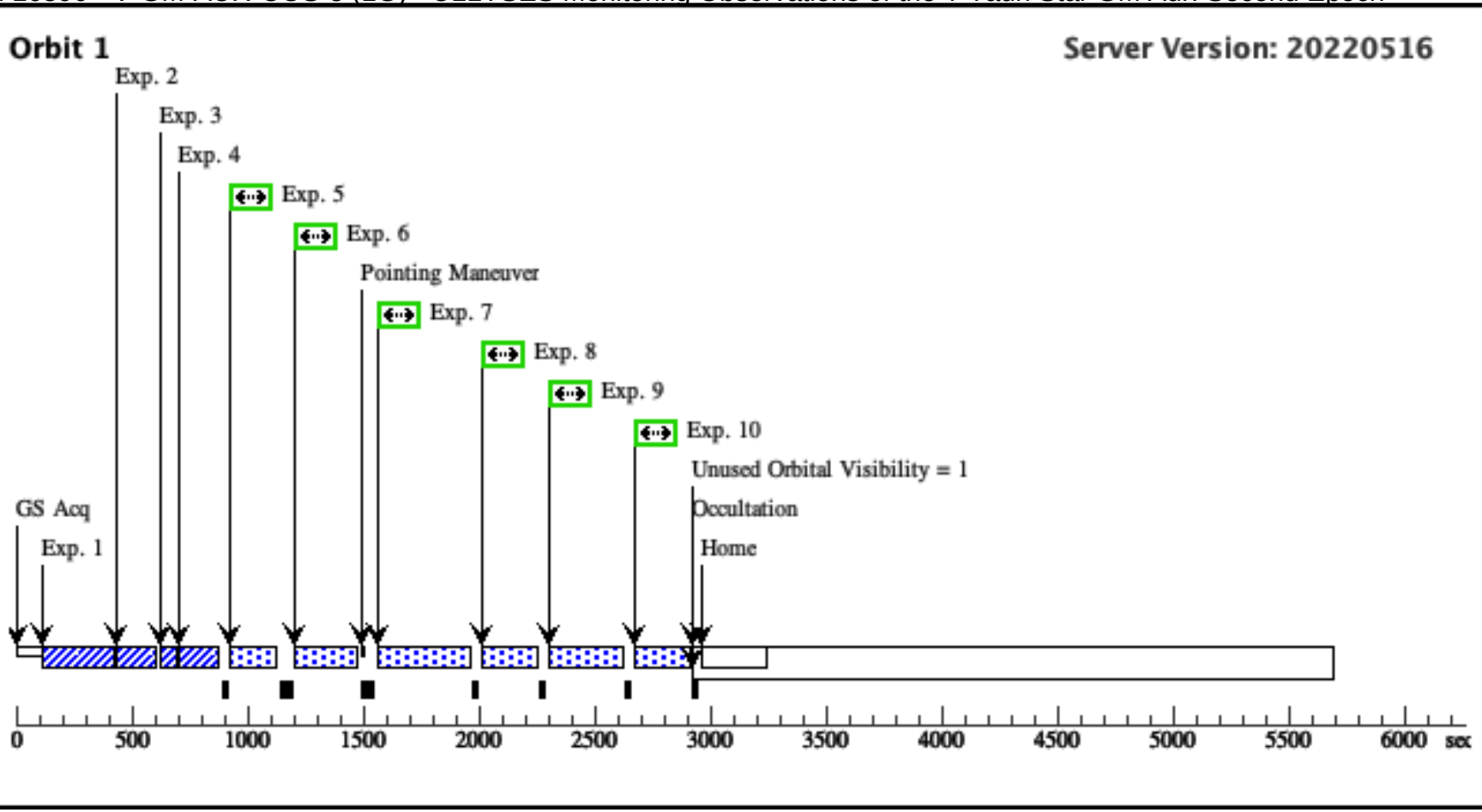
10	G160M 162 3-2 (COS.sp.152 2741)	(1) V-GM-AUR	COS/FUV, TIME-TAG, PSA	G160M 1623 A	FP-POS=2; BUFFER-TIME=31 54	186 Secs (186 Secs) [==>]		[1]

Comments: Used model spectrum gmaur_lya2_etc.txt in the ETC in order to determine exposure times (COS.sp.1522545). 393.2034 seconds to achieve S/N = 30 at 1548.5 A. This time is quartered (= 98.30085 seconds) to account for both the other G160M cenwave and the two FP-POS settings per cenwave also observing this spectral feature.

The listed ETC Run # for this exposure (COS.sp.1522741) uses the expanded exposure time to fill the orbit (186 seconds). The G160M exposures received priority for Unused Orbital Visibility, so the increased exposure time here is significant compared to the G230L exposures.

Used model spectrum gmaur_lya2_x4.00_etc.txt in the ETC (COS.sp.1522683) in order to determine bright object safety. Peak local rate of 0.317 counts per second and global rate of 498.525, so it is safe. Buffer fill time = 4731 seconds, and 2/3 of this is 3154 seconds.

Orbit Structure



Visit

Proposal 16590, V-GM-AUR-COS-6 (1H), implementation Thu Jul 28 15:01:14 GMT 2022

Diagnostic Status: Warning

Scientific Instruments: COS/FUV, COS/NUV

Special Requirements: SCHED 100%; AFTER 1C BY 111.2 Orbits TO 119.4 Orbits; BETWEEN 26-NOV-2022 AND 23-DEC-2022

Comments: vstatus; 1H; V-GM-AUR; P/COS approved for submission; P/JRD 21/07/21 ; intrev: complete ; P/WF 26/7/21
vcheck; Enter targ name & Inst. & Resp. Sci.; GM Aur ; COS ; AH
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/monitor/16018/images/
vcheck; Selected ACQ strategy?; Double ACQ/PeakXD+ACQ/PeakD, G230L, S/N = 40
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
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 = 12

Diagnostics

(V-GM-AUR-COS-6 (1H)) Warning (Form): For the best data quality, it is generally required to use all four FP-POS positions when observing at a given COS cenwave. See the COS Instrument Handbook for exceptions that may apply to observations with G130M/1291 or G160M.

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	V-GM-AUR Alt Name1: 2MASS-J04551098+3021595 Alt Name2: HBC-77	RA: 04 55 10.9860 (73.7957750d) Dec: +30 21 59.00 (30.36639d) Equinox: J2000	Proper Motion RA: 3.012635677084487E-4 sec of time/yr Proper Motion Dec: -0.02445099994474731 arcsec/yr Epoch of Position: 2015.5	V=12.242 SpT=K3, U=14.59, B=13.35, V=12.24, R=11.80, G=11.70, J=9.34, H=8.60, K=8.28	Reference Frame: ICRS

Comments: tstatus; V-GM-AUR ; P/COS approved for submission; S/ins not started; P/JRD 21/07/21; S/xx DD/MM/YY
tcheck; APT/SIMBAD target names: ; V-GM-AUR ...
Default SIMBAD name is V GM Aur, aka 2MASS J04551098+3021595*
tcheck; Target info verification status?; OK ...
spectral type and magnitudes seem to be consistent
Flam(B) = 2.6e-10 at 4444 Angstroms and Flam(V) = 4.7e-10 at 5540 Angstroms from Vizier photometry viewer linked from SIMBAD
tcheck; Coordinates & P.M. verified, epoch checked?; OK ...
SIMBAD coordinates check out with what's here, SIMBAD PM values check out with what's here
tcheck; Adopted SED compared to Observations?; Yes ...
located at: box/ullyses_tech/ullyses_proposals/monitor/16018/seds/
Category=STAR
Description=[PRE-MAIN SEQUENCE STAR, T TAURI 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	G230L PEAKXD (COS.sa.1522537)	(1) V-GM-AUR	COS/NUV, ACQ/PEAKXD, PSA	G230L 2950 A	STRIPE=DEF			5.8 Secs (5.8 Secs) *[==>]*	***[1]***

Comments: Used model spectrum gmaur_lya2_etc.txt in the ETC (COS.sa.1522537) in order to determine exposure times. This is the one listed as the ETC run for the exposure. ACQ/PEAKXD with PSA takes 5.8 seconds for S/N=40.

Used model spectrum gmaur_lya2_x4.00_etc.txt in the ETC (COS.sa.1522540) in order to determine bright object safety. ACQ/PEAKXD with PSA has peak pixel rate of 5.943 counts per second and global rate of 2997.808, so it is safe.

This is the first of two ACQ/PEAKXD+ACQ/PEAKD used in order to improve the likelihood of a successful acquisition.

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
2	G230L PEAKD (COS.sa.1522538)	(1) V-GM-AUR	COS/NUV, ACQ/PEAKD, PSA	G230L 2950 A	CENTER=FLUX-WT-FLR; NUM-POS=5; STEP-SIZE=0.9			5.3 Secs (5.3 Secs) *[==>]*	***[1]***

Comments: Used model spectrum gmaur_lya2_etc.txt in the ETC (COS.sa.1522538) in order to determine exposure times. This is the one listed as the ETC run for the exposure. ACQ/PEAKD with PSA takes 5.3 seconds for S/N=40.

Used model spectrum gmaur_lya2_x4.00_etc.txt in the ETC (COS.sa.1522541) in order to determine bright object safety. ACQ/PEAKD with PSA has peak pixel rate of 5.943 counts per second and global rate of 2997.808, so it is safe.

This is the first of two ACQ/PEAKXD+ACQ/PEAKD used in order to improve the likelihood of a successful acquisition.

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
3	G230L PEAKXD (COS.sa.1522537)	(1) V-GM-AUR	COS/NUV, ACQ/PEAKXD, PSA	G230L 2950 A	STRIPE=DEF			5.8 Secs (5.8 Secs) *[==>]*	***[1]***

Comments: Used model spectrum gmaur_lya2_etc.txt in the ETC (COS.sa.1522537) in order to determine exposure times. This is the one listed as the ETC run for the exposure. ACQ/PEAKXD with PSA takes 5.8 seconds for S/N=40.

Used model spectrum gmaur_lya2_x4.00_etc.txt in the ETC (COS.sa.1522540) in order to determine bright object safety. ACQ/PEAKXD with PSA has peak pixel rate of 5.943 counts per second and global rate of 2997.808, so it is safe.

This is the second of two ACQ/PEAKXD+ACQ/PEAKD used in order to improve the likelihood of a successful acquisition.

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
4	G230L PEAKD (COS.sa.1522538)	(1) V-GM-AUR	COS/NUV, ACQ/PEAKD, PSA	G230L 2950 A	CENTER=FLUX-WT-FLR; NUM-POS=5; STEP-SIZE=0.9			5.3 Secs (5.3 Secs) *[==>]*	***[1]***

Comments: Used model spectrum gmaur_lya2_etc.txt in the ETC (COS.sa.1522538) in order to determine exposure times. This is the one listed as the ETC run for the exposure. ACQ/PEAKD with PSA takes 5.3 seconds for S/N=40.

Used model spectrum gmaur_lya2_x4.00_etc.txt in the ETC (COS.sa.1522541) in order to determine bright object safety. ACQ/PEAKD with PSA has peak pixel rate of 5.943 counts per second and global rate of 2997.808, so it is safe.

This is the second of two ACQ/PEAKXD+ACQ/PEAKD used in order to improve the likelihood of a successful acquisition.

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
5	G230L 2950 (COS.sp.1522735)	(1) V-GM-AUR	COS/NUV, TIME-TAG, PSA	G230L 2950 A	FP-POS=4; BUFFER-TIME=524			184 Secs (184 Secs) *[==>]*	***[1]***

Comments: Used model spectrum gmaur_lya2_etc.txt in the ETC in order to determine exposure times (COS.sp.1522552). 362.4388 seconds to achieve S/N = 20 at 2825 A. This time is halved (= 181.2194 seconds) to account for the other G230L cenwave also observing this spectral feature.

The listed ETC Run # for this exposure (COS.sp.1522735) uses the expanded exposure time to fill the orbit (184 seconds). The G160M exposures received priority for Unused Orbital Visibility, so the increased exposure time here is minimal.

Used model spectrum gmaur_lya2_x4.00_etc.txt in the ETC (COS.sp.1522691) in order to determine bright object safety. Peak local rate of 5.943 counts per second and global rate of 2997.808, so it is safe. Buffer fill time = 786 seconds, and 2/3 of this is 524 seconds.

6	G230L 2635 (COS.sp.152 2737)	(1) V-GM-AUR	COS/NUV, TIME-TAG, PSA	G230L 2635 A	FP-POS=1; BUFFER-TIME=44 8	184 Secs (184 Secs) *[==>]*	***[1]***

Comments: Used model spectrum gmaur_lya2_etc.txt in the ETC in order to determine exposure times (COS.sp.1522553). 364.1707 seconds to achieve S/N = 20 at 2825 A. This time is halved (= 182.08535 seconds) to account for the other G230L cenwave also observing this spectral feature.

The listed ETC Run # for this exposure (COS.sp.1522737) uses the expanded exposure time to fill the orbit (184 seconds). The G160M exposures received priority for Unused Orbital Visibility, so the increased exposure time here is minimal.

Used model spectrum gmaur_lya2_x4.00_etc.txt in the ETC (COS.sp.1522690) in order to determine bright object safety. Peak local rate of 5.927 counts per second and global rate of 2199.263, so it is safe. Buffer fill time = 672 seconds, and 2/3 of this is 448 seconds.

7	G160M 158 9-3 (COS.sp.152 2739)	(1) V-GM-AUR	COS/FUV, TIME-TAG, PSA	G160M 1589 A	FP-POS=3; BUFFER-TIME=28 65	186 Secs (186 Secs) *[==>]*	***[1]***

Comments: Used model spectrum gmaur_lya2_etc.txt in the ETC in order to determine exposure times (COS.sp.1522544). 376.7304 seconds to achieve S/N = 30 at 1548.5 A. This time is quartered (= 94.1826 seconds) to account for both the other G160M cenwave and the two FP-POS settings per cenwave also observing this spectral feature.

The listed ETC Run # for this exposure (COS.sp.1522739) uses the expanded exposure time to fill the orbit (186 seconds). The G160M exposures received priority for Unused Orbital Visibility, so the increased exposure time here is significant compared to the G230L exposures.

Used model spectrum gmaur_lya2_x4.00_etc.txt in the ETC (COS.sp.1522682) in order to determine bright object safety. Peak local rate of 0.315 counts per second and global rate of 548.875, so it is safe. Buffer fill time = 4297 seconds, and 2/3 of this is 2864.667 seconds.

8	G160M 158 9-4 (COS.sp.152 2739)	(1) V-GM-AUR	COS/FUV, TIME-TAG, PSA	G160M 1589 A	FP-POS=4; BUFFER-TIME=28 65	186 Secs (186 Secs) *[==>]*	***[1]***

Comments: Used model spectrum gmaur_lya2_etc.txt in the ETC in order to determine exposure times (COS.sp.1522544). 376.7304 seconds to achieve S/N = 30 at 1548.5 A. This time is quartered (= 94.1826 seconds) to account for both the other G160M cenwave and the two FP-POS settings per cenwave also observing this spectral feature.

The listed ETC Run # for this exposure (COS.sp.1522739) uses the expanded exposure time to fill the orbit (186 seconds). The G160M exposures received priority for Unused Orbital Visibility, so the increased exposure time here is significant compared to the G230L exposures.

Used model spectrum gmaur_lya2_x4.00_etc.txt in the ETC (COS.sp.1522682) in order to determine bright object safety. Peak local rate of 0.315 counts per second and global rate of 548.875, so it is safe. Buffer fill time = 4297 seconds, and 2/3 of this is 2864.667 seconds.

9	G160M 162 3-1 (COS.sp.152 2741)	(1) V-GM-AUR	COS/FUV, TIME-TAG, PSA	G160M 1623 A	FP-POS=1; BUFFER-TIME=31 54	186 Secs (186 Secs) *[==>]*	***[1]***

Comments: Used model spectrum gmaur_lya2_etc.txt in the ETC in order to determine exposure times (COS.sp.1522545). 393.2034 seconds to achieve S/N = 30 at 1548.5 A. This time is quartered (= 98.30085 seconds) to account for both the other G160M cenwave and the two FP-POS settings per cenwave also observing this spectral feature.

The listed ETC Run # for this exposure (COS.sp.1522741) uses the expanded exposure time to fill the orbit (186 seconds). The G160M exposures received priority for Unused Orbital Visibility, so the increased exposure time here is significant compared to the G230L exposures.

Used model spectrum gmaur_lya2_x4.00_etc.txt in the ETC (COS.sp.1522683) in order to determine bright object safety. Peak local rate of 0.317 counts per second and global rate of 498.525, so it is safe. Buffer fill time = 4731 seconds, and 2/3 of this is 3154 seconds.

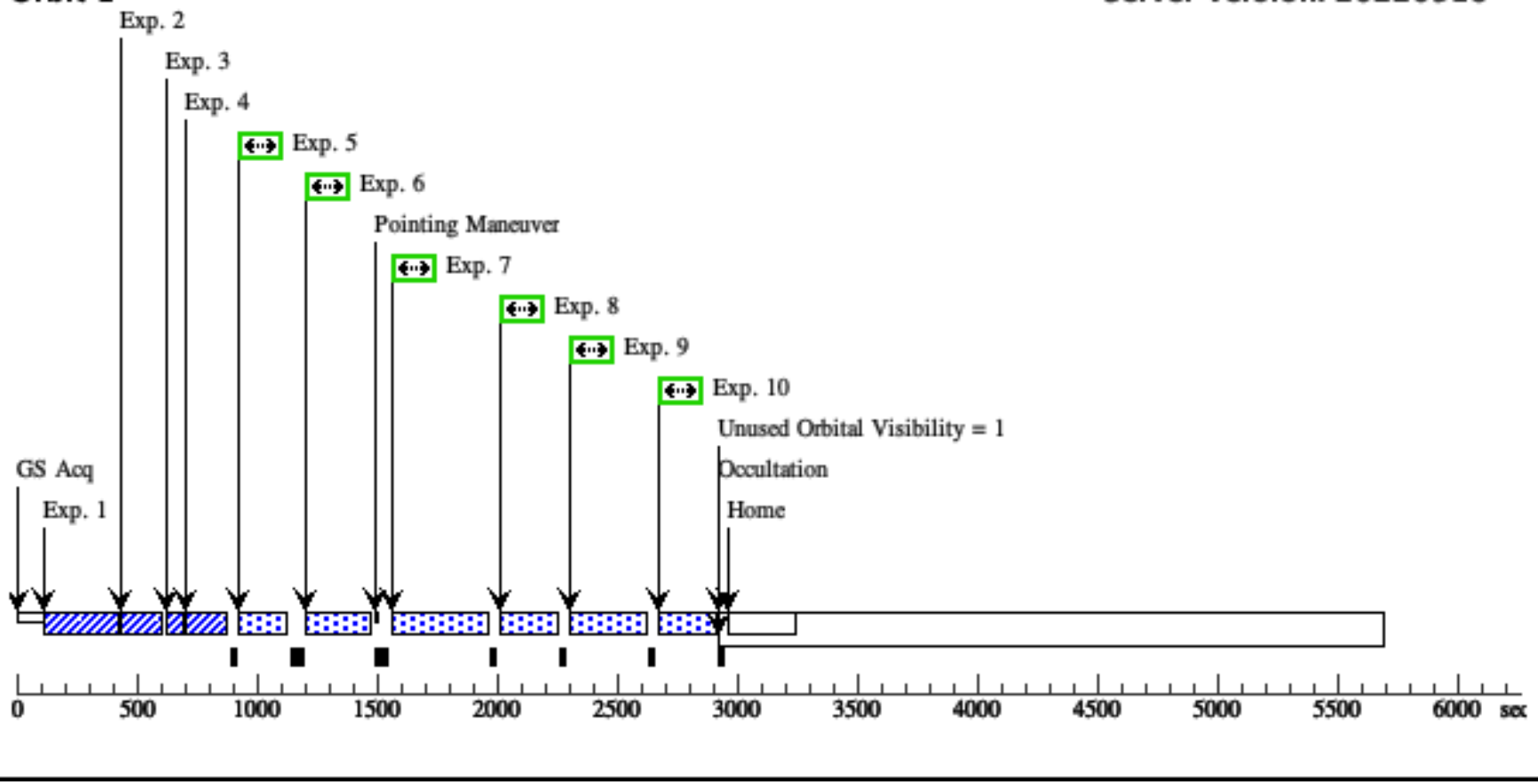
10	G160M 162 3-2 (COS.sp.152 2741)	(1) V-GM-AUR	COS/FUV, TIME-TAG, PSA	G160M 1623 A	FP-POS=2; BUFFER-TIME=31 54	186 Secs (186 Secs) *[==>]*	***[1]***

Comments: Used model spectrum gmaur_lya2_etc.txt in the ETC in order to determine exposure times (COS.sp.1522545). 393.2034 seconds to achieve S/N = 30 at 1548.5 A. This time is quartered (= 98.30085 seconds) to account for both the other G160M cenwave and the two FP-POS settings per cenwave also observing this spectral feature.

The listed ETC Run # for this exposure (COS.sp.1522741) uses the expanded exposure time to fill the orbit (186 seconds). The G160M exposures received priority for Unused Orbital Visibility, so the increased exposure time here is significant compared to the G230L exposures.

Used model spectrum gmaur_lya2_x4.00_etc.txt in the ETC (COS.sp.1522683) in order to determine bright object safety. Peak local rate of 0.317 counts per second and global rate of 498.525, so it is safe. Buffer fill time = 4731 seconds, and 2/3 of this is 3154 seconds.

Orbit Structure



Visit

Proposal 16590, V-GM-AUR-COS-7 (1I), implementation Thu Jul 28 15:01:14 GMT 2022

Diagnostic Status: Warning

Scientific Instruments: COS/FUV, COS/NUV

Special Requirements: SCHED 100%; AFTER 1C BY 134.3 Orbits TO 142.5 Orbits; BETWEEN 26-NOV-2022 AND 23-DEC-2022

Comments: vstatus; 1I; V-GM-AUR; P/COS approved for submission; P/JRD 21/07/21 ; intrev: complete ; P/WF 26/7/21
vcheck; Enter targ name & Inst. & Resp. Sci.; GM Aur ; COS ; AH
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/monitor/16018/images/
vcheck; Selected ACQ strategy?; Double ACQ/PeakXD+ACQ/PeakD, G230L, S/N = 40
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
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 = 12

Diagnostics

(V-GM-AUR-COS-7 (1I)) Warning (Form): For the best data quality, it is generally required to use all four FP-POS positions when observing at a given COS cenwave. See the COS Instrument Handbook for exceptions that may apply to observations with G130M/1291 or G160M.

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	V-GM-AUR Alt Name1: 2MASS-J04551098+3021595 Alt Name2: HBC-77	RA: 04 55 10.9860 (73.7957750d) Dec: +30 21 59.00 (30.36639d) Equinox: J2000	Proper Motion RA: 3.012635677084487E-4 sec of time/yr Proper Motion Dec: -0.02445099994474731 arcsec/yr Epoch of Position: 2015.5	V=12.242 SpT=K3, U=14.59, B=13.35, V=12.24, R=11.80, G=11.70, J=9.34, H=8.60, K=8.28	Reference Frame: ICRS

Comments: tstatus; V-GM-AUR ; P/COS approved for submission; S/ins not started; P/JRD 21/07/21; S/xx DD/MM/YY
tcheck; APT/SIMBAD target names: ; V-GM-AUR ...
Default SIMBAD name is V GM Aur, aka 2MASS J04551098+3021595*
tcheck; Target info verification status?; OK ...
spectral type and magnitudes seem to be consistent
Flam(B) = 2.6e-10 at 4444 Angstroms and Flam(V) = 4.7e-10 at 5540 Angstroms from Vizier photometry viewer linked from SIMBAD
tcheck; Coordinates & P.M. verified, epoch checked?; OK ...
SIMBAD coordinates check out with what's here, SIMBAD PM values check out with what's here
tcheck; Adopted SED compared to Observations?; Yes ...
located at: box/ullyses_tech/ullyses_proposals/monitor/16018/seds/
Category=STAR
Description=[PRE-MAIN SEQUENCE STAR, T TAURI 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	G230L PEAKXD (COS.sa.1522537)	(1) V-GM-AUR	COS/NUV, ACQ/PEAKXD, PSA	G230L 2950 A	STRIPE=DEF			5.8 Secs (5.8 Secs) *[==>]*	***[1]***

Comments: Used model spectrum gmaur_lya2_etc.txt in the ETC (COS.sa.1522537) in order to determine exposure times. This is the one listed as the ETC run for the exposure. ACQ/PEAKXD with PSA takes 5.8 seconds for S/N=40.

Used model spectrum gmaur_lya2_x4.00_etc.txt in the ETC (COS.sa.1522540) in order to determine bright object safety. ACQ/PEAKXD with PSA has peak pixel rate of 5.943 counts per second and global rate of 2997.808, so it is safe.

This is the first of two ACQ/PEAKXD+ACQ/PEAKD used in order to improve the likelihood of a successful acquisition.

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
2	G230L PEAKD (COS.sa.1522538)	(1) V-GM-AUR	COS/NUV, ACQ/PEAKD, PSA	G230L 2950 A	CENTER=FLUX-WT-FLR; NUM-POS=5; STEP-SIZE=0.9			5.3 Secs (5.3 Secs) *[==>]*	***[1]***

Comments: Used model spectrum gmaur_lya2_etc.txt in the ETC (COS.sa.1522538) in order to determine exposure times. This is the one listed as the ETC run for the exposure. ACQ/PEAKD with PSA takes 5.3 seconds for S/N=40.

Used model spectrum gmaur_lya2_x4.00_etc.txt in the ETC (COS.sa.1522541) in order to determine bright object safety. ACQ/PEAKD with PSA has peak pixel rate of 5.943 counts per second and global rate of 2997.808, so it is safe.

This is the first of two ACQ/PEAKXD+ACQ/PEAKD used in order to improve the likelihood of a successful acquisition.

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
3	G230L PEAKXD (COS.sa.1522537)	(1) V-GM-AUR	COS/NUV, ACQ/PEAKXD, PSA	G230L 2950 A	STRIPE=DEF			5.8 Secs (5.8 Secs) *[==>]*	***[1]***

Comments: Used model spectrum gmaur_lya2_etc.txt in the ETC (COS.sa.1522537) in order to determine exposure times. This is the one listed as the ETC run for the exposure. ACQ/PEAKXD with PSA takes 5.8 seconds for S/N=40.

Used model spectrum gmaur_lya2_x4.00_etc.txt in the ETC (COS.sa.1522540) in order to determine bright object safety. ACQ/PEAKXD with PSA has peak pixel rate of 5.943 counts per second and global rate of 2997.808, so it is safe.

This is the second of two ACQ/PEAKXD+ACQ/PEAKD used in order to improve the likelihood of a successful acquisition.

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
4	G230L PEAKD (COS.sa.1522538)	(1) V-GM-AUR	COS/NUV, ACQ/PEAKD, PSA	G230L 2950 A	CENTER=FLUX-WT-FLR; NUM-POS=5; STEP-SIZE=0.9			5.3 Secs (5.3 Secs) *[==>]*	***[1]***

Comments: Used model spectrum gmaur_lya2_etc.txt in the ETC (COS.sa.1522538) in order to determine exposure times. This is the one listed as the ETC run for the exposure. ACQ/PEAKD with PSA takes 5.3 seconds for S/N=40.

Used model spectrum gmaur_lya2_x4.00_etc.txt in the ETC (COS.sa.1522541) in order to determine bright object safety. ACQ/PEAKD with PSA has peak pixel rate of 5.943 counts per second and global rate of 2997.808, so it is safe.

This is the second of two ACQ/PEAKXD+ACQ/PEAKD used in order to improve the likelihood of a successful acquisition.

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
5	G230L 2950 (COS.sp.1522735)	(1) V-GM-AUR	COS/NUV, TIME-TAG, PSA	G230L 2950 A	FP-POS=4; BUFFER-TIME=524			184 Secs (184 Secs) *[==>]*	***[1]***

Comments: Used model spectrum gmaur_lya2_etc.txt in the ETC in order to determine exposure times (COS.sp.1522552). 362.4388 seconds to achieve S/N = 20 at 2825 A. This time is halved (= 181.2194 seconds) to account for the other G230L cenwave also observing this spectral feature.

The listed ETC Run # for this exposure (COS.sp.1522735) uses the expanded exposure time to fill the orbit (184 seconds). The G160M exposures received priority for Unused Orbital Visibility, so the increased exposure time here is minimal.

Used model spectrum gmaur_lya2_x4.00_etc.txt in the ETC (COS.sp.1522691) in order to determine bright object safety. Peak local rate of 5.943 counts per second and global rate of 2997.808, so it is safe. Buffer fill time = 786 seconds, and 2/3 of this is 524 seconds.

6	G230L 2635 (COS.sp.152 2737)	(1) V-GM-AUR	COS/NUV, TIME-TAG, PSA	G230L 2635 A	FP-POS=1; BUFFER-TIME=44 8	184 Secs (184 Secs) [==>]		[1]

Comments: Used model spectrum gmaur_lya2_etc.txt in the ETC in order to determine exposure times (COS.sp.1522553). 364.1707 seconds to achieve S/N = 20 at 2825 A. This time is halved (= 182.08535 seconds) to account for the other G230L cenwave also observing this spectral feature.

The listed ETC Run # for this exposure (COS.sp.1522737) uses the expanded exposure time to fill the orbit (184 seconds). The G160M exposures received priority for Unused Orbital Visibility, so the increased exposure time here is minimal.

Used model spectrum gmaur_lya2_x4.00_etc.txt in the ETC (COS.sp.1522690) in order to determine bright object safety. Peak local rate of 5.927 counts per second and global rate of 2199.263, so it is safe. Buffer fill time = 672 seconds, and 2/3 of this is 448 seconds.

7	G160M 158 9-3 (COS.sp.152 2739)	(1) V-GM-AUR	COS/FUV, TIME-TAG, PSA	G160M 1589 A	FP-POS=3; BUFFER-TIME=28 65	186 Secs (186 Secs) [==>]		[1]

Comments: Used model spectrum gmaur_lya2_etc.txt in the ETC in order to determine exposure times (COS.sp.1522544). 376.7304 seconds to achieve S/N = 30 at 1548.5 A. This time is quartered (= 94.1826 seconds) to account for both the other G160M cenwave and the two FP-POS settings per cenwave also observing this spectral feature.

The listed ETC Run # for this exposure (COS.sp.1522739) uses the expanded exposure time to fill the orbit (186 seconds). The G160M exposures received priority for Unused Orbital Visibility, so the increased exposure time here is significant compared to the G230L exposures.

Used model spectrum gmaur_lya2_x4.00_etc.txt in the ETC (COS.sp.1522682) in order to determine bright object safety. Peak local rate of 0.315 counts per second and global rate of 548.875, so it is safe. Buffer fill time = 4297 seconds, and 2/3 of this is 2864.667 seconds.

8	G160M 158 9-4 (COS.sp.152 2739)	(1) V-GM-AUR	COS/FUV, TIME-TAG, PSA	G160M 1589 A	FP-POS=4; BUFFER-TIME=28 65	186 Secs (186 Secs) [==>]		[1]

Comments: Used model spectrum gmaur_lya2_etc.txt in the ETC in order to determine exposure times (COS.sp.1522544). 376.7304 seconds to achieve S/N = 30 at 1548.5 A. This time is quartered (= 94.1826 seconds) to account for both the other G160M cenwave and the two FP-POS settings per cenwave also observing this spectral feature.

The listed ETC Run # for this exposure (COS.sp.1522739) uses the expanded exposure time to fill the orbit (186 seconds). The G160M exposures received priority for Unused Orbital Visibility, so the increased exposure time here is significant compared to the G230L exposures.

Used model spectrum gmaur_lya2_x4.00_etc.txt in the ETC (COS.sp.1522682) in order to determine bright object safety. Peak local rate of 0.315 counts per second and global rate of 548.875, so it is safe. Buffer fill time = 4297 seconds, and 2/3 of this is 2864.667 seconds.

9	G160M 162 3-1 (COS.sp.152 2741)	(1) V-GM-AUR	COS/FUV, TIME-TAG, PSA	G160M 1623 A	FP-POS=1; BUFFER-TIME=31 54	186 Secs (186 Secs) [==>]		[1]

Comments: Used model spectrum gmaur_lya2_etc.txt in the ETC in order to determine exposure times (COS.sp.1522545). 393.2034 seconds to achieve S/N = 30 at 1548.5 A. This time is quartered (= 98.30085 seconds) to account for both the other G160M cenwave and the two FP-POS settings per cenwave also observing this spectral feature.

The listed ETC Run # for this exposure (COS.sp.1522741) uses the expanded exposure time to fill the orbit (186 seconds). The G160M exposures received priority for Unused Orbital Visibility, so the increased exposure time here is significant compared to the G230L exposures.

Used model spectrum gmaur_lya2_x4.00_etc.txt in the ETC (COS.sp.1522683) in order to determine bright object safety. Peak local rate of 0.317 counts per second and global rate of 498.525, so it is safe. Buffer fill time = 4731 seconds, and 2/3 of this is 3154 seconds.

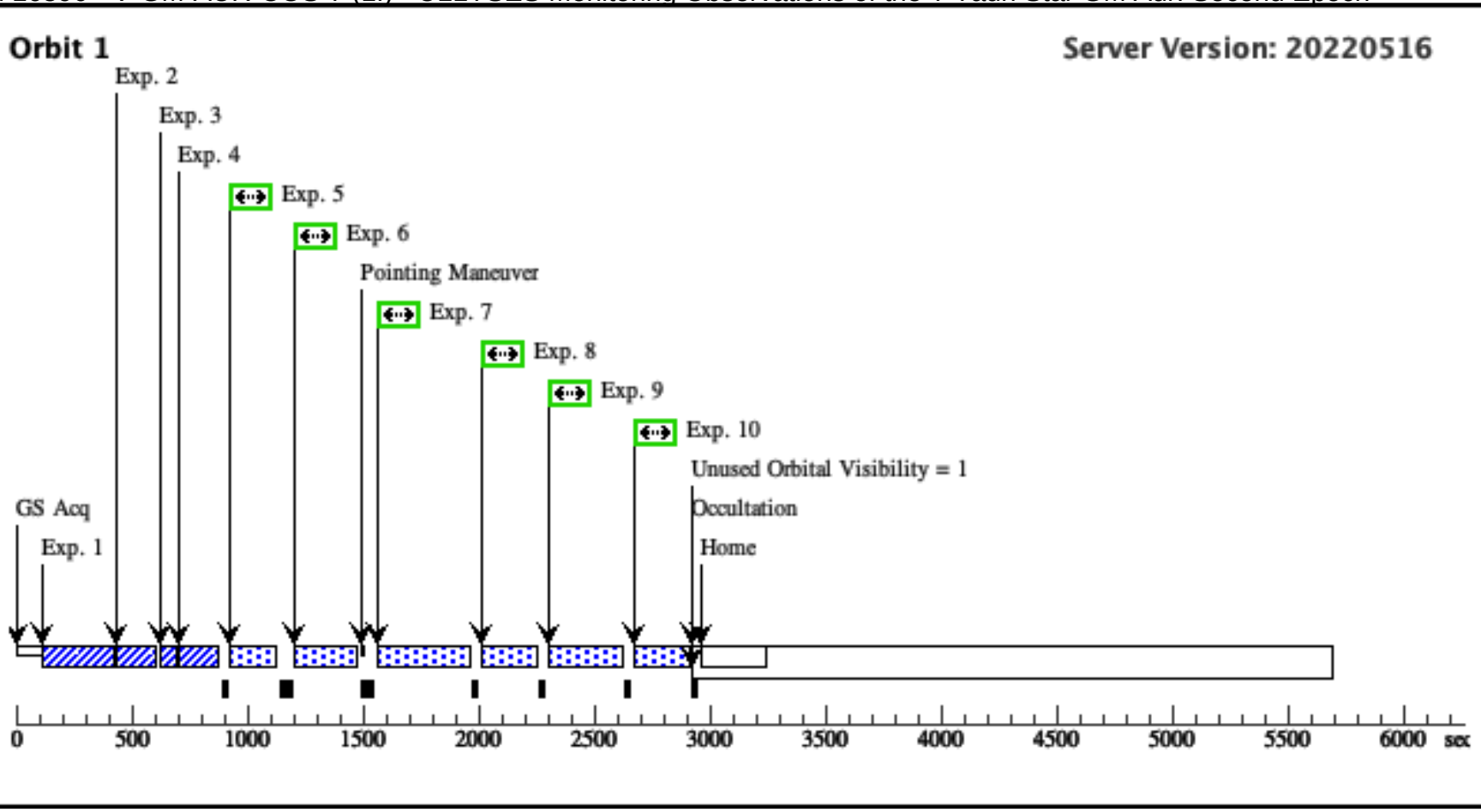
10	G160M 162 3-2 (COS.sp.152 2741)	(1) V-GM-AUR	COS/FUV, TIME-TAG, PSA	G160M 1623 A	FP-POS=2; BUFFER-TIME=31 54	186 Secs (186 Secs) [==>]		[1]

Comments: Used model spectrum gmaur_lya2_etc.txt in the ETC in order to determine exposure times (COS.sp.1522545). 393.2034 seconds to achieve S/N = 30 at 1548.5 A. This time is quartered (= 98.30085 seconds) to account for both the other G160M cenwave and the two FP-POS settings per cenwave also observing this spectral feature.

The listed ETC Run # for this exposure (COS.sp.1522741) uses the expanded exposure time to fill the orbit (186 seconds). The G160M exposures received priority for Unused Orbital Visibility, so the increased exposure time here is significant compared to the G230L exposures.

Used model spectrum gmaur_lya2_x4.00_etc.txt in the ETC (COS.sp.1522683) in order to determine bright object safety. Peak local rate of 0.317 counts per second and global rate of 498.525, so it is safe. Buffer fill time = 4731 seconds, and 2/3 of this is 3154 seconds.

Orbit Structure



Visit

Proposal 16590, V-GM-AUR-COS-8 (1J), implementation Thu Jul 28 15:01:14 GMT 2022

Diagnostic Status: Warning

Scientific Instruments: COS/FUV, COS/NUV

Special Requirements: SCHED 100%; AFTER 1C BY 157.4 Orbits TO 165.6 Orbits; BETWEEN 26-NOV-2022 AND 23-DEC-2022

Comments: vstatus; 1J; V-GM-AUR; P/COS approved for submission; P/JRD 21/07/21 ; intrev: complete ; P/WF 26/7/21
vcheck; Enter targ name & Inst. & Resp. Sci.; GM Aur ; COS ; AH
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/monitor/16018/images/
vcheck; Selected ACQ strategy?; Double ACQ/PeakXD+ACQ/PeakD, G230L, S/N = 40
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
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 = 12

Diagnostics

(V-GM-AUR-COS-8 (1J)) Warning (Form): For the best data quality, it is generally required to use all four FP-POS positions when observing at a given COS cenwave. See the COS Instrument Handbook for exceptions that may apply to observations with G130M/1291 or G160M.

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	V-GM-AUR Alt Name1: 2MASS-J04551098+3021595 Alt Name2: HBC-77	RA: 04 55 10.9860 (73.7957750d) Dec: +30 21 59.00 (30.36639d) Equinox: J2000	Proper Motion RA: 3.012635677084487E-4 sec of time/yr Proper Motion Dec: -0.02445099994474731 arcsec/yr Epoch of Position: 2015.5	V=12.242 SpT=K3, U=14.59, B=13.35, V=12.24, R=11.80, G=11.70, J=9.34, H=8.60, K=8.28	Reference Frame: ICRS

Comments: tstatus; V-GM-AUR ; P/COS approved for submission; S/ins not started; P/JRD 21/07/21; S/xx DD/MM/YY
tcheck; APT/SIMBAD target names: ; V-GM-AUR ...
Default SIMBAD name is V GM Aur, aka 2MASS J04551098+3021595*
tcheck; Target info verification status?; OK ...
spectral type and magnitudes seem to be consistent
Flam(B) = 2.6e-10 at 4444 Angstroms and Flam(V) = 4.7e-10 at 5540 Angstroms from Vizier photometry viewer linked from SIMBAD
tcheck; Coordinates & P.M. verified, epoch checked?; OK ...
SIMBAD coordinates check out with what's here, SIMBAD PM values check out with what's here
tcheck; Adopted SED compared to Observations?; Yes ...
located at: box/ullyses_tech/ullyses_proposals/monitor/16018/seds/
Category=STAR
Description=[PRE-MAIN SEQUENCE STAR, T TAURI 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	G230L PEAKXD (COS.sa.1522537)	(1) V-GM-AUR	COS/NUV, ACQ/PEAKXD, PSA	G230L 2950 A	STRIPE=DEF			5.8 Secs (5.8 Secs) *[==>]*	*[1]*

Comments: Used model spectrum gmaur_lya2_etc.txt in the ETC (COS.sa.1522537) in order to determine exposure times. This is the one listed as the ETC run for the exposure. ACQ/PEAKXD with PSA takes 5.8 seconds for S/N=40.

Used model spectrum gmaur_lya2_x4.00_etc.txt in the ETC (COS.sa.1522540) in order to determine bright object safety. ACQ/PEAKXD with PSA has peak pixel rate of 5.943 counts per second and global rate of 2997.808, so it is safe.

This is the first of two ACQ/PEAKXD+ACQ/PEAKD used in order to improve the likelihood of a successful acquisition.

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
2	G230L PEAKD (COS.sa.1522538)	(1) V-GM-AUR	COS/NUV, ACQ/PEAKD, PSA	G230L 2950 A	CENTER=FLUX-WT-FLR; NUM-POS=5; STEP-SIZE=0.9			5.3 Secs (5.3 Secs) *[==>]*	*[1]*

Comments: Used model spectrum gmaur_lya2_etc.txt in the ETC (COS.sa.1522538) in order to determine exposure times. This is the one listed as the ETC run for the exposure. ACQ/PEAKD with PSA takes 5.3 seconds for S/N=40.

Used model spectrum gmaur_lya2_x4.00_etc.txt in the ETC (COS.sa.1522541) in order to determine bright object safety. ACQ/PEAKD with PSA has peak pixel rate of 5.943 counts per second and global rate of 2997.808, so it is safe.

This is the first of two ACQ/PEAKXD+ACQ/PEAKD used in order to improve the likelihood of a successful acquisition.

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
3	G230L PEAKXD (COS.sa.1522537)	(1) V-GM-AUR	COS/NUV, ACQ/PEAKXD, PSA	G230L 2950 A	STRIPE=DEF			5.8 Secs (5.8 Secs) *[==>]*	*[1]*

Comments: Used model spectrum gmaur_lya2_etc.txt in the ETC (COS.sa.1522537) in order to determine exposure times. This is the one listed as the ETC run for the exposure. ACQ/PEAKXD with PSA takes 5.8 seconds for S/N=40.

Used model spectrum gmaur_lya2_x4.00_etc.txt in the ETC (COS.sa.1522540) in order to determine bright object safety. ACQ/PEAKXD with PSA has peak pixel rate of 5.943 counts per second and global rate of 2997.808, so it is safe.

This is the second of two ACQ/PEAKXD+ACQ/PEAKD used in order to improve the likelihood of a successful acquisition.

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
4	G230L PEAKD (COS.sa.1522538)	(1) V-GM-AUR	COS/NUV, ACQ/PEAKD, PSA	G230L 2950 A	CENTER=FLUX-WT-FLR; NUM-POS=5; STEP-SIZE=0.9			5.3 Secs (5.3 Secs) *[==>]*	*[1]*

Comments: Used model spectrum gmaur_lya2_etc.txt in the ETC (COS.sa.1522538) in order to determine exposure times. This is the one listed as the ETC run for the exposure. ACQ/PEAKD with PSA takes 5.3 seconds for S/N=40.

Used model spectrum gmaur_lya2_x4.00_etc.txt in the ETC (COS.sa.1522541) in order to determine bright object safety. ACQ/PEAKD with PSA has peak pixel rate of 5.943 counts per second and global rate of 2997.808, so it is safe.

This is the second of two ACQ/PEAKXD+ACQ/PEAKD used in order to improve the likelihood of a successful acquisition.

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
5	G230L 2950 (COS.sp.1522735)	(1) V-GM-AUR	COS/NUV, TIME-TAG, PSA	G230L 2950 A	FP-POS=4; BUFFER-TIME=524			184 Secs (184 Secs) *[==>]*	*[1]*

Comments: Used model spectrum gmaur_lya2_etc.txt in the ETC in order to determine exposure times (COS.sp.1522552). 362.4388 seconds to achieve S/N = 20 at 2825 A. This time is halved (= 181.2194 seconds) to account for the other G230L cenwave also observing this spectral feature.

The listed ETC Run # for this exposure (COS.sp.1522735) uses the expanded exposure time to fill the orbit (184 seconds). The G160M exposures received priority for Unused Orbital Visibility, so the increased exposure time here is minimal.

Used model spectrum gmaur_lya2_x4.00_etc.txt in the ETC (COS.sp.1522691) in order to determine bright object safety. Peak local rate of 5.943 counts per second and global rate of 2997.808, so it is safe. Buffer fill time = 786 seconds, and 2/3 of this is 524 seconds.

6	G230L 2635 (COS.sp.1522737)	(1) V-GM-AUR	COS/NUV, TIME-TAG, PSA	G230L 2635 A	FP-POS=1; BUFFER-TIME=448	184 Secs (184 Secs) [==>]	[1]

Comments: Used model spectrum gmaur_lya2_etc.txt in the ETC in order to determine exposure times (COS.sp.1522553). 364.1707 seconds to achieve S/N = 20 at 2825 A. This time is halved (= 182.08535 seconds) to account for the other G230L cenwave also observing this spectral feature.

The listed ETC Run # for this exposure (COS.sp.1522737) uses the expanded exposure time to fill the orbit (184 seconds). The G160M exposures received priority for Unused Orbital Visibility, so the increased exposure time here is minimal.

Used model spectrum gmaur_lya2_x4.00_etc.txt in the ETC (COS.sp.1522690) in order to determine bright object safety. Peak local rate of 5.927 counts per second and global rate of 2199.263, so it is safe. Buffer fill time = 672 seconds, and 2/3 of this is 448 seconds.

7	G160M 1589-3 (COS.sp.1522739)	(1) V-GM-AUR	COS/FUV, TIME-TAG, PSA	G160M 1589 A	FP-POS=3; BUFFER-TIME=2865	186 Secs (186 Secs) [==>]	[1]

Comments: Used model spectrum gmaur_lya2_etc.txt in the ETC in order to determine exposure times (COS.sp.1522544). 376.7304 seconds to achieve S/N = 30 at 1548.5 A. This time is quartered (= 94.1826 seconds) to account for both the other G160M cenwave and the two FP-POS settings per cenwave also observing this spectral feature.

The listed ETC Run # for this exposure (COS.sp.1522739) uses the expanded exposure time to fill the orbit (186 seconds). The G160M exposures received priority for Unused Orbital Visibility, so the increased exposure time here is significant compared to the G230L exposures.

Used model spectrum gmaur_lya2_x4.00_etc.txt in the ETC (COS.sp.1522682) in order to determine bright object safety. Peak local rate of 0.315 counts per second and global rate of 548.875, so it is safe. Buffer fill time = 4297 seconds, and 2/3 of this is 2864.667 seconds.

8	G160M 1589-4 (COS.sp.1522739)	(1) V-GM-AUR	COS/FUV, TIME-TAG, PSA	G160M 1589 A	FP-POS=4; BUFFER-TIME=2865	186 Secs (186 Secs) [==>]	[1]

Comments: Used model spectrum gmaur_lya2_etc.txt in the ETC in order to determine exposure times (COS.sp.1522544). 376.7304 seconds to achieve S/N = 30 at 1548.5 A. This time is quartered (= 94.1826 seconds) to account for both the other G160M cenwave and the two FP-POS settings per cenwave also observing this spectral feature.

The listed ETC Run # for this exposure (COS.sp.1522739) uses the expanded exposure time to fill the orbit (186 seconds). The G160M exposures received priority for Unused Orbital Visibility, so the increased exposure time here is significant compared to the G230L exposures.

Used model spectrum gmaur_lya2_x4.00_etc.txt in the ETC (COS.sp.1522682) in order to determine bright object safety. Peak local rate of 0.315 counts per second and global rate of 548.875, so it is safe. Buffer fill time = 4297 seconds, and 2/3 of this is 2864.667 seconds.

9	G160M 1623-1 (COS.sp.1522741)	(1) V-GM-AUR	COS/FUV, TIME-TAG, PSA	G160M 1623 A	FP-POS=1; BUFFER-TIME=3154	186 Secs (186 Secs) [==>]	[1]

Comments: Used model spectrum gmaur_lya2_etc.txt in the ETC in order to determine exposure times (COS.sp.1522545). 393.2034 seconds to achieve S/N = 30 at 1548.5 A. This time is quartered (= 98.30085 seconds) to account for both the other G160M cenwave and the two FP-POS settings per cenwave also observing this spectral feature.

The listed ETC Run # for this exposure (COS.sp.1522741) uses the expanded exposure time to fill the orbit (186 seconds). The G160M exposures received priority for Unused Orbital Visibility, so the increased exposure time here is significant compared to the G230L exposures.

Used model spectrum gmaur_lya2_x4.00_etc.txt in the ETC (COS.sp.1522683) in order to determine bright object safety. Peak local rate of 0.317 counts per second and global rate of 498.525, so it is safe. Buffer fill time = 4731 seconds, and 2/3 of this is 3154 seconds.

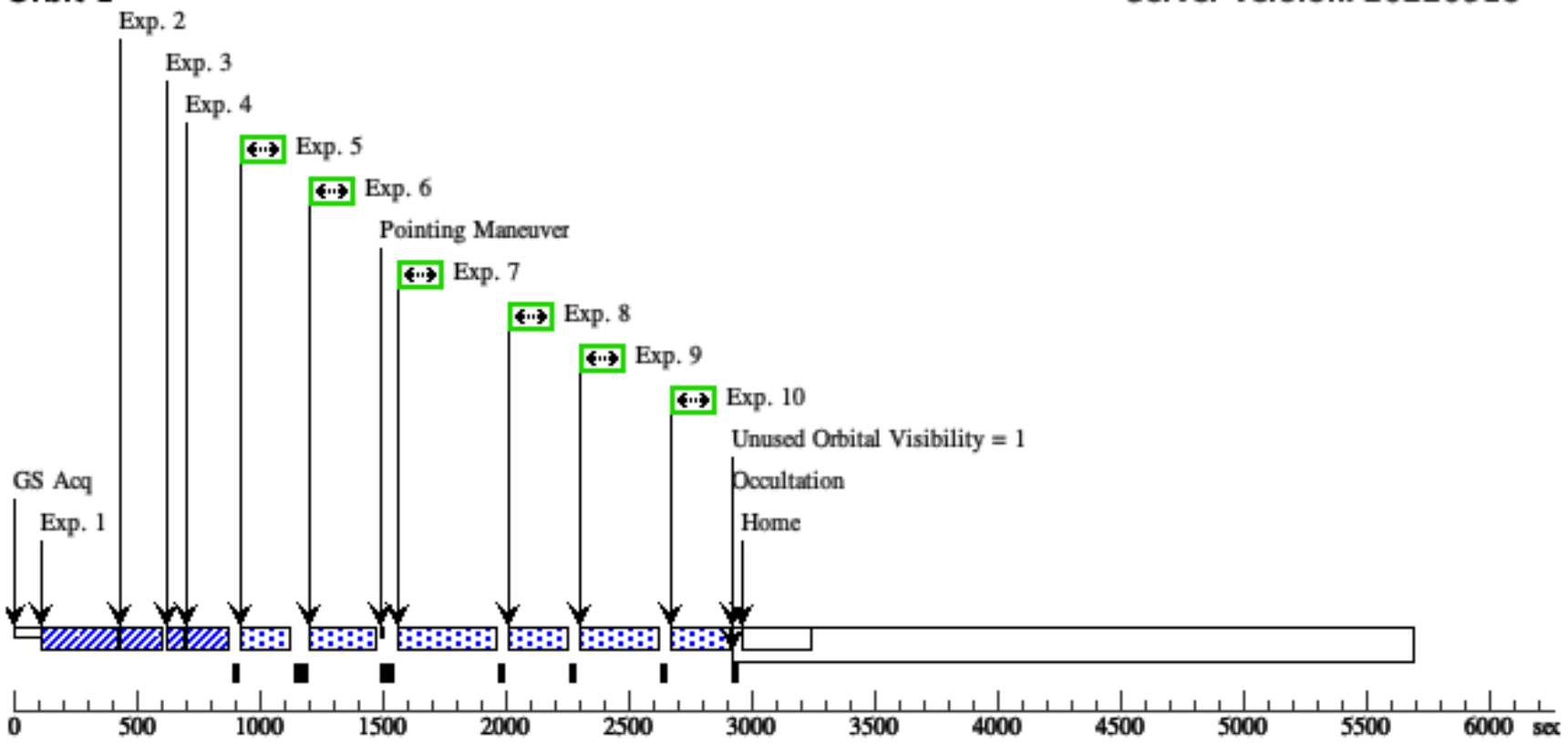
10	G160M 1623-2 (COS.sp.1522741)	(1) V-GM-AUR	COS/FUV, TIME-TAG, PSA	G160M 1623 A	FP-POS=2; BUFFER-TIME=3154	186 Secs (186 Secs) [==>]	[1]

Comments: Used model spectrum gmaur_lya2_etc.txt in the ETC in order to determine exposure times (COS.sp.1522545). 393.2034 seconds to achieve S/N = 30 at 1548.5 A. This time is quartered (= 98.30085 seconds) to account for both the other G160M cenwave and the two FP-POS settings per cenwave also observing this spectral feature.

The listed ETC Run # for this exposure (COS.sp.1522741) uses the expanded exposure time to fill the orbit (186 seconds). The G160M exposures received priority for Unused Orbital Visibility, so the increased exposure time here is significant compared to the G230L exposures.

Used model spectrum gmaur_lya2_x4.00_etc.txt in the ETC (COS.sp.1522683) in order to determine bright object safety. Peak local rate of 0.317 counts per second and global rate of 498.525, so it is safe. Buffer fill time = 4731 seconds, and 2/3 of this is 3154 seconds.

Orbit Structure



Visit

Proposal 16590, V-GM-AUR-COS-9 (1K), implementation Thu Jul 28 15:01:14 GMT 2022

Diagnostic Status: Warning

Scientific Instruments: COS/FUV, COS/NUV

Special Requirements: SCHED 100%; AFTER 1C BY 180.4 Orbits TO 188.6 Orbits; BETWEEN 26-NOV-2022 AND 23-DEC-2022

Comments: vstatus; 1K; V-GM-AUR; P/COS approved for submission; P/JRD 21/07/21 ; intrev: complete ; P/WF 26/7/21
vcheck; Enter targ name & Inst. & Resp. Sci.; GM Aur ; COS ; AH
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/monitor/16018/images/
vcheck; Selected ACQ strategy?; Double ACQ/PeakXD+ACQ/PeakD, G230L, S/N = 40
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
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 = 12

Diagnostics

(V-GM-AUR-COS-9 (1K)) Warning (Form): For the best data quality, it is generally required to use all four FP-POS positions when observing at a given COS cenwave. See the COS Instrument Handbook for exceptions that may apply to observations with G130M/1291 or G160M.

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	V-GM-AUR Alt Name1: 2MASS-J04551098+3021595 Alt Name2: HBC-77	RA: 04 55 10.9860 (73.7957750d) Dec: +30 21 59.00 (30.36639d) Equinox: J2000	Proper Motion RA: 3.012635677084487E-4 sec of time/yr Proper Motion Dec: -0.02445099994474731 arcsec/yr Epoch of Position: 2015.5	V=12.242 SpT=K3, U=14.59, B=13.35, V=12.24, R=11.80, G=11.70, J=9.34, H=8.60, K=8.28	Reference Frame: ICRS

Comments: tstatus; V-GM-AUR ; P/COS approved for submission; S/ins not started; P/JRD 21/07/21; S/xx DD/MM/YY
tcheck; APT/SIMBAD target names: ; V-GM-AUR ...
Default SIMBAD name is V GM Aur, aka 2MASS J04551098+3021595*
tcheck; Target info verification status?; OK ...
spectral type and magnitudes seem to be consistent
Flam(B) = 2.6e-10 at 4444 Angstroms and Flam(V) = 4.7e-10 at 5540 Angstroms from Vizier photometry viewer linked from SIMBAD
tcheck; Coordinates & P.M. verified, epoch checked?; OK ...
SIMBAD coordinates check out with what's here, SIMBAD PM values check out with what's here
tcheck; Adopted SED compared to Observations?; Yes ...
located at: box/ullyses_tech/ullyses_proposals/monitor/16018/seds/
Category=STAR
Description=[PRE-MAIN SEQUENCE STAR, T TAURI 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	G230L PEAKXD (COS.sa.1522537)	(1) V-GM-AUR	COS/NUV, ACQ/PEAKXD, PSA	G230L 2950 A	STRIPE=DEF			5.8 Secs (5.8 Secs) *[==>]*	***[1]***

Comments: Used model spectrum gmaur_lya2_etc.txt in the ETC (COS.sa.1522537) in order to determine exposure times. This is the one listed as the ETC run for the exposure. ACQ/PEAKXD with PSA takes 5.8 seconds for S/N=40.

Used model spectrum gmaur_lya2_x4.00_etc.txt in the ETC (COS.sa.1522540) in order to determine bright object safety. ACQ/PEAKXD with PSA has peak pixel rate of 5.943 counts per second and global rate of 2997.808, so it is safe.

This is the first of two ACQ/PEAKXD+ACQ/PEAKD used in order to improve the likelihood of a successful acquisition.

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
2	G230L PEAKD (COS.sa.1522538)	(1) V-GM-AUR	COS/NUV, ACQ/PEAKD, PSA	G230L 2950 A	CENTER=FLUX-WT-FLR; NUM-POS=5; STEP-SIZE=0.9			5.3 Secs (5.3 Secs) *[==>]*	***[1]***

Comments: Used model spectrum gmaur_lya2_etc.txt in the ETC (COS.sa.1522538) in order to determine exposure times. This is the one listed as the ETC run for the exposure. ACQ/PEAKD with PSA takes 5.3 seconds for S/N=40.

Used model spectrum gmaur_lya2_x4.00_etc.txt in the ETC (COS.sa.1522541) in order to determine bright object safety. ACQ/PEAKD with PSA has peak pixel rate of 5.943 counts per second and global rate of 2997.808, so it is safe.

This is the first of two ACQ/PEAKXD+ACQ/PEAKD used in order to improve the likelihood of a successful acquisition.

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
3	G230L PEAKXD (COS.sa.1522537)	(1) V-GM-AUR	COS/NUV, ACQ/PEAKXD, PSA	G230L 2950 A	STRIPE=DEF			5.8 Secs (5.8 Secs) *[==>]*	***[1]***

Comments: Used model spectrum gmaur_lya2_etc.txt in the ETC (COS.sa.1522537) in order to determine exposure times. This is the one listed as the ETC run for the exposure. ACQ/PEAKXD with PSA takes 5.8 seconds for S/N=40.

Used model spectrum gmaur_lya2_x4.00_etc.txt in the ETC (COS.sa.1522540) in order to determine bright object safety. ACQ/PEAKXD with PSA has peak pixel rate of 5.943 counts per second and global rate of 2997.808, so it is safe.

This is the second of two ACQ/PEAKXD+ACQ/PEAKD used in order to improve the likelihood of a successful acquisition.

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
4	G230L PEAKD (COS.sa.1522538)	(1) V-GM-AUR	COS/NUV, ACQ/PEAKD, PSA	G230L 2950 A	CENTER=FLUX-WT-FLR; NUM-POS=5; STEP-SIZE=0.9			5.3 Secs (5.3 Secs) *[==>]*	***[1]***

Comments: Used model spectrum gmaur_lya2_etc.txt in the ETC (COS.sa.1522538) in order to determine exposure times. This is the one listed as the ETC run for the exposure. ACQ/PEAKD with PSA takes 5.3 seconds for S/N=40.

Used model spectrum gmaur_lya2_x4.00_etc.txt in the ETC (COS.sa.1522541) in order to determine bright object safety. ACQ/PEAKD with PSA has peak pixel rate of 5.943 counts per second and global rate of 2997.808, so it is safe.

This is the second of two ACQ/PEAKXD+ACQ/PEAKD used in order to improve the likelihood of a successful acquisition.

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
5	G230L 2950 (COS.sp.1522735)	(1) V-GM-AUR	COS/NUV, TIME-TAG, PSA	G230L 2950 A	FP-POS=4; BUFFER-TIME=524			184 Secs (184 Secs) *[==>]*	***[1]***

Comments: Used model spectrum gmaur_lya2_etc.txt in the ETC in order to determine exposure times (COS.sp.1522552). 362.4388 seconds to achieve S/N = 20 at 2825 A. This time is halved (= 181.2194 seconds) to account for the other G230L cenwave also observing this spectral feature.

The listed ETC Run # for this exposure (COS.sp.1522735) uses the expanded exposure time to fill the orbit (184 seconds). The G160M exposures received priority for Unused Orbital Visibility, so the increased exposure time here is minimal.

Used model spectrum gmaur_lya2_x4.00_etc.txt in the ETC (COS.sp.1522691) in order to determine bright object safety. Peak local rate of 5.943 counts per second and global rate of 2997.808, so it is safe. Buffer fill time = 786 seconds, and 2/3 of this is 524 seconds.

6	G230L 2635 (COS.sp.152 2737)	(1) V-GM-AUR	COS/NUV, TIME-TAG, PSA	G230L 2635 A	FP-POS=1; BUFFER-TIME=44 8	184 Secs (184 Secs) [==>]		[1]

Comments: Used model spectrum gmaur_lya2_etc.txt in the ETC in order to determine exposure times (COS.sp.1522553). 364.1707 seconds to achieve S/N = 20 at 2825 A. This time is halved (= 182.08535 seconds) to account for the other G230L cenwave also observing this spectral feature.

The listed ETC Run # for this exposure (COS.sp.1522737) uses the expanded exposure time to fill the orbit (184 seconds). The G160M exposures received priority for Unused Orbital Visibility, so the increased exposure time here is minimal.

Used model spectrum gmaur_lya2_x4.00_etc.txt in the ETC (COS.sp.1522690) in order to determine bright object safety. Peak local rate of 5.927 counts per second and global rate of 2199.263, so it is safe. Buffer fill time = 672 seconds, and 2/3 of this is 448 seconds.

7	G160M 158 9-3 (COS.sp.152 2739)	(1) V-GM-AUR	COS/FUV, TIME-TAG, PSA	G160M 1589 A	FP-POS=3; BUFFER-TIME=28 65	186 Secs (186 Secs) [==>]		[1]

Comments: Used model spectrum gmaur_lya2_etc.txt in the ETC in order to determine exposure times (COS.sp.1522544). 376.7304 seconds to achieve S/N = 30 at 1548.5 A. This time is quartered (= 94.1826 seconds) to account for both the other G160M cenwave and the two FP-POS settings per cenwave also observing this spectral feature.

The listed ETC Run # for this exposure (COS.sp.1522739) uses the expanded exposure time to fill the orbit (186 seconds). The G160M exposures received priority for Unused Orbital Visibility, so the increased exposure time here is significant compared to the G230L exposures.

Used model spectrum gmaur_lya2_x4.00_etc.txt in the ETC (COS.sp.1522682) in order to determine bright object safety. Peak local rate of 0.315 counts per second and global rate of 548.875, so it is safe. Buffer fill time = 4297 seconds, and 2/3 of this is 2864.667 seconds.

8	G160M 158 9-4 (COS.sp.152 2739)	(1) V-GM-AUR	COS/FUV, TIME-TAG, PSA	G160M 1589 A	FP-POS=4; BUFFER-TIME=28 65	186 Secs (186 Secs) [==>]		[1]

Comments: Used model spectrum gmaur_lya2_etc.txt in the ETC in order to determine exposure times (COS.sp.1522544). 376.7304 seconds to achieve S/N = 30 at 1548.5 A. This time is quartered (= 94.1826 seconds) to account for both the other G160M cenwave and the two FP-POS settings per cenwave also observing this spectral feature.

The listed ETC Run # for this exposure (COS.sp.1522739) uses the expanded exposure time to fill the orbit (186 seconds). The G160M exposures received priority for Unused Orbital Visibility, so the increased exposure time here is significant compared to the G230L exposures.

Used model spectrum gmaur_lya2_x4.00_etc.txt in the ETC (COS.sp.1522682) in order to determine bright object safety. Peak local rate of 0.315 counts per second and global rate of 548.875, so it is safe. Buffer fill time = 4297 seconds, and 2/3 of this is 2864.667 seconds.

9	G160M 162 3-1 (COS.sp.152 2741)	(1) V-GM-AUR	COS/FUV, TIME-TAG, PSA	G160M 1623 A	FP-POS=1; BUFFER-TIME=31 54	186 Secs (186 Secs) [==>]		[1]

Comments: Used model spectrum gmaur_lya2_etc.txt in the ETC in order to determine exposure times (COS.sp.1522545). 393.2034 seconds to achieve S/N = 30 at 1548.5 A. This time is quartered (= 98.30085 seconds) to account for both the other G160M cenwave and the two FP-POS settings per cenwave also observing this spectral feature.

The listed ETC Run # for this exposure (COS.sp.1522741) uses the expanded exposure time to fill the orbit (186 seconds). The G160M exposures received priority for Unused Orbital Visibility, so the increased exposure time here is significant compared to the G230L exposures.

Used model spectrum gmaur_lya2_x4.00_etc.txt in the ETC (COS.sp.1522683) in order to determine bright object safety. Peak local rate of 0.317 counts per second and global rate of 498.525, so it is safe. Buffer fill time = 4731 seconds, and 2/3 of this is 3154 seconds.

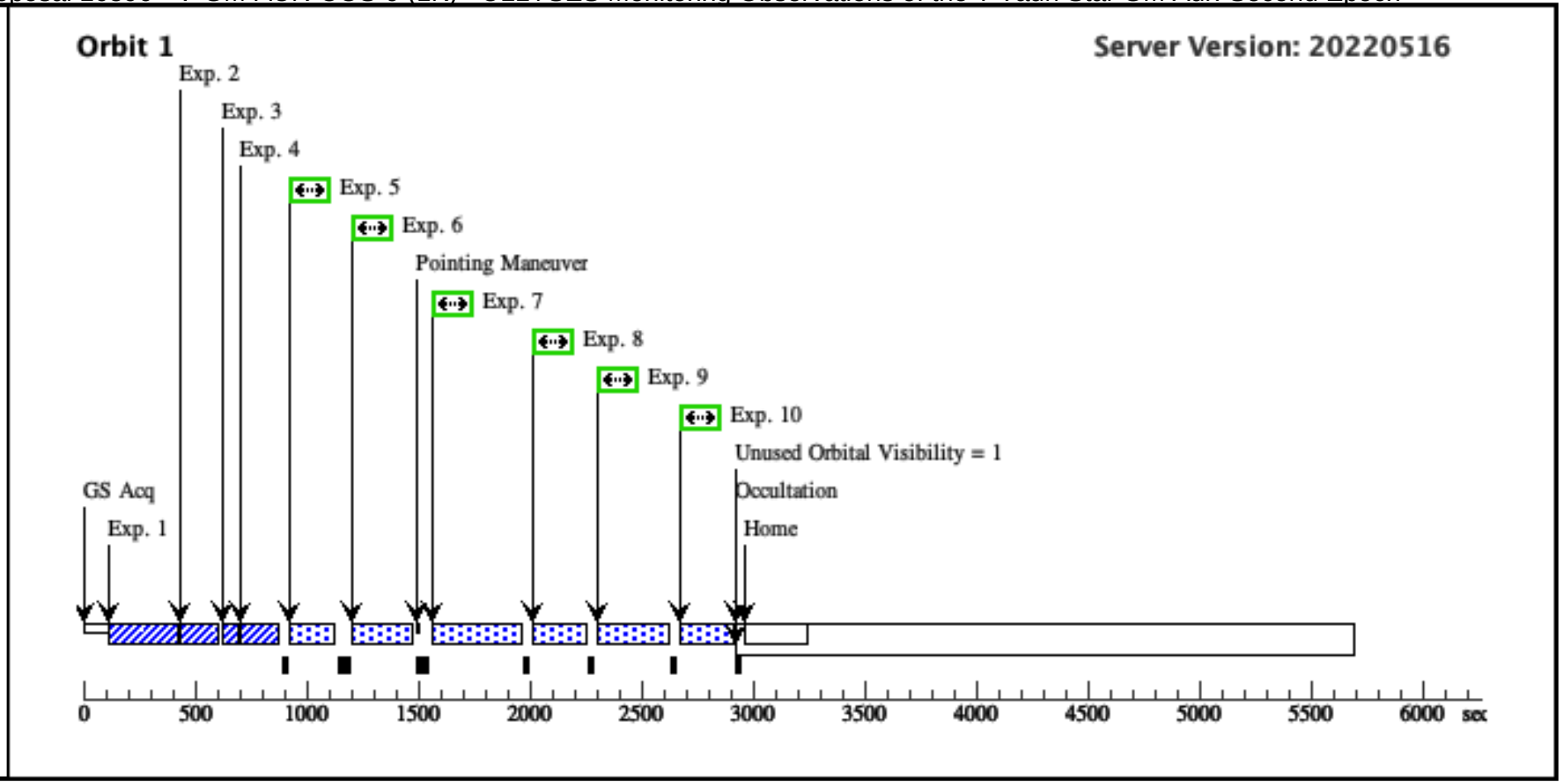
10	G160M 162 3-2 (COS.sp.152 2741)	(1) V-GM-AUR	COS/FUV, TIME-TAG, PSA	G160M 1623 A	FP-POS=2; BUFFER-TIME=31 54	186 Secs (186 Secs) [==>]		[1]

Comments: Used model spectrum gmaur_lya2_etc.txt in the ETC in order to determine exposure times (COS.sp.1522545). 393.2034 seconds to achieve S/N = 30 at 1548.5 A. This time is quartered (= 98.30085 seconds) to account for both the other G160M cenwave and the two FP-POS settings per cenwave also observing this spectral feature.

The listed ETC Run # for this exposure (COS.sp.1522741) uses the expanded exposure time to fill the orbit (186 seconds). The G160M exposures received priority for Unused Orbital Visibility, so the increased exposure time here is significant compared to the G230L exposures.

Used model spectrum gmaur_lya2_x4.00_etc.txt in the ETC (COS.sp.1522683) in order to determine bright object safety. Peak local rate of 0.317 counts per second and global rate of 498.525, so it is safe. Buffer fill time = 4731 seconds, and 2/3 of this is 3154 seconds.

Orbit Structure



Visit

Proposal 16590, V-GM-AUR-COS-10 (1L), implementation Thu Jul 28 15:01:14 GMT 2022

Diagnostic Status: Warning

Scientific Instruments: COS/FUV, COS/NUV

Special Requirements: SCHED 100%; AFTER 1C BY 203.5 Orbits TO 211.7 Orbits; BETWEEN 26-NOV-2022 AND 23-DEC-2022

Comments: vstatus; 1L; V-GM-AUR; P/COS approved for submission; P/JRD 21/07/21 ; intrev: complete ; P/WF 26/7/21
vcheck; Enter targ name & Inst. & Resp. Sci.; GM Aur ; COS ; AH
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/monitor/16018/images/
vcheck; Selected ACQ strategy?; Double ACQ/PeakXD+ACQ/PeakD, G230L, S/N = 40
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
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 = 12

Diagnostics

(V-GM-AUR-COS-10 (1L)) Warning (Form): For the best data quality, it is generally required to use all four FP-POS positions when observing at a given COS cenwave. See the COS Instrument Handbook for exceptions that may apply to observations with G130M/1291 or G160M.

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	V-GM-AUR Alt Name1: 2MASS-J04551098+3021595 Alt Name2: HBC-77	RA: 04 55 10.9860 (73.7957750d) Dec: +30 21 59.00 (30.36639d) Equinox: J2000	Proper Motion RA: 3.012635677084487E-4 sec of time/yr Proper Motion Dec: -0.02445099994474731 arcsec/yr Epoch of Position: 2015.5	V=12.242 SpT=K3, U=14.59, B=13.35, V=12.24, R=11.80, G=11.70, J=9.34, H=8.60, K=8.28	Reference Frame: ICRS

Comments: tstatus; V-GM-AUR ; P/COS approved for submission; S/ins not started; P/JRD 21/07/21; S/xx DD/MM/YY
tcheck; APT/SIMBAD target names: ; V-GM-AUR ...
Default SIMBAD name is V GM Aur, aka 2MASS J04551098+3021595*
tcheck; Target info verification status?; OK ...
spectral type and magnitudes seem to be consistent
Flam(B) = 2.6e-10 at 4444 Angstroms and Flam(V) = 4.7e-10 at 5540 Angstroms from Vizier photometry viewer linked from SIMBAD
tcheck; Coordinates & P.M. verified, epoch checked?; OK ...
SIMBAD coordinates check out with what's here, SIMBAD PM values check out with what's here
tcheck; Adopted SED compared to Observations?; Yes ...
located at: box/ullyses_tech/ullyses_proposals/monitor/16018/seds/
Category=STAR
Description=[PRE-MAIN SEQUENCE STAR, T TAURI 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	G230L PEAKXD (COS.sa.1522537)	(1) V-GM-AUR	COS/NUV, ACQ/PEAKXD, PSA	G230L 2950 A	STRIPE=DEF			5.8 Secs (5.8 Secs) *[==>]*	***[1]***

Comments: Used model spectrum gmaur_lya2_etc.txt in the ETC (COS.sa.1522537) in order to determine exposure times. This is the one listed as the ETC run for the exposure. ACQ/PEAKXD with PSA takes 5.8 seconds for S/N=40.

Used model spectrum gmaur_lya2_x4.00_etc.txt in the ETC (COS.sa.1522540) in order to determine bright object safety. ACQ/PEAKXD with PSA has peak pixel rate of 5.943 counts per second and global rate of 2997.808, so it is safe.

This is the first of two ACQ/PEAKXD+ACQ/PEAKD used in order to improve the likelihood of a successful acquisition.

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
2	G230L PEAKD (COS.sa.1522538)	(1) V-GM-AUR	COS/NUV, ACQ/PEAKD, PSA	G230L 2950 A	CENTER=FLUX-WT-FLR; NUM-POS=5; STEP-SIZE=0.9			5.3 Secs (5.3 Secs) *[==>]*	***[1]***

Comments: Used model spectrum gmaur_lya2_etc.txt in the ETC (COS.sa.1522538) in order to determine exposure times. This is the one listed as the ETC run for the exposure. ACQ/PEAKD with PSA takes 5.3 seconds for S/N=40.

Used model spectrum gmaur_lya2_x4.00_etc.txt in the ETC (COS.sa.1522541) in order to determine bright object safety. ACQ/PEAKD with PSA has peak pixel rate of 5.943 counts per second and global rate of 2997.808, so it is safe.

This is the first of two ACQ/PEAKXD+ACQ/PEAKD used in order to improve the likelihood of a successful acquisition.

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
3	G230L PEAKXD (COS.sa.1522537)	(1) V-GM-AUR	COS/NUV, ACQ/PEAKXD, PSA	G230L 2950 A	STRIPE=DEF			5.8 Secs (5.8 Secs) *[==>]*	***[1]***

Comments: Used model spectrum gmaur_lya2_etc.txt in the ETC (COS.sa.1522537) in order to determine exposure times. This is the one listed as the ETC run for the exposure. ACQ/PEAKXD with PSA takes 5.8 seconds for S/N=40.

Used model spectrum gmaur_lya2_x4.00_etc.txt in the ETC (COS.sa.1522540) in order to determine bright object safety. ACQ/PEAKXD with PSA has peak pixel rate of 5.943 counts per second and global rate of 2997.808, so it is safe.

This is the second of two ACQ/PEAKXD+ACQ/PEAKD used in order to improve the likelihood of a successful acquisition.

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
4	G230L PEAKD (COS.sa.1522538)	(1) V-GM-AUR	COS/NUV, ACQ/PEAKD, PSA	G230L 2950 A	CENTER=FLUX-WT-FLR; NUM-POS=5; STEP-SIZE=0.9			5.3 Secs (5.3 Secs) *[==>]*	***[1]***

Comments: Used model spectrum gmaur_lya2_etc.txt in the ETC (COS.sa.1522538) in order to determine exposure times. This is the one listed as the ETC run for the exposure. ACQ/PEAKD with PSA takes 5.3 seconds for S/N=40.

Used model spectrum gmaur_lya2_x4.00_etc.txt in the ETC (COS.sa.1522541) in order to determine bright object safety. ACQ/PEAKD with PSA has peak pixel rate of 5.943 counts per second and global rate of 2997.808, so it is safe.

This is the second of two ACQ/PEAKXD+ACQ/PEAKD used in order to improve the likelihood of a successful acquisition.

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
5	G230L 2950 (COS.sp.1522735)	(1) V-GM-AUR	COS/NUV, TIME-TAG, PSA	G230L 2950 A	FP-POS=4; BUFFER-TIME=524			184 Secs (184 Secs) *[==>]*	***[1]***

Comments: Used model spectrum gmaur_lya2_etc.txt in the ETC in order to determine exposure times (COS.sp.1522552). 362.4388 seconds to achieve S/N = 20 at 2825 A. This time is halved (= 181.2194 seconds) to account for the other G230L cenwave also observing this spectral feature.

The listed ETC Run # for this exposure (COS.sp.1522735) uses the expanded exposure time to fill the orbit (184 seconds). The G160M exposures received priority for Unused Orbital Visibility, so the increased exposure time here is minimal.

Used model spectrum gmaur_lya2_x4.00_etc.txt in the ETC (COS.sp.1522691) in order to determine bright object safety. Peak local rate of 5.943 counts per second and global rate of 2997.808, so it is safe. Buffer fill time = 786 seconds, and 2/3 of this is 524 seconds.

6	G230L 2635 (COS.sp.152 2737)	(1) V-GM-AUR	COS/NUV, TIME-TAG, PSA	G230L 2635 A	FP-POS=1; BUFFER-TIME=44 8	184 Secs (184 Secs) *[==>]*	***[1]***

Comments: Used model spectrum gmaur_lya2_etc.txt in the ETC in order to determine exposure times (COS.sp.1522553). 364.1707 seconds to achieve S/N = 20 at 2825 A. This time is halved (= 182.08535 seconds) to account for the other G230L cenwave also observing this spectral feature.

The listed ETC Run # for this exposure (COS.sp.1522737) uses the expanded exposure time to fill the orbit (184 seconds). The G160M exposures received priority for Unused Orbital Visibility, so the increased exposure time here is minimal.

Used model spectrum gmaur_lya2_x4.00_etc.txt in the ETC (COS.sp.1522690) in order to determine bright object safety. Peak local rate of 5.927 counts per second and global rate of 2199.263, so it is safe. Buffer fill time = 672 seconds, and 2/3 of this is 448 seconds.

7	G160M 158 9-3 (COS.sp.152 2739)	(1) V-GM-AUR	COS/FUV, TIME-TAG, PSA	G160M 1589 A	FP-POS=3; BUFFER-TIME=28 65	186 Secs (186 Secs) *[==>]*	***[1]***

Comments: Used model spectrum gmaur_lya2_etc.txt in the ETC in order to determine exposure times (COS.sp.1522544). 376.7304 seconds to achieve S/N = 30 at 1548.5 A. This time is quartered (= 94.1826 seconds) to account for both the other G160M cenwave and the two FP-POS settings per cenwave also observing this spectral feature.

The listed ETC Run # for this exposure (COS.sp.1522739) uses the expanded exposure time to fill the orbit (186 seconds). The G160M exposures received priority for Unused Orbital Visibility, so the increased exposure time here is significant compared to the G230L exposures.

Used model spectrum gmaur_lya2_x4.00_etc.txt in the ETC (COS.sp.1522682) in order to determine bright object safety. Peak local rate of 0.315 counts per second and global rate of 548.875, so it is safe. Buffer fill time = 4297 seconds, and 2/3 of this is 2864.667 seconds.

8	G160M 158 9-4 (COS.sp.152 2739)	(1) V-GM-AUR	COS/FUV, TIME-TAG, PSA	G160M 1589 A	FP-POS=4; BUFFER-TIME=28 65	186 Secs (186 Secs) *[==>]*	***[1]***

Comments: Used model spectrum gmaur_lya2_etc.txt in the ETC in order to determine exposure times (COS.sp.1522544). 376.7304 seconds to achieve S/N = 30 at 1548.5 A. This time is quartered (= 94.1826 seconds) to account for both the other G160M cenwave and the two FP-POS settings per cenwave also observing this spectral feature.

The listed ETC Run # for this exposure (COS.sp.1522739) uses the expanded exposure time to fill the orbit (186 seconds). The G160M exposures received priority for Unused Orbital Visibility, so the increased exposure time here is significant compared to the G230L exposures.

Used model spectrum gmaur_lya2_x4.00_etc.txt in the ETC (COS.sp.1522682) in order to determine bright object safety. Peak local rate of 0.315 counts per second and global rate of 548.875, so it is safe. Buffer fill time = 4297 seconds, and 2/3 of this is 2864.667 seconds.

9	G160M 162 3-1 (COS.sp.152 2741)	(1) V-GM-AUR	COS/FUV, TIME-TAG, PSA	G160M 1623 A	FP-POS=1; BUFFER-TIME=31 54	186 Secs (186 Secs) *[==>]*	***[1]***

Comments: Used model spectrum gmaur_lya2_etc.txt in the ETC in order to determine exposure times (COS.sp.1522545). 393.2034 seconds to achieve S/N = 30 at 1548.5 A. This time is quartered (= 98.30085 seconds) to account for both the other G160M cenwave and the two FP-POS settings per cenwave also observing this spectral feature.

The listed ETC Run # for this exposure (COS.sp.1522741) uses the expanded exposure time to fill the orbit (186 seconds). The G160M exposures received priority for Unused Orbital Visibility, so the increased exposure time here is significant compared to the G230L exposures.

Used model spectrum gmaur_lya2_x4.00_etc.txt in the ETC (COS.sp.1522683) in order to determine bright object safety. Peak local rate of 0.317 counts per second and global rate of 498.525, so it is safe. Buffer fill time = 4731 seconds, and 2/3 of this is 3154 seconds.

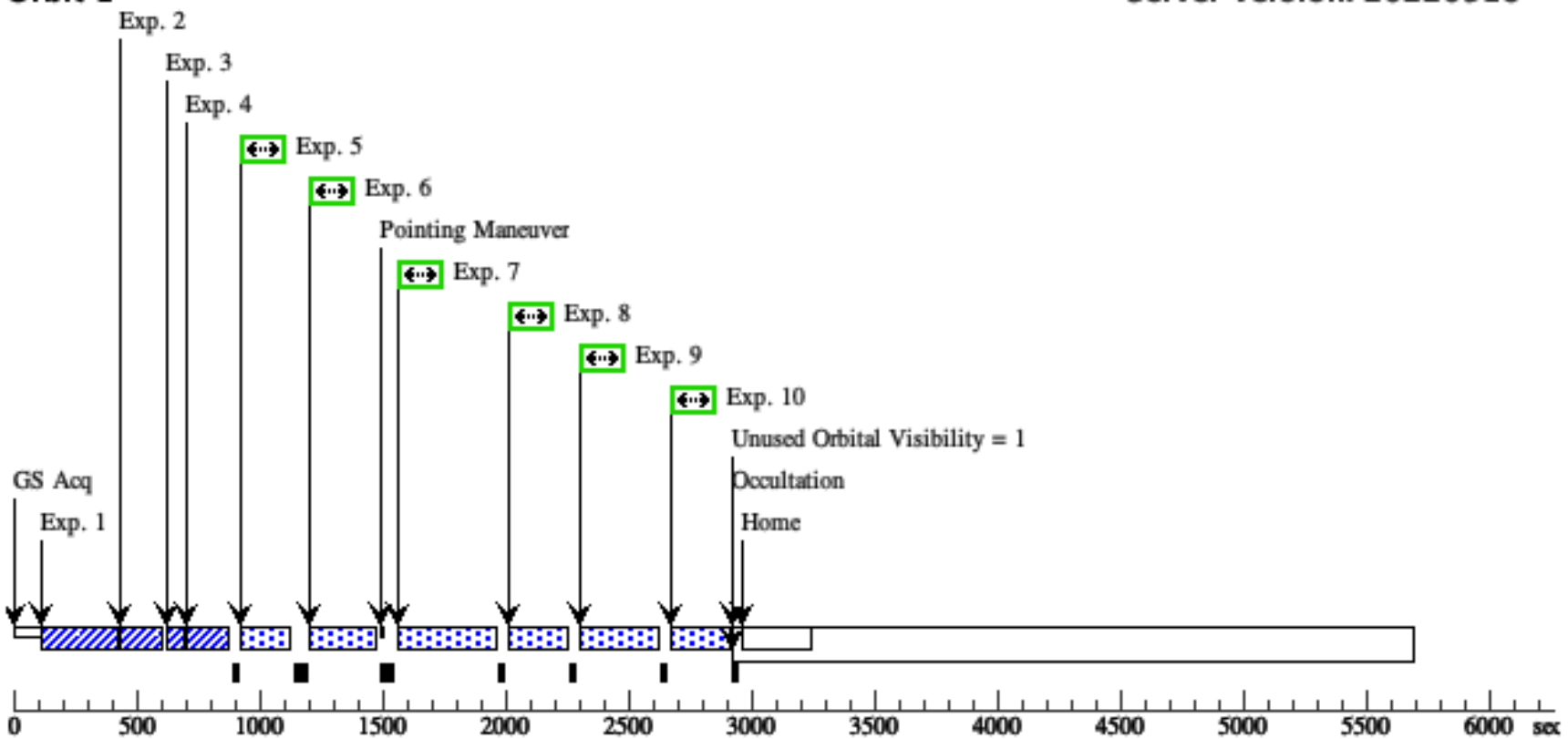
10	G160M 162 3-2 (COS.sp.152 2741)	(1) V-GM-AUR	COS/FUV, TIME-TAG, PSA	G160M 1623 A	FP-POS=2; BUFFER-TIME=31 54	186 Secs (186 Secs) *[==>]*	***[1]***

Comments: Used model spectrum gmaur_lya2_etc.txt in the ETC in order to determine exposure times (COS.sp.1522545). 393.2034 seconds to achieve S/N = 30 at 1548.5 A. This time is quartered (= 98.30085 seconds) to account for both the other G160M cenwave and the two FP-POS settings per cenwave also observing this spectral feature.

The listed ETC Run # for this exposure (COS.sp.1522741) uses the expanded exposure time to fill the orbit (186 seconds). The G160M exposures received priority for Unused Orbital Visibility, so the increased exposure time here is significant compared to the G230L exposures.

Used model spectrum gmaur_lya2_x4.00_etc.txt in the ETC (COS.sp.1522683) in order to determine bright object safety. Peak local rate of 0.317 counts per second and global rate of 498.525, so it is safe. Buffer fill time = 4731 seconds, and 2/3 of this is 3154 seconds.

Orbit Structure



Visit

Proposal 16590, V-GM-AUR-COS-11 (1M), implementation Thu Jul 28 15:01:14 GMT 2022

Diagnostic Status: Warning

Scientific Instruments: COS/FUV, COS/NUV

Special Requirements: SCHED 100%; AFTER 1C BY 226.6 Orbits TO 234.8 Orbits; BETWEEN 26-NOV-2022 AND 23-DEC-2022

Comments: vstatus; 1M; V-GM-AUR; P/COS approved for submission; P/JRD 21/07/21 ; intrev: complete ; P/WF 26/7/21
vcheck; Enter targ name & Inst. & Resp. Sci.; GM Aur ; COS ; AH
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/monitor/16018/images/
vcheck; Selected ACQ strategy?; Double ACQ/PeakXD+ACQ/PeakD, G230L, S/N = 40
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
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 = 12

Diagnostics

(V-GM-AUR-COS-11 (1M)) Warning (Form): For the best data quality, it is generally required to use all four FP-POS positions when observing at a given COS cenwave. See the COS Instrument Handbook for exceptions that may apply to observations with G130M/1291 or G160M.

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	V-GM-AUR Alt Name1: 2MASS-J04551098+3021595 Alt Name2: HBC-77	RA: 04 55 10.9860 (73.7957750d) Dec: +30 21 59.00 (30.36639d) Equinox: J2000	Proper Motion RA: 3.012635677084487E-4 sec of time/yr Proper Motion Dec: -0.02445099994474731 arcsec/yr Epoch of Position: 2015.5	V=12.242 SpT=K3, U=14.59, B=13.35, V=12.24, R=11.80, G=11.70, J=9.34, H=8.60, K=8.28	Reference Frame: ICRS

Comments: tstatus; V-GM-AUR ; P/COS approved for submission; S/ins not started; P/JRD 21/07/21; S/xx DD/MM/YY
tcheck; APT/SIMBAD target names: ; V-GM-AUR ...
Default SIMBAD name is V GM Aur, aka 2MASS J04551098+3021595*
tcheck; Target info verification status?; OK ...
spectral type and magnitudes seem to be consistent
Flam(B) = 2.6e-10 at 4444 Angstroms and Flam(V) = 4.7e-10 at 5540 Angstroms from Vizier photometry viewer linked from SIMBAD
tcheck; Coordinates & P.M. verified, epoch checked?; OK ...
SIMBAD coordinates check out with what's here, SIMBAD PM values check out with what's here
tcheck; Adopted SED compared to Observations?; Yes ...
located at: box/ullyses_tech/ullyses_proposals/monitor/16018/seds/
Category=STAR
Description=[PRE-MAIN SEQUENCE STAR, T TAURI 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	G230L PEAKXD (COS.sa.1522537)	(1) V-GM-AUR	COS/NUV, ACQ/PEAKXD, PSA	G230L 2950 A	STRIPE=DEF			5.8 Secs (5.8 Secs) *[==>]*	***[1]***

Comments: Used model spectrum gmaur_lya2_etc.txt in the ETC (COS.sa.1522537) in order to determine exposure times. This is the one listed as the ETC run for the exposure. ACQ/PEAKXD with PSA takes 5.8 seconds for S/N=40.

Used model spectrum gmaur_lya2_x4.00_etc.txt in the ETC (COS.sa.1522540) in order to determine bright object safety. ACQ/PEAKXD with PSA has peak pixel rate of 5.943 counts per second and global rate of 2997.808, so it is safe.

This is the first of two ACQ/PEAKXD+ACQ/PEAKD used in order to improve the likelihood of a successful acquisition.

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
2	G230L PEAKD (COS.sa.1522538)	(1) V-GM-AUR	COS/NUV, ACQ/PEAKD, PSA	G230L 2950 A	CENTER=FLUX-WT-FLR; NUM-POS=5; STEP-SIZE=0.9			5.3 Secs (5.3 Secs) *[==>]*	***[1]***

Comments: Used model spectrum gmaur_lya2_etc.txt in the ETC (COS.sa.1522538) in order to determine exposure times. This is the one listed as the ETC run for the exposure. ACQ/PEAKD with PSA takes 5.3 seconds for S/N=40.

Used model spectrum gmaur_lya2_x4.00_etc.txt in the ETC (COS.sa.1522541) in order to determine bright object safety. ACQ/PEAKD with PSA has peak pixel rate of 5.943 counts per second and global rate of 2997.808, so it is safe.

This is the first of two ACQ/PEAKXD+ACQ/PEAKD used in order to improve the likelihood of a successful acquisition.

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
3	G230L PEAKXD (COS.sa.1522537)	(1) V-GM-AUR	COS/NUV, ACQ/PEAKXD, PSA	G230L 2950 A	STRIPE=DEF			5.8 Secs (5.8 Secs) *[==>]*	***[1]***

Comments: Used model spectrum gmaur_lya2_etc.txt in the ETC (COS.sa.1522537) in order to determine exposure times. This is the one listed as the ETC run for the exposure. ACQ/PEAKXD with PSA takes 5.8 seconds for S/N=40.

Used model spectrum gmaur_lya2_x4.00_etc.txt in the ETC (COS.sa.1522540) in order to determine bright object safety. ACQ/PEAKXD with PSA has peak pixel rate of 5.943 counts per second and global rate of 2997.808, so it is safe.

This is the second of two ACQ/PEAKXD+ACQ/PEAKD used in order to improve the likelihood of a successful acquisition.

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
4	G230L PEAKD (COS.sa.1522538)	(1) V-GM-AUR	COS/NUV, ACQ/PEAKD, PSA	G230L 2950 A	CENTER=FLUX-WT-FLR; NUM-POS=5; STEP-SIZE=0.9			5.3 Secs (5.3 Secs) *[==>]*	***[1]***

Comments: Used model spectrum gmaur_lya2_etc.txt in the ETC (COS.sa.1522538) in order to determine exposure times. This is the one listed as the ETC run for the exposure. ACQ/PEAKD with PSA takes 5.3 seconds for S/N=40.

Used model spectrum gmaur_lya2_x4.00_etc.txt in the ETC (COS.sa.1522541) in order to determine bright object safety. ACQ/PEAKD with PSA has peak pixel rate of 5.943 counts per second and global rate of 2997.808, so it is safe.

This is the second of two ACQ/PEAKXD+ACQ/PEAKD used in order to improve the likelihood of a successful acquisition.

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
5	G230L 2950 (COS.sp.1522735)	(1) V-GM-AUR	COS/NUV, TIME-TAG, PSA	G230L 2950 A	FP-POS=4; BUFFER-TIME=524			184 Secs (184 Secs) *[==>]*	***[1]***

Comments: Used model spectrum gmaur_lya2_etc.txt in the ETC in order to determine exposure times (COS.sp.1522552). 362.4388 seconds to achieve S/N = 20 at 2825 A. This time is halved (= 181.2194 seconds) to account for the other G230L cenwave also observing this spectral feature.

The listed ETC Run # for this exposure (COS.sp.1522735) uses the expanded exposure time to fill the orbit (184 seconds). The G160M exposures received priority for Unused Orbital Visibility, so the increased exposure time here is minimal.

Used model spectrum gmaur_lya2_x4.00_etc.txt in the ETC (COS.sp.1522691) in order to determine bright object safety. Peak local rate of 5.943 counts per second and global rate of 2997.808, so it is safe. Buffer fill time = 786 seconds, and 2/3 of this is 524 seconds.

6	G230L 2635 (COS.sp.1522737)	(1) V-GM-AUR	COS/NUV, TIME-TAG, PSA	G230L 2635 A	FP-POS=1; BUFFER-TIME=448	184 Secs (184 Secs) [==>]		[1]

Comments: Used model spectrum gmaur_lya2_etc.txt in the ETC in order to determine exposure times (COS.sp.1522553). 364.1707 seconds to achieve S/N = 20 at 2825 A. This time is halved (= 182.08535 seconds) to account for the other G230L cenwave also observing this spectral feature.

The listed ETC Run # for this exposure (COS.sp.1522737) uses the expanded exposure time to fill the orbit (184 seconds). The G160M exposures received priority for Unused Orbital Visibility, so the increased exposure time here is minimal.

Used model spectrum gmaur_lya2_x4.00_etc.txt in the ETC (COS.sp.1522690) in order to determine bright object safety. Peak local rate of 5.927 counts per second and global rate of 2199.263, so it is safe. Buffer fill time = 672 seconds, and 2/3 of this is 448 seconds.

7	G160M 1589-3 (COS.sp.1522739)	(1) V-GM-AUR	COS/FUV, TIME-TAG, PSA	G160M 1589 A	FP-POS=3; BUFFER-TIME=2865	186 Secs (186 Secs) [==>]		[1]

Comments: Used model spectrum gmaur_lya2_etc.txt in the ETC in order to determine exposure times (COS.sp.1522544). 376.7304 seconds to achieve S/N = 30 at 1548.5 A. This time is quartered (= 94.1826 seconds) to account for both the other G160M cenwave and the two FP-POS settings per cenwave also observing this spectral feature.

The listed ETC Run # for this exposure (COS.sp.1522739) uses the expanded exposure time to fill the orbit (186 seconds). The G160M exposures received priority for Unused Orbital Visibility, so the increased exposure time here is significant compared to the G230L exposures.

Used model spectrum gmaur_lya2_x4.00_etc.txt in the ETC (COS.sp.1522682) in order to determine bright object safety. Peak local rate of 0.315 counts per second and global rate of 548.875, so it is safe. Buffer fill time = 4297 seconds, and 2/3 of this is 2864.667 seconds.

8	G160M 1589-4 (COS.sp.1522739)	(1) V-GM-AUR	COS/FUV, TIME-TAG, PSA	G160M 1589 A	FP-POS=4; BUFFER-TIME=2865	186 Secs (186 Secs) [==>]		[1]

Comments: Used model spectrum gmaur_lya2_etc.txt in the ETC in order to determine exposure times (COS.sp.1522544). 376.7304 seconds to achieve S/N = 30 at 1548.5 A. This time is quartered (= 94.1826 seconds) to account for both the other G160M cenwave and the two FP-POS settings per cenwave also observing this spectral feature.

The listed ETC Run # for this exposure (COS.sp.1522739) uses the expanded exposure time to fill the orbit (186 seconds). The G160M exposures received priority for Unused Orbital Visibility, so the increased exposure time here is significant compared to the G230L exposures.

Used model spectrum gmaur_lya2_x4.00_etc.txt in the ETC (COS.sp.1522682) in order to determine bright object safety. Peak local rate of 0.315 counts per second and global rate of 548.875, so it is safe. Buffer fill time = 4297 seconds, and 2/3 of this is 2864.667 seconds.

9	G160M 1623-1 (COS.sp.1522741)	(1) V-GM-AUR	COS/FUV, TIME-TAG, PSA	G160M 1623 A	FP-POS=1; BUFFER-TIME=3154	186 Secs (186 Secs) [==>]		[1]

Comments: Used model spectrum gmaur_lya2_etc.txt in the ETC in order to determine exposure times (COS.sp.1522545). 393.2034 seconds to achieve S/N = 30 at 1548.5 A. This time is quartered (= 98.30085 seconds) to account for both the other G160M cenwave and the two FP-POS settings per cenwave also observing this spectral feature.

The listed ETC Run # for this exposure (COS.sp.1522741) uses the expanded exposure time to fill the orbit (186 seconds). The G160M exposures received priority for Unused Orbital Visibility, so the increased exposure time here is significant compared to the G230L exposures.

Used model spectrum gmaur_lya2_x4.00_etc.txt in the ETC (COS.sp.1522683) in order to determine bright object safety. Peak local rate of 0.317 counts per second and global rate of 498.525, so it is safe. Buffer fill time = 4731 seconds, and 2/3 of this is 3154 seconds.

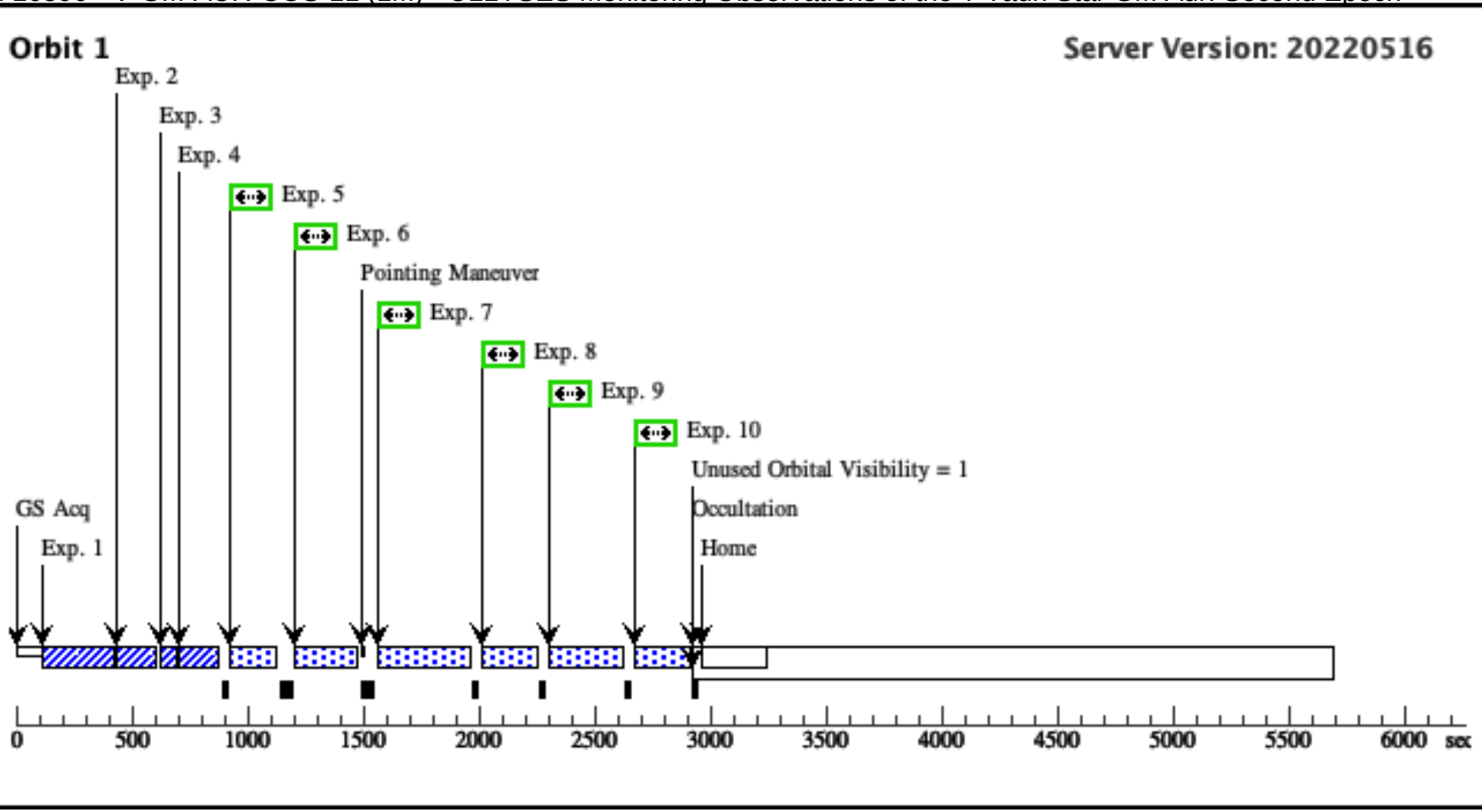
10	G160M 1623-2 (COS.sp.1522741)	(1) V-GM-AUR	COS/FUV, TIME-TAG, PSA	G160M 1623 A	FP-POS=2; BUFFER-TIME=3154	186 Secs (186 Secs) [==>]		[1]

Comments: Used model spectrum gmaur_lya2_etc.txt in the ETC in order to determine exposure times (COS.sp.1522545). 393.2034 seconds to achieve S/N = 30 at 1548.5 A. This time is quartered (= 98.30085 seconds) to account for both the other G160M cenwave and the two FP-POS settings per cenwave also observing this spectral feature.

The listed ETC Run # for this exposure (COS.sp.1522741) uses the expanded exposure time to fill the orbit (186 seconds). The G160M exposures received priority for Unused Orbital Visibility, so the increased exposure time here is significant compared to the G230L exposures.

Used model spectrum gmaur_lya2_x4.00_etc.txt in the ETC (COS.sp.1522683) in order to determine bright object safety. Peak local rate of 0.317 counts per second and global rate of 498.525, so it is safe. Buffer fill time = 4731 seconds, and 2/3 of this is 3154 seconds.

Orbit Structure



Visit

Proposal 16590, V-GM-AUR-COS-12 (1N), implementation Thu Jul 28 15:01:14 GMT 2022

Diagnostic Status: Warning

Scientific Instruments: COS/FUV, COS/NUV

Special Requirements: SCHED 100%; AFTER 1C BY 249.6 Orbits TO 257.8 Orbits; BETWEEN 26-NOV-2022 AND 23-DEC-2022

Comments: vstatus; 1N; V-GM-AUR; P/COS approved for submission; P/JRD 21/07/21 ; intrev: complete ; P/WF 26/7/21
vcheck; Enter targ name & Inst. & Resp. Sci.; GM Aur ; COS ; AH
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/monitor/16018/images/
vcheck; Selected ACQ strategy?; Double ACQ/PeakXD+ACQ/PeakD, G230L, S/N = 40
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
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 = 12

Diagnostics

(V-GM-AUR-COS-12 (1N)) Warning (Form): For the best data quality, it is generally required to use all four FP-POS positions when observing at a given COS cenwave. See the COS Instrument Handbook for exceptions that may apply to observations with G130M/1291 or G160M.

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	V-GM-AUR Alt Name1: 2MASS-J04551098+3021595 Alt Name2: HBC-77	RA: 04 55 10.9860 (73.7957750d) Dec: +30 21 59.00 (30.36639d) Equinox: J2000	Proper Motion RA: 3.012635677084487E-4 sec of time/yr Proper Motion Dec: -0.02445099994474731 arcsec/yr Epoch of Position: 2015.5	V=12.242 SpT=K3, U=14.59, B=13.35, V=12.24, R=11.80, G=11.70, J=9.34, H=8.60, K=8.28	Reference Frame: ICRS

Comments: tstatus; V-GM-AUR ; P/COS approved for submission; S/ins not started; P/JRD 21/07/21; S/xx DD/MM/YY
tcheck; APT/SIMBAD target names: ; V-GM-AUR ...
Default SIMBAD name is V GM Aur, aka 2MASS J04551098+3021595*
tcheck; Target info verification status?; OK ...
spectral type and magnitudes seem to be consistent
Flam(B) = 2.6e-10 at 4444 Angstroms and Flam(V) = 4.7e-10 at 5540 Angstroms from Vizier photometry viewer linked from SIMBAD
tcheck; Coordinates & P.M. verified, epoch checked?; OK ...
SIMBAD coordinates check out with what's here, SIMBAD PM values check out with what's here
tcheck; Adopted SED compared to Observations?; Yes ...
located at: box/ullyses_tech/ullyses_proposals/monitor/16018/seds/
Category=STAR
Description=[PRE-MAIN SEQUENCE STAR, T TAURI 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	G230L PEAKXD (COS.sa.1522537)	(1) V-GM-AUR	COS/NUV, ACQ/PEAKXD, PSA	G230L 2950 A	STRIPE=DEF			5.8 Secs (5.8 Secs) *[==>]*	***[1]***

Comments: Used model spectrum gmaur_lya2_etc.txt in the ETC (COS.sa.1522537) in order to determine exposure times. This is the one listed as the ETC run for the exposure. ACQ/PEAKXD with PSA takes 5.8 seconds for S/N=40.

Used model spectrum gmaur_lya2_x4.00_etc.txt in the ETC (COS.sa.1522540) in order to determine bright object safety. ACQ/PEAKXD with PSA has peak pixel rate of 5.943 counts per second and global rate of 2997.808, so it is safe.

This is the first of two ACQ/PEAKXD+ACQ/PEAKD used in order to improve the likelihood of a successful acquisition.

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
2	G230L PEAKD (COS.sa.1522538)	(1) V-GM-AUR	COS/NUV, ACQ/PEAKD, PSA	G230L 2950 A	CENTER=FLUX-WT-FLR; NUM-POS=5; STEP-SIZE=0.9			5.3 Secs (5.3 Secs) *[==>]*	***[1]***

Comments: Used model spectrum gmaur_lya2_etc.txt in the ETC (COS.sa.1522538) in order to determine exposure times. This is the one listed as the ETC run for the exposure. ACQ/PEAKD with PSA takes 5.3 seconds for S/N=40.

Used model spectrum gmaur_lya2_x4.00_etc.txt in the ETC (COS.sa.1522541) in order to determine bright object safety. ACQ/PEAKD with PSA has peak pixel rate of 5.943 counts per second and global rate of 2997.808, so it is safe.

This is the first of two ACQ/PEAKXD+ACQ/PEAKD used in order to improve the likelihood of a successful acquisition.

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
3	G230L PEAKXD (COS.sa.1522537)	(1) V-GM-AUR	COS/NUV, ACQ/PEAKXD, PSA	G230L 2950 A	STRIPE=DEF			5.8 Secs (5.8 Secs) *[==>]*	***[1]***

Comments: Used model spectrum gmaur_lya2_etc.txt in the ETC (COS.sa.1522537) in order to determine exposure times. This is the one listed as the ETC run for the exposure. ACQ/PEAKXD with PSA takes 5.8 seconds for S/N=40.

Used model spectrum gmaur_lya2_x4.00_etc.txt in the ETC (COS.sa.1522540) in order to determine bright object safety. ACQ/PEAKXD with PSA has peak pixel rate of 5.943 counts per second and global rate of 2997.808, so it is safe.

This is the second of two ACQ/PEAKXD+ACQ/PEAKD used in order to improve the likelihood of a successful acquisition.

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
4	G230L PEAKD (COS.sa.1522538)	(1) V-GM-AUR	COS/NUV, ACQ/PEAKD, PSA	G230L 2950 A	CENTER=FLUX-WT-FLR; NUM-POS=5; STEP-SIZE=0.9			5.3 Secs (5.3 Secs) *[==>]*	***[1]***

Comments: Used model spectrum gmaur_lya2_etc.txt in the ETC (COS.sa.1522538) in order to determine exposure times. This is the one listed as the ETC run for the exposure. ACQ/PEAKD with PSA takes 5.3 seconds for S/N=40.

Used model spectrum gmaur_lya2_x4.00_etc.txt in the ETC (COS.sa.1522541) in order to determine bright object safety. ACQ/PEAKD with PSA has peak pixel rate of 5.943 counts per second and global rate of 2997.808, so it is safe.

This is the second of two ACQ/PEAKXD+ACQ/PEAKD used in order to improve the likelihood of a successful acquisition.

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
5	G230L 2950 (COS.sp.1522735)	(1) V-GM-AUR	COS/NUV, TIME-TAG, PSA	G230L 2950 A	FP-POS=4; BUFFER-TIME=524			184 Secs (184 Secs) *[==>]*	***[1]***

Comments: Used model spectrum gmaur_lya2_etc.txt in the ETC in order to determine exposure times (COS.sp.1522552). 362.4388 seconds to achieve S/N = 20 at 2825 A. This time is halved (= 181.2194 seconds) to account for the other G230L cenwave also observing this spectral feature.

The listed ETC Run # for this exposure (COS.sp.1522735) uses the expanded exposure time to fill the orbit (184 seconds). The G160M exposures received priority for Unused Orbital Visibility, so the increased exposure time here is minimal.

Used model spectrum gmaur_lya2_x4.00_etc.txt in the ETC (COS.sp.1522691) in order to determine bright object safety. Peak local rate of 5.943 counts per second and global rate of 2997.808, so it is safe. Buffer fill time = 786 seconds, and 2/3 of this is 524 seconds.

6	G230L 2635 (COS.sp.1522737)	(1) V-GM-AUR	COS/NUV, TIME-TAG, PSA	G230L 2635 A	FP-POS=1; BUFFER-TIME=448	184 Secs (184 Secs) [==>]		[1]

Comments: Used model spectrum gmaur_lya2_etc.txt in the ETC in order to determine exposure times (COS.sp.1522553). 364.1707 seconds to achieve S/N = 20 at 2825 A. This time is halved (= 182.08535 seconds) to account for the other G230L cenwave also observing this spectral feature.

The listed ETC Run # for this exposure (COS.sp.1522737) uses the expanded exposure time to fill the orbit (184 seconds). The G160M exposures received priority for Unused Orbital Visibility, so the increased exposure time here is minimal.

Used model spectrum gmaur_lya2_x4.00_etc.txt in the ETC (COS.sp.1522690) in order to determine bright object safety. Peak local rate of 5.927 counts per second and global rate of 2199.263, so it is safe. Buffer fill time = 672 seconds, and 2/3 of this is 448 seconds.

7	G160M 1589-3 (COS.sp.1522739)	(1) V-GM-AUR	COS/FUV, TIME-TAG, PSA	G160M 1589 A	FP-POS=3; BUFFER-TIME=2865	186 Secs (186 Secs) [==>]		[1]

Comments: Used model spectrum gmaur_lya2_etc.txt in the ETC in order to determine exposure times (COS.sp.1522544). 376.7304 seconds to achieve S/N = 30 at 1548.5 A. This time is quartered (= 94.1826 seconds) to account for both the other G160M cenwave and the two FP-POS settings per cenwave also observing this spectral feature.

The listed ETC Run # for this exposure (COS.sp.1522739) uses the expanded exposure time to fill the orbit (186 seconds). The G160M exposures received priority for Unused Orbital Visibility, so the increased exposure time here is significant compared to the G230L exposures.

Used model spectrum gmaur_lya2_x4.00_etc.txt in the ETC (COS.sp.1522682) in order to determine bright object safety. Peak local rate of 0.315 counts per second and global rate of 548.875, so it is safe. Buffer fill time = 4297 seconds, and 2/3 of this is 2864.667 seconds.

8	G160M 1589-4 (COS.sp.1522739)	(1) V-GM-AUR	COS/FUV, TIME-TAG, PSA	G160M 1589 A	FP-POS=4; BUFFER-TIME=2865	186 Secs (186 Secs) [==>]		[1]

Comments: Used model spectrum gmaur_lya2_etc.txt in the ETC in order to determine exposure times (COS.sp.1522544). 376.7304 seconds to achieve S/N = 30 at 1548.5 A. This time is quartered (= 94.1826 seconds) to account for both the other G160M cenwave and the two FP-POS settings per cenwave also observing this spectral feature.

The listed ETC Run # for this exposure (COS.sp.1522739) uses the expanded exposure time to fill the orbit (186 seconds). The G160M exposures received priority for Unused Orbital Visibility, so the increased exposure time here is significant compared to the G230L exposures.

Used model spectrum gmaur_lya2_x4.00_etc.txt in the ETC (COS.sp.1522682) in order to determine bright object safety. Peak local rate of 0.315 counts per second and global rate of 548.875, so it is safe. Buffer fill time = 4297 seconds, and 2/3 of this is 2864.667 seconds.

9	G160M 1623-1 (COS.sp.1522741)	(1) V-GM-AUR	COS/FUV, TIME-TAG, PSA	G160M 1623 A	FP-POS=1; BUFFER-TIME=3154	186 Secs (186 Secs) [==>]		[1]

Comments: Used model spectrum gmaur_lya2_etc.txt in the ETC in order to determine exposure times (COS.sp.1522545). 393.2034 seconds to achieve S/N = 30 at 1548.5 A. This time is quartered (= 98.30085 seconds) to account for both the other G160M cenwave and the two FP-POS settings per cenwave also observing this spectral feature.

The listed ETC Run # for this exposure (COS.sp.1522741) uses the expanded exposure time to fill the orbit (186 seconds). The G160M exposures received priority for Unused Orbital Visibility, so the increased exposure time here is significant compared to the G230L exposures.

Used model spectrum gmaur_lya2_x4.00_etc.txt in the ETC (COS.sp.1522683) in order to determine bright object safety. Peak local rate of 0.317 counts per second and global rate of 498.525, so it is safe. Buffer fill time = 4731 seconds, and 2/3 of this is 3154 seconds.

10	G160M 1623-2 (COS.sp.1522741)	(1) V-GM-AUR	COS/FUV, TIME-TAG, PSA	G160M 1623 A	FP-POS=2; BUFFER-TIME=3154	186 Secs (186 Secs) [==>]		[1]

Comments: Used model spectrum gmaur_lya2_etc.txt in the ETC in order to determine exposure times (COS.sp.1522545). 393.2034 seconds to achieve S/N = 30 at 1548.5 A. This time is quartered (= 98.30085 seconds) to account for both the other G160M cenwave and the two FP-POS settings per cenwave also observing this spectral feature.

The listed ETC Run # for this exposure (COS.sp.1522741) uses the expanded exposure time to fill the orbit (186 seconds). The G160M exposures received priority for Unused Orbital Visibility, so the increased exposure time here is significant compared to the G230L exposures.

Used model spectrum gmaur_lya2_x4.00_etc.txt in the ETC (COS.sp.1522683) in order to determine bright object safety. Peak local rate of 0.317 counts per second and global rate of 498.525, so it is safe. Buffer fill time = 4731 seconds, and 2/3 of this is 3154 seconds.

Orbit Structure