17576 - The Rossby Conundrum

Cycle: 31, Proposal Category: GO

(Availability Mode: AVAILABLE)

INVESTIGATORS

Name	*Institution*
Dr. Thomas R. Ayres (PI) (Contact)	**University of Colorado at Boulder**

VISITS

Visit	*Targets used in Visit*	*Configurations used in Visit*	*Orbits Used*	*Last Orbit Planner Run*	*OP Current with Visit?*
01	(1) HD-285773	COS/FUV COS/NUV	1	22-Feb-2024 07:00:29.0	yes
51	(1) HD-285773	COS/FUV COS/NUV	1	22-Feb-2024 07:00:30.0	yes
02	(2) HD-29159	COS/FUV COS/NUV	1	22-Feb-2024 07:00:30.0	yes
03	(3) HD-284930	COS/FUV COS/NUV	1	22-Feb-2024 07:00:31.0	yes
53	(3) HD-284930	COS/FUV COS/NUV	1	22-Feb-2024 07:00:32.0	yes
04	(4) HD-284653	COS/FUV COS/NUV	1	22-Feb-2024 07:00:32.0	yes
05	(5) HD-284552	COS/FUV COS/NUV	1	22-Feb-2024 07:00:33.0	yes

Visit	*Targets used in Visit*	*Configurations used in Visit*	*Orbits Used*	*Last Orbit Planner Run*	*OP Current with Visit?*
06	(6) HD-286085	COS/FUV COS/NUV	1	22-Feb-2024 07:00:34.0	yes
07	(7) HD-285804	COS/FUV COS/NUV	1	22-Feb-2024 07:00:34.0	yes
08	(8) HD-28878	COS/FUV COS/NUV	1	22-Feb-2024 07:00:35.0	yes
58	(8) HD-28878	COS/FUV COS/NUV	1	22-Feb-2024 07:00:35.0	yes
09	(9) HD-28977	COS/FUV COS/NUV	1	22-Feb-2024 07:00:36.0	yes
10	(10) HD-284785	COS/FUV COS/NUV	1	22-Feb-2024 07:00:37.0	yes

13 Total Orbits Used

ABSTRACT

(This is the HST part of a joint Chandra/HST program: the Chandra proposal abstract follows).

Key goal of cool-star astrophysics: link high-energy XUV surface emission to the dynamo that generates magnetic flux deep inside a star. In the 1980s, the Rossby number (Ro) -- ratio of rotation period to a convective timescale -- unified Ca II chromospheric fluxes over a broad span of main sequence spectral types. Encouraging, because Ro plays a central role in terrestrial and stellar dynamo theories. A recent attempt to achieve a similar unification at high energies was faced with a quandary: large dispersion and missing data in the K types. New joint Chandra/HST observations of K dwarfs in the young Hyades cluster could help resolve the conundrum. Testing the Ro framework is a crucial step toward unraveling the enigmatic dynamo.

OBSERVING DESCRIPTION

The "Rossby Conundrum" refers to a recent study, by Ayres & Buzasi (2022), that derived empirical convective turn-over time scales for a carefully-selected sample of stars with known rotation periods and existing FUV and X-ray observations. (The Rossby number, Ro, is a ratio of the rotation

period to the turn-over time, and plays a key role in magnetic dynamo theories not only for stars, but also terrestrial planets with liquid interiors.) The FUV and X-ray measurements were combined into a hybrid "XUV" flux that was intended to represent the radiative cooling of the corona, and thus is a proxy of the heating by magnetic reconnection in surface active regions. The Ro ratio was known to tighten up correlations of chromospheric CaII emission, which displayed a spectral-type-dependent spread when compared to rotation periods alone. The hope was that the XUV flux would display a tight relationship with Ro, demonstrating a deeper connection between Ro and the dynamo. In practice, the correlation was expressed in terms of empirical turn-over times, which were compared with existing stellar-structure modeling. While there was good agreement with the theory for the Sunlike G2-G8 stars, there was a larger dispersion in the later, K-types, as well as a few gaps in the temperature coverage. (There also was another conspicuous missing-data gap among the warmer F-type stars, which is the subject of a companion HST/Chandra investigation.) The Rossby "Conundrum" is whether the dispersion seen among the existing sample of K dwarfs is a result of limited statistics or instead might be signaling the existence of a hidden parameter governing the association between the stellar Rossby number and the dynamo.

To address the Rossby conundrum among the cooler objects, one needs a collection of single dwarf stars (given the more advanced state of dynamo modeling on the main sequence, especially the Sun), which have similar fundamental properties, such as age and chemical composition, differing mainly in surface temperature. The latter controls the convective properties and thus the turnover time. The targets should have well-determined rotation periods, ideally via photometry (avoiding the inclination ambiguity of spectroscopic velocities); and be accessible in the X-rays and FUV, to derive the crucial XUV metric. Such homogenous stellar samples can be found in nearby young Galactic clusters. The 650 Myr Hyades, in particular, is close enough (47 pc) to have K dwarfs that can be captured by Chandra at high energies, and by HST in the FUV. (The more distant Pleiades cluster is a less-favorable option because its K dwarfs are 8x fainter.) Further, Kepler K2 yielded uniformly and accurately measured photometric rotational periods for many of the fainter Hyades K dwarfs; while Gaia DR3 provides reliable distances, colors, broad-band magnitudes, and radial velocities. After carefully vetting candidates from a recent catalog, just ten fell in the key Teff range needed to fill existing gaps in the turn-over time diagram, and bolster statistics where the dispersion is large. The proposed targets have PROT= 9-13 d, and appear to be single by virtue of H-R diagram position and infrared K-band speckle imaging.

Cosmic Origins Spectrograph is the best choice for FUV spectroscopy of faint objects like the Hyades K dwarfs. COS can achieve full-coverage FUV spectra (i.e., C III 117 nm to He II 164 nm) by combining two medium-resolution settings, G130M-1222 and G160M-1533 (low-res grating COS G140L misses important Si III 120 nm and N V 123+124 nm). The G130M-1222 detector gap excludes H I 121 nm Ly-alpha, so there are no safety concerns. This simple combination is optimum for the relatively faint Hyades K dwarfs. The two COS CENWAVEs can be accommodated in a single orbit per star. The NUV imaging target acquisition is suitable for the Hyades V-magnitude range. Time-Tag is the default exposure mode, and is helpful to identify any transient flare events (although expected to be uncommon for Hyades activity levels).

The NUV imaging target acquisition can be done for the brighter targets with Mirror-A and the BOA; the intermediate brightness, cooler targets can be done with Mirror-B and the PSA; and the faintest, latest target can utilize Mirror-A and the PSA.

In one orbit, accounting for overheads, about 1 ks of exposure is available for each CENWAVE (2 ks total in the 2 nm overlap between them).

These targets are faint in the FUV, so it is beneficial to deploy only 2 of the default 4 FP-POS splits for each setting. FP-POS 1+2 are used with M-1222 to fully capture Si III 120 nm; FP-POS 3+4 are used with M-1533 to fully record the Fe II 134 nm + Fe XXI 135 nm region. Restricting the FP-POSs yields 25% more exposure time: the S/N will not be high enough to make best use of the fixed-pattern mitigation delivered by the full complement of FP-POS splits in any case.

The M-1533 exposures can be done at Lifetime Position 4 (instead of LP6 with its high-overhead lamp-flash calibrations) because the duration of each visit is a single orbit.

Visit

Proposal 17576, Visit 01, failed Thu Feb 22 12:00:37 GMT 2024

Diagnostic Status: Warning

Scientific Instruments: COS/FUV, COS/NUV

Special Requirements: (none)

Diagnostics

(Visit 01) 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.

Fixed Targets

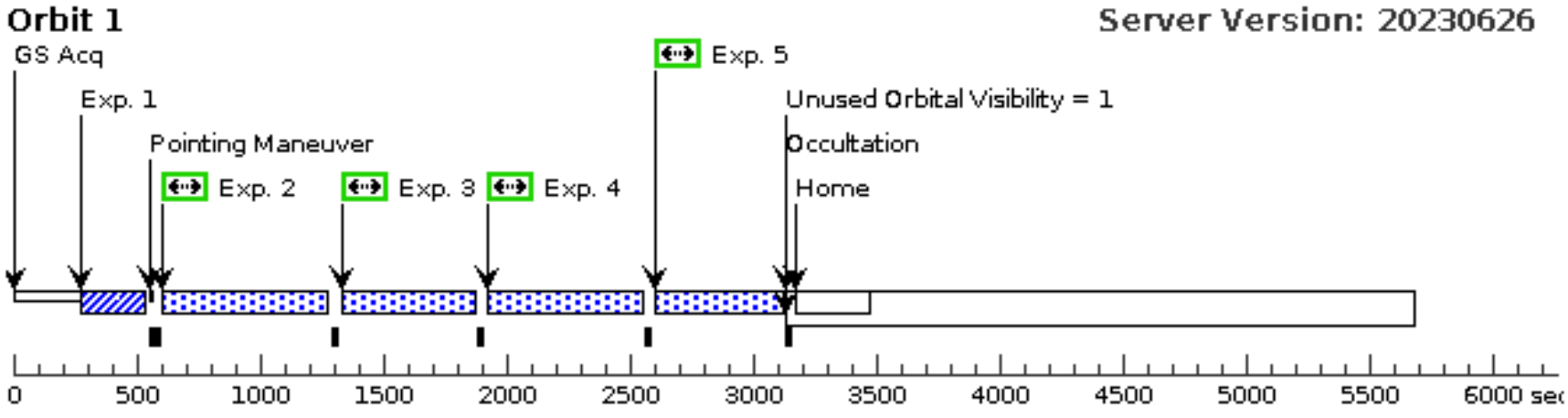
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	HD-285773	RA: 04 29 31.6064 (67.3816933d) Dec: +17 53 35.46 (17.89318d) Equinox: J2000	Proper Motion RA: +107.652 mas/yr Proper Motion Dec: -32.964 mas/yr Parallax: 0.02200" Epoch of Position: 2000 Radial Velocity: +39.9 km/sec	V=8.934+/-0.01 G9V (K0V), G= 8.741, bp-rp= 0.983	Reference Frame: ICRS

Comments: In "Other Fluxes," leading value is (preferred) Spectral Type from Gaia (bp-rp); parenthetical value is from SIMBAD.
Category=STAR
Description=[G V-IV]
Extended=NO

Exposures

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	(COS.ta.1888145)	(1) HD-285773	COS/NUV, ACQ/IMAGE, BOA	MIRRORA				18 Secs (18 Secs) *[==>]*	***[1]***
Comments: Castelli-Kurucz Models G8V 5500 4.5; Renormalized to vegamag = 8.9 in filter Johnson/V: texp= 15 s (COS.ta.1888145) *Castelli-Kurucz Models K0V 5250 4.5; Renormalized to vegamag = 8.9 in filter Johnson/V: texp= 21 s (COS.ta.1888147)* *ave= 18 s*									
2	(COS.sp.1888105)	(1) HD-285773	COS/FUV, TIME-TAG, PSA	G130M 1222 A	BUFFER-TIME=9500; FP-POS=1; LIFETIME-POS=LP4			484 Secs (484 Secs) *[==>]*	***[1]***
Comments: ETC spectral simulations: Epsilon Eri (K2V), Prot= 12d (same as Hyads: 9-13 d), scaled from 3.23 pc to mean distance of targets, 47.6 pc.									
3	(COS.sp.1888105)	(1) HD-285773	COS/FUV, TIME-TAG, PSA	G130M 1222 A	BUFFER-TIME=9500; FP-POS=2; LIFETIME-POS=LP4			484 Secs (484 Secs) *[==>]*	***[1]***
Comments: ETC spectral simulations: Epsilon Eri (K2V), Prot= 12d (same as Hyads: 9-13 d), scaled from 3.23 pc to mean distance of targets, 47.6 pc.									
4	(COS.sp.1888106)	(1) HD-285773	COS/FUV, TIME-TAG, PSA	G160M 1533 A	BUFFER-TIME=10500; FP-POS=3; LIFETIME-POS=LP4			465 Secs (465 Secs) *[==>]*	***[1]***
Comments: ETC spectral simulations: Epsilon Eri (K2V), Prot= 12d (same as Hyads: 9-13 d), scaled from 3.23 pc to mean distance of targets, 47.6 pc.									
5	(COS.sp.1888106)	(1) HD-285773	COS/FUV, TIME-TAG, PSA	G160M 1533 A	BUFFER-TIME=10500; FP-POS=4; LIFETIME-POS=LP4			465 Secs (465 Secs) *[==>]*	***[1]***
Comments: ETC spectral simulations: Epsilon Eri (K2V), Prot= 12d (same as Hyads: 9-13 d), scaled from 3.23 pc to mean distance of targets, 47.6 pc.									

Orbit Structure



Visit

Proposal 17576, Visit 51, completed Thu Feb 22 12:00:38 GMT 2024

Diagnostic Status: Warning

Scientific Instruments: COS/FUV, COS/NUV

Special Requirements: (none)

Comments: HOPR repeat of visit 1

Diagnostics

(Visit 51) 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.

Fixed Targets

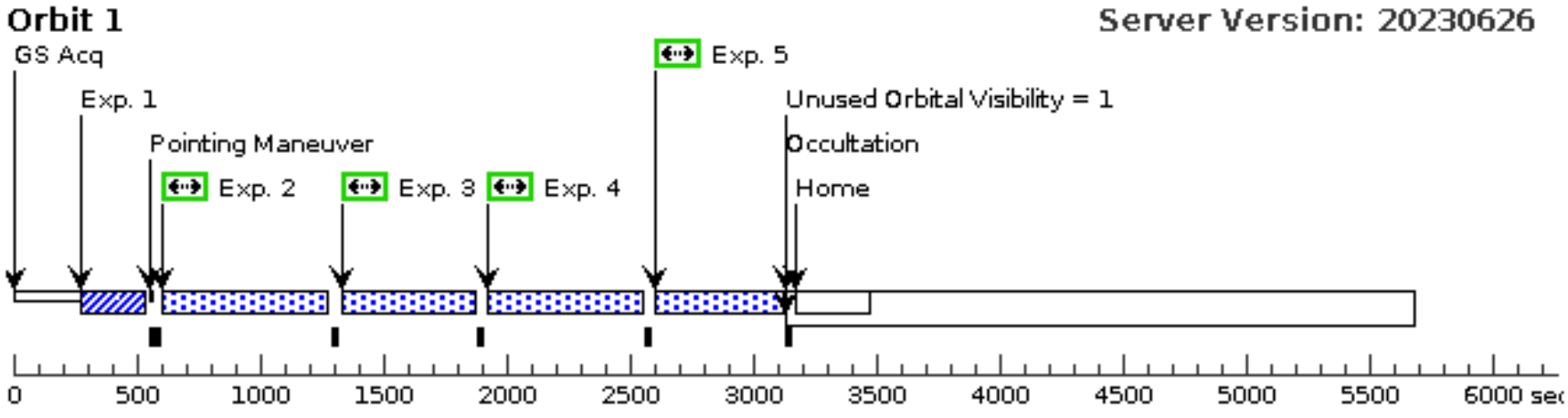
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	HD-285773	RA: 04 29 31.6064 (67.3816933d) Dec: +17 53 35.46 (17.89318d) Equinox: J2000	Proper Motion RA: +107.652 mas/yr Proper Motion Dec: -32.964 mas/yr Parallax: 0.02200" Epoch of Position: 2000 Radial Velocity: +39.9 km/sec	V=8.934+/-0.01 G9V (K0V), G= 8.741, bp-rp= 0.983	Reference Frame: ICRS

Comments: In "Other Fluxes," leading value is (preferred) Spectral Type from Gaia (bp-rp); parenthetical value is from SIMBAD.
Category=STAR
Description=[G V-IV]
Extended=NO

Exposures

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	(COS.ta.1888145)	(1) HD-285773	COS/NUV, ACQ/IMAGE, BOA	MIRRORA				18 Secs (18 Secs) *[==>]*	***[1]***
Comments: Castelli-Kurucz Models G8V 5500 4.5; Renormalized to vegamag = 8.9 in filter Johnson/V: texp= 15 s (COS.ta.1888145) *Castelli-Kurucz Models K0V 5250 4.5; Renormalized to vegamag = 8.9 in filter Johnson/V: texp= 21 s (COS.ta.1888147)* *ave= 18 s*									
2	(COS.sp.1888105)	(1) HD-285773	COS/FUV, TIME-TAG, PSA	G130M 1222 A	BUFFER-TIME=9500; FP-POS=1; LIFETIME-POS=LP4			484 Secs (484 Secs) *[==>]*	***[1]***
Comments: ETC spectral simulations: Epsilon Eri (K2V), Prot= 12d (same as Hyads: 9-13 d), scaled from 3.23 pc to mean distance of targets, 47.6 pc.									
3	(COS.sp.1888105)	(1) HD-285773	COS/FUV, TIME-TAG, PSA	G130M 1222 A	BUFFER-TIME=9500; FP-POS=2; LIFETIME-POS=LP4			484 Secs (484 Secs) *[==>]*	***[1]***
Comments: ETC spectral simulations: Epsilon Eri (K2V), Prot= 12d (same as Hyads: 9-13 d), scaled from 3.23 pc to mean distance of targets, 47.6 pc.									
4	(COS.sp.1888106)	(1) HD-285773	COS/FUV, TIME-TAG, PSA	G160M 1533 A	BUFFER-TIME=10500; FP-POS=3; LIFETIME-POS=LP4			465 Secs (465 Secs) *[==>]*	***[1]***
Comments: ETC spectral simulations: Epsilon Eri (K2V), Prot= 12d (same as Hyads: 9-13 d), scaled from 3.23 pc to mean distance of targets, 47.6 pc.									
5	(COS.sp.1888106)	(1) HD-285773	COS/FUV, TIME-TAG, PSA	G160M 1533 A	BUFFER-TIME=10500; FP-POS=4; LIFETIME-POS=LP4			465 Secs (465 Secs) *[==>]*	***[1]***
Comments: ETC spectral simulations: Epsilon Eri (K2V), Prot= 12d (same as Hyads: 9-13 d), scaled from 3.23 pc to mean distance of targets, 47.6 pc.									

Orbit Structure



Visit

Proposal 17576, Visit 02, completed Thu Feb 22 12:00:38 GMT 2024

Diagnostic Status: Warning

Scientific Instruments: COS/FUV, COS/NUV

Special Requirements: (none)

Diagnostics

(Visit 02) 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.

Fixed Targets

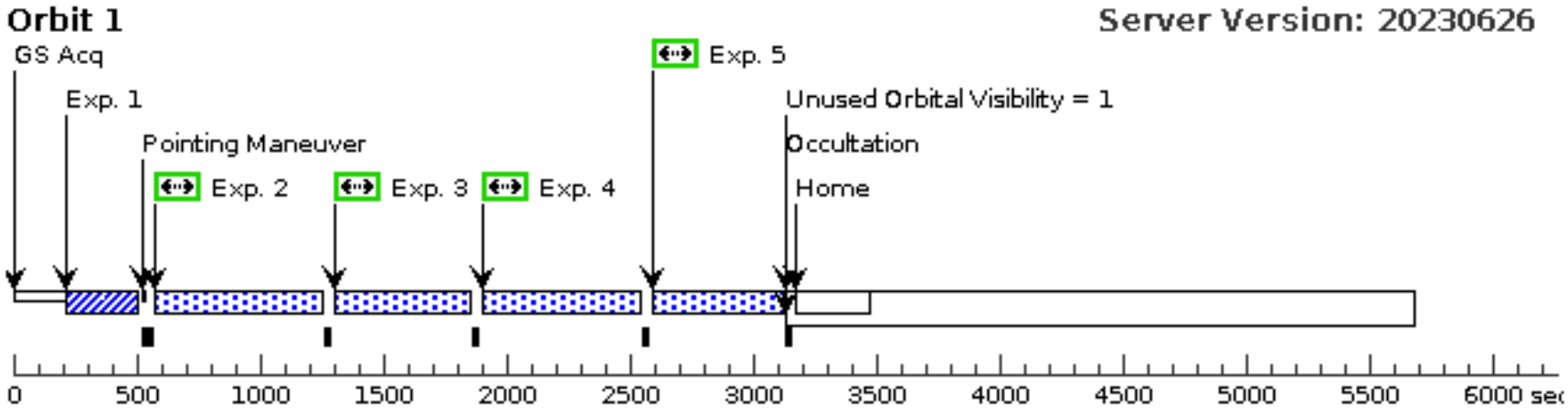
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(2)	HD-29159	RA: 04 36 5.2674 (69.0219475d) Dec: +15 41 2.42 (15.68401d) Equinox: J2000	Proper Motion RA: +95.399 mas/yr Proper Motion Dec: -24.022 mas/yr Parallax: 0.01999" Epoch of Position: 2000 Radial Velocity: +40.6 km/sec	V=9.345+/-0.01 K0V (K0V), G= 9.143, bp-rp= 1.028	Reference Frame: ICRS

Comments: In "Other Fluxes," leading value is (preferred) Spectral Type from Gaia (bp-rp); parenthetical value is from SIMBAD.
Category=STAR
Description=[K V-IV]
Extended=NO

Exposures

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	(COS.ta.1888146)	(2) HD-29159	COS/NUV, ACQ/IMAGE, PSA	MIRRORB				2 Secs (2 Secs) *[==>]*	*[1]*
Comments: Castelli-Kurucz Models K0V 5250 4.5; Renormalized to vegamag = 9.4 in filter Johnson/V									
2	(COS.sp.1888105)	(2) HD-29159	COS/FUV, TIME-TAG, PSA	G130M 1222 A	BUFFER-TIME=9500; FP-POS=1; LIFETIME-POS=LP4			493 Secs (493 Secs) *[==>]*	*[1]*
Comments: ETC spectral simulations: Epsilon Eri (K2V), Prot= 12d (same as Hyads: 9-13 d), scaled from 3.23 pc to mean distance of targets, 47.6 pc.									
3	(COS.sp.1888105)	(2) HD-29159	COS/FUV, TIME-TAG, PSA	G130M 1222 A	BUFFER-TIME=9500; FP-POS=2; LIFETIME-POS=LP4			493 Secs (493 Secs) *[==>]*	*[1]*
Comments: ETC spectral simulations: Epsilon Eri (K2V), Prot= 12d (same as Hyads: 9-13 d), scaled from 3.23 pc to mean distance of targets, 47.6 pc.									
4	(COS.sp.1888106)	(2) HD-29159	COS/FUV, TIME-TAG, PSA	G160M 1533 A	BUFFER-TIME=10500; FP-POS=3; LIFETIME-POS=LP4			475 Secs (475 Secs) *[==>]*	*[1]*
Comments: ETC spectral simulations: Epsilon Eri (K2V), Prot= 12d (same as Hyads: 9-13 d), scaled from 3.23 pc to mean distance of targets, 47.6 pc.									
5	(COS.sp.1888106)	(2) HD-29159	COS/FUV, TIME-TAG, PSA	G160M 1533 A	BUFFER-TIME=10500; FP-POS=4; LIFETIME-POS=LP4			475 Secs (475 Secs) *[==>]*	*[1]*
Comments: ETC spectral simulations: Epsilon Eri (K2V), Prot= 12d (same as Hyads: 9-13 d), scaled from 3.23 pc to mean distance of targets, 47.6 pc.									

Orbit Structure



Visit

Proposal 17576, Visit 03, failed Thu Feb 22 12:00:38 GMT 2024

Diagnostic Status: Warning

Scientific Instruments: COS/FUV, COS/NUV

Special Requirements: (none)

Diagnostics

(Visit 03) 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.

Fixed Targets

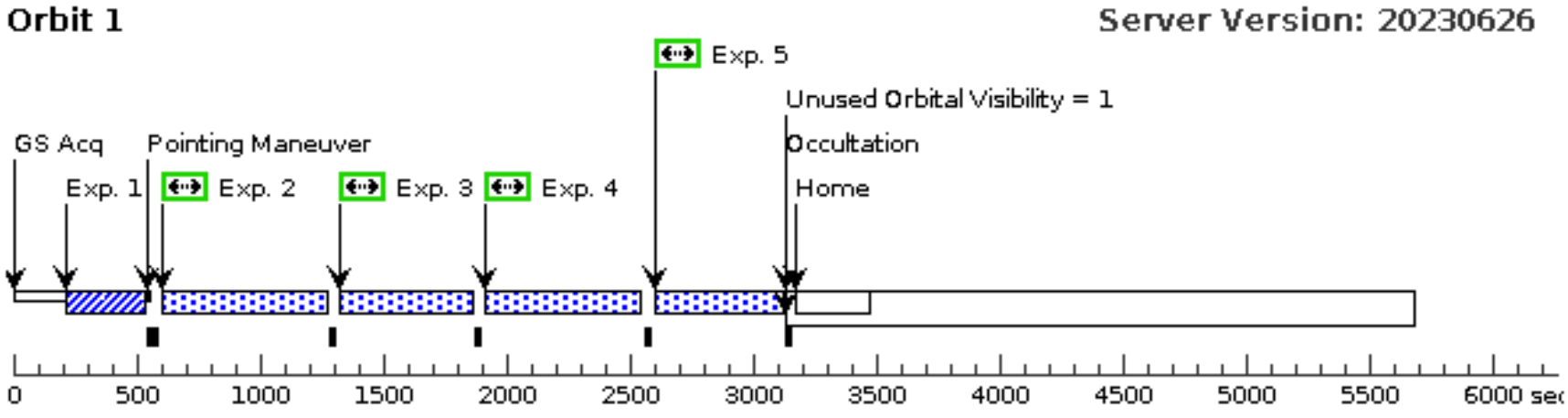
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(3)	HD-284930	RA: 04 52 23.5315 (73.0980479d) Dec: +18 59 48.87 (18.99691d) Equinox: J2000	Proper Motion RA: +79.166 mas/yr Proper Motion Dec: -35.233 mas/yr Parallax: 0.01972" Epoch of Position: 2000 Radial Velocity: +41.7 km/sec	V=10.28+/-0.01 K5V (K0V), G= 9.937, bp-rp= 1.271	Reference Frame: ICRS

Comments: In "Other Fluxes," leading value is (preferred) Spectral Type from Gaia (bp-rp); parenthetical value is from SIMBAD.
Category=STAR
Description=[K V-IV]
Extended=NO

Exposures

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	(COS.ta.1888148)	(3) HD-284930	COS/NUV, ACQ/IMAGE, PSA	MIRRORB				15 Secs (15 Secs) *[==>]*	*[1]*
Comments: Castelli-Kurucz Models K5V 4250 4.5; Renormalized to vegamag = 10.3 in filter Johnson/V									
2	(COS.sp.1888105)	(3) HD-284930	COS/FUV, TIME-TAG, PSA	G130M 1222 A	BUFFER-TIME=9500; FP-POS=1; LIFETIME-POS=LP4			487 Secs (487 Secs) *[==>]*	*[1]*
Comments: ETC spectral simulations: Epsilon Eri (K2V), Prot= 12d (same as Hyads: 9-13 d), scaled from 3.23 pc to mean distance of targets, 47.6 pc.									
3	(COS.sp.1888105)	(3) HD-284930	COS/FUV, TIME-TAG, PSA	G130M 1222 A	BUFFER-TIME=9500; FP-POS=2; LIFETIME-POS=LP4			487 Secs (487 Secs) *[==>]*	*[1]*
Comments: ETC spectral simulations: Epsilon Eri (K2V), Prot= 12d (same as Hyads: 9-13 d), scaled from 3.23 pc to mean distance of targets, 47.6 pc.									
4	(COS.sp.1888106)	(3) HD-284930	COS/FUV, TIME-TAG, PSA	G160M 1533 A	BUFFER-TIME=10500; FP-POS=3; LIFETIME-POS=LP4			468 Secs (468 Secs) *[==>]*	*[1]*
Comments: ETC spectral simulations: Epsilon Eri (K2V), Prot= 12d (same as Hyads: 9-13 d), scaled from 3.23 pc to mean distance of targets, 47.6 pc.									
5	(COS.sp.1888106)	(3) HD-284930	COS/FUV, TIME-TAG, PSA	G160M 1533 A	BUFFER-TIME=10500; FP-POS=4; LIFETIME-POS=LP4			468 Secs (468 Secs) *[==>]*	*[1]*
Comments: ETC spectral simulations: Epsilon Eri (K2V), Prot= 12d (same as Hyads: 9-13 d), scaled from 3.23 pc to mean distance of targets, 47.6 pc.									

Orbit Structure



Visit

Proposal 17576, Visit 53 Thu Feb 22 12:00:38 GMT 2024

Diagnostic Status: Warning

Scientific Instruments: COS/FUV, COS/NUV

Special Requirements: (none)

Comments: HOPR repeat of visit 3

Diagnostics

(Visit 53) 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.

Fixed Targets

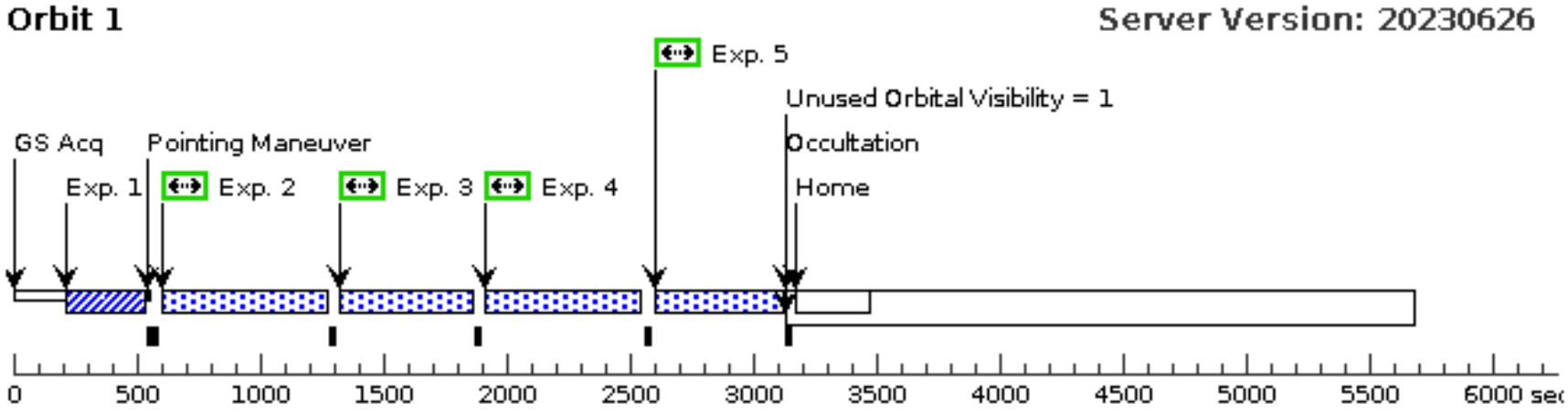
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(3)	HD-284930	RA: 04 52 23.5315 (73.0980479d) Dec: +18 59 48.87 (18.99691d) Equinox: J2000	Proper Motion RA: +79.166 mas/yr Proper Motion Dec: -35.233 mas/yr Parallax: 0.01972" Epoch of Position: 2000 Radial Velocity: +41.7 km/sec	V=10.28+/-0.01 K5V (K0V), G= 9.937, bp-rp= 1.271	Reference Frame: ICRS

Comments: In "Other Fluxes," leading value is (preferred) Spectral Type from Gaia (bp-rp); parenthetical value is from SIMBAD.
Category=STAR
Description=[K V-IV]
Extended=NO

Exposures

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	(COS.ta.188 8148)	(3) HD-284930	COS/NUV, ACQ/IMAGE, PSA	MIRRORB				15 Secs (15 Secs) *[==>]*	*[1]*
Comments: Castelli-Kurucz Models K5V 4250 4.5; Renormalized to vegamag = 10.3 in filter Johnson/V									
2	(COS.sp.188 8105)	(3) HD-284930	COS/FUV, TIME-TAG, PSA	G130M 1222 A	BUFFER-TIME=9500; FP-POS=1; LIFETIME-POS=LP4			487 Secs (487 Secs) *[==>]*	*[1]*
Comments: ETC spectral simulations: Epsilon Eri (K2V), Prot= 12d (same as Hyads: 9-13 d), scaled from 3.23 pc to mean distance of targets, 47.6 pc.									
3	(COS.sp.188 8105)	(3) HD-284930	COS/FUV, TIME-TAG, PSA	G130M 1222 A	BUFFER-TIME=9500; FP-POS=2; LIFETIME-POS=LP4			487 Secs (487 Secs) *[==>]*	*[1]*
Comments: ETC spectral simulations: Epsilon Eri (K2V), Prot= 12d (same as Hyads: 9-13 d), scaled from 3.23 pc to mean distance of targets, 47.6 pc.									
4	(COS.sp.188 8106)	(3) HD-284930	COS/FUV, TIME-TAG, PSA	G160M 1533 A	BUFFER-TIME=10500; FP-POS=3; LIFETIME-POS=LP4			468 Secs (468 Secs) *[==>]*	*[1]*
Comments: ETC spectral simulations: Epsilon Eri (K2V), Prot= 12d (same as Hyads: 9-13 d), scaled from 3.23 pc to mean distance of targets, 47.6 pc.									
5	(COS.sp.188 8106)	(3) HD-284930	COS/FUV, TIME-TAG, PSA	G160M 1533 A	BUFFER-TIME=10500; FP-POS=4; LIFETIME-POS=LP4			468 Secs (468 Secs) *[==>]*	*[1]*
Comments: ETC spectral simulations: Epsilon Eri (K2V), Prot= 12d (same as Hyads: 9-13 d), scaled from 3.23 pc to mean distance of targets, 47.6 pc.									

Orbit Structure



Visit

Proposal 17576, Visit 04, scheduled Thu Feb 22 12:00:38 GMT 2024

Diagnostic Status: Warning

Scientific Instruments: COS/FUV, COS/NUV

Special Requirements: (none)

Diagnostics

(Visit 04) 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.

Fixed Targets

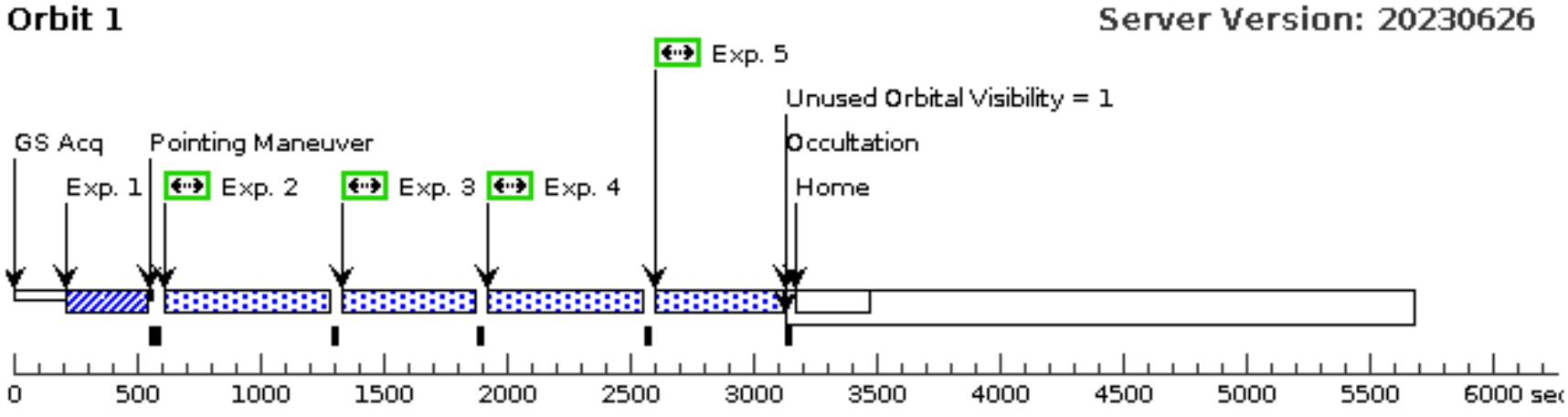
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(4)	HD-284653	RA: 04 47 26.1881 (71.8591171d) Dec: +23 03 3.32 (23.05092d) Equinox: J2000	Proper Motion RA: +78.828 mas/yr Proper Motion Dec: -41.275 mas/yr Parallax: 0.01824" Epoch of Position: 2000 Radial Velocity: +40.6 km/sec	V=10.674+/-0.01 K5V (K4V), G= 10.303, bp-rp= 1.334	Reference Frame: ICRS

Comments: In "Other Fluxes," leading value is (preferred) Spectral Type from Gaia (bp-rp); parenthetical value is from SIMBAD.
Category=STAR
Description=[K V-IV]
Extended=NO

Exposures

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	(COS.ta.1888149)	(4) HD-284653	COS/NUV, ACQ/IMAGE, PSA	MIRRORB				21 Secs (21 Secs) *[==>]*	***[1]***
Comments: Castelli-Kurucz Models K5V 4250 4.5; Renormalized to vegamag = 10.7 in filter Johnson/V									
2	(COS.sp.1888105)	(4) HD-284653	COS/FUV, TIME-TAG, PSA	G130M 1222 A	BUFFER-TIME=9500; FP-POS=1; LIFETIME-POS=LP4			484 Secs (484 Secs) *[==>]*	***[1]***
Comments: ETC spectral simulations: Epsilon Eri (K2V), Prot= 12d (same as Hyads: 9-13 d), scaled from 3.23 pc to mean distance of targets, 47.6 pc.									
3	(COS.sp.1888105)	(4) HD-284653	COS/FUV, TIME-TAG, PSA	G130M 1222 A	BUFFER-TIME=9500; FP-POS=2; LIFETIME-POS=LP4			484 Secs (484 Secs) *[==>]*	***[1]***
Comments: ETC spectral simulations: Epsilon Eri (K2V), Prot= 12d (same as Hyads: 9-13 d), scaled from 3.23 pc to mean distance of targets, 47.6 pc.									
4	(COS.sp.1888106)	(4) HD-284653	COS/FUV, TIME-TAG, PSA	G160M 1533 A	BUFFER-TIME=10500; FP-POS=3; LIFETIME-POS=LP4			465 Secs (465 Secs) *[==>]*	***[1]***
Comments: ETC spectral simulations: Epsilon Eri (K2V), Prot= 12d (same as Hyads: 9-13 d), scaled from 3.23 pc to mean distance of targets, 47.6 pc.									
5	(COS.sp.1888106)	(4) HD-284653	COS/FUV, TIME-TAG, PSA	G160M 1533 A	BUFFER-TIME=10500; FP-POS=4; LIFETIME-POS=LP4			465 Secs (465 Secs) *[==>]*	***[1]***
Comments: ETC spectral simulations: Epsilon Eri (K2V), Prot= 12d (same as Hyads: 9-13 d), scaled from 3.23 pc to mean distance of targets, 47.6 pc.									

Orbit Structure



Visit

Proposal 17576, Visit 05, completed Thu Feb 22 12:00:38 GMT 2024

Diagnostic Status: Warning

Scientific Instruments: COS/FUV, COS/NUV

Special Requirements: (none)

Diagnostics

(Visit 05) 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.

Fixed Targets

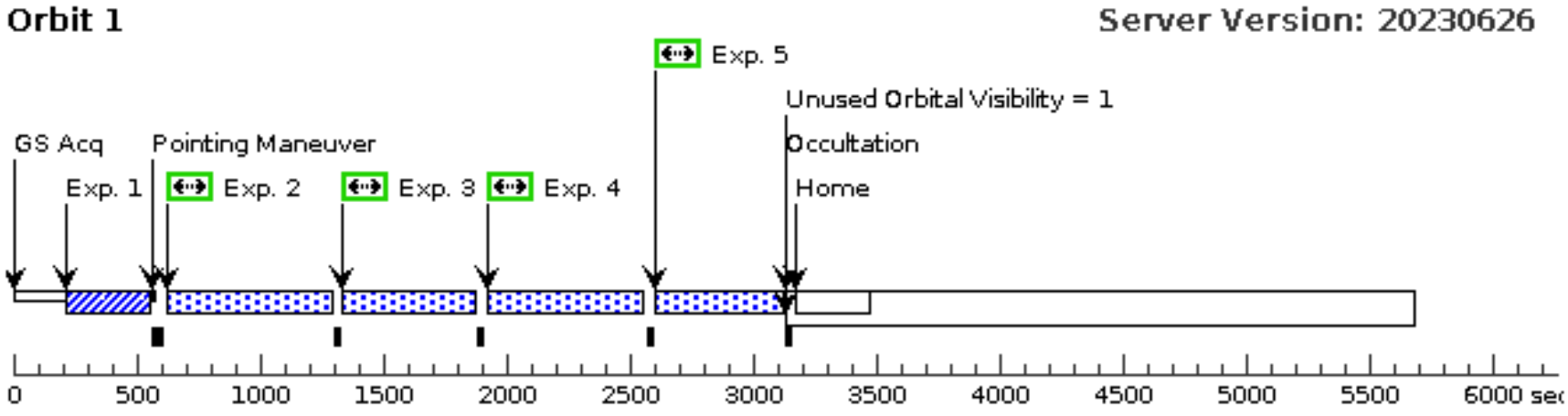
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(5)	HD-284552	RA: 04 33 37.1806 (68.4049192d) Dec: +21 09 3.06 (21.15085d) Equinox: J2000	Proper Motion RA: +108.257 mas/yr Proper Motion Dec: -46.291 mas/yr Parallax: 0.02287" Epoch of Position: 2000 Radial Velocity: +40.0 km/sec	V=10.726+/-0.01 K6V (K7V), G= 10.201, bp-rp= 1.489	Reference Frame: ICRS

Comments: In "Other Fluxes," leading value is (preferred) Spectral Type from Gaia (bp-rp); parenthetical value is from SIMBAD.
Category=STAR
Description=[K V-IV]
Extended=NO

Exposures

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	(COS.ta.1888151)	(5) HD-284552	COS/NUV, ACQ/IMAGE, PSA	MIRRORB				24 Secs (24 Secs) *[==>]*	***[1]***
Comments: Castelli-Kurucz Models K5V 4250 4.5; Renormalized to vegamag = 10.8 in filter Johnson/V; texp= 23 s (COS.ta.1888151) *Castelli-Kurucz Models K7V 4000 4.5; Renormalized to vegamag = 10.8 in filter Johnson/V; texp= 25 s (COS.ta.1888152)* *ave= 24 s*									
2	(COS.sp.1888105)	(5) HD-284552	COS/FUV, TIME-TAG, PSA	G130M 1222 A	BUFFER-TIME=9500; FP-POS=1; LIFETIME-POS=LP4			483 Secs (483 Secs) *[==>]*	***[1]***
Comments: ETC spectral simulations: Epsilon Eri (K2V), Prot= 12d (same as Hyads: 9-13 d), scaled from 3.23 pc to mean distance of targets, 47.6 pc.									
3	(COS.sp.1888105)	(5) HD-284552	COS/FUV, TIME-TAG, PSA	G130M 1222 A	BUFFER-TIME=9500; FP-POS=2; LIFETIME-POS=LP4			483 Secs (483 Secs) *[==>]*	***[1]***
Comments: ETC spectral simulations: Epsilon Eri (K2V), Prot= 12d (same as Hyads: 9-13 d), scaled from 3.23 pc to mean distance of targets, 47.6 pc.									
4	(COS.sp.1888106)	(5) HD-284552	COS/FUV, TIME-TAG, PSA	G160M 1533 A	BUFFER-TIME=10500; FP-POS=3; LIFETIME-POS=LP4			463 Secs (463 Secs) *[==>]*	***[1]***
Comments: ETC spectral simulations: Epsilon Eri (K2V), Prot= 12d (same as Hyads: 9-13 d), scaled from 3.23 pc to mean distance of targets, 47.6 pc.									
5	(COS.sp.1888106)	(5) HD-284552	COS/FUV, TIME-TAG, PSA	G160M 1533 A	BUFFER-TIME=10500; FP-POS=4; LIFETIME-POS=LP4			463 Secs (463 Secs) *[==>]*	***[1]***
Comments: ETC spectral simulations: Epsilon Eri (K2V), Prot= 12d (same as Hyads: 9-13 d), scaled from 3.23 pc to mean distance of targets, 47.6 pc.									

Orbit Structure



Visit

Proposal 17576, Visit 06, completed Thu Feb 22 12:00:38 GMT 2024

Diagnostic Status: Warning

Scientific Instruments: COS/FUV, COS/NUV

Special Requirements: (none)

Diagnostics

(Visit 06) 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.

Fixed Targets

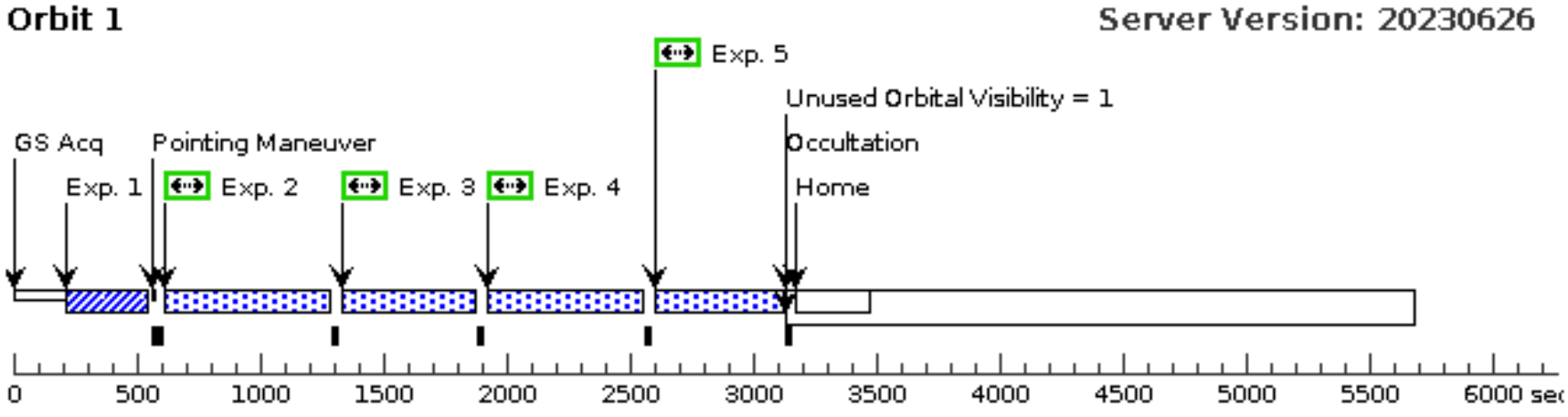
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(6)	HD-286085	RA: 04 50 0.7135 (72.5029729d) Dec: +16 24 43.42 (16.41206d) Equinox: J2000	Proper Motion RA: +84.045 mas/yr Proper Motion Dec: -27.012 mas/yr Parallax: 0.02032" Epoch of Position: 2000 Radial Velocity: +41.3 km/sec	V=10.69+/-0.09 K6V (K6V), G= 10.180, bp-rp= 1.385	Reference Frame: ICRS

Comments: In "Other Fluxes," leading value is (preferred) Spectral Type from Gaia (bp-rp); parenthetical value is from SIMBAD.
Category=STAR
Description=[K V-IV]
Extended=NO

Exposures

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	(COS.ta.1888153)	(6) HD-286085	COS/NUV, ACQ/IMAGE, PSA	MIRRORB				22 Secs (22 Secs) *[==>]*	***[1]***
Comments: Castelli-Kurucz Models K5V 4250 4.5; Renormalized to vegamag = 10.7 in filter Johnson/V; texp= 21 s (COS.ta.1888153) *Castelli-Kurucz Models K7V 4000 4.5; Renormalized to vegamag = 10.7 in filter Johnson/V; texp= 23 s (COS.ta.1888154)* *ave= 22 s*									
2	(COS.sp.1888105)	(6) HD-286085	COS/FUV, TIME-TAG, PSA	G130M 1222 A	BUFFER-TIME=9500; FP-POS=1; LIFETIME-POS=LP4			484 Secs (484 Secs) *[==>]*	***[1]***
Comments: ETC spectral simulations: Epsilon Eri (K2V), Prot= 12d (same as Hyads: 9-13 d), scaled from 3.23 pc to mean distance of targets, 47.6 pc.									
3	(COS.sp.1888105)	(6) HD-286085	COS/FUV, TIME-TAG, PSA	G130M 1222 A	BUFFER-TIME=9500; FP-POS=2; LIFETIME-POS=LP4			484 Secs (484 Secs) *[==>]*	***[1]***
Comments: ETC spectral simulations: Epsilon Eri (K2V), Prot= 12d (same as Hyads: 9-13 d), scaled from 3.23 pc to mean distance of targets, 47.6 pc.									
4	(COS.sp.1888106)	(6) HD-286085	COS/FUV, TIME-TAG, PSA	G160M 1533 A	BUFFER-TIME=10500; FP-POS=3; LIFETIME-POS=LP4			464 Secs (464 Secs) *[==>]*	***[1]***
Comments: ETC spectral simulations: Epsilon Eri (K2V), Prot= 12d (same as Hyads: 9-13 d), scaled from 3.23 pc to mean distance of targets, 47.6 pc.									
5	(COS.sp.1888106)	(6) HD-286085	COS/FUV, TIME-TAG, PSA	G160M 1533 A	BUFFER-TIME=10500; FP-POS=4; LIFETIME-POS=LP4			464 Secs (464 Secs) *[==>]*	***[1]***
Comments: ETC spectral simulations: Epsilon Eri (K2V), Prot= 12d (same as Hyads: 9-13 d), scaled from 3.23 pc to mean distance of targets, 47.6 pc.									

Orbit Structure



Visit

Proposal 17576, Visit 07, completed Thu Feb 22 12:00:38 GMT 2024

Diagnostic Status: Warning

Scientific Instruments: COS/FUV, COS/NUV

Special Requirements: (none)

Diagnostics

(Visit 07) 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.

Fixed Targets

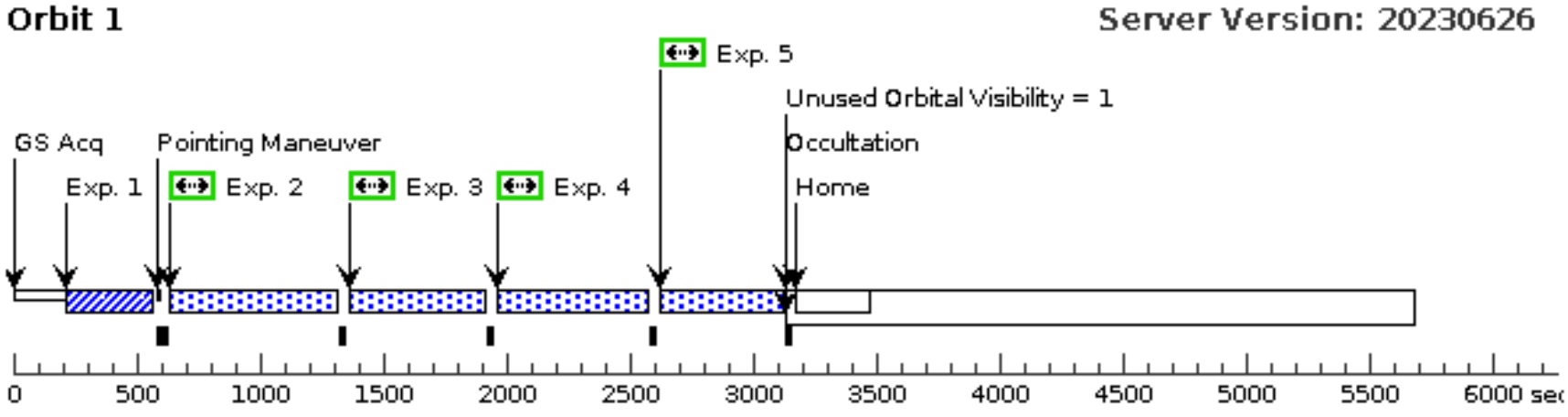
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(7)	HD-285804	RA: 04 28 10.8713 (67.0452971d) Dec: +16 28 15.38 (16.47094d) Equinox: J2000	Proper Motion RA: +114.299 mas/yr Proper Motion Dec: -31.903 mas/yr Parallax: 0.02362" Epoch of Position: 2000 Radial Velocity: +40.0 km/sec	V=11.057+/-0.02 K7V (K7V), G= 10.505, bp-rp= 1.666	Reference Frame: ICRS

Comments: In "Other Fluxes," leading value is (preferred) Spectral Type from Gaia (bp-rp); parenthetical value is from SIMBAD.
Category=STAR
Description=[K V-IV]
Extended=NO

Exposures

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	(COS.ta.1896252)	(7) HD-285804	COS/NUV, ACQ/IMAGE, PSA	MIRRORB				32 Secs (32 Secs) *[==>]*	*[1]*
Comments: Castelli-Kurucz Models K7V 4000 4.5; Renormalized to vegamag = 11.057 in filter Johnson/V									
2	(COS.sp.1888105)	(7) HD-285804	COS/FUV, TIME-TAG, PSA	G130M 1222 A	BUFFER-TIME=9500; FP-POS=1; LIFETIME-POS=LP4			494 Secs (494 Secs) *[==>]*	*[1]*
Comments: ETC spectral simulations: Epsilon Eri (K2V), Prot= 12d (same as Hyads: 9-13 d), scaled from 3.23 pc to mean distance of targets, 47.6 pc.									
3	(COS.sp.1888105)	(7) HD-285804	COS/FUV, TIME-TAG, PSA	G130M 1222 A	BUFFER-TIME=9500; FP-POS=2; LIFETIME-POS=LP4			494 Secs (494 Secs) *[==>]*	*[1]*
Comments: ETC spectral simulations: Epsilon Eri (K2V), Prot= 12d (same as Hyads: 9-13 d), scaled from 3.23 pc to mean distance of targets, 47.6 pc.									
4	(COS.sp.1888106)	(7) HD-285804	COS/FUV, TIME-TAG, PSA	G160M 1533 A	BUFFER-TIME=10500; FP-POS=3; LIFETIME-POS=LP4			444 Secs (444 Secs) *[==>]*	*[1]*
Comments: ETC spectral simulations: Epsilon Eri (K2V), Prot= 12d (same as Hyads: 9-13 d), scaled from 3.23 pc to mean distance of targets, 47.6 pc.									
5	(COS.sp.1888106)	(7) HD-285804	COS/FUV, TIME-TAG, PSA	G160M 1533 A	BUFFER-TIME=10500; FP-POS=4; LIFETIME-POS=LP4			444 Secs (444 Secs) *[==>]*	*[1]*
Comments: ETC spectral simulations: Epsilon Eri (K2V), Prot= 12d (same as Hyads: 9-13 d), scaled from 3.23 pc to mean distance of targets, 47.6 pc.									

Orbit Structure



Visit

Proposal 17576, Visit 08, failed Thu Feb 22 12:00:38 GMT 2024

Diagnostic Status: Warning

Scientific Instruments: COS/FUV, COS/NUV

Special Requirements: (none)

Diagnostics

(Visit 08) 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.

Fixed Targets

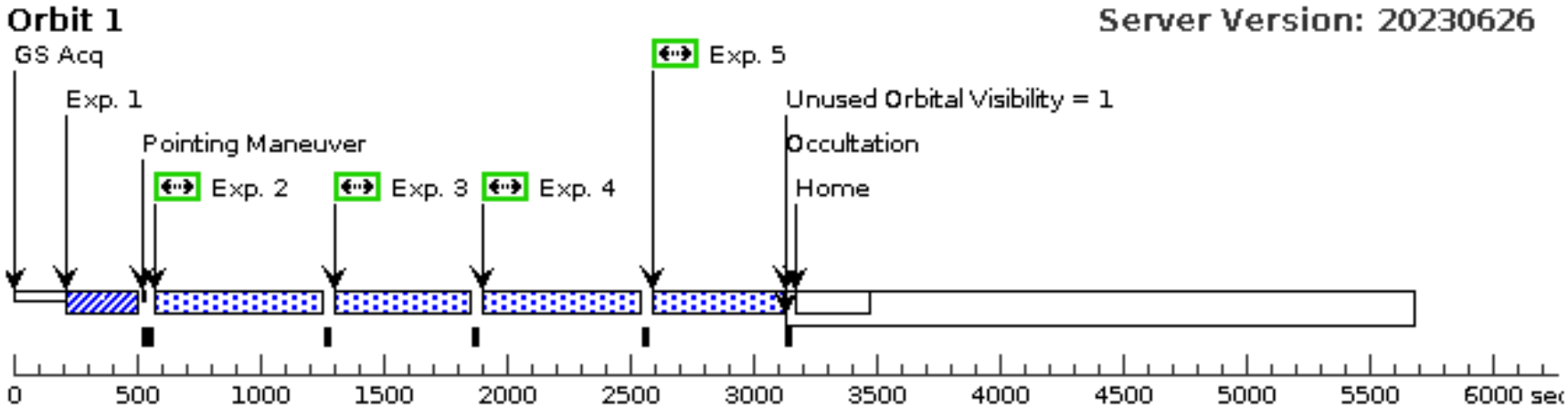
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(8)	HD-28878	RA: 04 33 37.9670 (68.4081958d) Dec: +16 45 45.00 (16.76250d) Equinox: J2000	Proper Motion RA: +97.999 mas/yr Proper Motion Dec: -25.492 mas/yr Parallax: +0.02062" Epoch of Position: 2000 Radial Velocity: +40.3 km/sec	V=9.357+/-0.01 K0V (G5V), G= 9.157, bp-rp= 1.053	Reference Frame: ICRS

Comments: In "Other Fluxes," leading value is (preferred) Spectral Type from Gaia (bp-rp); parenthetical value is from SIMBAD.
Category=STAR
Description=[K V-IV]
Extended=NO

Exposures

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	(COS.ta.1888146)	(8) HD-28878	COS/NUV, ACQ/IMAGE, PSA	MIRRORB				2 Secs (2 Secs) *[==>]*	*[1]*
Comments: Castelli-Kurucz Models K0V 5250 4.5; Renormalized to vegamag = 9.4 in filter Johnson/V									
2	(COS.sp.1888105)	(8) HD-28878	COS/FUV, TIME-TAG, PSA	G130M 1222 A	BUFFER-TIME=9500; FP-POS=1; LIFETIME-POS=LP4			494 Secs (494 Secs) *[==>]*	*[1]*
Comments: ETC spectral simulations: Epsilon Eri (K2V), Prot= 12d (same as Hyads: 9-13 d), scaled from 3.23 pc to mean distance of targets, 47.6 pc.									
3	(COS.sp.1888105)	(8) HD-28878	COS/FUV, TIME-TAG, PSA	G130M 1222 A	BUFFER-TIME=9500; FP-POS=2; LIFETIME-POS=LP4			494 Secs (494 Secs) *[==>]*	*[1]*
Comments: ETC spectral simulations: Epsilon Eri (K2V), Prot= 12d (same as Hyads: 9-13 d), scaled from 3.23 pc to mean distance of targets, 47.6 pc.									
4	(COS.sp.1888106)	(8) HD-28878	COS/FUV, TIME-TAG, PSA	G160M 1533 A	BUFFER-TIME=10500; FP-POS=3; LIFETIME-POS=LP4			474 Secs (474 Secs) *[==>]*	*[1]*
Comments: ETC spectral simulations: Epsilon Eri (K2V), Prot= 12d (same as Hyads: 9-13 d), scaled from 3.23 pc to mean distance of targets, 47.6 pc.									
5	(COS.sp.1888106)	(8) HD-28878	COS/FUV, TIME-TAG, PSA	G160M 1533 A	BUFFER-TIME=10500; FP-POS=4; LIFETIME-POS=LP4			474 Secs (474 Secs) *[==>]*	*[1]*
Comments: ETC spectral simulations: Epsilon Eri (K2V), Prot= 12d (same as Hyads: 9-13 d), scaled from 3.23 pc to mean distance of targets, 47.6 pc.									

Orbit Structure



Proposal 17576 - Visit 58 - The Rossby Conundrum

Visit

Proposal 17576, Visit 58, scheduled Thu Feb 22 12:00:38 GMT 2024

Diagnostic Status: Warning

Scientific Instruments: COS/FUV, COS/NUV

Special Requirements: (none)

Comments: HOPR repeat of visit 8.

Diagnostics

(Visit 58) 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.

Fixed Targets

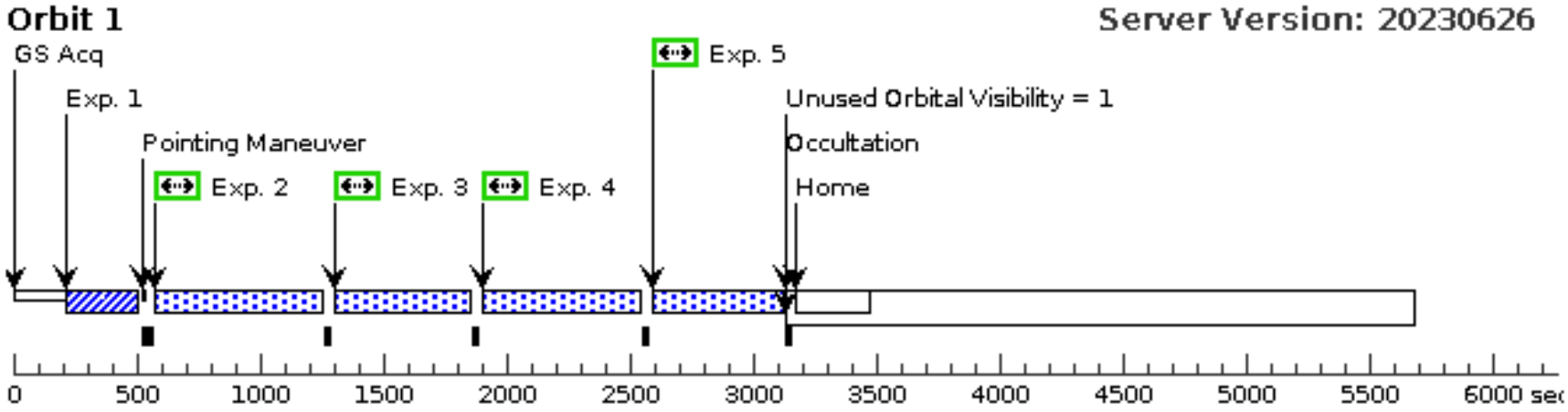
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(8)	HD-28878	RA: 04 33 37.9670 (68.4081958d) Dec: +16 45 45.00 (16.76250d) Equinox: J2000	Proper Motion RA: +97.999 mas/yr Proper Motion Dec: -25.492 mas/yr Parallax: +0.02062" Epoch of Position: 2000 Radial Velocity: +40.3 km/sec	V=9.357+/-0.01 K0V (G5V), G= 9.157, bp-rp= 1.053	Reference Frame: ICRS

Comments: In "Other Fluxes," leading value is (preferred) Spectral Type from Gaia (bp-rp); parenthetical value is from SIMBAD.
Category=STAR
Description=[K V-IV]
Extended=NO

Exposures

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	(COS.ta.188 8146)	(8) HD-28878	COS/NUV, ACQ/IMAGE, PSA	MIRRORB				2 Secs (2 Secs) *[==>]*	*[1]*
Comments: Castelli-Kurucz Models K0V 5250 4.5; Renormalized to vegamag = 9.4 in filter Johnson/V									
2	(COS.sp.188 8105)	(8) HD-28878	COS/FUV, TIME-TAG, PSA	G130M 1222 A	BUFFER-TIME=9500; FP-POS=1; LIFETIME-POS=LP4			494 Secs (494 Secs) *[==>]*	*[1]*
Comments: ETC spectral simulations: Epsilon Eri (K2V), Prot= 12d (same as Hyads: 9-13 d), scaled from 3.23 pc to mean distance of targets, 47.6 pc.									
3	(COS.sp.188 8105)	(8) HD-28878	COS/FUV, TIME-TAG, PSA	G130M 1222 A	BUFFER-TIME=9500; FP-POS=2; LIFETIME-POS=LP4			494 Secs (494 Secs) *[==>]*	*[1]*
Comments: ETC spectral simulations: Epsilon Eri (K2V), Prot= 12d (same as Hyads: 9-13 d), scaled from 3.23 pc to mean distance of targets, 47.6 pc.									
4	(COS.sp.188 8106)	(8) HD-28878	COS/FUV, TIME-TAG, PSA	G160M 1533 A	BUFFER-TIME=10500; FP-POS=3; LIFETIME-POS=LP4			474 Secs (474 Secs) *[==>]*	*[1]*
Comments: ETC spectral simulations: Epsilon Eri (K2V), Prot= 12d (same as Hyads: 9-13 d), scaled from 3.23 pc to mean distance of targets, 47.6 pc.									
5	(COS.sp.188 8106)	(8) HD-28878	COS/FUV, TIME-TAG, PSA	G160M 1533 A	BUFFER-TIME=10500; FP-POS=4; LIFETIME-POS=LP4			474 Secs (474 Secs) *[==>]*	*[1]*
Comments: ETC spectral simulations: Epsilon Eri (K2V), Prot= 12d (same as Hyads: 9-13 d), scaled from 3.23 pc to mean distance of targets, 47.6 pc.									

Orbit Structure



Visit

Proposal 17576, Visit 09, completed Thu Feb 22 12:00:38 GMT 2024

Diagnostic Status: Warning

Scientific Instruments: COS/FUV, COS/NUV

Special Requirements: (none)

Diagnostics

(Visit 09) 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.

Fixed Targets

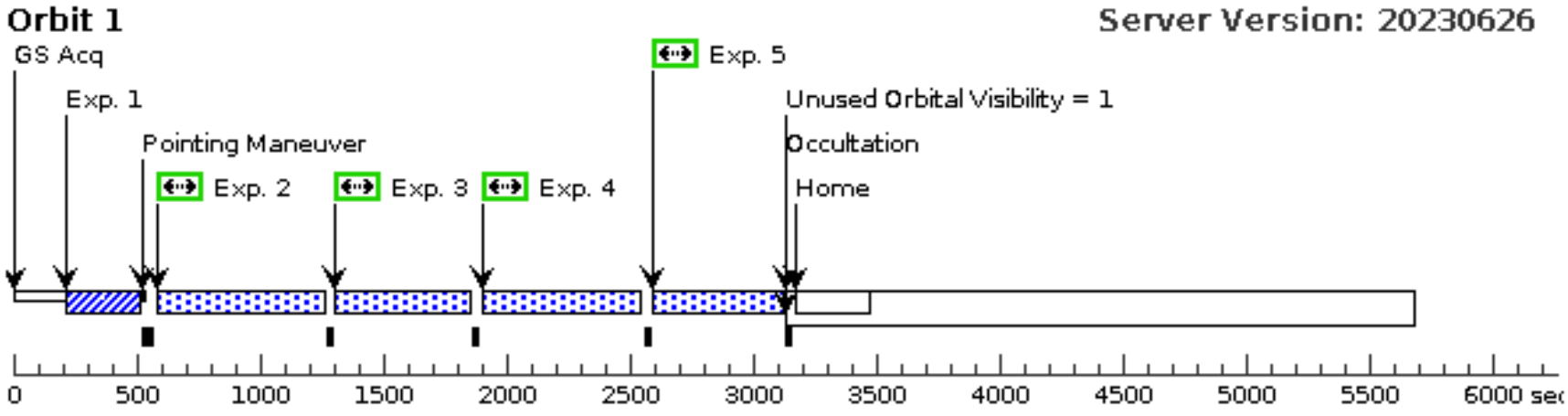
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(9)	HD-28977	RA: 04 34 32.1825 (68.6340938d) Dec: +15 49 39.20 (15.82756d) Equinox: J2000	Proper Motion RA: +90.279 mas/yr Proper Motion Dec: -20.418 mas/yr Parallax: 0.01920" Epoch of Position: 2000 Radial Velocity: +40.0 km/sec	V=9.644+/-0.01 K1V (K0V), G= 9.416, bp-rp= 1.085	Reference Frame: ICRS

Comments: In "Other Fluxes," leading value is (preferred) Spectral Type from Gaia (bp-rp); parenthetical value is from SIMBAD.
Category=STAR
Description=[K V-IV]
Extended=NO

Exposures

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	(COS.ta.1888158)	(9) HD-28977	COS/NUV, ACQ/IMAGE, PSA	MIRRORB				4 Secs (4 Secs) *[==>]*	***[1]***
Comments: Castelli-Kurucz Models K0V 5250 4.5; Renormalized to vegamag = 9.7 in filter Johnson/V; texp= 2.1 s (COS.ta.1888158) *Castelli-Kurucz Models K2V 4750 4.5; Renormalized to vegamag = 9.7 in filter Johnson/V; texp= 4.6 s (COS.ta.1888159)* *ave= 3.4 s*									
2	(COS.sp.1888105)	(9) HD-28977	COS/FUV, TIME-TAG, PSA	G130M 1222 A	BUFFER-TIME=9500; FP-POS=1; LIFETIME-POS=LP4			493 Secs (493 Secs) *[==>]*	***[1]***
Comments: ETC spectral simulations: Epsilon Eri (K2V), Prot= 12d (same as Hyads: 9-13 d), scaled from 3.23 pc to mean distance of targets, 47.6 pc.									
3	(COS.sp.1888105)	(9) HD-28977	COS/FUV, TIME-TAG, PSA	G130M 1222 A	BUFFER-TIME=9500; FP-POS=2; LIFETIME-POS=LP4			493 Secs (493 Secs) *[==>]*	***[1]***
Comments: ETC spectral simulations: Epsilon Eri (K2V), Prot= 12d (same as Hyads: 9-13 d), scaled from 3.23 pc to mean distance of targets, 47.6 pc.									
4	(COS.sp.1888106)	(9) HD-28977	COS/FUV, TIME-TAG, PSA	G160M 1533 A	BUFFER-TIME=10500; FP-POS=3; LIFETIME-POS=LP4			473 Secs (473 Secs) *[==>]*	***[1]***
Comments: ETC spectral simulations: Epsilon Eri (K2V), Prot= 12d (same as Hyads: 9-13 d), scaled from 3.23 pc to mean distance of targets, 47.6 pc.									
5	(COS.sp.1888106)	(9) HD-28977	COS/FUV, TIME-TAG, PSA	G160M 1533 A	BUFFER-TIME=10500; FP-POS=4; LIFETIME-POS=LP4			473 Secs (473 Secs) *[==>]*	***[1]***
Comments: ETC spectral simulations: Epsilon Eri (K2V), Prot= 12d (same as Hyads: 9-13 d), scaled from 3.23 pc to mean distance of targets, 47.6 pc.									

Orbit Structure



Visit

Proposal 17576, Visit 10, completed Thu Feb 22 12:00:38 GMT 2024

Diagnostic Status: Warning

Scientific Instruments: COS/FUV, COS/NUV

Special Requirements: (none)

Diagnostics

(Visit 10) 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.

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(10)	HD-284785	RA: 04 47 8.9337 (71.7872237d) Dec: +20 52 56.33 (20.88231d) Equinox: J2000	Proper Motion RA: +98.493 mas/yr Proper Motion Dec: -50.063 mas/yr Parallax: 0.02368" Epoch of Position: 2000 Radial Velocity: +40.6 km/sec	V=9.77+/-0.03 K4V (K4V), G= 9.487, bp-rp= 1.247	Reference Frame: ICRS

Comments: In "Other Fluxes," leading value is (preferred) Spectral Type from Gaia (bp-rp); parenthetical value is from SIMBAD.
Category=STAR
Description=[K V-IV]
Extended=NO

Exposures

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	(COS.ta.1888162)	(10) HD-284785	COS/NUV, ACQ/IMAGE, PSA	MIRRORB				9 Secs (9 Secs) *[==>]*	*[1]*
Comments: Castelli-Kurucz Models K5V 4250 4.5; Renormalized to vegamag = 9.8 in filter Johnson/V									
2	(COS.sp.1888105)	(10) HD-284785	COS/FUV, TIME-TAG, PSA	G130M 1222 A	BUFFER-TIME=9500; FP-POS=1; LIFETIME-POS=LP4			491 Secs (491 Secs) *[==>]*	*[1]*
Comments: ETC spectral simulations: Epsilon Eri (K2V), Prot= 12d (same as Hyads: 9-13 d), scaled from 3.23 pc to mean distance of targets, 47.6 pc.									
3	(COS.sp.1888105)	(10) HD-284785	COS/FUV, TIME-TAG, PSA	G130M 1222 A	BUFFER-TIME=9500; FP-POS=2; LIFETIME-POS=LP4			491 Secs (491 Secs) *[==>]*	*[1]*
Comments: ETC spectral simulations: Epsilon Eri (K2V), Prot= 12d (same as Hyads: 9-13 d), scaled from 3.23 pc to mean distance of targets, 47.6 pc.									
4	(COS.sp.1888106)	(10) HD-284785	COS/FUV, TIME-TAG, PSA	G160M 1533 A	BUFFER-TIME=10500; FP-POS=3; LIFETIME-POS=LP4			470 Secs (470 Secs) *[==>]*	*[1]*
Comments: ETC spectral simulations: Epsilon Eri (K2V), Prot= 12d (same as Hyads: 9-13 d), scaled from 3.23 pc to mean distance of targets, 47.6 pc.									
5	(COS.sp.1888106)	(10) HD-284785	COS/FUV, TIME-TAG, PSA	G160M 1533 A	BUFFER-TIME=10500; FP-POS=4; LIFETIME-POS=LP4			470 Secs (470 Secs) *[==>]*	*[1]*
Comments: ETC spectral simulations: Epsilon Eri (K2V), Prot= 12d (same as Hyads: 9-13 d), scaled from 3.23 pc to mean distance of targets, 47.6 pc.									

Orbit Structure