14703 - Measuring residual H2 gas from small to large gaps in protoplanetary disks: different pathways to planets?

Cycle: 24, Proposal Category: GO

(UV Initiative)

(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?*
01	(1) DOAR44	COS/FUV COS/NUV	3	03-Jan-2017 21:02:41.0	yes
02	(2) LKHA330	COS/FUV COS/NUV	3	03-Jan-2017 21:02:42.0	yes
03	(3) EXLUP	COS/FUV COS/NUV	3	03-Jan-2017 21:02:44.0	yes
04	(4) HD144432	COS/FUV COS/NUV	2	03-Jan-2017 21:02:45.0	yes

Visit	*Targets used in Visit*	*Configurations used in Visit*	*Orbits Used*	*Last Orbit Planner Run*	*OP Current with Visit?*
05	(5) HD142527	COS/FUV COS/NUV	2	03-Jan-2017 21:02:46.0	yes
06	(6) HD139614	COS/FUV COS/NUV	2	03-Jan-2017 21:02:47.0	yes
07	(7) TWCHA	COS/FUV COS/NUV	3	03-Jan-2017 21:02:48.0	yes
08	(8) HD36112	COS/FUV COS/NUV	2	03-Jan-2017 21:02:49.0	yes

20 Total Orbits Used

ABSTRACT

We propose HST-COS far-ultraviolet (FUV) spectra of H_2 gas emission in a representative sample of 8 "transitional" disks around young stars of ~1-2 solar masses. By targeting 0.3-5 au disk gaps revealed from the analysis of infrared (IR) CO emission spectra, the proposed HST observations will allow us to measure the density of residual molecular gas from the onset of the smallest disk gaps to the development of large gaps that can be directly imaged. The sensitive measurements of H_2 residual gas vs disk gap size obtained in this program will constrain gap-formation processes and reveal if all gap sizes belong to a common, sequential evolutionary path or to different paths that affect the orbital distribution and composition of forming planets. This is essential to validate and improve current theories of planet formation in dispersing disks, extending observations to small disk radii well beyond the angular resolution limits of current imaging techniques. This program takes immediate advantage of recent results finding new gas emission tracers of disk evolution in the UV (Hoadley, France, et al. 2015) and in the IR (Banzatti & Pontoppidan 2015), and joins them together into a new, panchromatic view of gas dispersal in planet-forming regions.

OBSERVING DESCRIPTION

Our observing strategy is driven by the need to acquire high-sensitivity, moderate spectral resolution coverage at the wavelengths spanned by strongest lines of the H2 fluorescent cascade that follows Ly_alpha photoexcitation (1390-1700 Angstrom). Spectral coverage with sufficient sensitivity and spectral resolution in this range is best provided by the M-mode settings on HST-COS. COS has the highest sensitivity for spectrally resolved observations at these FUV wavelengths (more than a factor of ten more efficient than STIS E140M at these wavelengths due to the combination of larger effective area and lower background). In the G160M bandpass, there are a wealth of H2 emission lines spread throughout (e.g.,

France et al. 2012) and the COS medium resolution modes have proven optimal for modeling the column densities, temperatures, and radial flux distributions from these lines with a largely enough accuracy to distinguish well between the gap-formation scenarios described in the approved Phase I proposal.

To summarize, we will use the G160M grating with multiple FP-POS settings and CENWAVE = 1577 and 1611 to simultaneously provide continuous spectral coverage, mitigate the effects of detector fixed pattern noise, and support the extended lifetime of the COS MCP detector. These modes will provide high S/N spectra of our targets across the full 1390 - 1780 Angstrom bandpass.

Visit

Proposal 14703, doar44 (01), implementation Wed Jan 04 02:02:50 GMT 2017

Diagnostic Status: Warning

Scientific Instruments: COS/FUV, COS/NUV

Special Requirements: (none)

Diagnostics

(doar44 (01)) Warning (Form): For the best data quality, it is strongly recommended that all four FP-POS positions be used when observing at a given COS CENWAVE setting.

Fixed Targets

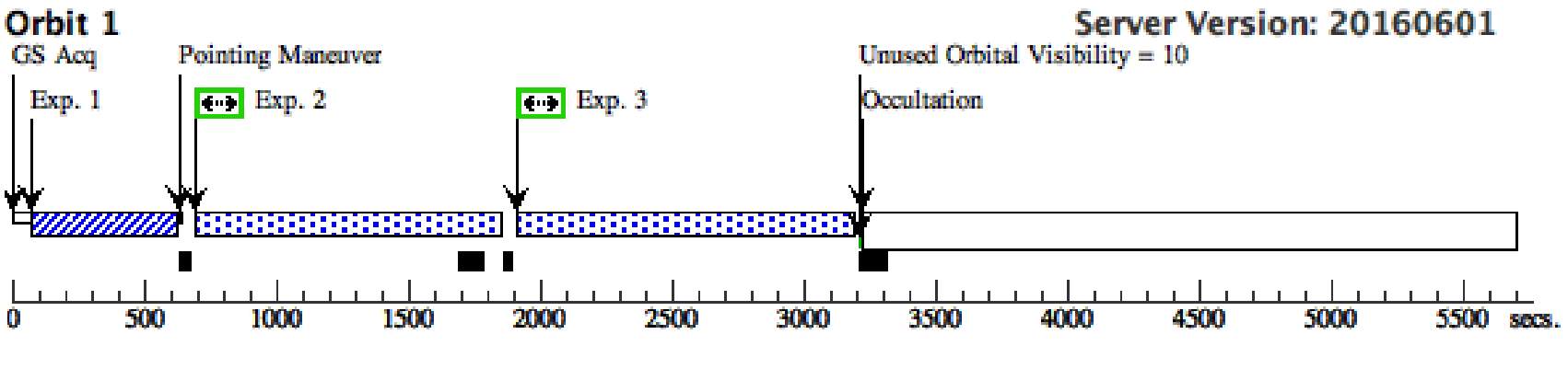
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	DOAR44	RA: 16 31 33.4600 (247.8894167d) Dec: -24 27 37.30 (-24.46036d) Equinox: J2000	Proper Motion RA: -4.4 mas/yr Proper Motion Dec: -18.3 mas/yr Epoch of Position: 1984	V=12.0+/-0.5	Reference Frame: ICRS

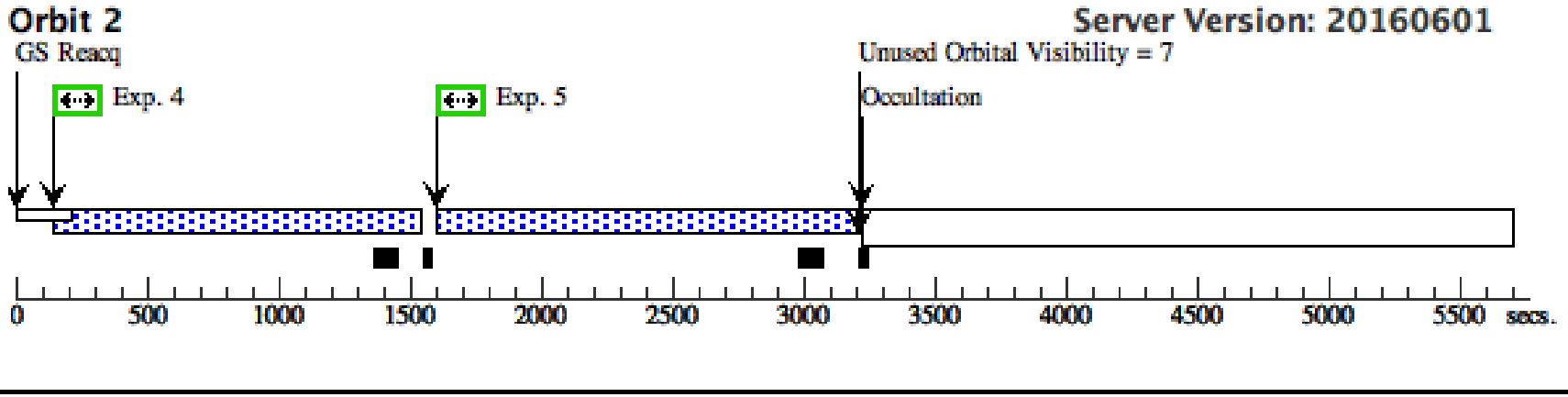
Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.
Extended=NO

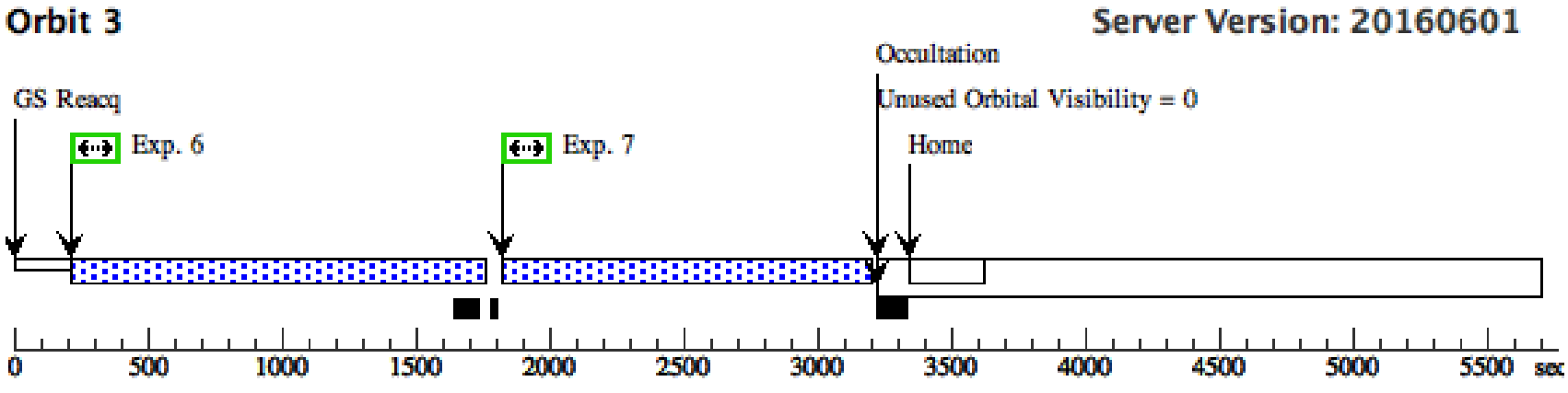
Exposures

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	(COS.ta.898800)	(1) DOAR44	COS/NUV, ACQ/IMAGE, PSA	MIRRORB				117 Secs (117 Secs) *[==>]*	*[1]*
Comments: This ETC run is done using the IUE low-res spectrum of this object.									
2	(COS.sp.820580)	(1) DOAR44	COS/FUV, TIME-TAG, PSA	G160M 1577 A	BUFFER-TIME=8000; FP-POS=1			1160 Secs (944 Secs) *[==>944.0 Secs]*	*[1]*
Comments: This ETC run is done using the HST COS spectra of a T Tauri star of similar spectral type and V-magnitude.									
3	(COS.sp.820580)	(1) DOAR44	COS/FUV, TIME-TAG, PSA	G160M 1611 A	BUFFER-TIME=1268; FP-POS=1			1331 Secs (1150 Secs) *[==>1150.0 Secs]*	*[1]*
Comments: This ETC run is done using the HST COS spectra of a T Tauri star of similar spectral type and V-magnitude.									
4	(COS.sp.820580)	(1) DOAR44	COS/FUV, TIME-TAG, PSA	G160M 1577 A	BUFFER-TIME=1113; FP-POS=2			1169 Secs (1269 Secs) *[==>1269.0 Secs]*	*[2]*
Comments: This ETC run is done using the HST COS spectra of a T Tauri star of similar spectral type and V-magnitude.									
5	(COS.sp.820580)	(1) DOAR44	COS/FUV, TIME-TAG, PSA	G160M 1611 A	BUFFER-TIME=1268; FP-POS=2			1331 Secs (1466 Secs) *[==>1466.0 Secs]*	*[2]*
Comments: This ETC run is done using the HST COS spectra of a T Tauri star of similar spectral type and V-magnitude.									
6	(COS.sp.820580)	(1) DOAR44	COS/FUV, TIME-TAG, PSA	G160M 1611 A	BUFFER-TIME=1390; FP-POS=3			1500 Secs (1500 Secs) *[==>]*	*[3]*
Comments: This ETC run is done using the HST COS spectra of a T Tauri star of similar spectral type and V-magnitude.									
7	(COS.sp.820580)	(1) DOAR44	COS/FUV, TIME-TAG, PSA	G160M 1611 A	BUFFER-TIME=1268; FP-POS=4			1331 Secs (1331 Secs) *[==>]*	*[3]*
Comments: This ETC run is done using the HST COS spectra of a T Tauri star of similar spectral type and V-magnitude.									

Orbit Structure







Visit

Proposal 14703, lkha330 (02), implementation Wed Jan 04 02:02:50 GMT 2017

Diagnostic Status: Warning

Scientific Instruments: COS/FUV, COS/NUV

Special Requirements: (none)

Diagnostics

(lkha330 (02)) Warning (Form): For the best data quality, it is strongly recommended that all four FP-POS positions be used when observing at a given COS CENWAVE setting.

Fixed Targets

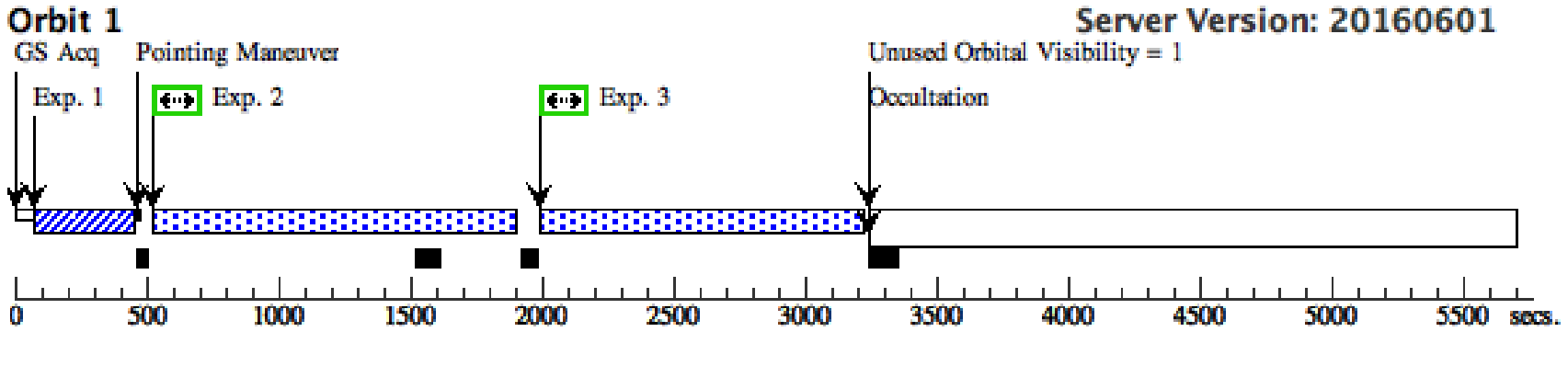
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(2)	LKHA330	RA: 03 45 48.2800 (56.4511667d) Dec: +32 24 11.90 (32.40331d) Equinox: J2000	Proper Motion RA: 3.9 mas/yr Proper Motion Dec: -6.5 mas/yr Epoch of Position: 1984	V=11.0+/-0.5	Reference Frame: ICRS

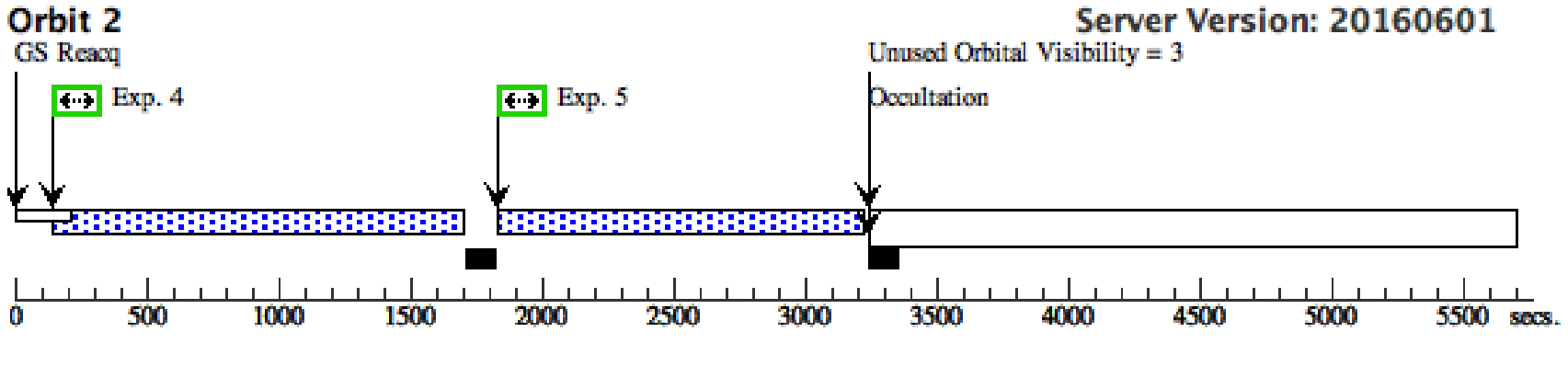
Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.
Extended=NO

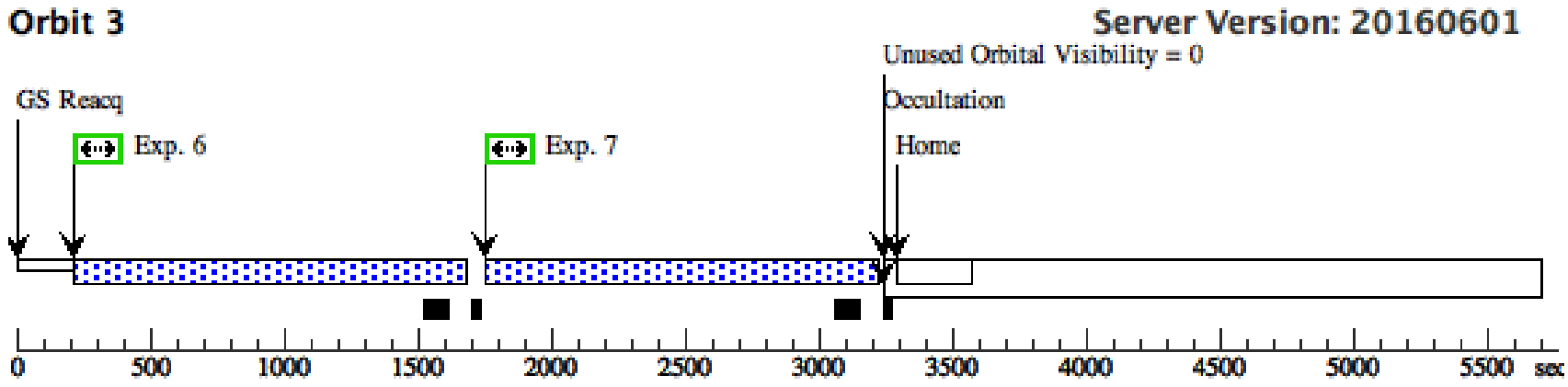
Exposures

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	(COS.ta.898915)	(2) LKHA330	COS/NUV, ACQ/IMAGE, PSA	MIRRORB				32 Secs (32 Secs) *[==>]*	***[1]***
Comments: This ETC run is done using a COS spectrum of similar spectral type of this object, rescaled in flux using the measured B band magnitudes and accounting for the different accretion rates on the two objects.									
2	(COS.sp.820580)	(2) LKHA330	COS/FUV, TIME-TAG, PSA	G160M 1577 A	BUFFER-TIME=800; FP-POS=1			1200 Secs (1168 Secs) *[==>1168.0 Secs]*	***[1]***
Comments: This ETC run is done using the HST COS spectra of a T Tauri star of similar spectral type and V-magnitude.									
3	(COS.sp.820580)	(2) LKHA330	COS/FUV, TIME-TAG, PSA	G160M 1577 A	BUFFER-TIME=1113; FP-POS=1			1214 Secs (1182 Secs) *[==>1182.0 Secs]*	***[1]***
Comments: This ETC run is done using the HST COS spectra of a T Tauri star of similar spectral type and V-magnitude.									
4	(COS.sp.820580)	(2) LKHA330	COS/FUV, TIME-TAG, PSA	G160M 1611 A	BUFFER-TIME=1390; FP-POS=2			1500 Secs (1426 Secs) *[==>1426.0 Secs]*	***[2]***
Comments: This ETC run is done using the HST COS spectra of a T Tauri star of similar spectral type and V-magnitude.									
5	(COS.sp.820580)	(2) LKHA330	COS/FUV, TIME-TAG, PSA	G160M 1611 A	BUFFER-TIME=1268; FP-POS=2			1416 Secs (1342 Secs) *[==>1342.0 Secs]*	***[2]***
Comments: This ETC run is done using the HST COS spectra of a T Tauri star of similar spectral type and V-magnitude.									
6	(COS.sp.820580)	(2) LKHA330	COS/FUV, TIME-TAG, PSA	G160M 1611 A	BUFFER-TIME=1268; FP-POS=3			1416 Secs (1422 Secs) *[==>1422.0 Secs]*	***[3]***
Comments: This ETC run is done using the HST COS spectra of a T Tauri star of similar spectral type and V-magnitude.									
7	(COS.sp.820580)	(2) LKHA330	COS/FUV, TIME-TAG, PSA	G160M 1611 A	BUFFER-TIME=1268; FP-POS=4			1416 Secs (1422 Secs) *[==>1422.0 Secs]*	***[3]***
Comments: This ETC run is done using the HST COS spectra of a T Tauri star of similar spectral type and V-magnitude.									

Orbit Structure







Visit

Proposal 14703, EXLup (03), implementation Wed Jan 04 02:02:50 GMT 2017

Diagnostic Status: Warning

Scientific Instruments: COS/FUV, COS/NUV

Special Requirements: (none)

Diagnostics

(EXLup (03)) Warning (Form): For the best data quality, it is strongly recommended that all four FP-POS positions be used when observing at a given COS CENWAVE setting.

Fixed Targets

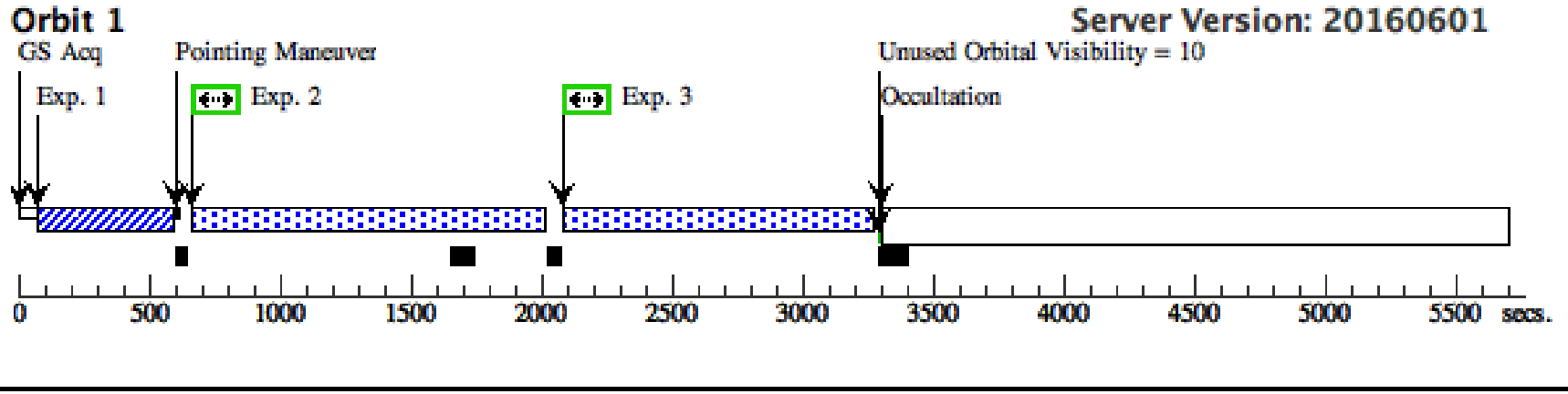
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(3)	EXLUP	RA: 16 03 5.4890 (240.7728708d) Dec: -40 18 25.44 (-40.30707d) Equinox: J2000	Proper Motion RA: -9.6 mas/yr Proper Motion Dec: -18.9 mas/yr Epoch of Position: 1984	V=8.5	Reference Frame: ICRS

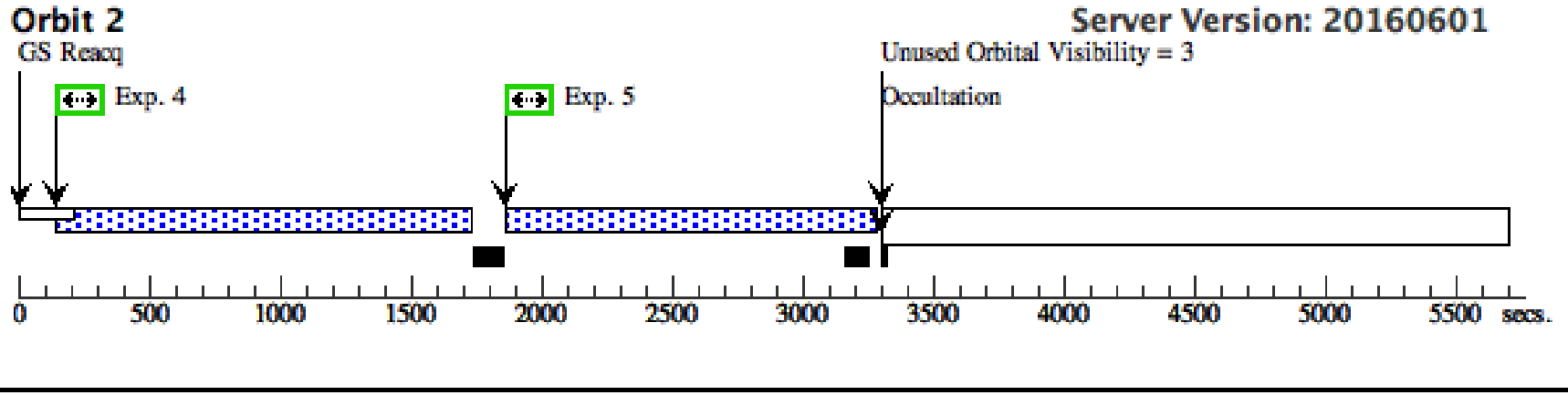
Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.
Extended=NO

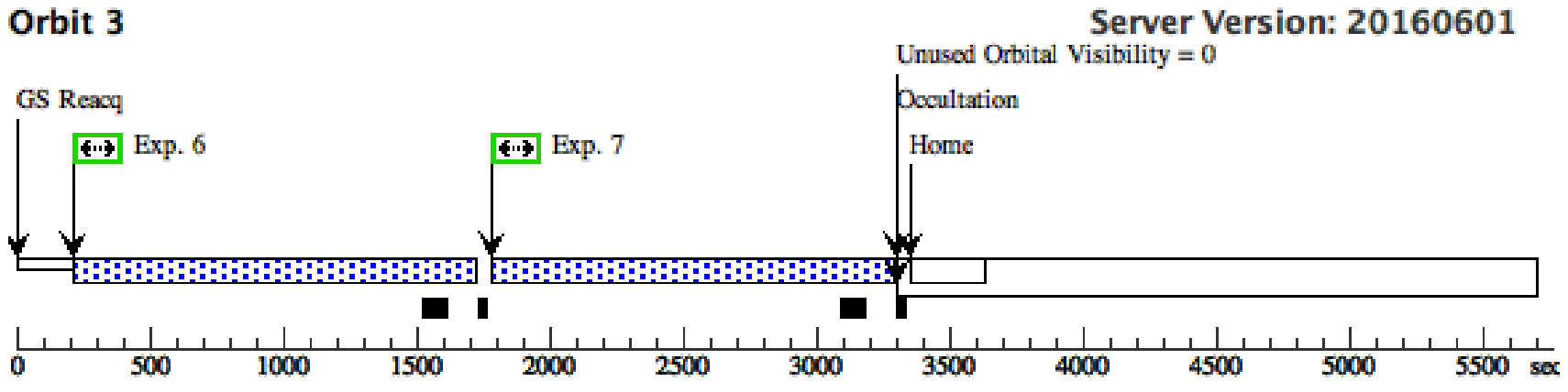
Exposures

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	(COS.ta.898799)	(3) EXLUP	COS/NUV, ACQ/IMAGE, PSA	MIRRORB				100 Secs (100 Secs) *[==>]*	*[1]*
Comments: This ETC run is done using a IUE spectrum of this object.									
2	(COS.sp.820580)	(3) EXLUP	COS/FUV, TIME-TAG, PSA	G160M 1577 A	BUFFER-TIME=8000; FP-POS=1			1200 Secs (1131 Secs) *[==>1131.0 Secs]*	*[1]*
Comments: This ETC run is done using the HST COS spectra of a T Tauri star of similar spectral type and V-magnitude.									
3	(COS.sp.820580)	(3) EXLUP	COS/FUV, TIME-TAG, PSA	G160M 1577 A	BUFFER-TIME=1113; FP-POS=1			1214 Secs (1145 Secs) *[==>1145.0 Secs]*	*[1]*
Comments: This ETC run is done using the HST COS spectra of a T Tauri star of similar spectral type and V-magnitude.									
4	(COS.sp.820580)	(3) EXLUP	COS/FUV, TIME-TAG, PSA	G160M 1611 A	BUFFER-TIME=1390; FP-POS=2			1500 Secs (1457 Secs) *[==>1457.0 Secs]*	*[2]*
Comments: This ETC run is done using the HST COS spectra of a T Tauri star of similar spectral type and V-magnitude.									
5	(COS.sp.820580)	(3) EXLUP	COS/FUV, TIME-TAG, PSA	G160M 1611 A	BUFFER-TIME=1268; FP-POS=2			1416 Secs (1373 Secs) *[==>1373.0 Secs]*	*[2]*
Comments: This ETC run is done using the HST COS spectra of a T Tauri star of similar spectral type and V-magnitude.									
6	(COS.sp.820580)	(3) EXLUP	COS/FUV, TIME-TAG, PSA	G160M 1611 A	BUFFER-TIME=1268; FP-POS=3			1416 Secs (1453 Secs) *[==>1453.0 Secs]*	*[3]*
Comments: This ETC run is done using the HST COS spectra of a T Tauri star of similar spectral type and V-magnitude.									
7	(COS.sp.820580)	(3) EXLUP	COS/FUV, TIME-TAG, PSA	G160M 1611 A	BUFFER-TIME=1268; FP-POS=4			1416 Secs (1453 Secs) *[==>1453.0 Secs]*	*[3]*
Comments: This ETC run is done using the HST COS spectra of a T Tauri star of similar spectral type and V-magnitude.									

Orbit Structure







Visit

Proposal 14703, hd144432 (04), implementation Wed Jan 04 02:02:50 GMT 2017

Diagnostic Status: Warning

Scientific Instruments: COS/FUV, COS/NUV

Special Requirements: (none)

Diagnostics

(hd144432 (04)) Warning (Form): For the best data quality, it is strongly recommended that all four FP-POS positions be used when observing at a given COS CENWAVE setting.

Fixed Targets

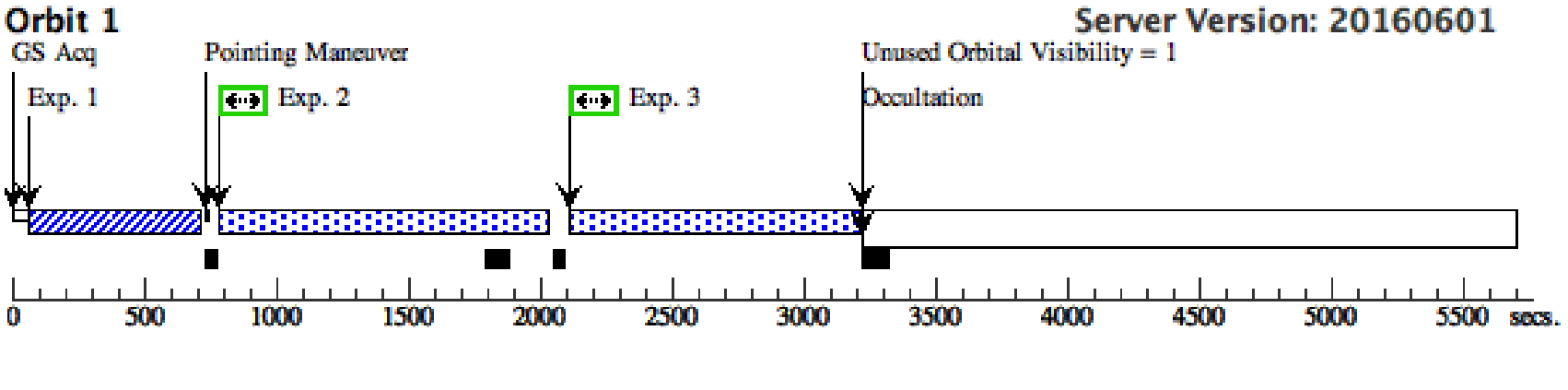
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(4)	HD144432	RA: 16 06 57.9549 (241.7414788d) Dec: -27 43 9.79 (-27.71939d) Equinox: J2000	Proper Motion RA: -6.7 mas/yr Proper Motion Dec: -20.3 mas/yr Epoch of Position: 1984	V=8.19+/-0.05	Reference Frame: ICRS

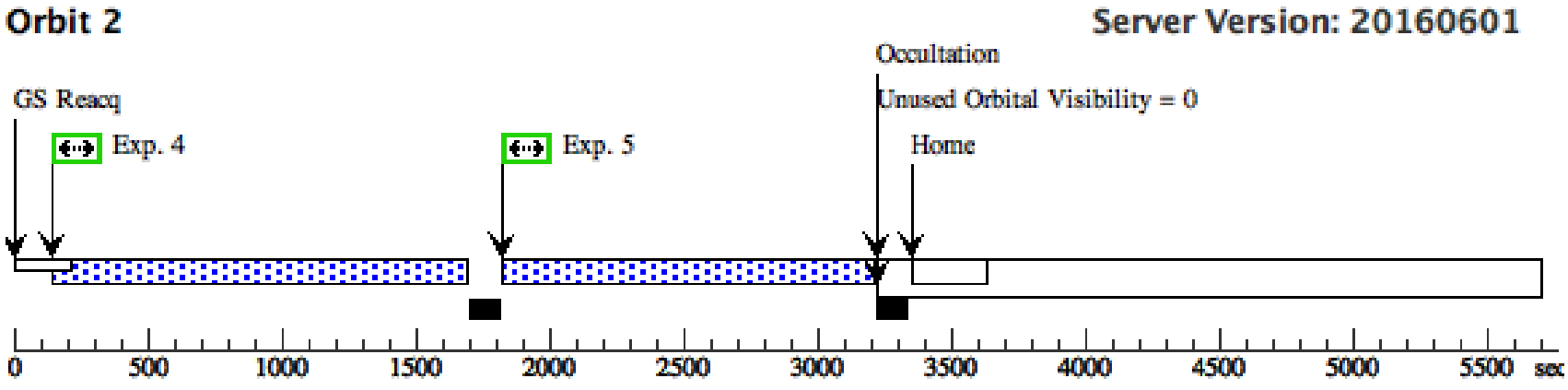
Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.
Extended=NO

Exposures

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	(COS.ta.849157)	(4) HD144432	COS/NUV, ACQ/IMAGE, BOA	MIRRORB				163 Secs (163 Secs) *[==>]*	*[1]*
Comments: This ETC run is done using the IUE low-res spectrum of this object.									
2	(COS.sp.820580)	(4) HD144432	COS/FUV, TIME-TAG, PSA	G160M 1577 A	BUFFER-TIME=800; FP-POS=1			1200 Secs (1034 Secs) *[==>1034.0 Secs]*	*[1]*
Comments: This ETC run is done using the HST COS spectra of a T Tauri star of similar spectral type and V-magnitude.									
3	(COS.sp.820580)	(4) HD144432	COS/FUV, TIME-TAG, PSA	G160M 1577 A	BUFFER-TIME=1113; FP-POS=2			1214 Secs (1048 Secs) *[==>1048.0 Secs]*	*[1]*
Comments: This ETC run is done using the HST COS spectra of a T Tauri star of similar spectral type and V-magnitude.									
4	(COS.sp.820580)	(4) HD144432	COS/FUV, TIME-TAG, PSA	G160M 1611 A	BUFFER-TIME=1390; FP-POS=3			1500 Secs (1418 Secs) *[==>1418.0 Secs]*	*[2]*
Comments: This ETC run is done using the HST COS spectra of a T Tauri star of similar spectral type and V-magnitude.									
5	(COS.sp.820580)	(4) HD144432	COS/FUV, TIME-TAG, PSA	G160M 1611 A	BUFFER-TIME=1268; FP-POS=4			1416 Secs (1334 Secs) *[==>1334.0 Secs]*	*[2]*
Comments: This ETC run is done using the HST COS spectra of a T Tauri star of similar spectral type and V-magnitude.									

Orbit Structure





Visit

Proposal 14703, hd142527 (05), implementation Wed Jan 04 02:02:50 GMT 2017

Diagnostic Status: Warning

Scientific Instruments: COS/FUV, COS/NUV

Special Requirements: (none)

Diagnostics

(hd142527 (05)) Warning (Form): For the best data quality, it is strongly recommended that all four FP-POS positions be used when observing at a given COS CENWAVE setting.

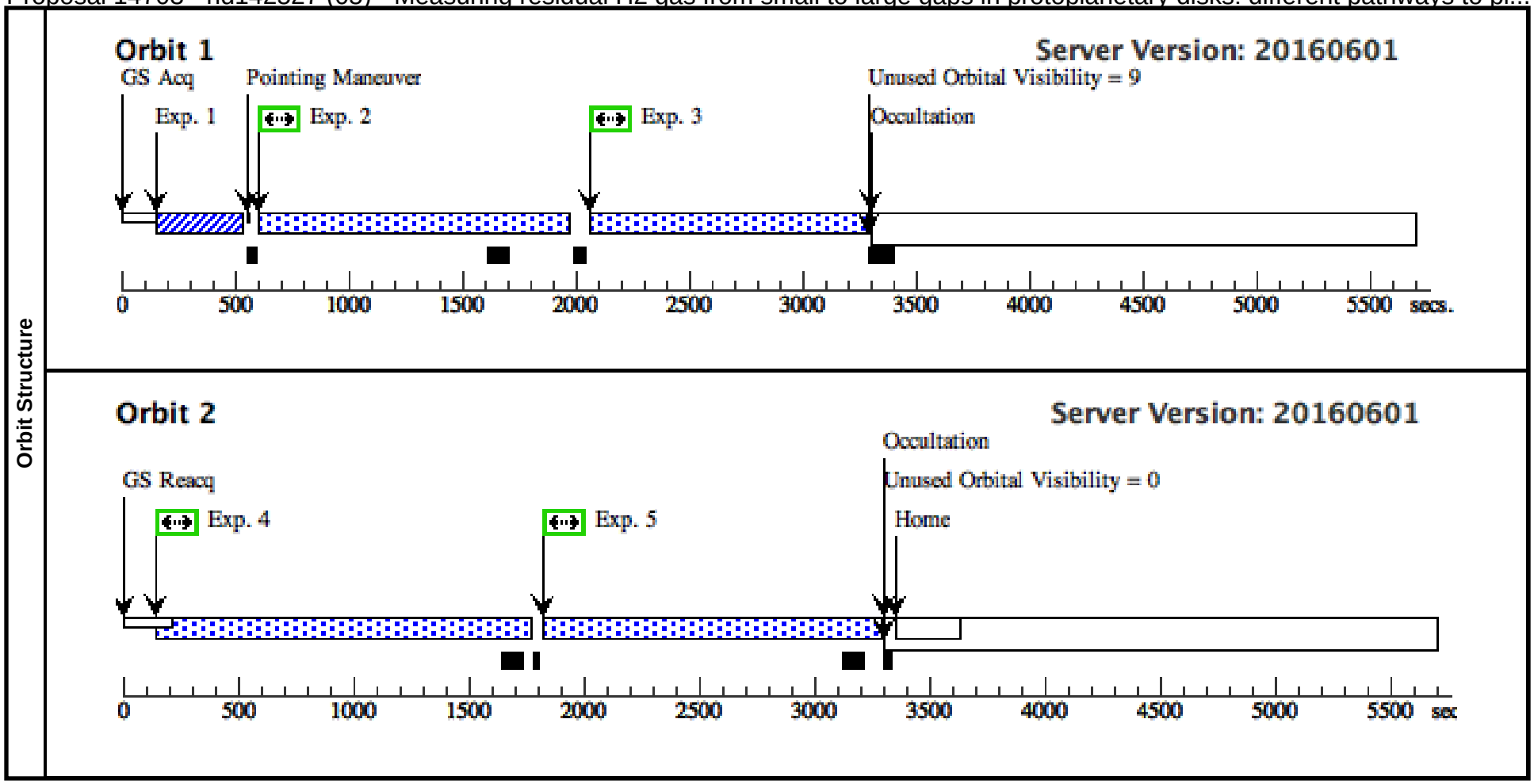
Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(5)	HD142527	RA: 15 56 41.8899 (239.1745413d) Dec: -42 19 23.27 (-42.32313d) Equinox: J2000	Proper Motion RA: -11.757 mas/yr Proper Motion Dec: -24.460 mas/yr Epoch of Position: 2015	V=8.34+/-0.05	Reference Frame: ICRS

Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.
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.898811)	(5) HD142527	COS/NUV, ACQ/IMAGE, BOA	MIRRORA				74 Secs (74 Secs) *[==>]*	***[1]***
Comments: This ETC run is done using the IUE low-res spectrum of another object in this program (HD36112), rescaled to the continuum level measured by COS in data obtained by co-I k. France.									
2	(COS.sp.820580)	(5) HD142527	COS/FUV, TIME-TAG, PSA	G160M 1577 A	BUFFER-TIME=800; FP-POS=1			1200 Secs (1153 Secs) *[==>1153.0 Secs]*	***[1]***
Comments: This ETC run is done using the HST COS spectra of a T Tauri star of similar spectral type and V-magnitude.									
3	(COS.sp.820580)	(5) HD142527	COS/FUV, TIME-TAG, PSA	G160M 1577 A	BUFFER-TIME=1113; FP-POS=2			1214 Secs (1167 Secs) *[==>1167.0 Secs]*	***[1]***
Comments: This ETC run is done using the HST COS spectra of a T Tauri star of similar spectral type and V-magnitude.									
4	(COS.sp.820580)	(5) HD142527	COS/FUV, TIME-TAG, PSA	G160M 1611 A	BUFFER-TIME=1390; FP-POS=3			1500 Secs (1500 Secs) *[==>]*	***[2]***
Comments: This ETC run is done using the HST COS spectra of a T Tauri star of similar spectral type and V-magnitude.									
5	(COS.sp.820580)	(5) HD142527	COS/FUV, TIME-TAG, PSA	G160M 1611 A	BUFFER-TIME=1268; FP-POS=4			1416 Secs (1416 Secs) *[==>]*	***[2]***
Comments: This ETC run is done using the HST COS spectra of a T Tauri star of similar spectral type and V-magnitude.									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Exp. 2
Exp. 3
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3000
3500
4000
4500
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secs.
Orbit 2
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Exp. 4
Exp. 5
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2000
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3000
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4000
4500
5000
5500
sec

Visit

Proposal 14703, hd139614 (06), implementation Wed Jan 04 02:02:50 GMT 2017

Diagnostic Status: Warning

Scientific Instruments: COS/FUV, COS/NUV

Special Requirements: (none)

Diagnostics

(hd139614 (06)) Warning (Form): For the best data quality, it is strongly recommended that all four FP-POS positions be used when observing at a given COS CENWAVE setting.

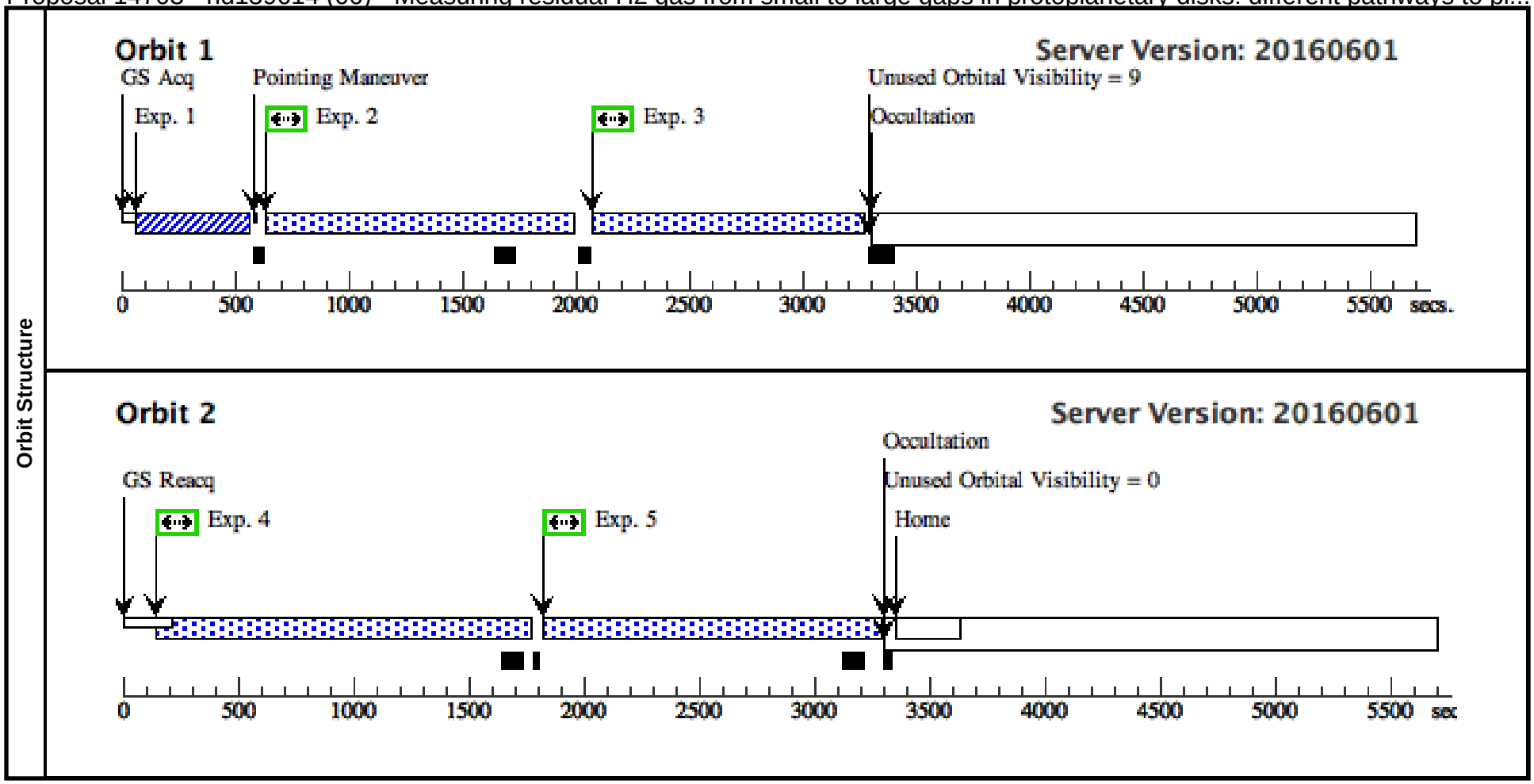
Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(6)	HD139614	RA: 15 40 46.3816 (235.1932567d) Dec: -42 29 53.55 (-42.49821d) Equinox: J2000	Proper Motion RA: -17.591 mas/yr Proper Motion Dec: -25.639 mas/yr Epoch of Position: 2015	V=8.24+/-0.05	Reference Frame: ICRS

Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.
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.898782)	(6) HD139614	COS/NUV, ACQ/IMAGE, BOA	MIRRORB				89 Secs (89 Secs) *[==>]*	*[1]*
Comments: This ETC run is done using the IUE low-res spectrum of this object.									
2	(COS.sp.820580)	(6) HD139614	COS/FUV, TIME-TAG, PSA	G160M 1577 A	BUFFER-TIME=800; FP-POS=1			1200 Secs (1138 Secs) *[==>1138.0 Secs]*	*[1]*
Comments: This ETC run is done using the HST COS spectra of a T Tauri star of similar spectral type and V-magnitude.									
3	(COS.sp.820580)	(6) HD139614	COS/FUV, TIME-TAG, PSA	G160M 1577 A	BUFFER-TIME=1113; FP-POS=2			1214 Secs (1152 Secs) *[==>1152.0 Secs]*	*[1]*
Comments: This ETC run is done using the HST COS spectra of a T Tauri star of similar spectral type and V-magnitude.									
4	(COS.sp.820580)	(6) HD139614	COS/FUV, TIME-TAG, PSA	G160M 1611 A	BUFFER-TIME=1390; FP-POS=3			1500 Secs (1500 Secs) *[==>]*	*[2]*
Comments: This ETC run is done using the HST COS spectra of a T Tauri star of similar spectral type and V-magnitude.									
5	(COS.sp.820580)	(6) HD139614	COS/FUV, TIME-TAG, PSA	G160M 1611 A	BUFFER-TIME=1268; FP-POS=4			1416 Secs (1416 Secs) *[==>]*	*[2]*
Comments: This ETC run is done using the HST COS spectra of a T Tauri star of similar spectral type and V-magnitude.									


Orbit Structure
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Server Version: 20160601
GS Acq
Pointing Maneuver
Unused Orbital Visibility = 9
Exp. 1
Exp. 2
Exp. 3
Occultation
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2500
3000
3500
4000
4500
5000
5500
secs.
Orbit 2
Server Version: 20160601
Occultation
GS Reacq
Unused Orbital Visibility = 0
Exp. 4
Exp. 5
Home
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500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
sec

Visit

Proposal 14703, twcha (07), implementation Wed Jan 04 02:02:50 GMT 2017

Diagnostic Status: Warning

Scientific Instruments: COS/FUV, COS/NUV

Special Requirements: (none)

Diagnostics

(twcha (07)) Warning (Form): For the best data quality, it is strongly recommended that all four FP-POS positions be used when observing at a given COS CENWAVE setting.

Fixed Targets

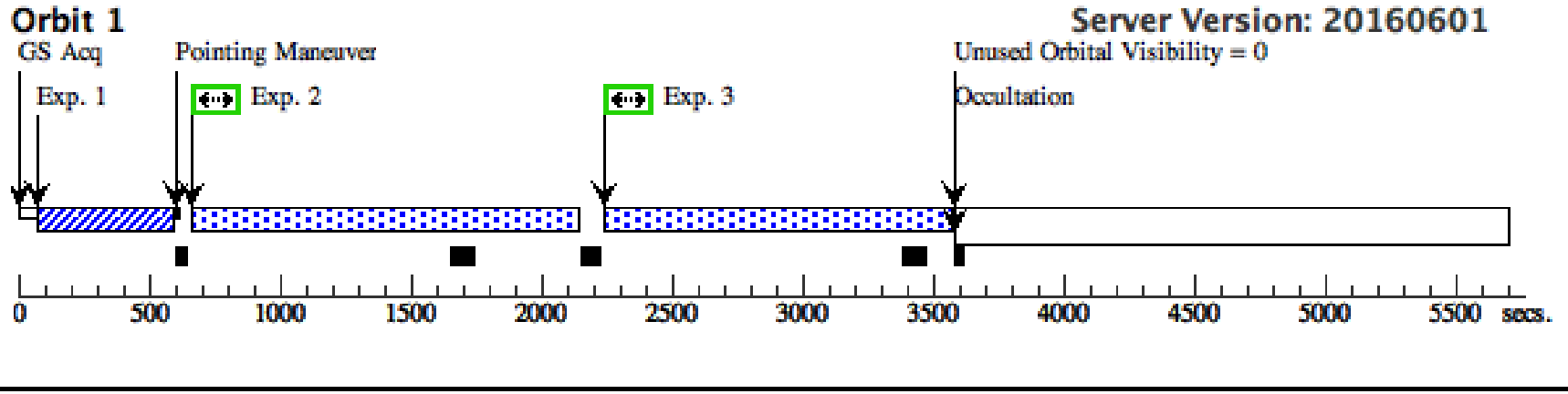
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(7)	TWCHA	RA: 10 59 1.0880 (164.7545333d) Dec: -77 22 40.71 (-77.37797d) Equinox: J2000	Proper Motion RA: -16.8 mas/yr Proper Motion Dec: 2.9 mas/yr Epoch of Position: 1984	V=12.6+/-0.5	Reference Frame: ICRS

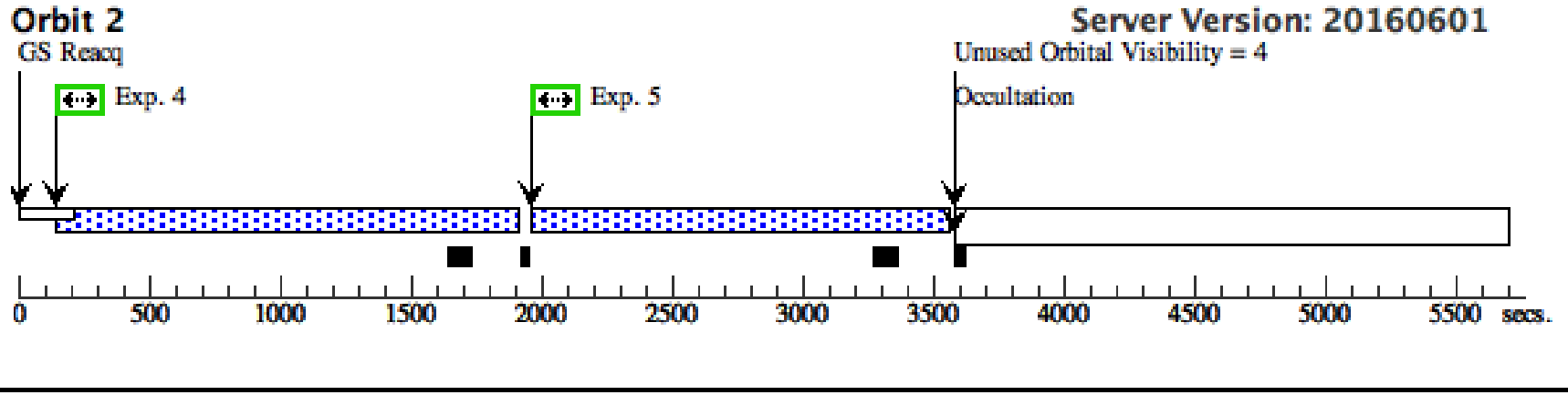
Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.
Extended=NO

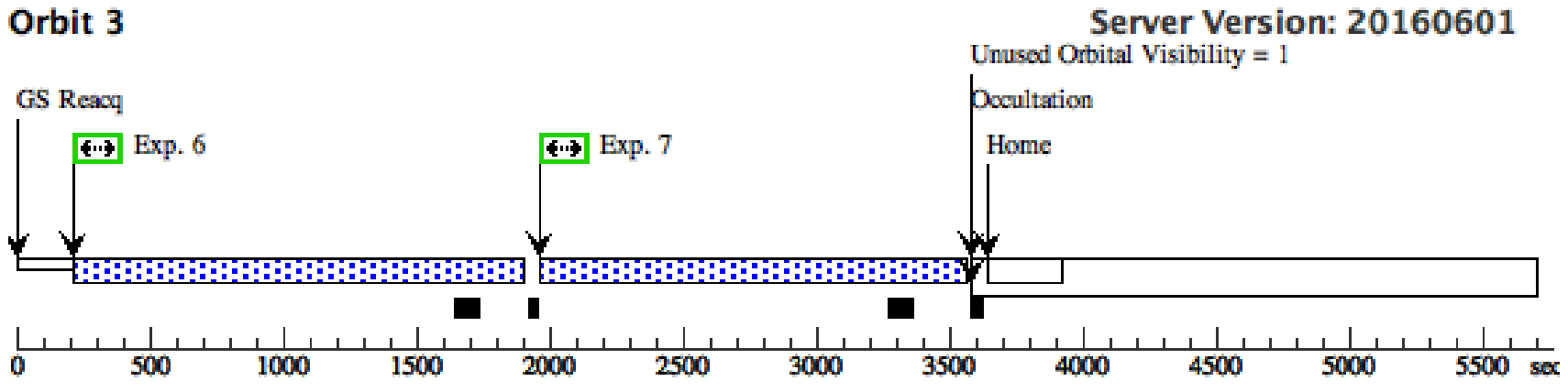
Exposures

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	(COS.ta.898806)	(7) TWCHA	COS/NUV, ACQ/IMAGE, PSA	MIRRORB				100 Secs (100 Secs) *[==>]*	*[1]*
Comments: This ETC run is done using the IUE low-res spectrum of this object.									
2	(COS.sp.820580)	(7) TWCHA	COS/FUV, TIME-TAG, PSA	G160M 1577 A	BUFFER-TIME=8000; FP-POS=1			1200 Secs (1267 Secs) *[==>1267.0 Secs]*	*[1]*
Comments: This ETC run is done using the HST COS spectra of a T Tauri star of similar spectral type and V-magnitude.									
3	(COS.sp.820580)	(7) TWCHA	COS/FUV, TIME-TAG, PSA	G160M 1577 A	BUFFER-TIME=1113; FP-POS=1			1214 Secs (1281 Secs) *[==>1281.0 Secs]*	*[1]*
Comments: This ETC run is done using the HST COS spectra of a T Tauri star of similar spectral type and V-magnitude.									
4	(COS.sp.820580)	(7) TWCHA	COS/FUV, TIME-TAG, PSA	G160M 1611 A	BUFFER-TIME=1390; FP-POS=2			1500 Secs (1635 Secs) *[==>1635.0 Secs]*	*[2]*
Comments: This ETC run is done using the HST COS spectra of a T Tauri star of similar spectral type and V-magnitude.									
5	(COS.sp.820580)	(7) TWCHA	COS/FUV, TIME-TAG, PSA	G160M 1611 A	BUFFER-TIME=1268; FP-POS=2			1416 Secs (1551 Secs) *[==>1551.0 Secs]*	*[2]*
Comments: This ETC run is done using the HST COS spectra of a T Tauri star of similar spectral type and V-magnitude.									
6	(COS.sp.820580)	(7) TWCHA	COS/FUV, TIME-TAG, PSA	G160M 1611 A	BUFFER-TIME=1390; FP-POS=3			1500 Secs (1635 Secs) *[==>1635.0 Secs]*	*[3]*
Comments: This ETC run is done using the HST COS spectra of a T Tauri star of similar spectral type and V-magnitude.									
7	(COS.sp.820580)	(7) TWCHA	COS/FUV, TIME-TAG, PSA	G160M 1611 A	BUFFER-TIME=1268; FP-POS=4			1416 Secs (1551 Secs) *[==>1551.0 Secs]*	*[3]*
Comments: This ETC run is done using the HST COS spectra of a T Tauri star of similar spectral type and V-magnitude.									

Orbit Structure







Visit

Proposal 14703, hd36112 (08), implementation Wed Jan 04 02:02:50 GMT 2017

Diagnostic Status: Warning

Scientific Instruments: COS/FUV, COS/NUV

Special Requirements: (none)

Diagnostics

(hd36112 (08)) Warning (Form): For the best data quality, it is strongly recommended that all four FP-POS positions be used when observing at a given COS CENWAVE setting.

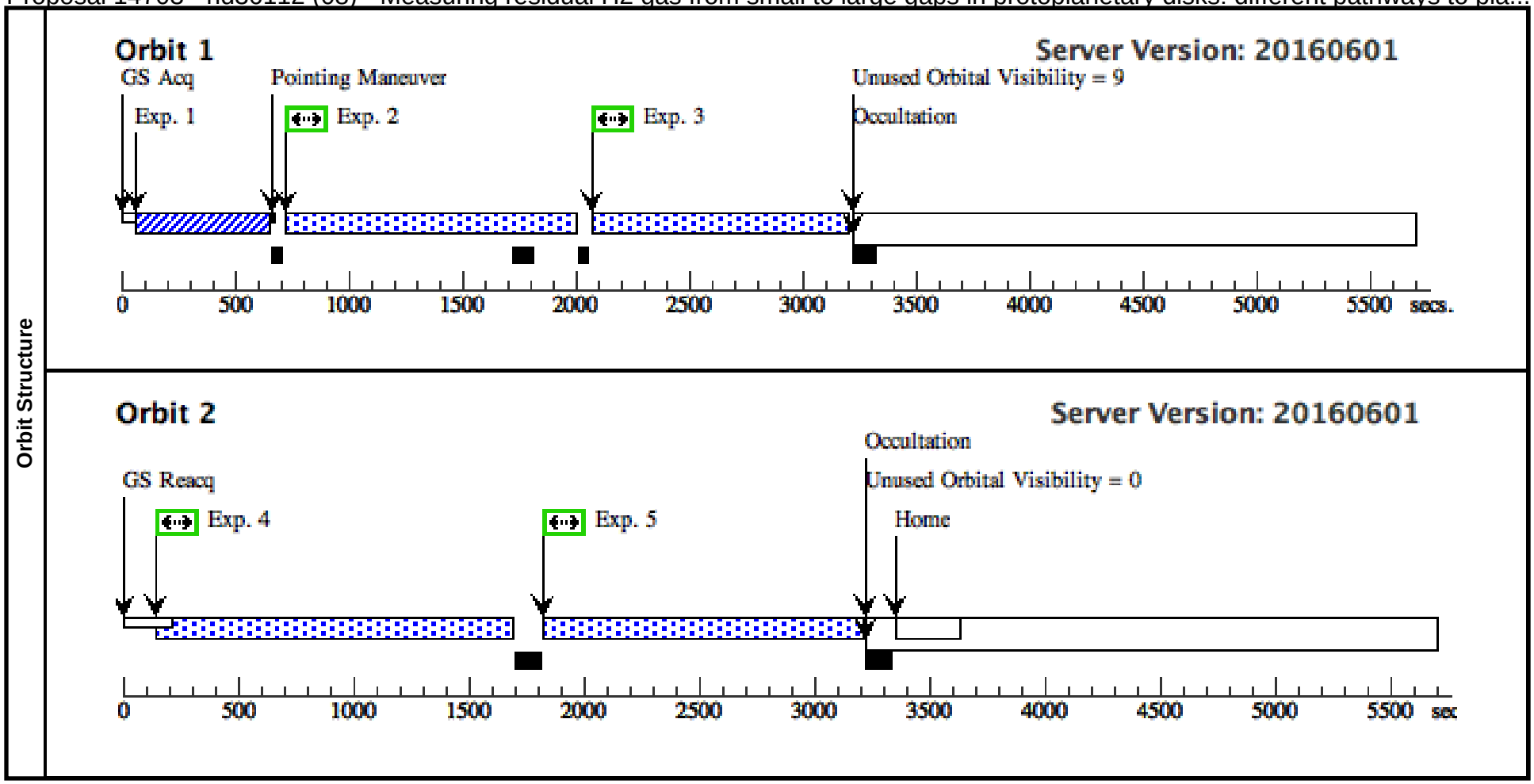
Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(8)	HD36112	RA: 05 30 27.5297 (82.6147071d) Dec: +25 19 57.08 (25.33252d) Equinox: J2000	Proper Motion RA: 3.677 mas/yr Proper Motion Dec: -26.508 mas/yr Epoch of Position: 2015	V=8.27+/-0.05	Reference Frame: ICRS

Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.
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.898796)	(8) HD36112	COS/NUV, ACQ/IMAGE, BOA	MIRRORB				130 Secs (130 Secs) *[==>]*	*[1]*
Comments: This ETC run is done using the IUE low-res spectrum of this object.									
2	(COS.sp.820580)	(8) HD36112	COS/FUV, TIME-TAG, PSA	G160M 1577 A	BUFFER-TIME=800; FP-POS=1			1200 Secs (1063 Secs) *[==>1063.0 Secs]*	*[1]*
Comments: This ETC run is done using the HST COS spectra of a T Tauri star of similar spectral type and V-magnitude.									
3	(COS.sp.820580)	(8) HD36112	COS/FUV, TIME-TAG, PSA	G160M 1577 A	BUFFER-TIME=1113; FP-POS=2			1214 Secs (1077 Secs) *[==>1077.0 Secs]*	*[1]*
Comments: This ETC run is done using the HST COS spectra of a T Tauri star of similar spectral type and V-magnitude.									
4	(COS.sp.820580)	(8) HD36112	COS/FUV, TIME-TAG, PSA	G160M 1611 A	BUFFER-TIME=1390; FP-POS=3			1500 Secs (1418 Secs) *[==>1418.0 Secs]*	*[2]*
Comments: This ETC run is done using the HST COS spectra of a T Tauri star of similar spectral type and V-magnitude.									
5	(COS.sp.820580)	(8) HD36112	COS/FUV, TIME-TAG, PSA	G160M 1611 A	BUFFER-TIME=1268; FP-POS=4			1416 Secs (1334 Secs) *[==>1334.0 Secs]*	*[2]*
Comments: This ETC run is done using the HST COS spectra of a T Tauri star of similar spectral type and V-magnitude.									


Orbit Structure
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Server Version: 20160601
GS Acq
Pointing Maneuver
Unused Orbital Visibility = 9
Exp. 1
Exp. 2
Exp. 3
Occultation
0
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secs.
Orbit 2
Server Version: 20160601
Occultation
GS Reacq
Unused Orbital Visibility = 0
Exp. 4
Exp. 5
Home
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2500
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5000
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sec