16832 - Cycle 29 COS FUV Change in Spectroscopic Sensitivity Trends

Cycle: 29, Proposal Category: CAL/COS

(Availability Mode: RESTRICTED)

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) WD0308-565 DARK	COS/FUV COS/NUV S/C	3	04-Oct-2021 07:01:00.0	yes
02	(2) GD71 DARK WAVE	COS/FUV COS/NUV S/C	2	04-Oct-2021 07:01:02.0	yes
03	(1) WD0308-565 DARK	COS/FUV COS/NUV S/C	3	04-Oct-2021 07:01:05.0	yes
04	(2) GD71 DARK WAVE	COS/FUV COS/NUV S/C	2	04-Oct-2021 07:01:06.0	yes

Visit	*Targets used in Visit*	*Configurations used in Visit*	*Orbits Used*	*Last Orbit Planner Run*	*OP Current with Visit?*
05	(1) WD0308-565 DARK	COS/FUV COS/NUV S/C	3	04-Oct-2021 07:01:08.0	yes
06	(2) GD71 DARK WAVE	COS/FUV COS/NUV S/C	2	04-Oct-2021 07:01:10.0	yes
07	(1) WD0308-565 DARK	COS/FUV COS/NUV S/C	3	04-Oct-2021 07:01:13.0	yes
08	(1) WD0308-565 DARK	COS/FUV COS/NUV S/C	3	04-Oct-2021 07:01:15.0	yes
09	(2) GD71 DARK WAVE	COS/FUV COS/NUV S/C	2	04-Oct-2021 07:01:17.0	yes
10	(1) WD0308-565 DARK	COS/FUV COS/NUV S/C	3	04-Oct-2021 07:01:19.0	yes

26 Total Orbits Used

ABSTRACT

The FUV gratings are the most used modes on COS. They have experienced changes in sensitivity since the instrument was installed. The trends in the time-dependent spectroscopic sensitivity depend on the grating, segment and wavelength. Each cycle a calibration proposal to monitor the sensitivity of each FUV grating mode at several cenwave settings is implemented. The monitor runs on an approximate schedule of one set of visits every two months. This program is contingency program that will be triggered in the case that the sensitivity of any grating/mode is found to be rapidly decreasing and therefore requiring a higher cadence of observations.

OBSERVING DESCRIPTION

The description below is from program 16324, the main COS FUV Spectroscopic Sensitivity Monitor for Cycle 28, modified with the addition of cenwave G160M/1611. This is a contingency program, and the exposure sequence in each visit are identical to those in the main program. However, there are no "between" constraints as yet specified for each of these visits. If it is necessary to trigger the contigency observations, the required dates will be provided.

As part of the standard monitoring sequence the standard stars, WD0308-565 and GD71, will be observed every two months (except for May-July, during which time GD71 is unavailable).

Each sequence consists of 5 orbits: a 3 orbit visit (target WD0308-565) that covers
G130M/1055/FUVA,
G130M/1222,
G130M/1291,
G130M/1327/FUVA,
G160M/1533/FUVB
G160M/1577/FUVB,
G160M/1611/FUVB,
G160M/1623/FUVB,
G140L/800/FUVA,
G140L/1105/FUVA,
G140L/1280,

and a 2 orbit visit (target GD71) that covers
G130M/1096/FUVB,
G160M/1533/FUVA,
G160M/1577/FUVA,
G160M/1611/FUVA,
G160M/1623/FUVA.

These comprise the shortest and longest central wavelengths of the normal modes with each grating. Additionally, G130M/1055, and 1096 (the blue modes) and G130M/1291 are included. Also included is G160M/1577, which used to be the shortest cenwave before the introduction of G160M/1533 in Cycle 26. The G130M 1291 and 1327 observations will be done at LP5, G140L observations will be done at LP3, G130M/1222 and G160M observations will be done at LP4, and G130M/1055 and G130M/1096 will be done at LP2.

G160M/1611 was added in Cycle 29 in order to monitor this highly used but untracked cenwave, and to investigate the detector position vs wavelength dependence of the TDS.

G160M long exposures move to LP6 in October 2022 (visit 10).

SNR requirements:
- The general requirement is for an SNR of 15 per resel at the wavelength of least sensitivity for the standard modes, and SNR of 15 per resel beyond some minimum wavelength for the blue modes and c1222. The G140L/800 and 1280 modes have slightly different criteria, to provide SNR of >~5 per resel at wavelengths below ~1080 Ang.
- The aim is to obtaine TDS calibration better than 2% for standard modes and 10% for blue modes.

ETC calculations:
- The ETC calculations use CALSPEC standard model versions wd0308_565_mod_003.fits and gd71_mod_010.fits against which the TDS model slopes are referenced.
- The ETC calculations are specified by requiring SNR of 15 at specific wavelengths, except for the following:
G140L/800 SNR of 6 per resel at 1045 Ang (only FUVA is used)
G140L/1280 SNR of 12 per resel at 1090 Ang (lies on FUVB)

- For the blue modes and c1222, the wavelengths specified for SNR of 15 are:
990 Ang for c1096 (Only FUVB is used)
1120 Ang for c1055 (lies on FUVA)
1130 Ang for c1222 (lies on FUVB)

Time constraints:

- Complete monitoring sequence should occur every 2 months starting in December 2018.
- GD71 is unschedulable May-July 2018, and therefore that sequence will consist of only one visit.

The exposure times and organization of visits follows the scheme used in Cycle 28, with the exception of the exposure times for cenwaves 1055, 1096, 1280, 1577/B and 1623/B which have been updated to reflect the most recent exposure times following updates to the TDSTAB and FLUXTAB. As in Cycle 28, for all but one set of the WD0308-565 observations using G160M, the specifications now are SEGMENT=B (i.e. segment A is turned off). The one exception is the June sequence (visit 07) for which the specifications are SEGMENT=BOTH for these modes, because GD71 is not available during this period. In Cycle 29, an additional NUV ACQ/IMAGE was added at the beginning of the second orbit to protect against guide star reaquisition failures.

Visit

Proposal 16832, WD0308-C1 (01) Mon Oct 04 11:01:20 GMT 2021

Diagnostic Status: No Diagnostics

Scientific Instruments: S/C, COS/FUV, COS/NUV

Special Requirements: SCHED 100%

Comments: All G160M observations are with SEGMENT = B (i.e. segment A is turned off).

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	WD0308-565	RA: 03 09 47.9200 (47.4496667d)	Proper Motion RA: 149.241 mas/yr	V=14.07+/-0.02	Reference Frame: ICRS
		Dec: -56 23 49.41 (-56.39706d)	Proper Motion Dec: 66.919 mas/yr		
		Equinox: J2000	Epoch of Position: 2000		

Comments: Coordinates carried over from Cycle 25 proposal, checked against SIMBAD, which uses the GAIA DR2 catalog.
Proper motions changed to mas/yr, from SIMBAD, also using the GAIA DR2 catalog.
Category=STAR
Description=[DB]
Extended=NO

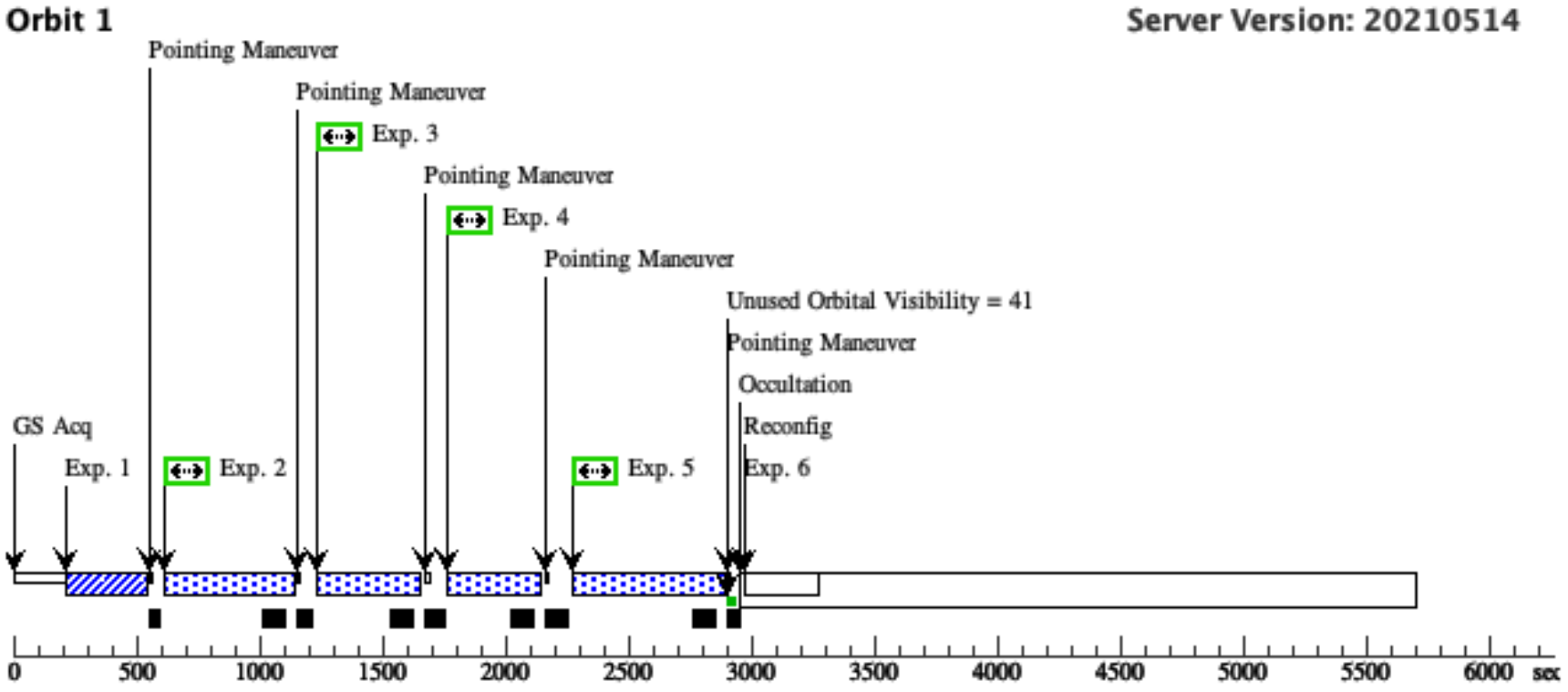
Exposures

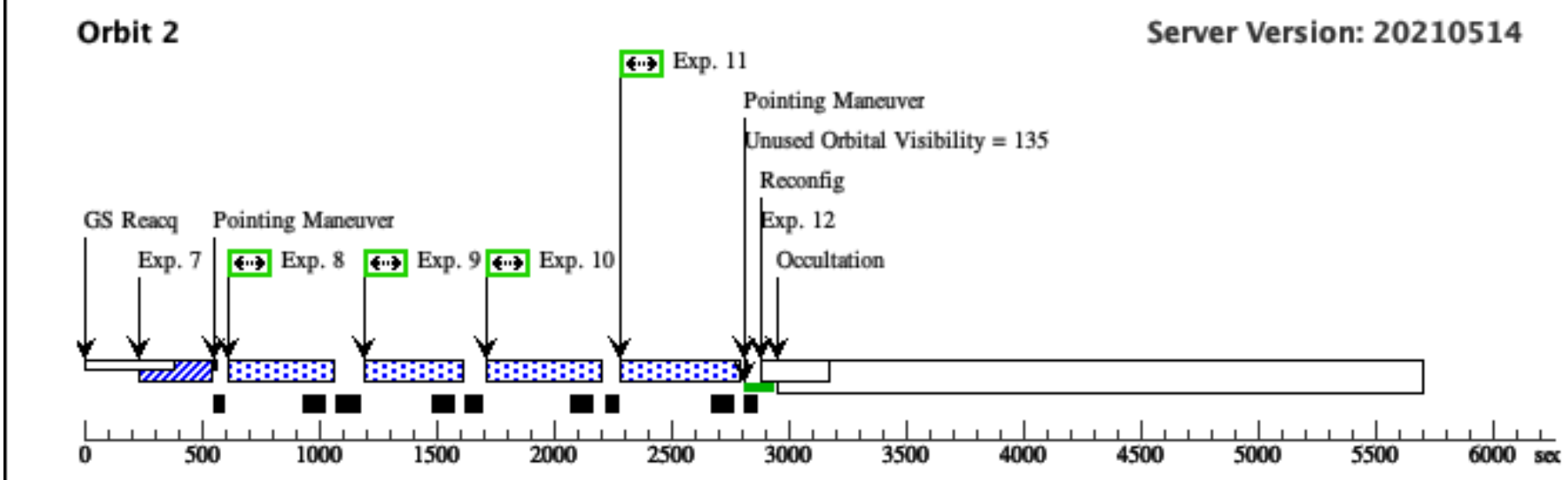
#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	ACQ/IM (839564)	(1) WD0308-565	COS/NUV, ACQ/IMAGE, BOA	MIRRORA				45 Secs (45 Secs) *[==>]*	*[1]*
	Comments: cycle 24 comment: exposure times not reduced following updated ETC calculations, differences not enough to affect orbit requested. *Cycle 28 comment: we continue to use the same exposure time since differences do not affect orbit request.*								
2	G130M/1055/LP2 (COS.sp.1540024)	(1) WD0308-565	COS/FUV, TIME-TAG, PSA	G130M 1055 A	BUFFER-TIME=208; FP-POS=3; SEGMENT=BOTH; LIFETIME-POS=LP2			318 Secs (318 Secs) *[==>]*	*[1]*
	Comments: Cycle 29 comment: exposure time updated following blue modes TDS and FLUXTAB update. *ETC buffer time is 1377 sec* *Set buffer time = exptime - 110 sec*								
3	G130M/1222/LP4 (COS.sp.1457646)	(1) WD0308-565	COS/FUV, TIME-TAG, PSA	G130M 1222 A	BUFFER-TIME=157; FP-POS=3; LIFETIME-POS=LP4; SEGMENT=BOTH			267 Secs (267 Secs) *[==>]*	*[1]*
	Comments: ETC buffer time is 392 sec. *Set buffer time = exptime - 110 sec*								
4	G130M/1291/LP5 (COS.sp.1457647)	(1) WD0308-565	COS/FUV, TIME-TAG, PSA	G130M 1291 A	BUFFER-TIME=126; FP-POS=3; LIFETIME-POS=LP5; SEGMENT=BOTH			236 Secs (236 Secs) *[==>]*	*[1]*
	Comments: ETC buffer time is 323 sec. *Set buffer time = exptime - 110 sec*								
5	G140L/1280/LP3 (COS.sp.1540033)	(1) WD0308-565	COS/FUV, TIME-TAG, PSA	G140L 1280 A	BUFFER-TIME=291; FP-POS=3; LIFETIME-POS=LP3; SEGMENT=BOTH			401 Secs (401 Secs) *[==>]*	*[1]*
	Comments: ETC buffer time is 503 sec. *Set buffer time = exptime - 110 sec*								
6		DARK	S/C, DATA, NONE			QASISTATES COS FUV HVLOW HVLOW		1 Secs (1 Secs) *[==>]*	*[1]*
	Comments: Work-around to efficiently schedule the reconfiguration to SEG-A. Eliminates SPSS induced gaps.								
7	ACQ/IM (839564)	(1) WD0308-565	COS/NUV, ACQ/IMAGE, BOA	MIRRORA				45 Secs (45 Secs) *[==>]*	*[2]*
	Comments: cycle 24 comment: exposure times not reduced following updated ETC calculations, differences not enough to affect orbit requested. *Cycle 28 comment: we continue to use the same exposure time since differences do not affect orbit request.*								

8	G160M/1533/B/LP4 (COS.sp.1457649)	(1) WD0308-565	COS/FUV, TIME-TAG, PSA	G160M 1533 A	FP-POS=3; BUFFER-TIME=113; LIFETIME-POS=LP4; SEGMENT=B		223 Secs (223 Secs)	
							[==>]	***[2]***
Comments: ETC buffer time is 502 sec. Set buffer time = exptime - 110 sec.								
9	G160M/1577/B/LP4 (COS.sp.1540036)	(1) WD0308-565	COS/FUV, TIME-TAG, PSA	G160M 1577 A	FP-POS=3; BUFFER-TIME=181; LIFETIME-POS=LP4; SEGMENT=B		291 Secs (291 Secs)	
							[==>]	***[2]***
Comments: ETC buffer time is 644 sec. Set buffer time = exptime - 110 sec								
10	G160M/1611/B/LP4 (COS.sp.1540046)	(1) WD0308-565	COS/FUV, TIME-TAG, PSA	G160M 1611 A	FP-POS=3; BUFFER-TIME=250; LIFETIME-POS=LP4; SEGMENT=B		360 Secs (360 Secs)	
							[==>]	***[2]***
Comments: ETC buffer time is 755 sec. Set buffer time = exptime - 110 sec								
11	G160M/1623/B/LP4 (COS.sp.1540050)	(1) WD0308-565	COS/FUV, TIME-TAG, PSA	G160M 1623 A	FP-POS=3; BUFFER-TIME=278; LIFETIME-POS=LP4; SEGMENT=B		388 Secs (388 Secs)	
							[==>]	***[2]***
Comments: ETC buffer time is 814 sec. Set buffer time = exptime - 110 sec								
12		DARK	S/C, DATA, NONE			QASISTATES COS FUV HVLOW HVLOW	1 Secs (1 Secs)	
							[==>]	***[2]***
Comments: Work-around to efficiently schedule the reconfiguration to SEG-A. Eliminates SPSS induced gaps.								
13	G140L/800/FUVA/LP3 (COS.sp.1457778)	(1) WD0308-565	COS/FUV, TIME-TAG, PSA	G140L 800 A	BUFFER-TIME=257; FP-POS=3; SEGMENT=A; LIFETIME-POS=LP3		367 Secs (367 Secs)	
							[==>]	***[3]***
Comments: ETC buffer time is 350 sec. Set buffer time = exptime - 110 sec								

	14	G140L/1105 /FUVA/LP3 (COS.sp.145 7846)	(1) WD0308-565	COS/FUV, TIME-TAG, PSA	G140L 1105 A	BUFFER-TIME=222; FP-POS=3; SEGMENT=A; LIFETIME-POS=LP3	332 Secs (332 Secs) *[==>]*	***[3]***
		Comments: ETC buffer time is 358 sec. *Set buffer time = exptime - 110 sec*						
	15	G130M/1327/FUVA/LP5 (COS.sp.145 7657)	(1) WD0308-565	COS/FUV, TIME-TAG, PSA	G130M 1327 A	BUFFER-TIME=164; FP-POS=3; LIFETIME-POS=LP5; SEGMENT=A	274 Secs (274 Secs) *[==>]*	***[3]***
		Comments: ETC buffer time is 324 sec. *set buffer time = exptime - 110 sec*						

Orbit Structure

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Occultation
GS Reacq
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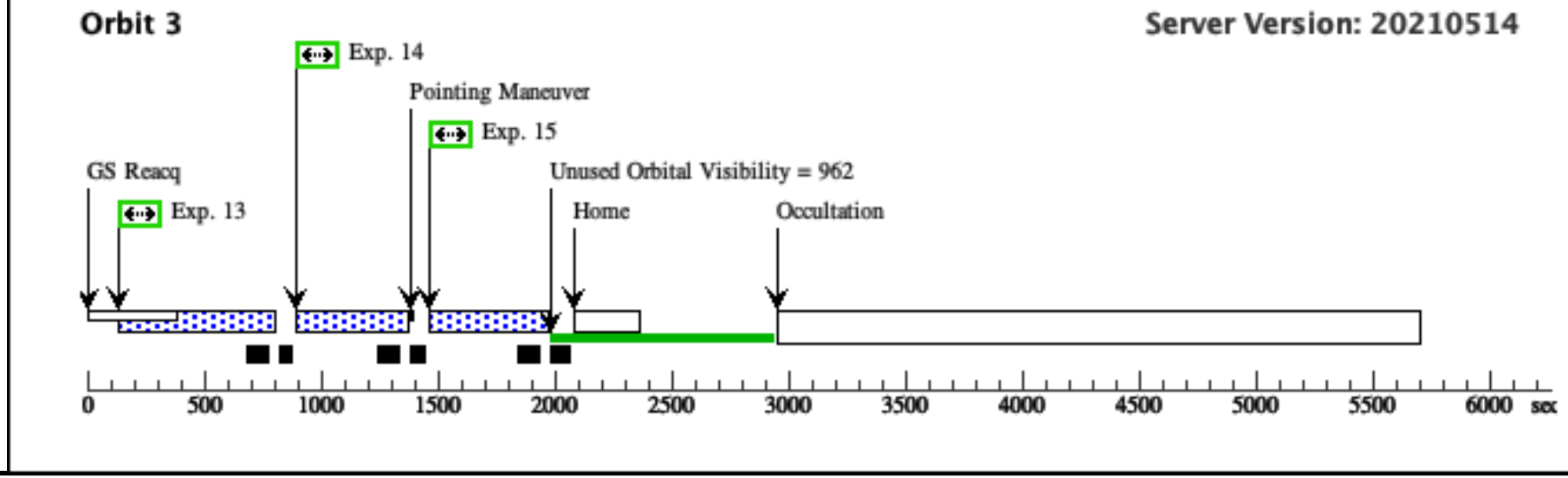
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Pointing Maneuver
Exp. 15
GS Reacq
Unused Orbital Visibility = 962
Exp. 13
Home
Occultation
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500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
6000
sec

Visit

Proposal 16832, GD71-C1 (02) Mon Oct 04 11:01:20 GMT 2021

Diagnostic Status: No Diagnostics

Scientific Instruments: S/C, COS/FUV, COS/NUV

Special Requirements: SCHED 100%

Comments: exposure 4: GO wavecal to calculate the OSM shifts of the G130M/1096/FUVB observation
George Chapman added Exposure 3
All G160M observations are with SEGMENT = A (i.e. segment B is turned off).

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(2)	GD71	RA: 05 52 27.6200 (88.1150833d)	Proper Motion RA: 76.841 mas/yr	V=13.06+/-0.01	Reference Frame: ICRS
		Dec: +15 53 13.23 (15.88701d)	Proper Motion Dec: -172.944 mas/yr		
		Equinox: J2000	Epoch of Position: 2000		

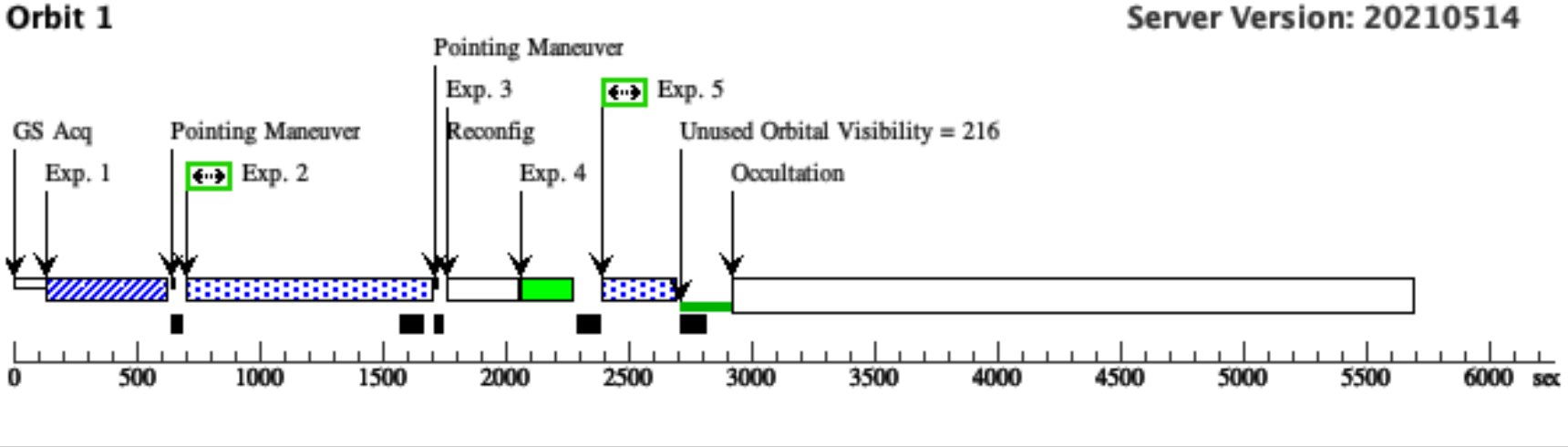
Comments: Co-ordinates and proper motions updated with values from SIMBAD, which uses the GAIA DR2 catalog.
Differences from previous co-ordinates are in decimal places in seconds of time and arcsec, within the stated errors.
Category=STAR
Description=[DA]
Extended=NO

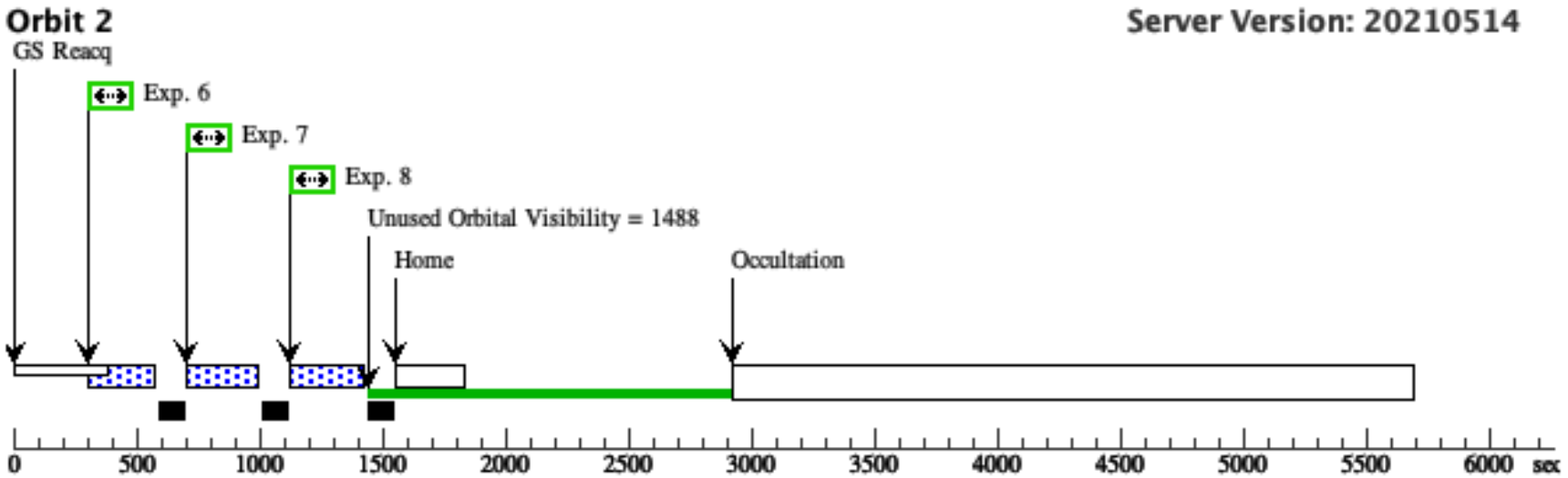
Exposures

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	ACQ/IM (COS.ta.839574)	(2) GD71	COS/NUV, ACQ/IMAGE, BOA	MIRRORB				90 Secs (90 Secs) *[==>]*	***[1]***
Comments: Exptime for S/N of 60 is 105.5 sec, using 90 sec leads to S/N of 55. *Cycle 28 comment: we continue to use the same exposure time since differences do not affect orbit request.*									
2	G130M/1096/FUVB/LP2 (COS.sp.1540055)	(2) GD71	COS/FUV, TIME-TAG, PSA	G130M 1096 A	BUFFER-TIME=683; FP-POS=3; SEGMENT=B; LIFETIME-POS=LP2			793 Secs (793 Secs) *[==>]*	***[1]***
Comments: Cycle 29 comment: exposure time updated following blue modes TDSTAB and FLUXTAB update. *FUVB only (all ETC warnings come from FUVA).* *The FUVB count rate is 566 cts/sec, so the buffer time is 2.35E6/566 = 4152 sec.* *Set buffer-time = exptime - 110 sec*									
3		DARK	S/C, DATA, NONE			QASISTATES COS FUV HVLOW HVLOW		1 Secs (1 Secs) *[==>]*	***[1]***
Comments: Work-around to efficiently schedule the SEG-B to SEG-A reconfiguration. Eliminates SPSS induced gaps.									
4	G130M/1096/FUVA WAVECAL/LP2	WAVE	COS/FUV, TIME-TAG, WCA	G130M 1096 A	FP-POS=3; SEGMENT=A; FLASH=NO; LIFETIME-POS=LP2			160 Secs (160 Secs) *[==>]*	***[1]***
Comments: Cycle 28: the exposure time has been updated to 160 seconds. This was determined after characterizing the decrease by about 12 percent in the summed count-rate with time over the period between December 2017 and April 2020.									
5	G160M/1533/FUVA/LP4 (COS.sp.1457660)	(2) GD71	COS/FUV, TIME-TAG, PSA	G160M 1533 A	BUFFER-TIME=106; FP-POS=3; SEGMENT=A; LIFETIME-POS=LP4			106 Secs (106 Secs) *[==>]*	***[1]***
Comments: FUVA only (all ETC warnings come from FUVB). *The FUVA count rate is 9240 cts/sec, so the buffer time is 2.35E6/9240 = 254 sec.* *Set buffer-time = exptime*									
6	G160M/1577/FUVA/LP4 (COS.sp.1457661)	(2) GD71	COS/FUV, TIME-TAG, PSA	G160M 1577 A	BUFFER-TIME=135; FP-POS=3; SEGMENT=A; LIFETIME-POS=LP4			135 Secs (135 Secs) *[==>]*	***[2]***
Comments: See Visit 02 comments.									

	7	G160M/1611/FUVA/LP4 (COS.sp.1540058)	(2) GD71	COS/FUV, TIME-TAG, PSA	G160M 1611 A	BUFFER-TIME=159; FP-POS=3; SEGMENT=A; LIFETIME-POS=LP4	159 Secs (159 Secs) *[==>]*	***[2]***
		Comments: FUVA only (all ETC warnings come from FUVB). *The FUVA count rate is 5172 cts/sec, so the buffer time is 2.35E6/5172 = 454 sec.* *Set buffer-time = exptime*						
	8	G160M/1623/FUVA/LP4 (COS.sp.1457663)	(2) GD71	COS/FUV, TIME-TAG, PSA	G160M 1623 A	BUFFER-TIME=177; FP-POS=3; SEGMENT=A; LIFETIME-POS=LP4	177 Secs (177 Secs) *[==>]*	***[2]***
		Comments: FUVA only (all ETC warnings come from FUVB). *The FUVA count rate is 5095 cts/sec, so the buffer time is 2.35E6/5095 = 461 sec.* *Set buffer-time = exptime*						

Orbit Structure





Visit

Proposal 16832, WD0308-C2 (03) Mon Oct 04 11:01:20 GMT 2021

Diagnostic Status: No Diagnostics

Scientific Instruments: S/C, COS/FUV, COS/NUV

Special Requirements: SCHED 100%

Comments: All G160M observations are with SEGMENT = B (i.e. segment A is turned off).

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	WD0308-565	RA: 03 09 47.9200 (47.4496667d)	Proper Motion RA: 149.241 mas/yr	V=14.07+/-0.02	Reference Frame: ICRS
		Dec: -56 23 49.41 (-56.39706d)	Proper Motion Dec: 66.919 mas/yr		
		Equinox: J2000	Epoch of Position: 2000		

Comments: Coordinates carried over from Cycle 25 proposal, checked against SIMBAD, which uses the GAIA DR2 catalog.
Proper motions changed to mas/yr, from SIMBAD, also using the GAIA DR2 catalog.
Category=STAR
Description=[DB]
Extended=NO

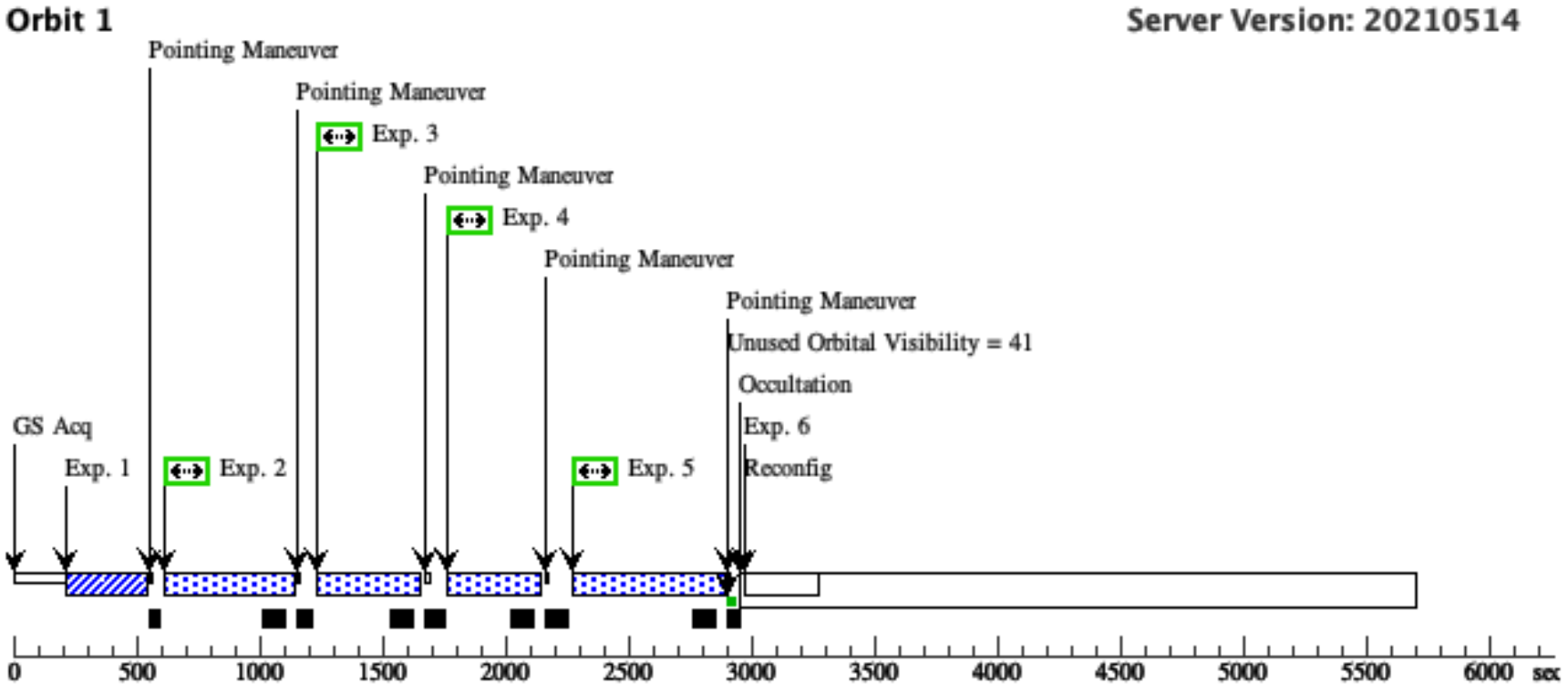
Exposures

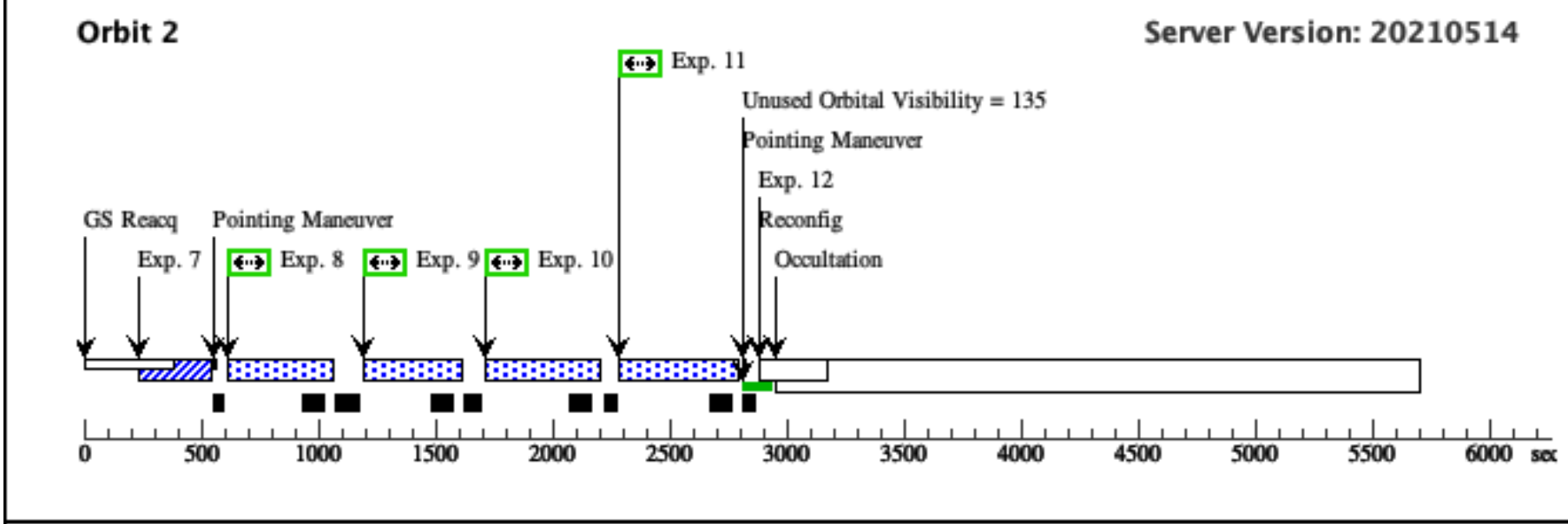
#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	ACQ/IM (839564)	(1) WD0308-565	COS/NUV, ACQ/IMAGE, BOA	MIRRORA				45 Secs (45 Secs) *[==>]*	*[1]*
	Comments: cycle 24 comment: exposure times not reduced following updated ETC calculations, differences not enough to affect orbit requested. *Cycle 28 comment: we continue to use the same exposure time since differences do not affect orbit request.*								
2	G130M/1055/LP2 (COS.sp.1540024)	(1) WD0308-565	COS/FUV, TIME-TAG, PSA	G130M 1055 A	BUFFER-TIME=208; FP-POS=3; SEGMENT=BOTH; LIFETIME-POS=LP2			318 Secs (318 Secs) *[==>]*	*[1]*
	Comments: Cycle 29 comment: exposure time updated following blue modes TDS and FLUXTAB update. *ETC buffer time is 1377 sec* *Set buffer time = exptime - 110 sec*								
3	G130M/1222/LP4 (COS.sp.1457646)	(1) WD0308-565	COS/FUV, TIME-TAG, PSA	G130M 1222 A	BUFFER-TIME=157; FP-POS=3; LIFETIME-POS=LP4; SEGMENT=BOTH			267 Secs (267 Secs) *[==>]*	*[1]*
	Comments: ETC buffer time is 392 sec. *Set buffer time = exptime - 110 sec*								
4	G130M/1291/LP5 (COS.sp.1457647)	(1) WD0308-565	COS/FUV, TIME-TAG, PSA	G130M 1291 A	BUFFER-TIME=126; FP-POS=3; LIFETIME-POS=LP5; SEGMENT=BOTH			236 Secs (236 Secs) *[==>]*	*[1]*
	Comments: ETC buffer time is 323 sec. *Set buffer time = exptime - 110 sec*								
5	G140L/1280/LP3 (COS.sp.1540033)	(1) WD0308-565	COS/FUV, TIME-TAG, PSA	G140L 1280 A	BUFFER-TIME=291; FP-POS=3; LIFETIME-POS=LP3; SEGMENT=BOTH			401 Secs (401 Secs) *[==>]*	*[1]*
	Comments: ETC buffer time is 503 sec. *Set buffer time = exptime - 110 sec*								
6		DARK	S/C, DATA, NONE			QASISTATES COS FUV HVLOW HVLOW		1 Secs (1 Secs) *[==>]*	*[1]*
	Comments: Work-around to efficiently schedule the reconfiguration to SEG-A. Eliminates SPSS induced gaps.								
7	ACQ/IM (839564)	(1) WD0308-565	COS/NUV, ACQ/IMAGE, BOA	MIRRORA				45 Secs (45 Secs) *[==>]*	*[2]*
	Comments: cycle 24 comment: exposure times not reduced following updated ETC calculations, differences not enough to affect orbit requested. *Cycle 28 comment: we continue to use the same exposure time since differences do not affect orbit request.*								

8	G160M/1533/B/LP4 (COS.sp.1457649)	(1) WD0308-565	COS/FUV, TIME-TAG, PSA	G160M 1533 A	FP-POS=3; BUFFER-TIME=113; LIFETIME-POS=LP4; SEGMENT=B		223 Secs (223 Secs) *[==>]*	***[2]***
Comments: ETC buffer time is 502 sec. *Set buffer time = exptime - 110 sec.*								
9	G160M/1577/B/LP4 (COS.sp.1540036)	(1) WD0308-565	COS/FUV, TIME-TAG, PSA	G160M 1577 A	FP-POS=3; BUFFER-TIME=181; LIFETIME-POS=LP4; SEGMENT=B		291 Secs (291 Secs) *[==>]*	***[2]***
Comments: ETC buffer time is 644 sec. *Set buffer time = exptime - 110 sec*								
10	G160M/1611/B/LP4 (COS.sp.1540046)	(1) WD0308-565	COS/FUV, TIME-TAG, PSA	G160M 1611 A	FP-POS=3; BUFFER-TIME=250; LIFETIME-POS=LP4; SEGMENT=B		360 Secs (360 Secs) *[==>]*	***[2]***
Comments: ETC buffer time is 755 sec. *Set buffer time = exptime - 110 sec*								
11	G160M/1623/B/LP4 (COS.sp.1540050)	(1) WD0308-565	COS/FUV, TIME-TAG, PSA	G160M 1623 A	FP-POS=3; BUFFER-TIME=278; LIFETIME-POS=LP4; SEGMENT=B		388 Secs (388 Secs) *[==>]*	***[2]***
Comments: ETC buffer time is 814 sec. *Set buffer time = exptime - 110 sec*								
12		DARK	S/C, DATA, NONE			QASISTATES COS FUV HVLOW HVLOW	1 Secs (1 Secs) *[==>]*	***[2]***
Comments: Work-around to efficiently schedule the reconfiguration to SEG-A. Eliminates SPSS induced gaps.								
13	G140L/800/FUVA/LP3 (COS.sp.1457778)	(1) WD0308-565	COS/FUV, TIME-TAG, PSA	G140L 800 A	BUFFER-TIME=257; FP-POS=3; SEGMENT=A; LIFETIME-POS=LP3		367 Secs (367 Secs) *[==>]*	***[3]***
Comments: ETC buffer time is 350 sec. *Set buffer time = exptime - 110 sec*								

	14	G140L/1105 /FUVA/LP3 (COS.sp.145 7846)	(1) WD0308-565	COS/FUV, TIME-TAG, PSA	G140L 1105 A	BUFFER-TIME=222; FP-POS=3; SEGMENT=A; LIFETIME-POS=LP3	332 Secs (332 Secs) *[==>]*	***[3]***
		Comments: ETC buffer time is 358 sec. *Set buffer time = exptime - 110 sec*						
	15	G130M/1327/FUVA/LP5 (COS.sp.145 7657)	(1) WD0308-565	COS/FUV, TIME-TAG, PSA	G130M 1327 A	BUFFER-TIME=164; FP-POS=3; LIFETIME-POS=LP5; SEGMENT=A	274 Secs (274 Secs) *[==>]*	***[3]***
		Comments: ETC buffer time is 324 sec. *set buffer time = exptime - 110 sec*						

Orbit Structure

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Exp. 11
Unused Orbital Visibility = 135
Pointing Maneuver
Exp. 12
Reconfig
GS Reacq
Pointing Maneuver
Exp. 7
Exp. 8
Exp. 9
Exp. 10
Occultation
0
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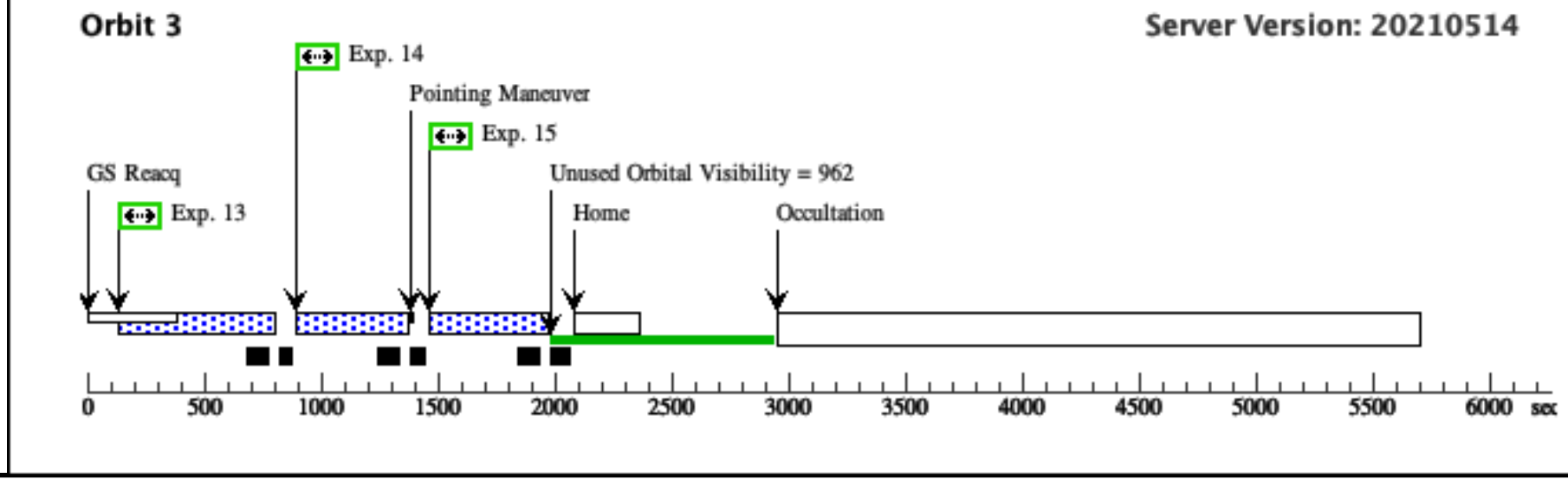
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
6000
sec


Orbit 3
Server Version: 20210514
Exp. 14
Pointing Maneuver
Exp. 15
GS Reacq
Unused Orbital Visibility = 962
Exp. 13
Home
Occultation
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
6000
sec

Visit

Proposal 16832, GD71-C2 (04) Mon Oct 04 11:01:20 GMT 2021

Diagnostic Status: No Diagnostics

Scientific Instruments: S/C, COS/FUV, COS/NUV

Special Requirements: SCHED 100%

Comments: exposure 4: GO wavecal to calculate the OSM shifts of the G130M/1096/FUVB observation
George Chapman added Exposure 3
All G160M observations are with SEGMENT = A (i.e. segment B is turned off).

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(2)	GD71	RA: 05 52 27.6200 (88.1150833d)	Proper Motion RA: 76.841 mas/yr	V=13.06+/-0.01	Reference Frame: ICRS
		Dec: +15 53 13.23 (15.88701d)	Proper Motion Dec: -172.944 mas/yr		
		Equinox: J2000	Epoch of Position: 2000		

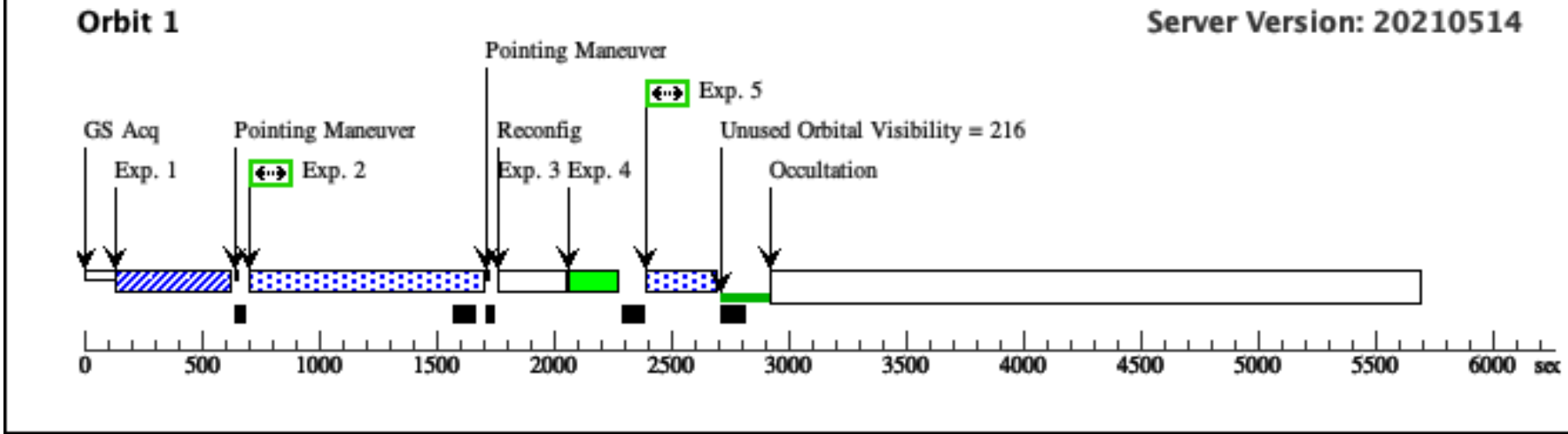
Comments: Co-ordinates and proper motions updated with values from SIMBAD, which uses the GAIA DR2 catalog.
Differences from previous co-ordinates are in decimal places in seconds of time and arcsec, within the stated errors.
Category=STAR
Description=[DA]
Extended=NO

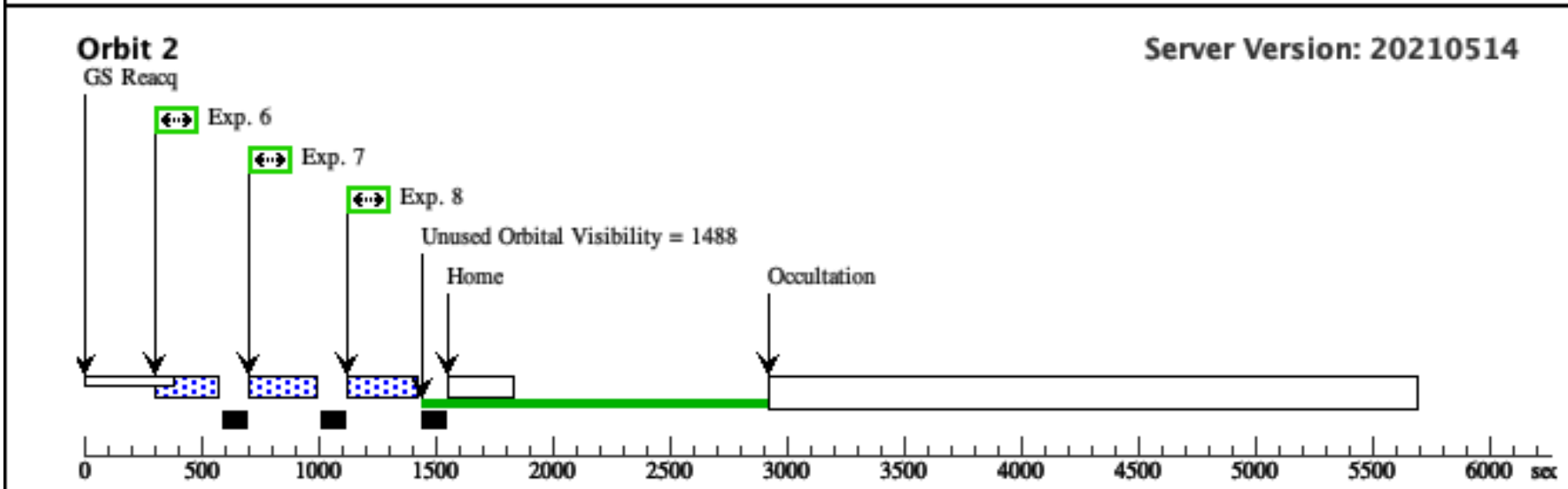
Exposures

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	ACQ/IM (COS.ta.839574)	(2) GD71	COS/NUV, ACQ/IMAGE, BOA	MIRRORB				90 Secs (90 Secs) *[==>]*	***[1]***
Comments: Exptime for S/N of 60 is 105.5 sec, using 90 sec leads to S/N of 55. *Cycle 28 comment: we continue to use the same exposure time since differences do not affect orbit request.*									
2	G130M/1096/FUVB/LP2 (COS.sp.1540055)	(2) GD71	COS/FUV, TIME-TAG, PSA	G130M 1096 A	BUFFER-TIME=683; FP-POS=3; SEGMENT=B; LIFETIME-POS=LP2			793 Secs (793 Secs) *[==>]*	***[1]***
Comments: Cycle 29 comment: exposure time updated following blue modes TDSTAB and FLUXTAB update. *FUVB only (all ETC warnings come from FUVA).* *The FUVB count rate is 566 cts/sec, so the buffer time is 2.35E6/566 = 4152 sec.* *Set buffer-time = exptime - 110 sec*									
3		DARK	S/C, DATA, NONE			QASISTATES COS FUV HVLOW HVLOW		1 Secs (1 Secs) *[==>]*	***[1]***
Comments: Work-around to efficiently schedule the SEG-B to SEG-A reconfiguration. Eliminates SPSS induced gaps.									
4	G130M/1096/FUVA WAVECAL/LP2	WAVE	COS/FUV, TIME-TAG, WCA	G130M 1096 A	FP-POS=3; SEGMENT=A; FLASH=NO; LIFETIME-POS=LP2			160 Secs (160 Secs) *[==>]*	***[1]***
Comments: Cycle 28: the exposure time has been updated to 160 seconds. This was determined after characterizing the decrease by about 12 percent in the summed count-rate with time over the period between December 2017 and April 2020.									
5	G160M/1533/FUVA/LP4 (COS.sp.1457660)	(2) GD71	COS/FUV, TIME-TAG, PSA	G160M 1533 A	BUFFER-TIME=106; FP-POS=3; SEGMENT=A; LIFETIME-POS=LP4			106 Secs (106 Secs) *[==>]*	***[1]***
Comments: FUVA only (all ETC warnings come from FUVB). *The FUVA count rate is 9240 cts/sec, so the buffer time is 2.35E6/9240 = 254 sec.* *Set buffer-time = exptime*									
6	G160M/1577/FUVA/LP4 (COS.sp.1457661)	(2) GD71	COS/FUV, TIME-TAG, PSA	G160M 1577 A	BUFFER-TIME=135; FP-POS=3; SEGMENT=A; LIFETIME-POS=LP4			135 Secs (135 Secs) *[==>]*	***[2]***
Comments: See Visit 02 comments.									

	7	G160M/1611/FUVA/LP4 (COS.sp.1540058)	(2) GD71	COS/FUV, TIME-TAG, PSA	G160M 1611 A	BUFFER-TIME=159; FP-POS=3; SEGMENT=A; LIFETIME-POS=LP4	159 Secs (159 Secs) *[==>]*	***[2]***
		Comments: FUVA only (all ETC warnings come from FUVB). *The FUVA count rate is 5172 cts/sec, so the buffer time is 2.35E6/5172 = 454 sec.* *Set buffer-time = exptime*						
	8	G160M/1623/FUVA/LP4 (COS.sp.1457663)	(2) GD71	COS/FUV, TIME-TAG, PSA	G160M 1623 A	BUFFER-TIME=177; FP-POS=3; SEGMENT=A; LIFETIME-POS=LP4	177 Secs (177 Secs) *[==>]*	***[2]***
		Comments: FUVA only (all ETC warnings come from FUVB). *The FUVA count rate is 5095 cts/sec, so the buffer time is 2.35E6/5095 = 461 sec.* *Set buffer-time = exptime*						

Orbit Structure





Visit

Proposal 16832, WD0308-C3 (05) Mon Oct 04 11:01:20 GMT 2021

Diagnostic Status: No Diagnostics

Scientific Instruments: S/C, COS/FUV, COS/NUV

Special Requirements: SCHED 100%

Comments: All G160M observations are with SEGMENT = B (i.e. segment A is turned off).

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	WD0308-565	RA: 03 09 47.9200 (47.4496667d)	Proper Motion RA: 149.241 mas/yr	V=14.07+/-0.02	Reference Frame: ICRS
		Dec: -56 23 49.41 (-56.39706d)	Proper Motion Dec: 66.919 mas/yr		
		Equinox: J2000	Epoch of Position: 2000		

Comments: Coordinates carried over from Cycle 25 proposal, checked against SIMBAD, which uses the GAIA DR2 catalog.
Proper motions changed to mas/yr, from SIMBAD, also using the GAIA DR2 catalog.
Category=STAR
Description=[DB]
Extended=NO

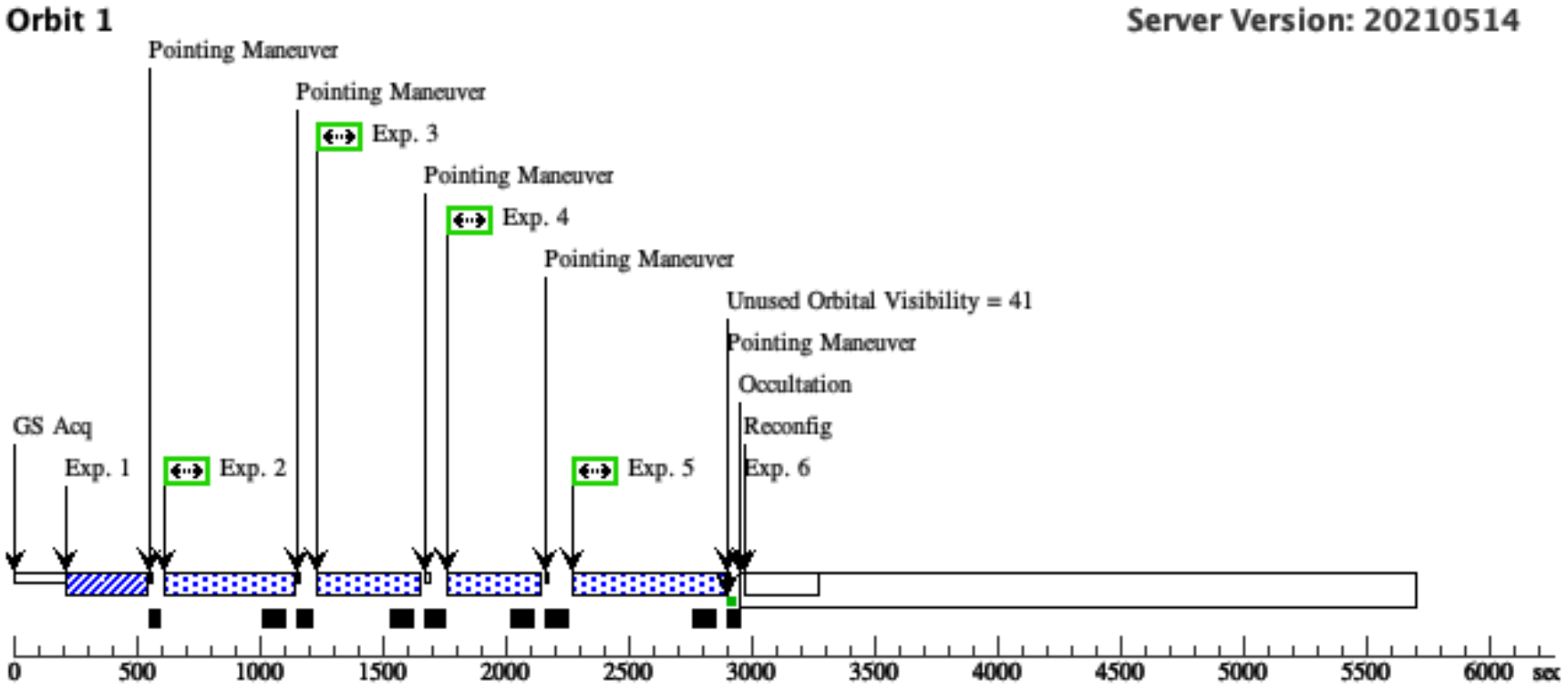
Exposures

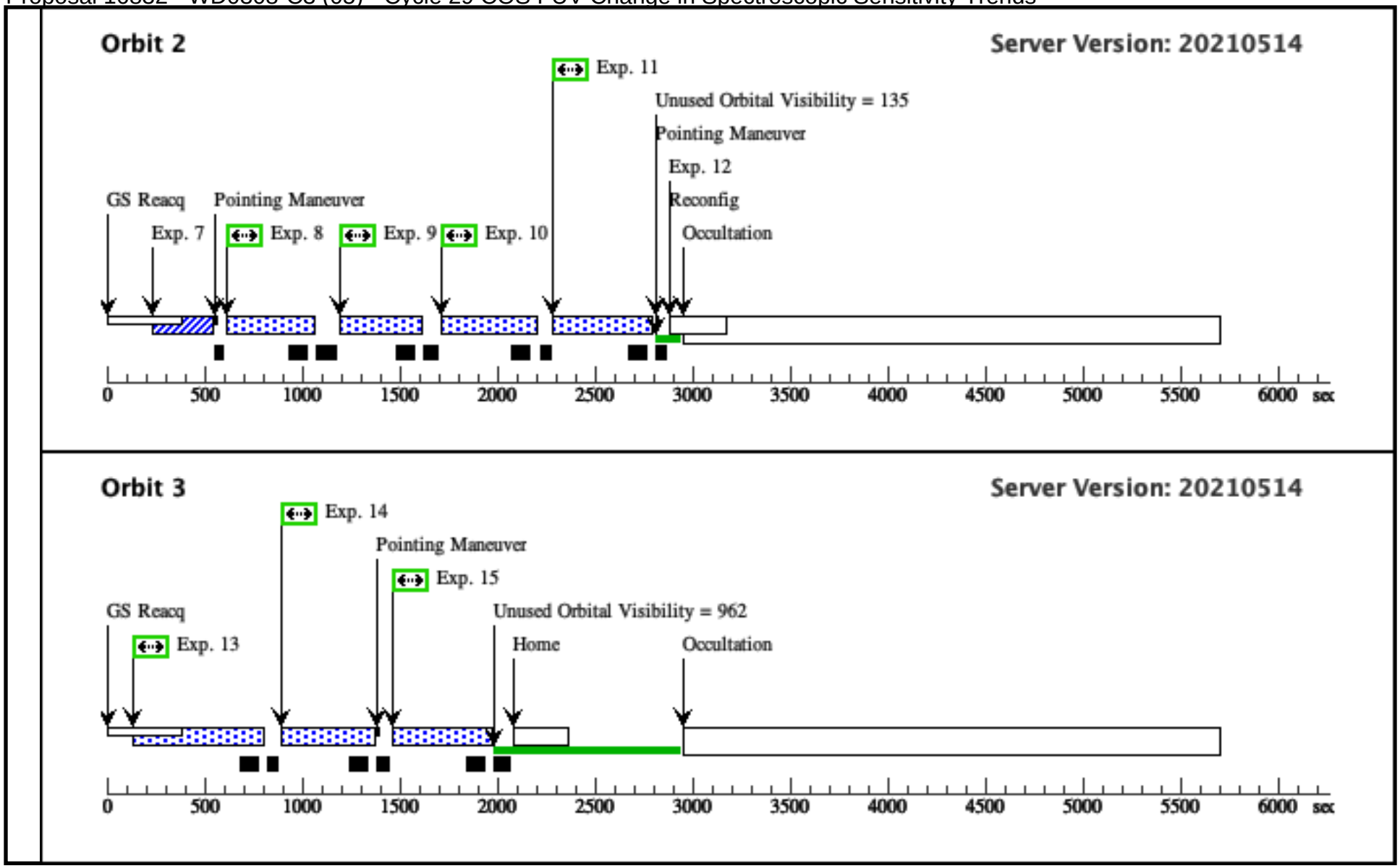
#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	ACQ/IM (839564)	(1) WD0308-565	COS/NUV, ACQ/IMAGE, BOA	MIRRORA				45 Secs (45 Secs) *[==>]*	 ***[1]***
Comments: cycle 24 comment: exposure times not reduced following updated ETC calculations, differences not enough to affect orbit requested. *Cycle 28 comment: we continue to use the same exposure time since differences do not affect orbit request.*									
2	G130M/1055/LP2 (COS.sp.1540024)	(1) WD0308-565	COS/FUV, TIME-TAG, PSA	G130M 1055 A	BUFFER-TIME=208; FP-POS=3; SEGMENT=BOTH; LIFETIME-POS=LP2			318 Secs (318 Secs) *[==>]*	 ***[1]***
Comments: Cycle 29 comment: exposure time updated following blue modes TDS and FLUXTAB update. *ETC buffer time is 1377 sec* *Set buffer time = exptime - 110 sec*									
3	G130M/1222/LP4 (COS.sp.1457646)	(1) WD0308-565	COS/FUV, TIME-TAG, PSA	G130M 1222 A	BUFFER-TIME=157; FP-POS=3; LIFETIME-POS=LP4; SEGMENT=BOTH			267 Secs (267 Secs) *[==>]*	 ***[1]***
Comments: ETC buffer time is 392 sec. *Set buffer time = exptime - 110 sec*									
4	G130M/1291/LP5 (COS.sp.1457647)	(1) WD0308-565	COS/FUV, TIME-TAG, PSA	G130M 1291 A	BUFFER-TIME=126; FP-POS=3; LIFETIME-POS=LP5; SEGMENT=BOTH			236 Secs (236 Secs) *[==>]*	 ***[1]***
Comments: ETC buffer time is 323 sec. *Set buffer time = exptime - 110 sec*									
5	G140L/1280/LP3 (COS.sp.1540033)	(1) WD0308-565	COS/FUV, TIME-TAG, PSA	G140L 1280 A	BUFFER-TIME=291; FP-POS=3; LIFETIME-POS=LP3; SEGMENT=BOTH			401 Secs (401 Secs) *[==>]*	 ***[1]***
Comments: ETC buffer time is 503 sec. *Set buffer time = exptime - 110 sec*									
6		DARK	S/C, DATA, NONE			QASISTATES COS FUV HVLOW HVLOW		1 Secs (1 Secs) *[==>]*	 ***[1]***
Comments: Work-around to efficiently schedule the reconfiguration to SEG-A. Eliminates SPSS induced gaps.									
7	ACQ/IM (839564)	(1) WD0308-565	COS/NUV, ACQ/IMAGE, BOA	MIRRORA				45 Secs (45 Secs) *[==>]*	 ***[2]***
Comments: cycle 24 comment: exposure times not reduced following updated ETC calculations, differences not enough to affect orbit requested. *Cycle 28 comment: we continue to use the same exposure time since differences do not affect orbit request.*									

8	G160M/1533/B/LP4 (COS.sp.1457649)	(1) WD0308-565	COS/FUV, TIME-TAG, PSA	G160M 1533 A	FP-POS=3; BUFFER-TIME=113; LIFETIME-POS=LP4; SEGMENT=B		223 Secs (223 Secs) *[==>]*	***[2]***
Comments: ETC buffer time is 502 sec. *Set buffer time = exptime - 110 sec.*								
9	G160M/1577/B/LP4 (COS.sp.1540036)	(1) WD0308-565	COS/FUV, TIME-TAG, PSA	G160M 1577 A	FP-POS=3; BUFFER-TIME=181; LIFETIME-POS=LP4; SEGMENT=B		291 Secs (291 Secs) *[==>]*	***[2]***
Comments: ETC buffer time is 644 sec. *Set buffer time = exptime - 110 sec*								
10	G160M/1611/B/LP4 (COS.sp.1540046)	(1) WD0308-565	COS/FUV, TIME-TAG, PSA	G160M 1611 A	FP-POS=3; BUFFER-TIME=250; LIFETIME-POS=LP4; SEGMENT=B		360 Secs (360 Secs) *[==>]*	***[2]***
Comments: ETC buffer time is 755 sec. *Set buffer time = exptime - 110 sec*								
11	G160M/1623/B/LP4 (COS.sp.1540050)	(1) WD0308-565	COS/FUV, TIME-TAG, PSA	G160M 1623 A	FP-POS=3; BUFFER-TIME=278; LIFETIME-POS=LP4; SEGMENT=B		388 Secs (388 Secs) *[==>]*	***[2]***
Comments: ETC buffer time is 814 sec. *Set buffer time = exptime - 110 sec*								
12		DARK	S/C, DATA, NONE			QASISTATES COS FUV HVLOW HVLOW	1 Secs (1 Secs) *[==>]*	***[2]***
Comments: Work-around to efficiently schedule the reconfiguration to SEG-A. Eliminates SPSS induced gaps.								
13	G140L/800/FUVA/LP3 (COS.sp.1457778)	(1) WD0308-565	COS/FUV, TIME-TAG, PSA	G140L 800 A	BUFFER-TIME=257; FP-POS=3; SEGMENT=A; LIFETIME-POS=LP3		367 Secs (367 Secs) *[==>]*	***[3]***
Comments: ETC buffer time is 350 sec. *Set buffer time = exptime - 110 sec*								

	14	G140L/1105 /FUVA/LP3 (COS.sp.145 7846)	(1) WD0308-565	COS/FUV, TIME-TAG, PSA	G140L 1105 A	BUFFER-TIME=222; FP-POS=3; SEGMENT=A; LIFETIME-POS=LP3	332 Secs (332 Secs) *[==>]*	***[3]***
		Comments: ETC buffer time is 358 sec. *Set buffer time = exptime - 110 sec*						
	15	G130M/1327/FUVA/LP5 (COS.sp.145 7657)	(1) WD0308-565	COS/FUV, TIME-TAG, PSA	G130M 1327 A	BUFFER-TIME=164; FP-POS=3; LIFETIME-POS=LP5; SEGMENT=A	274 Secs (274 Secs) *[==>]*	***[3]***
		Comments: ETC buffer time is 324 sec. *set buffer time = exptime - 110 sec*						

Orbit Structure

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Exp. 11
Unused Orbital Visibility = 135
Pointing Maneuver
Exp. 12
Reconfig
GS Reacq
Pointing Maneuver
Exp. 7
Exp. 8
Exp. 9
Exp. 10
Occultation
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
6000
sec
Orbit 3
Server Version: 20210514
Exp. 14
Pointing Maneuver
Exp. 15
GS Reacq
Unused Orbital Visibility = 962
Exp. 13
Home
Occultation
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
6000
sec

Visit

Proposal 16832, GD71-C3 (06) Mon Oct 04 11:01:20 GMT 2021

Diagnostic Status: No Diagnostics

Scientific Instruments: S/C, COS/FUV, COS/NUV

Special Requirements: SCHED 100%

Comments: exposure 4: GO wavecal to calculate the OSM shifts of the G130M/1096/FUVB observation
George Chapman added Exposure 3
All G160M observations are with SEGMENT = A (i.e. segment B is turned off).

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(2)	GD71	RA: 05 52 27.6200 (88.1150833d)	Proper Motion RA: 76.841 mas/yr	V=13.06+/-0.01	Reference Frame: ICRS
		Dec: +15 53 13.23 (15.88701d)	Proper Motion Dec: -172.944 mas/yr		
		Equinox: J2000	Epoch of Position: 2000		

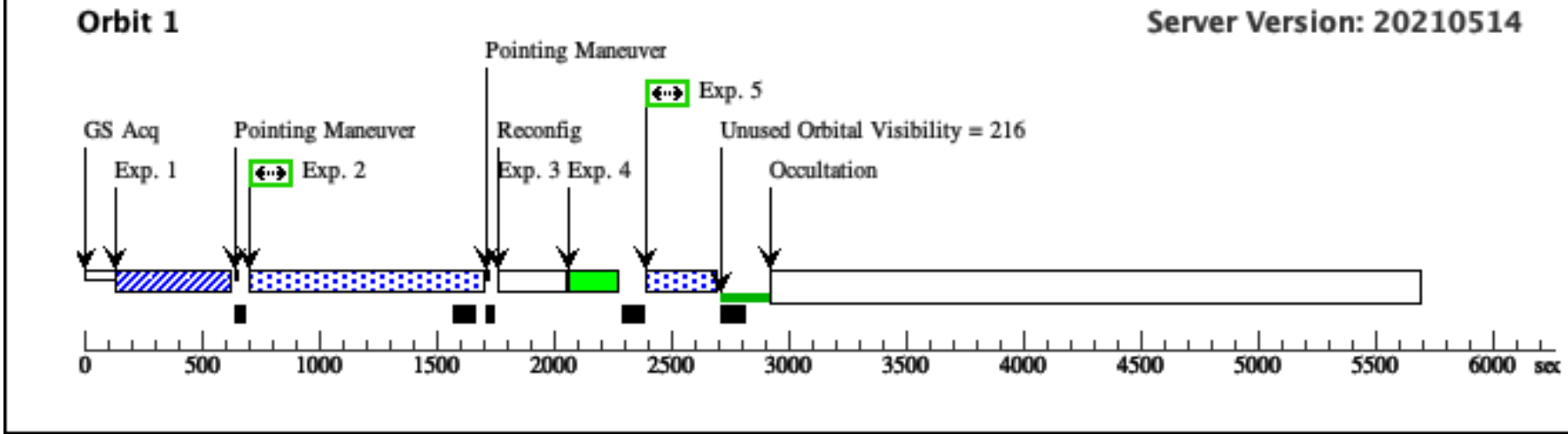
Comments: Co-ordinates and proper motions updated with values from SIMBAD, which uses the GAIA DR2 catalog.
Differences from previous co-ordinates are in decimal places in seconds of time and arcsec, within the stated errors.
Category=STAR
Description=[DA]
Extended=NO

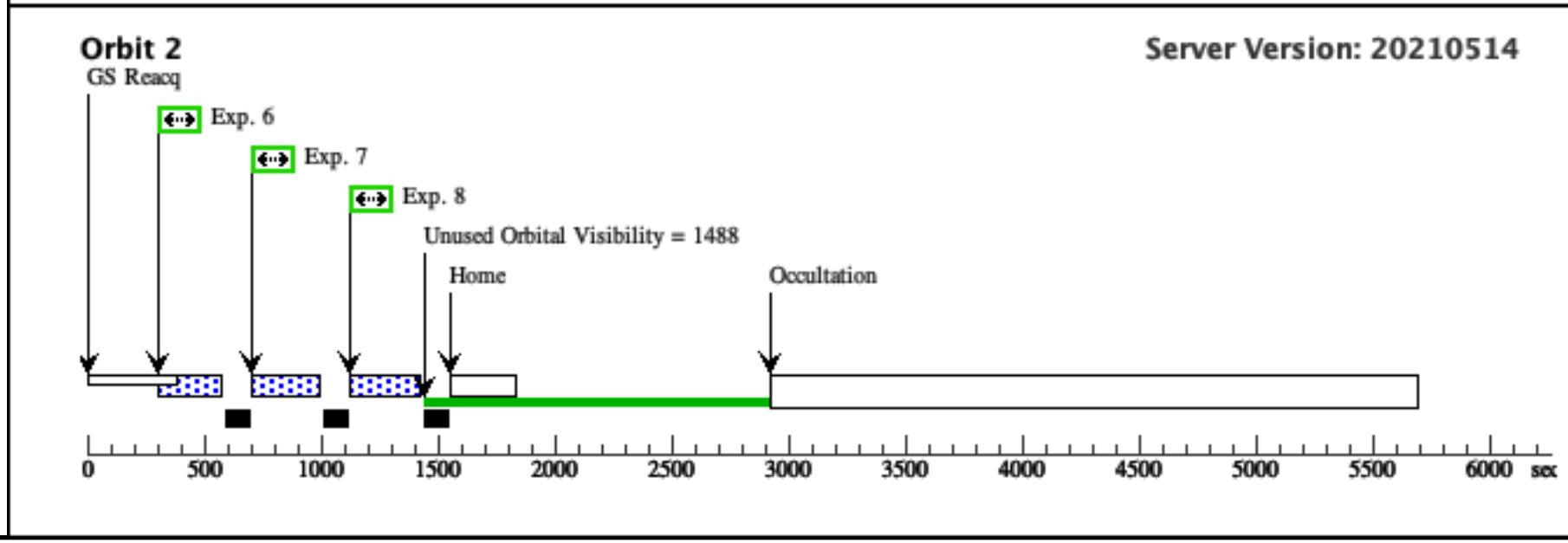
Exposures

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	ACQ/IM (COS.ta.839574)	(2) GD71	COS/NUV, ACQ/IMAGE, BOA	MIRRORB				90 Secs (90 Secs) *[==>]*	***[1]***
Comments: Exptime for S/N of 60 is 105.5 sec, using 90 sec leads to S/N of 55. *Cycle 28 comment: we continue to use the same exposure time since differences do not affect orbit request.*									
2	G130M/1096/FUVB/LP2 (COS.sp.1540055)	(2) GD71	COS/FUV, TIME-TAG, PSA	G130M 1096 A	BUFFER-TIME=683; FP-POS=3; SEGMENT=B; LIFETIME-POS=LP2			793 Secs (793 Secs) *[==>]*	***[1]***
Comments: Cycle 29 comment: exposure time updated following blue modes TDSTAB and FLUXTAB update. *FUVB only (all ETC warnings come from FUVA).* *The FUVB count rate is 566 cts/sec, so the buffer time is 2.35E6/566 = 4152 sec.* *Set buffer-time = exptime - 110 sec*									
3		DARK	S/C, DATA, NONE			QASISTATES COS FUV HVLOW HVLOW		1 Secs (1 Secs) *[==>]*	***[1]***
Comments: Work-around to efficiently schedule the SEG-B to SEG-A reconfiguration. Eliminates SPSS induced gaps.									
4	G130M/1096/FUVA WAVECAL/LP2	WAVE	COS/FUV, TIME-TAG, WCA	G130M 1096 A	FP-POS=3; SEGMENT=A; FLASH=NO; LIFETIME-POS=LP2			160 Secs (160 Secs) *[==>]*	***[1]***
Comments: Cycle 28: the exposure time has been updated to 160 seconds. This was determined after characterizing the decrease by about 12 percent in the summed count-rate with time over the period between December 2017 and April 2020.									
5	G160M/1533/FUVA/LP4 (COS.sp.1457660)	(2) GD71	COS/FUV, TIME-TAG, PSA	G160M 1533 A	BUFFER-TIME=106; FP-POS=3; SEGMENT=A; LIFETIME-POS=LP4			106 Secs (106 Secs) *[==>]*	***[1]***
Comments: FUVA only (all ETC warnings come from FUVB). *The FUVA count rate is 9240 cts/sec, so the buffer time is 2.35E6/9240 = 254 sec.* *Set buffer-time = exptime*									
6	G160M/1577/FUVA/LP4 (COS.sp.1457661)	(2) GD71	COS/FUV, TIME-TAG, PSA	G160M 1577 A	BUFFER-TIME=135; FP-POS=3; SEGMENT=A; LIFETIME-POS=LP4			135 Secs (135 Secs) *[==>]*	***[2]***
Comments: See Visit 02 comments.									

	7	G160M/1611/FUVA/LP4 (COS.sp.1540058)	(2) GD71	COS/FUV, TIME-TAG, PSA	G160M 1611 A	BUFFER-TIME=159; FP-POS=3; SEGMENT=A; LIFETIME-POS=LP4	159 Secs (159 Secs) *[==>]*	***[2]***
		Comments: FUVA only (all ETC warnings come from FUVB). *The FUVA count rate is 5172 cts/sec, so the buffer time is 2.35E6/5172 = 454 sec.* *Set buffer-time = exptime*						
	8	G160M/1623/FUVA/LP4 (COS.sp.1457663)	(2) GD71	COS/FUV, TIME-TAG, PSA	G160M 1623 A	BUFFER-TIME=177; FP-POS=3; SEGMENT=A; LIFETIME-POS=LP4	177 Secs (177 Secs) *[==>]*	***[2]***
		Comments: FUVA only (all ETC warnings come from FUVB). *The FUVA count rate is 5095 cts/sec, so the buffer time is 2.35E6/5095 = 461 sec.* *Set buffer-time = exptime*						

Orbit Structure





Visit

Proposal 16832, WD0308-C4 (07) Mon Oct 04 11:01:20 GMT 2021

Diagnostic Status: No Diagnostics

Scientific Instruments: S/C, COS/FUV, COS/NUV

Special Requirements: SCHED 100%

Comments: All G160M observations are with SEGMENT = B (i.e. segment A is turned off) for all other WD0308-565 visits.
However, for the June visit, since GD71 is not available, we use SEGMENT = BOTH to keep track of the segment A response, and the first DARK exposure (exp 006 in the other visits) has been removed.

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	WD0308-565	RA: 03 09 47.9200 (47.4496667d)	Proper Motion RA: 149.241 mas/yr	V=14.07+/-0.02	Reference Frame: ICRS
		Dec: -56 23 49.41 (-56.39706d)	Proper Motion Dec: 66.919 mas/yr		
		Equinox: J2000	Epoch of Position: 2000		

Comments: Coordinates carried over from Cycle 25 proposal, checked against SIMBAD, which uses the GAIA DR2 catalog.
Proper motions changed to mas/yr, from SIMBAD, also using the GAIA DR2 catalog.
Category=STAR
Description=[DB]
Extended=NO

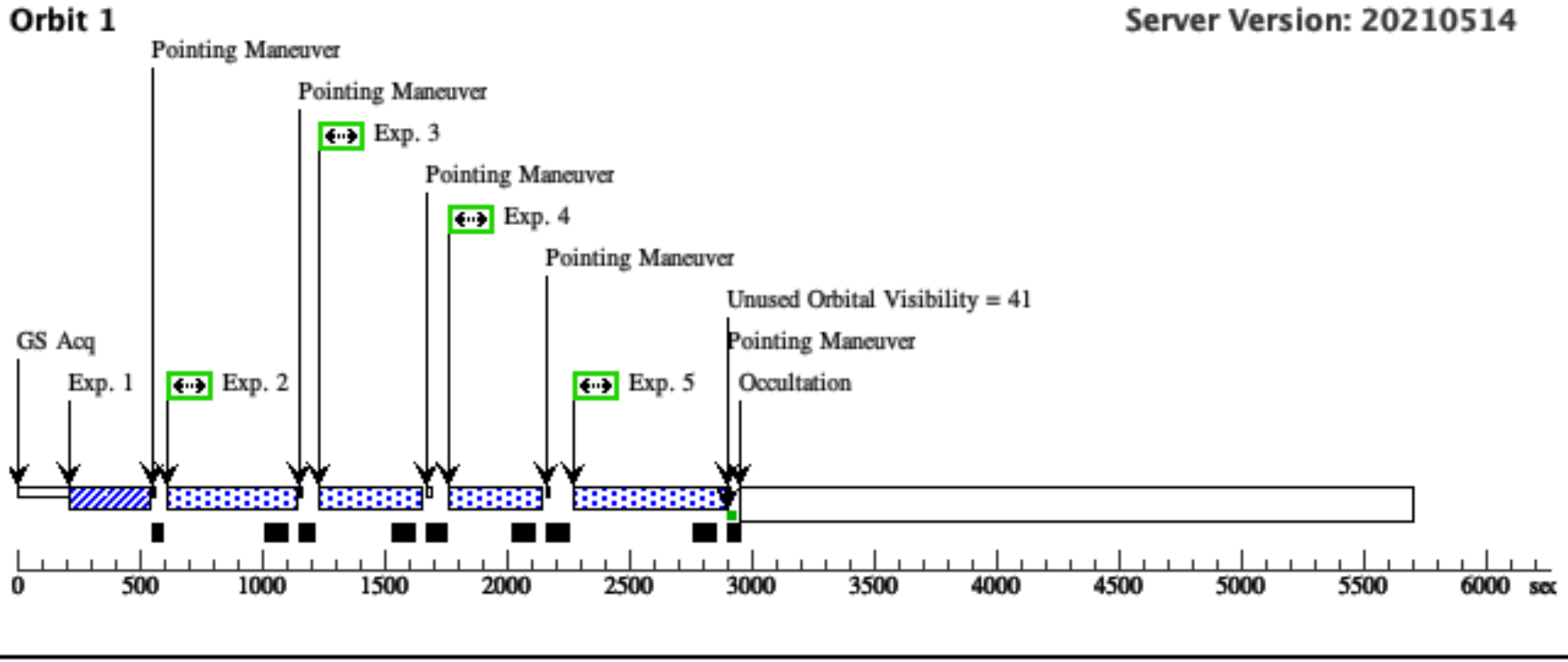
Exposures

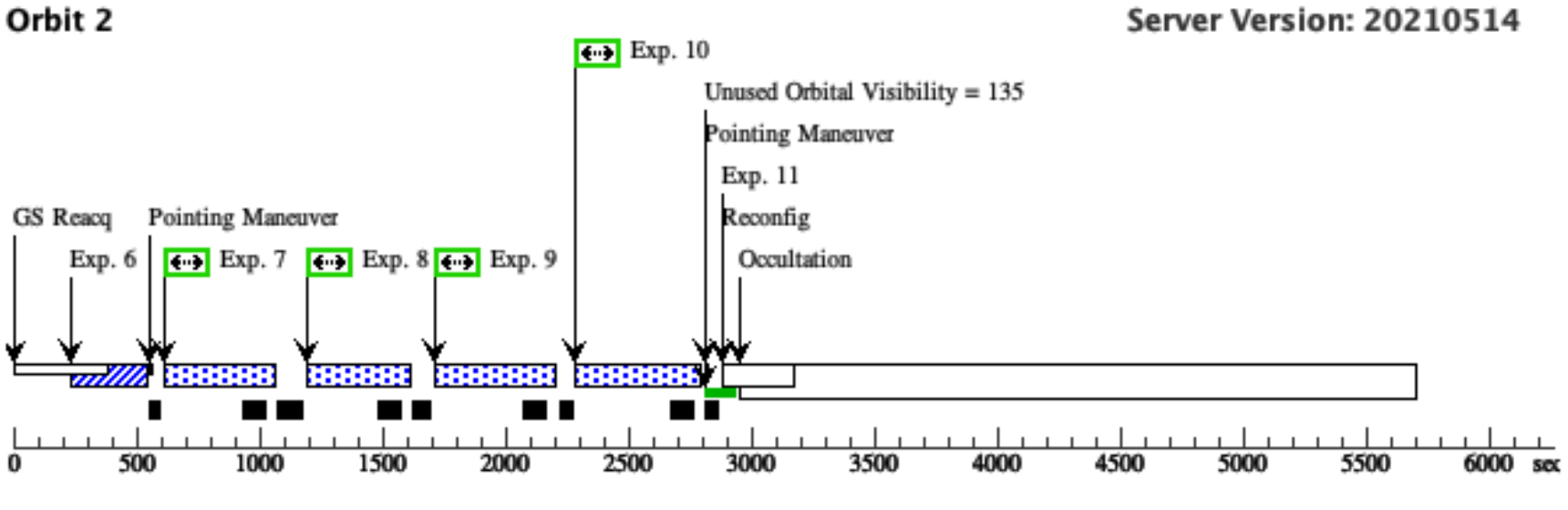
#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	ACQ/IM (839564)	(1) WD0308-565	COS/NUV, ACQ/IMAGE, BOA	MIRRORA				45 Secs (45 Secs) *[==>]*	 ***[1]***
Comments: cycle 24 comment: exposure times not reduced following updated ETC calculations, differences not enough to affect orbit requested. *Cycle 28 comment: we continue to use the same exposure time since differences do not affect orbit request.*									
2	G130M/1055/LP2 (COS.sp.1540024)	(1) WD0308-565	COS/FUV, TIME-TAG, PSA	G130M 1055 A	BUFFER-TIME=208; FP-POS=3; SEGMENT=BOTH; LIFETIME-POS=LP2			318 Secs (318 Secs) *[==>]*	 ***[1]***
Comments: Cycle 29 comment: exposure time updated following blue modes TDS and FLUXTAB update. *ETC buffer time is 1377 sec* *Set buffer time = exptime - 110 sec*									
3	G130M/1222/LP4 (COS.sp.1457646)	(1) WD0308-565	COS/FUV, TIME-TAG, PSA	G130M 1222 A	BUFFER-TIME=157; FP-POS=3; LIFETIME-POS=LP4; SEGMENT=BOTH			267 Secs (267 Secs) *[==>]*	 ***[1]***
Comments: ETC buffer time is 392 sec. *Set buffer time = exptime - 110 sec*									
4	G130M/1291/LP5 (COS.sp.1457647)	(1) WD0308-565	COS/FUV, TIME-TAG, PSA	G130M 1291 A	BUFFER-TIME=126; FP-POS=3; LIFETIME-POS=LP5; SEGMENT=BOTH			236 Secs (236 Secs) *[==>]*	 ***[1]***
Comments: ETC buffer time is 323 sec. *Set buffer time = exptime - 110 sec*									
5	G140L/1280/LP3 (COS.sp.1540033)	(1) WD0308-565	COS/FUV, TIME-TAG, PSA	G140L 1280 A	BUFFER-TIME=291; FP-POS=3; LIFETIME-POS=LP3; SEGMENT=BOTH			401 Secs (401 Secs) *[==>]*	 ***[1]***
Comments: ETC buffer time is 503 sec. *Set buffer time = exptime - 110 sec*									
6	ACQ/IM (839564)	(1) WD0308-565	COS/NUV, ACQ/IMAGE, BOA	MIRRORA				45 Secs (45 Secs) *[==>]*	 ***[2]***
Comments: cycle 24 comment: exposure times not reduced following updated ETC calculations, differences not enough to affect orbit requested. *Cycle 28 comment: we continue to use the same exposure time since differences do not affect orbit request.*									

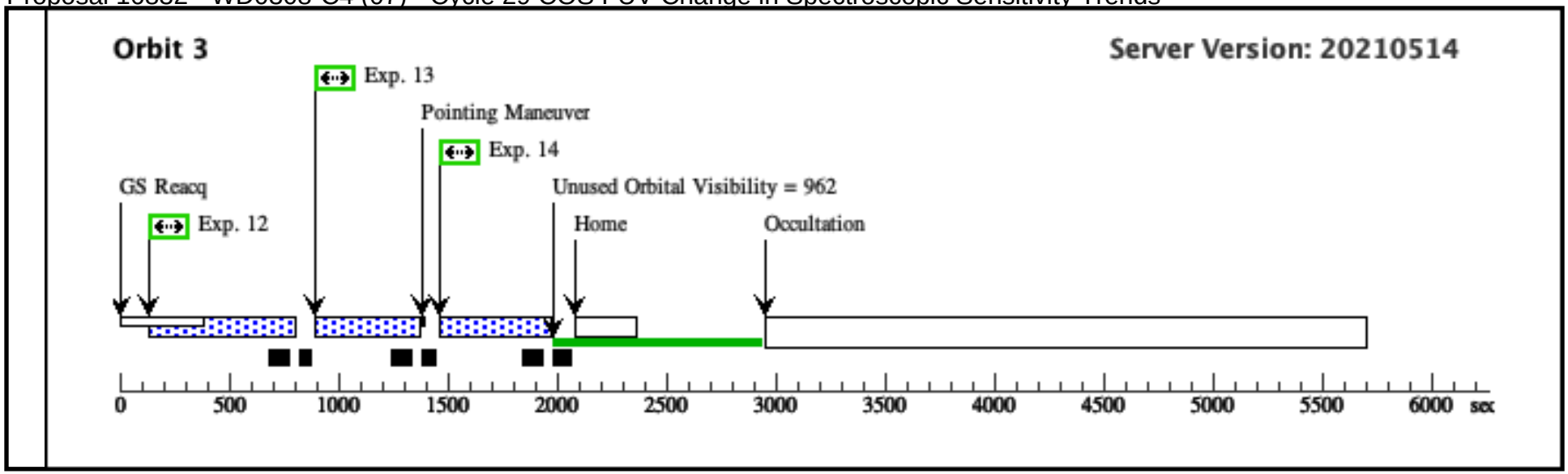
7	G160M/1533/BOTH/LP4 (COS.sp.1457649)	(1) WD0308-565	COS/FUV, TIME-TAG, PSA	G160M 1533 A	FP-POS=3; BUFFER-TIME=113; LIFETIME-POS=LP4; SEGMENT=BOTH		223 Secs (223 Secs)	
							[==>]	***[2]***
Comments: ETC buffer time is 502 sec. *Set buffer time = exptime - 110 sec.*								
8	G160M/1577/BOTH/LP4 (COS.sp.1540036)	(1) WD0308-565	COS/FUV, TIME-TAG, PSA	G160M 1577 A	FP-POS=3; BUFFER-TIME=181; LIFETIME-POS=LP4; SEGMENT=BOTH		291 Secs (291 Secs)	
							[==>]	***[2]***
Comments: ETC buffer time is 644 sec. *Set buffer time = exptime - 110 sec*								
9	G160M/1611/BOTH/LP4 (COS.sp.1540046)	(1) WD0308-565	COS/FUV, TIME-TAG, PSA	G160M 1611 A	FP-POS=3; BUFFER-TIME=250; LIFETIME-POS=LP4; SEGMENT=BOTH		360 Secs (360 Secs)	
							[==>]	***[2]***
Comments: ETC buffer time is 755 sec. *Set buffer time = exptime - 110 sec*								
10	G160M/1623/BOTH/LP4 (COS.sp.1540050)	(1) WD0308-565	COS/FUV, TIME-TAG, PSA	G160M 1623 A	FP-POS=3; BUFFER-TIME=278; LIFETIME-POS=LP4; SEGMENT=BOTH		388 Secs (388 Secs)	
							[==>]	***[2]***
Comments: ETC buffer time is 814 sec. *Set buffer time = exptime - 110 sec*								
11		DARK	S/C, DATA, NONE			QASISTATES COS FUV HVLOW HVLOW	1 Secs (1 Secs)	
							[==>]	***[2]***
Comments: Work-around to efficiently schedule the reconfiguration to SEG-A. Eliminates SPSS induced gaps.								
12	G140L/800/FUVA/LP3 (COS.sp.1457778)	(1) WD0308-565	COS/FUV, TIME-TAG, PSA	G140L 800 A	BUFFER-TIME=257; FP-POS=3; SEGMENT=A; LIFETIME-POS=LP3		367 Secs (367 Secs)	
							[==>]	***[3]***
Comments: ETC buffer time is 350 sec. *Set buffer time = exptime - 110 sec*								

	13	G140L/1105 /FUVA/LP3 (COS.sp.145 7846)	(1) WD0308-565	COS/FUV, TIME-TAG, PSA	G140L 1105 A	BUFFER-TIME=222; FP-POS=3; SEGMENT=A; LIFETIME-POS=LP3	332 Secs (332 Secs) *[==>]*	***[3]***
		Comments: ETC buffer time is 358 sec. *Set buffer time = exptime - 110 sec*						
	14	G130M/1327/FUVA/LP5 (COS.sp.145 7657)	(1) WD0308-565	COS/FUV, TIME-TAG, PSA	G130M 1327 A	BUFFER-TIME=164; FP-POS=3; LIFETIME-POS=LP5; SEGMENT=A	274 Secs (274 Secs) *[==>]*	***[3]***
		Comments: ETC buffer time is 324 sec. *set buffer time = exptime - 110 sec*						

Orbit Structure






Orbit 3
Server Version: 20210514
Exp. 13
Pointing Maneuver
Exp. 14
GS Reacq
Unused Orbital Visibility = 962
Exp. 12
Home
Occultation
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
6000
sec

Visit

Proposal 16832, WD0308-C5 (08) Mon Oct 04 11:01:20 GMT 2021

Diagnostic Status: No Diagnostics

Scientific Instruments: S/C, COS/FUV, COS/NUV

Special Requirements: SCHED 100%

Comments: All G160M observations are with SEGMENT = B (i.e. segment A is turned off).

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	WD0308-565	RA: 03 09 47.9200 (47.4496667d)	Proper Motion RA: 149.241 mas/yr	V=14.07+/-0.02	Reference Frame: ICRS
		Dec: -56 23 49.41 (-56.39706d)	Proper Motion Dec: 66.919 mas/yr		
		Equinox: J2000	Epoch of Position: 2000		

Comments: Coordinates carried over from Cycle 25 proposal, checked against SIMBAD, which uses the GAIA DR2 catalog.
Proper motions changed to mas/yr, from SIMBAD, also using the GAIA DR2 catalog.
Category=STAR
Description=[DB]
Extended=NO

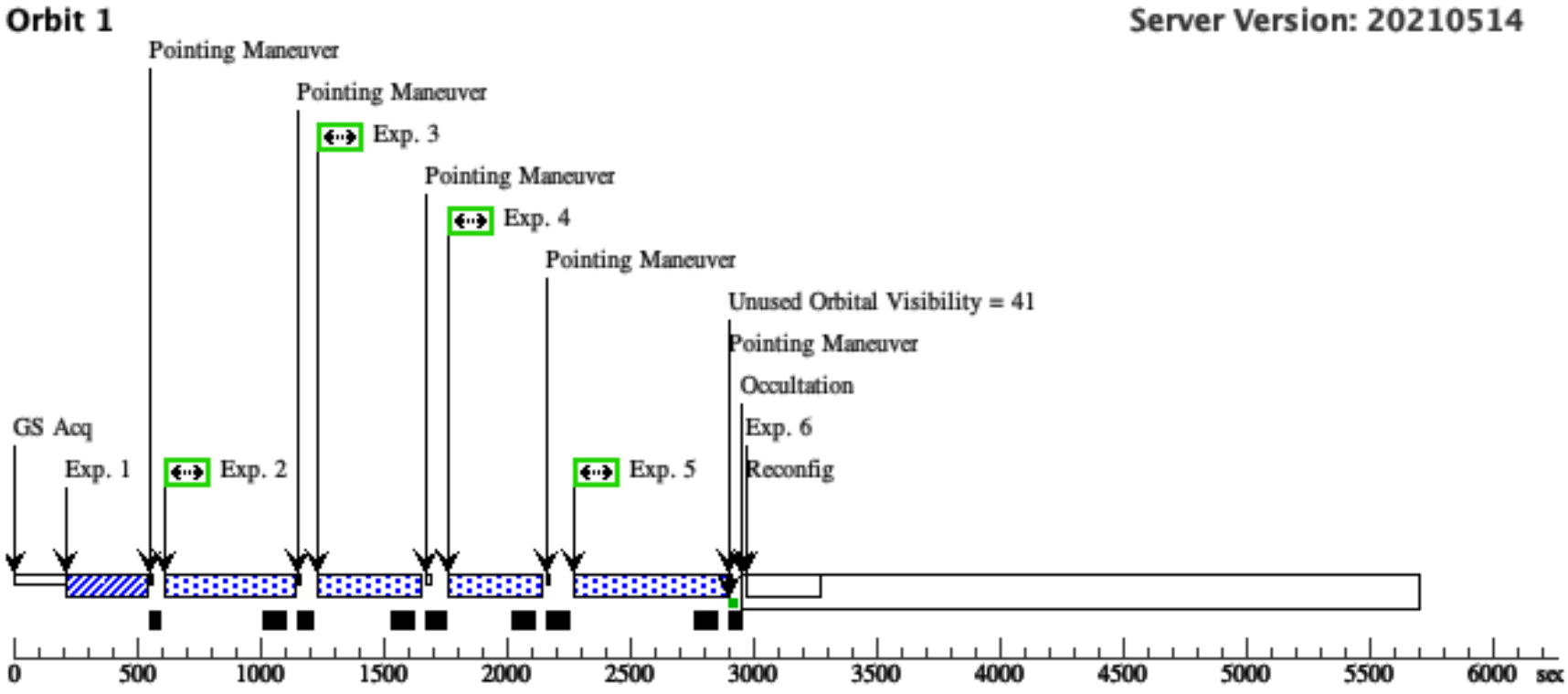
Exposures

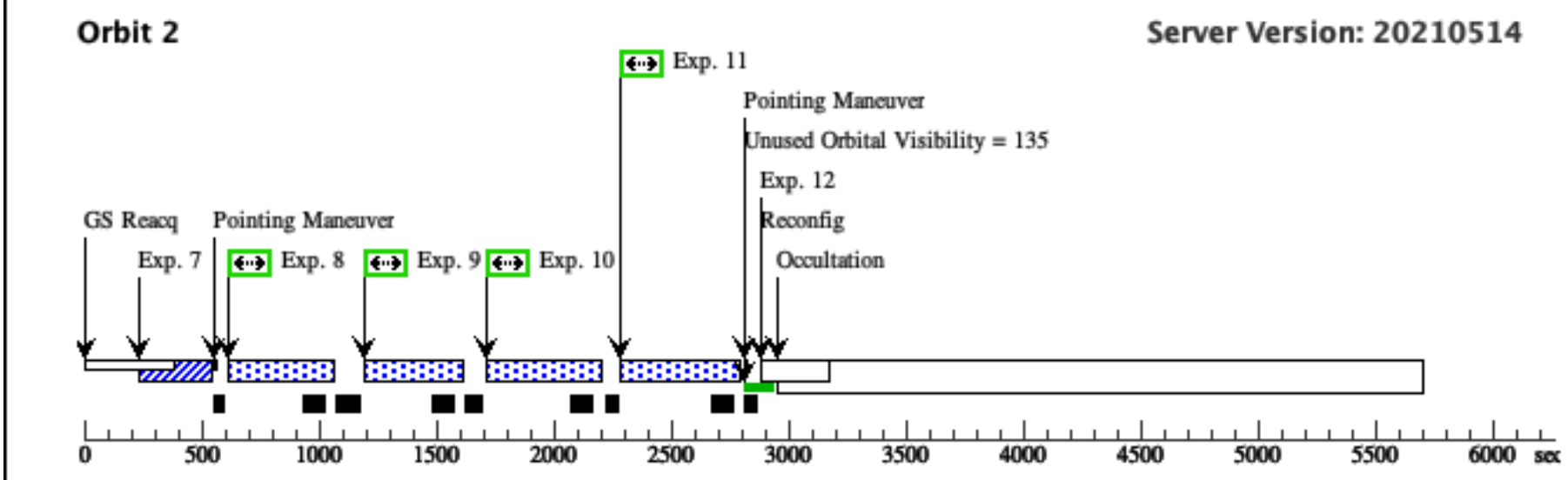
#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	ACQ/IM (839564)	(1) WD0308-565	COS/NUV, ACQ/IMAGE, BOA	MIRRORA				45 Secs (45 Secs) *[==>]*	*[1]*
	Comments: cycle 24 comment: exposure times not reduced following updated ETC calculations, differences not enough to affect orbit requested. *Cycle 28 comment: we continue to use the same exposure time since differences do not affect orbit request.*								
2	G130M/1055/LP2 (COS.sp.1540024)	(1) WD0308-565	COS/FUV, TIME-TAG, PSA	G130M 1055 A	BUFFER-TIME=208; FP-POS=3; SEGMENT=BOTH; LIFETIME-POS=LP2			318 Secs (318 Secs) *[==>]*	*[1]*
	Comments: Cycle 29 comment: exposure time updated following blue modes TDS and FLUXTAB update. *ETC buffer time is 1377 sec* *Set buffer time = exptime - 110 sec*								
3	G130M/1222/LP4 (COS.sp.1457646)	(1) WD0308-565	COS/FUV, TIME-TAG, PSA	G130M 1222 A	BUFFER-TIME=157; FP-POS=3; LIFETIME-POS=LP4; SEGMENT=BOTH			267 Secs (267 Secs) *[==>]*	*[1]*
	Comments: ETC buffer time is 392 sec. *Set buffer time = exptime - 110 sec*								
4	G130M/1291/LP5 (COS.sp.1457647)	(1) WD0308-565	COS/FUV, TIME-TAG, PSA	G130M 1291 A	BUFFER-TIME=126; FP-POS=3; LIFETIME-POS=LP5; SEGMENT=BOTH			236 Secs (236 Secs) *[==>]*	*[1]*
	Comments: ETC buffer time is 323 sec. *Set buffer time = exptime - 110 sec*								
5	G140L/1280/LP3 (COS.sp.1540033)	(1) WD0308-565	COS/FUV, TIME-TAG, PSA	G140L 1280 A	BUFFER-TIME=291; FP-POS=3; LIFETIME-POS=LP3; SEGMENT=BOTH			401 Secs (401 Secs) *[==>]*	*[1]*
	Comments: ETC buffer time is 503 sec. *Set buffer time = exptime - 110 sec*								
6		DARK	S/C, DATA, NONE			QASISTATES COS FUV HVLOW HVLOW		1 Secs (1 Secs) *[==>]*	*[1]*
	Comments: Work-around to efficiently schedule the reconfiguration to SEG-A. Eliminates SPSS induced gaps.								
7	ACQ/IM (839564)	(1) WD0308-565	COS/NUV, ACQ/IMAGE, BOA	MIRRORA				45 Secs (45 Secs) *[==>]*	*[2]*
	Comments: cycle 24 comment: exposure times not reduced following updated ETC calculations, differences not enough to affect orbit requested. *Cycle 28 comment: we continue to use the same exposure time since differences do not affect orbit request.*								

8	G160M/1533/B/LP4 (COS.sp.1457649)	(1) WD0308-565	COS/FUV, TIME-TAG, PSA	G160M 1533 A	FP-POS=3; BUFFER-TIME=113; LIFETIME-POS=LP4; SEGMENT=B		223 Secs (223 Secs) [==>]	[2]
Comments: ETC buffer time is 502 sec. Set buffer time = exptime - 110 sec.								
9	G160M/1577/B/LP4 (COS.sp.1540036)	(1) WD0308-565	COS/FUV, TIME-TAG, PSA	G160M 1577 A	FP-POS=3; BUFFER-TIME=181; LIFETIME-POS=LP4; SEGMENT=B		291 Secs (291 Secs) [==>]	[2]
Comments: ETC buffer time is 644 sec. Set buffer time = exptime - 110 sec								
10	G160M/1611/B/LP4 (COS.sp.1540046)	(1) WD0308-565	COS/FUV, TIME-TAG, PSA	G160M 1611 A	FP-POS=3; BUFFER-TIME=250; LIFETIME-POS=LP4; SEGMENT=B		360 Secs (360 Secs) [==>]	[2]
Comments: ETC buffer time is 755 sec. Set buffer time = exptime - 110 sec								
11	G160M/1623/B/LP4 (COS.sp.1540050)	(1) WD0308-565	COS/FUV, TIME-TAG, PSA	G160M 1623 A	FP-POS=3; BUFFER-TIME=278; LIFETIME-POS=LP4; SEGMENT=B		388 Secs (388 Secs) [==>]	[2]
Comments: ETC buffer time is 814 sec. Set buffer time = exptime - 110 sec								
12		DARK	S/C, DATA, NONE			QASISTATES COS FUV HVLOW HVLOW	1 Secs (1 Secs) [==>]	[2]
Comments: Work-around to efficiently schedule the reconfiguration to SEG-A. Eliminates SPSS induced gaps.								
13	G140L/800/FUVA/LP3 (COS.sp.1457778)	(1) WD0308-565	COS/FUV, TIME-TAG, PSA	G140L 800 A	BUFFER-TIME=257; FP-POS=3; SEGMENT=A; LIFETIME-POS=LP3		367 Secs (367 Secs) [==>]	[3]
Comments: ETC buffer time is 350 sec. Set buffer time = exptime - 110 sec								

	14	G140L/1105 /FUVA/LP3 (COS.sp.145 7846)	(1) WD0308-565	COS/FUV, TIME-TAG, PSA	G140L 1105 A	BUFFER-TIME=222; FP-POS=3; SEGMENT=A; LIFETIME-POS=LP3	332 Secs (332 Secs) *[==>]*	***[3]***
		Comments: ETC buffer time is 358 sec. *Set buffer time = exptime - 110 sec*						
	15	G130M/1327/FUVA/LP5 (COS.sp.145 7657)	(1) WD0308-565	COS/FUV, TIME-TAG, PSA	G130M 1327 A	BUFFER-TIME=164; FP-POS=3; LIFETIME-POS=LP5; SEGMENT=A	274 Secs (274 Secs) *[==>]*	***[3]***
		Comments: ETC buffer time is 324 sec. *set buffer time = exptime - 110 sec*						

Orbit Structure

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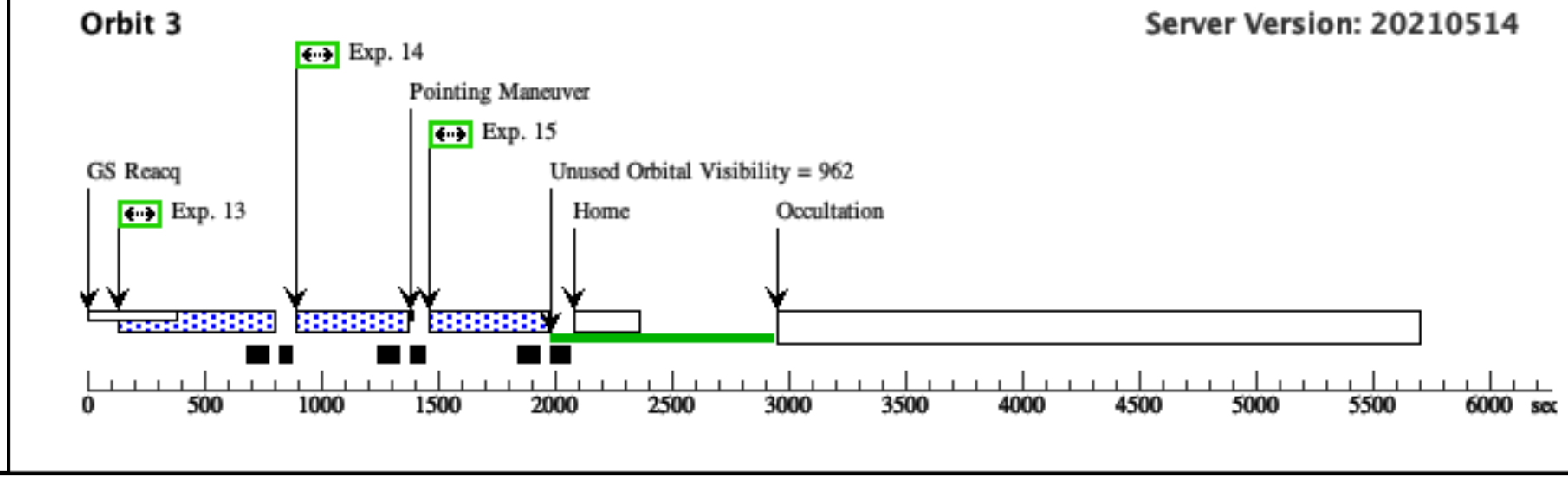
Exp. 11
Pointing Maneuver
Unused Orbital Visibility = 135
Exp. 12
Reconfig
Occultation
GS Reacq
Pointing Maneuver
Exp. 7
Exp. 8
Exp. 9
Exp. 10
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
6000
sec


Orbit 3
Server Version: 20210514
Exp. 14
Pointing Maneuver
Exp. 15
GS Reacq
Unused Orbital Visibility = 962
Exp. 13
Home
Occultation
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
6000
sec

Visit

Proposal 16832, GD71-C4 (09) Mon Oct 04 11:01:20 GMT 2021

Diagnostic Status: No Diagnostics

Scientific Instruments: S/C, COS/FUV, COS/NUV

Special Requirements: SCHED 100%

Comments: exposure 4: GO wavecal to calculate the OSM shifts of the G130M/1096/FUVB observation
George Chapman added Exposure 3
All G160M observations are with SEGMENT = A (i.e. segment B is turned off).

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(2)	GD71	RA: 05 52 27.6200 (88.1150833d)	Proper Motion RA: 76.841 mas/yr	V=13.06+/-0.01	Reference Frame: ICRS
		Dec: +15 53 13.23 (15.88701d)	Proper Motion Dec: -172.944 mas/yr		
		Equinox: J2000	Epoch of Position: 2000		

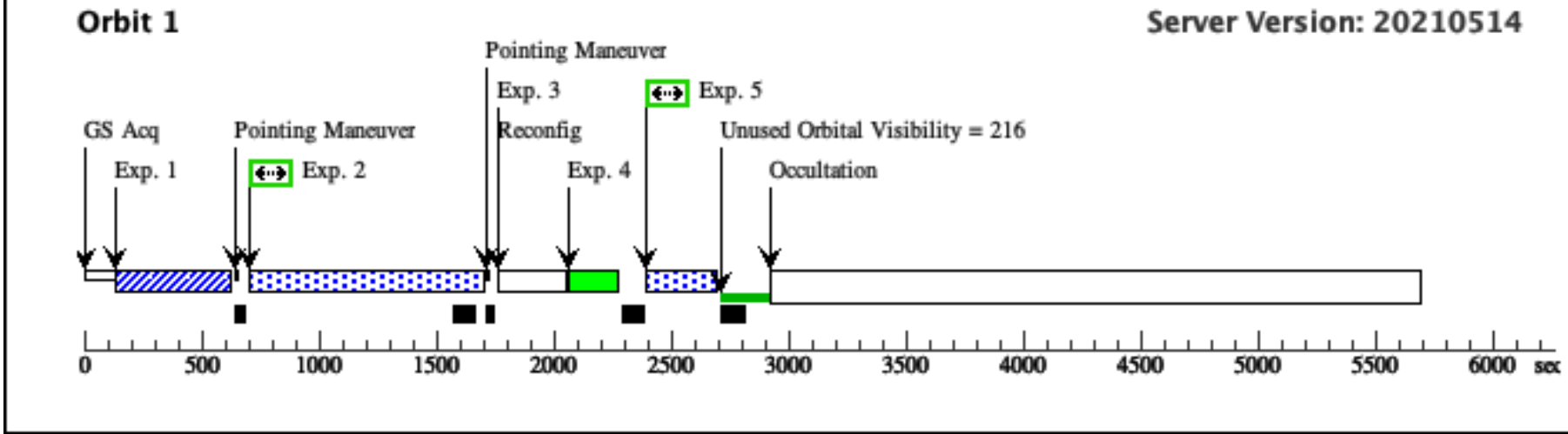
Comments: Co-ordinates and proper motions updated with values from SIMBAD, which uses the GAIA DR2 catalog.
Differences from previous co-ordinates are in decimal places in seconds of time and arcsec, within the stated errors.
Category=STAR
Description=[DA]
Extended=NO

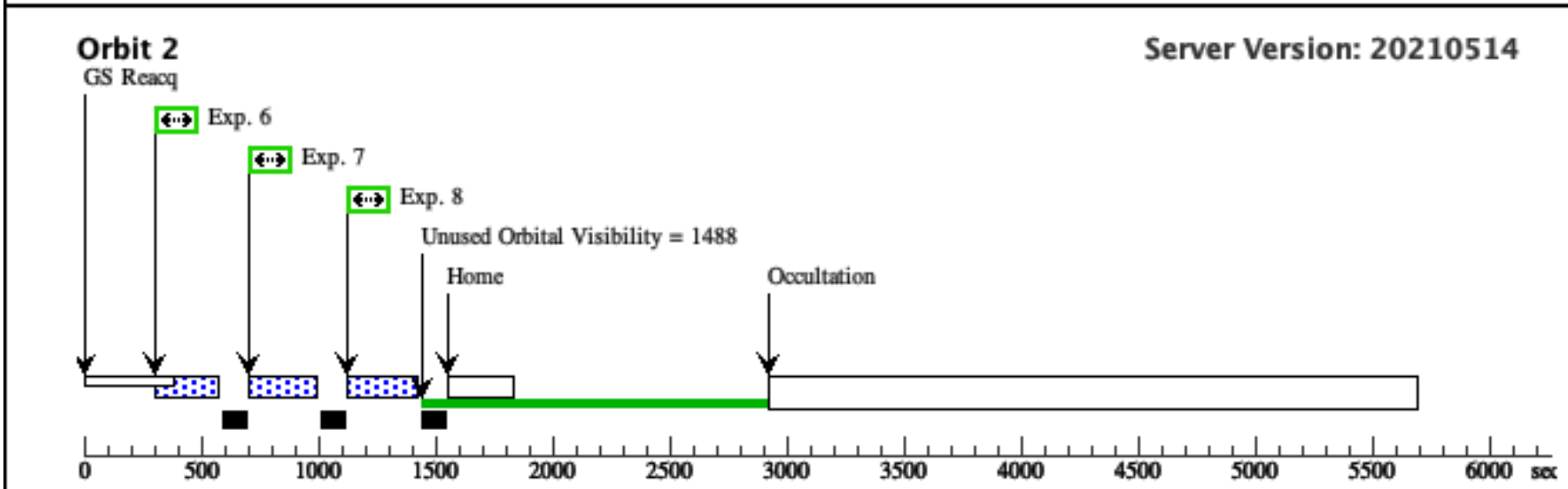
Exposures

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	ACQ/IM (COS.ta.839574)	(2) GD71	COS/NUV, ACQ/IMAGE, BOA	MIRRORB				90 Secs (90 Secs) *[==>]*	***[1]***
	Comments: Exptime for S/N of 60 is 105.5 sec, using 90 sec leads to S/N of 55. *Cycle 28 comment: we continue to use the same exposure time since differences do not affect orbit request.*								
2	G130M/1096/FUVB/LP2 (COS.sp.1540055)	(2) GD71	COS/FUV, TIME-TAG, PSA	G130M 1096 A	BUFFER-TIME=683; FP-POS=3; SEGMENT=B; LIFETIME-POS=LP2			793 Secs (793 Secs) *[==>]*	***[1]***
	Comments: Cycle 29 comment: exposure time updated following blue modes TDSTAB and FLUXTAB update. *FUVB only (all ETC warnings come from FUVA).* *The FUVB count rate is 566 cts/sec, so the buffer time is 2.35E6/566 = 4152 sec.* *Set buffer-time = exptime - 110 sec*								
3		DARK	S/C, DATA, NONE			QASISTATES COS FUV HVLOW HVLOW		1 Secs (1 Secs) *[==>]*	***[1]***
	Comments: Work-around to efficiently schedule the SEG-B to SEG-A reconfiguration. Eliminates SPSS induced gaps.								
4	G130M/1096/FUVA WAVECAL/LP2	WAVE	COS/FUV, TIME-TAG, WCA	G130M 1096 A	FP-POS=3; SEGMENT=A; FLASH=NO; LIFETIME-POS=LP2			160 Secs (160 Secs) *[==>]*	***[1]***
	Comments: Cycle 28: the exposure time has been updated to 160 seconds. This was determined after characterizing the decrease by about 12 percent in the summed count-rate with time over the period between December 2017 and April 2020.								
5	G160M/1533/FUVA/LP4 (COS.sp.1457660)	(2) GD71	COS/FUV, TIME-TAG, PSA	G160M 1533 A	BUFFER-TIME=106; FP-POS=3; SEGMENT=A; LIFETIME-POS=LP4			106 Secs (106 Secs) *[==>]*	***[1]***
	Comments: FUVA only (all ETC warnings come from FUVB). *The FUVA count rate is 9240 cts/sec, so the buffer time is 2.35E6/9240 = 254 sec.* *Set buffer-time = exptime*								
6	G160M/1577/FUVA/LP4 (COS.sp.1457661)	(2) GD71	COS/FUV, TIME-TAG, PSA	G160M 1577 A	BUFFER-TIME=135; FP-POS=3; SEGMENT=A; LIFETIME-POS=LP4			135 Secs (135 Secs) *[==>]*	***[2]***
	Comments: See Visit 02 comments.								

	7	G160M/1611/FUVA/LP4 (COS.sp.1540058)	(2) GD71	COS/FUV, TIME-TAG, PSA	G160M 1611 A	BUFFER-TIME=159; FP-POS=3; SEGMENT=A; LIFETIME-POS=LP4	159 Secs (159 Secs) *[==>]*	***[2]***
		Comments: FUVA only (all ETC warnings come from FUVB). *The FUVA count rate is 5172 cts/sec, so the buffer time is 2.35E6/5172 = 454 sec.* *Set buffer-time = exptime*						
	8	G160M/1623/FUVA/LP4 (COS.sp.1457663)	(2) GD71	COS/FUV, TIME-TAG, PSA	G160M 1623 A	BUFFER-TIME=177; FP-POS=3; SEGMENT=A; LIFETIME-POS=LP4	177 Secs (177 Secs) *[==>]*	***[2]***
		Comments: FUVA only (all ETC warnings come from FUVB). *The FUVA count rate is 5095 cts/sec, so the buffer time is 2.35E6/5095 = 461 sec.* *Set buffer-time = exptime*						

Orbit Structure





Visit

Proposal 16832, WD0308-C6 (10) Mon Oct 04 11:01:21 GMT 2021

Diagnostic Status: No Diagnostics

Scientific Instruments: S/C, COS/FUV, COS/NUV

Special Requirements: SCHED 100%

Comments: All G160M observations are with SEGMENT = B (i.e. segment A is turned off).

Contingency visit 10 exposures would occur after the move to LP6 in October 2022. G160M exposures have been changed from LP4 to LP6. The LPs for G130M and G140L cenwaves are unchanged.

Extra overheads are incurred at LP6 due to split-wavecals. To fit the exposures into 3 orbits the FUVA exposures are taken before the FUVB exposures.

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	WD0308-565	RA: 03 09 47.9200 (47.4496667d)	Proper Motion RA: 149.241 mas/yr	V=14.07+/-0.02	Reference Frame: ICRS
		Dec: -56 23 49.41 (-56.39706d)	Proper Motion Dec: 66.919 mas/yr		
		Equinox: J2000	Epoch of Position: 2000		

Comments: Coordinates carried over from Cycle 25 proposal, checked against SIMBAD, which uses the GAIA DR2 catalog.
Proper motions changed to mas/yr, from SIMBAD, also using the GAIA DR2 catalog.
Category=STAR
Description=[DB]
Extended=NO

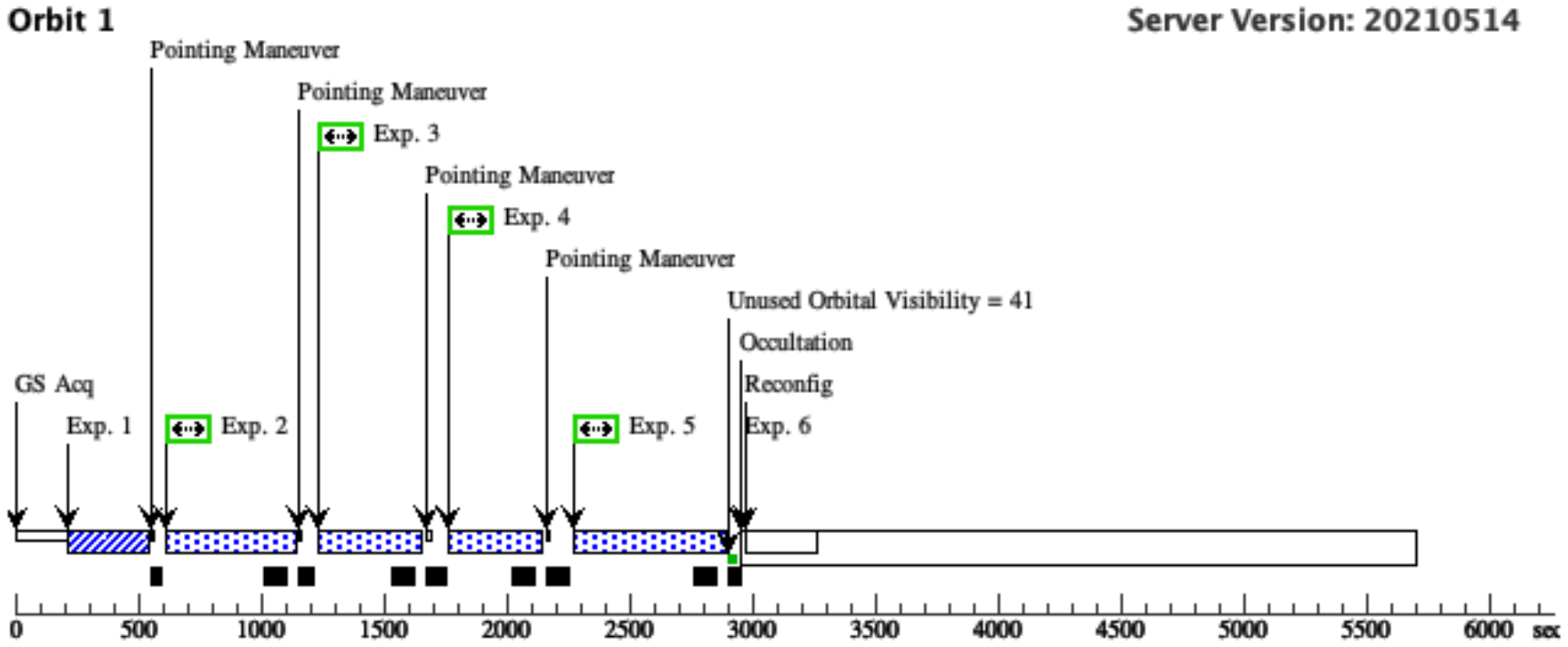
Exposures

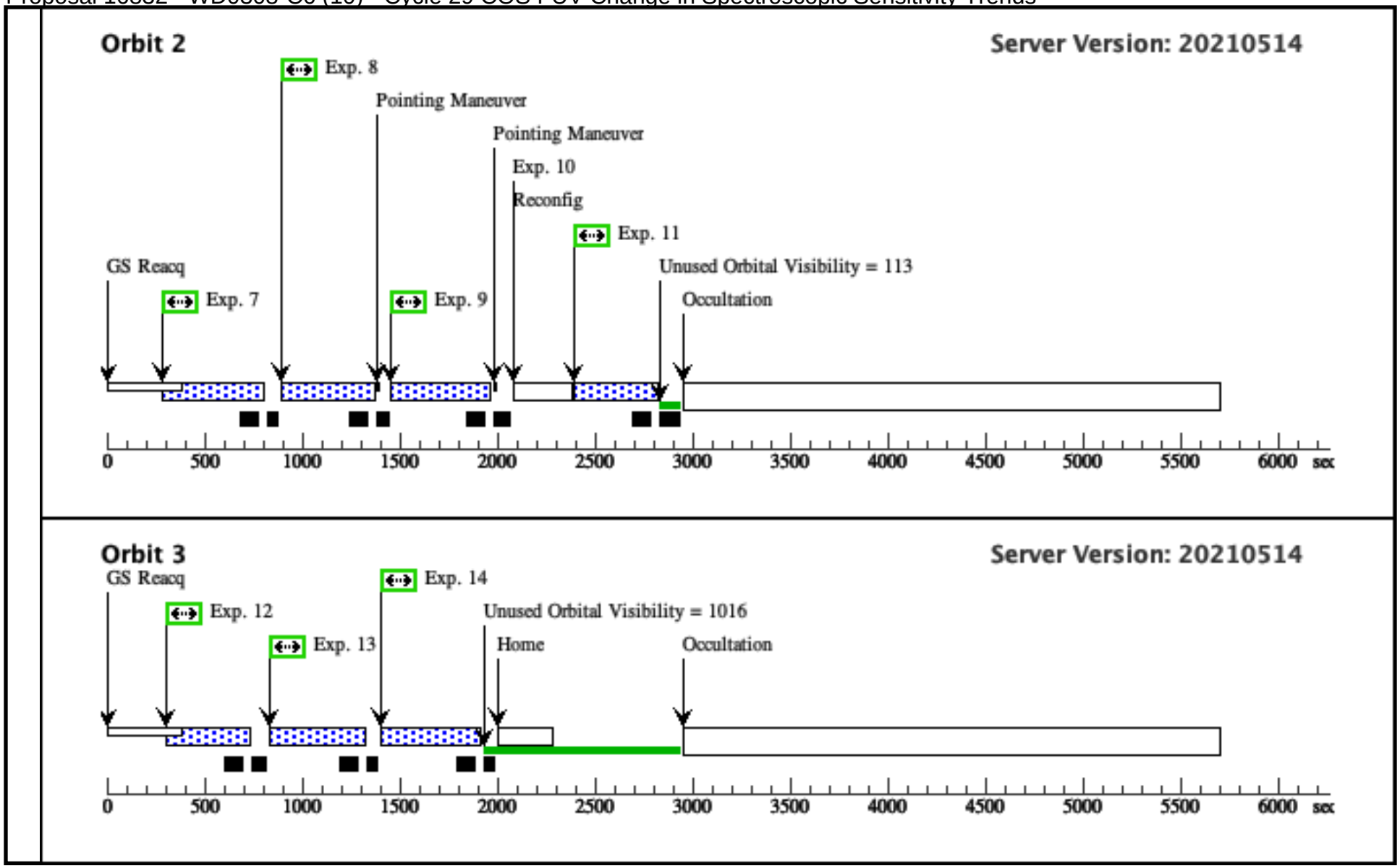
#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	ACQ/IM (839564)	(1) WD0308-565	COS/NUV, ACQ/IMAGE, BOA	MIRRORA				45 Secs (45 Secs) *[==>]*	*[1]*
	Comments: cycle 24 comment: exposure times not reduced following updated ETC calculations, differences not enough to affect orbit requested. *Cycle 28 comment: we continue to use the same exposure time since differences do not affect orbit request.*								
2	G130M/1055/LP2 (COS.sp.1540024)	(1) WD0308-565	COS/FUV, TIME-TAG, PSA	G130M 1055 A	BUFFER-TIME=208; FP-POS=3; SEGMENT=BOTH; LIFETIME-POS=LP2			318 Secs (318 Secs) *[==>]*	*[1]*
	Comments: Cycle 29 comment: exposure time updated following blue modes TDS and FLUXTAB update. *ETC buffer time is 1377 sec* *Set buffer time = exptime - 110 sec*								
3	G130M/1222/LP4 (COS.sp.1457646)	(1) WD0308-565	COS/FUV, TIME-TAG, PSA	G130M 1222 A	BUFFER-TIME=157; FP-POS=3; LIFETIME-POS=LP4; SEGMENT=BOTH			267 Secs (267 Secs) *[==>]*	*[1]*
	Comments: ETC buffer time is 392 sec. *Set buffer time = exptime - 110 sec*								
4	G130M/1291/LP5 (COS.sp.1457647)	(1) WD0308-565	COS/FUV, TIME-TAG, PSA	G130M 1291 A	BUFFER-TIME=126; FP-POS=3; LIFETIME-POS=LP5; SEGMENT=BOTH			236 Secs (236 Secs) *[==>]*	*[1]*
	Comments: ETC buffer time is 323 sec. *Set buffer time = exptime - 110 sec*								
5	G140L/1280/LP3 (COS.sp.1540033)	(1) WD0308-565	COS/FUV, TIME-TAG, PSA	G140L 1280 A	BUFFER-TIME=291; FP-POS=3; LIFETIME-POS=LP3; SEGMENT=BOTH			401 Secs (401 Secs) *[==>]*	*[1]*
	Comments: ETC buffer time is 503 sec. *Set buffer time = exptime - 110 sec*								
6		DARK	S/C, DATA, NONE			QASISTATES COS FUV HVLOW HVLOW		1 Secs (1 Secs) *[==>]*	*[1]*
	Comments: Work-around to efficiently schedule the reconfiguration to SEG-A. Eliminates SPSS induced gaps.								
7	G140L/800/FUVA/LP3 (COS.sp.1457778)	(1) WD0308-565	COS/FUV, TIME-TAG, PSA	G140L 800 A	BUFFER-TIME=257; FP-POS=3; SEGMENT=A; LIFETIME-POS=LP3			367 Secs (367 Secs) *[==>]*	*[2]*
	Comments: ETC buffer time is 350 sec. *Set buffer time = exptime - 110 sec*								

8	G140L/1105/FUVA/LP3 (COS.sp.1457846)	(1) WD0308-565	COS/FUV, TIME-TAG, PSA	G140L 1105 A	BUFFER-TIME=222; FP-POS=3; SEGMENT=A; LIFETIME-POS=LP3		332 Secs (332 Secs) *[==>]*	***[2]***
Comments: ETC buffer time is 358 sec. *Set buffer time = exptime - 110 sec*								
9	G130M/1327/FUVA/LP5 (COS.sp.1457657)	(1) WD0308-565	COS/FUV, TIME-TAG, PSA	G130M 1327 A	BUFFER-TIME=164; FP-POS=3; LIFETIME-POS=LP5; SEGMENT=A		274 Secs (274 Secs) *[==>]*	***[2]***
Comments: ETC buffer time is 324 sec. *set buffer time = exptime - 110 sec*								
10		DARK	S/C, DATA, NONE			QASISTATES COS FUV HVLOW HVLOW	1 Secs (1 Secs) *[==>]*	***[2]***
Comments: Work-around to efficiently schedule the reconfiguration to SEG-A. Eliminates SPSS induced gaps.								
11	G160M/1533/B/LP6 (COS.sp.1457649)	(1) WD0308-565	COS/FUV, TIME-TAG, PSA	G160M 1533 A	FP-POS=3; BUFFER-TIME=113; LIFETIME-POS=LP6; SEGMENT=B		223 Secs (223 Secs) *[==>]*	***[2]***
Comments: ETC buffer time is 502 sec. *Set buffer time = exptime - 110 sec.*								
12	G160M/1577/B/LP6 (COS.sp.1540036)	(1) WD0308-565	COS/FUV, TIME-TAG, PSA	G160M 1577 A	FP-POS=3; BUFFER-TIME=181; LIFETIME-POS=LP6; SEGMENT=B		291 Secs (291 Secs) *[==>]*	***[3]***
Comments: ETC buffer time is 644 sec. *Set buffer time = exptime - 110 sec*								
13	G160M/1611/B/LP6 (COS.sp.1540046)	(1) WD0308-565	COS/FUV, TIME-TAG, PSA	G160M 1611 A	FP-POS=3; BUFFER-TIME=250; LIFETIME-POS=LP6; SEGMENT=B		360 Secs (360 Secs) *[==>]*	***[3]***
Comments: ETC buffer time is 755 sec. *Set buffer time = exptime - 110 sec*								

	14	G160M/1623/B/LP6 (COS.sp.1540050)	(1) WD0308-565	COS/FUV, TIME-TAG, PSA	G160M 1623 A	FP-POS=3; BUFFER-TIME=278; LIFETIME-POS=LP6; SEGMENT=B	388 Secs (388 Secs) *[==>]*	***[3]***
	Comments: ETC buffer time is 814 sec. Set buffer time = exptime - 110 sec							

Orbit Structure




Orbit 2
Server Version: 20210514
Exp. 8
Pointing Maneuver
Pointing Maneuver
Exp. 10
Reconfig
Exp. 11
GS Reacq
Exp. 7
Exp. 9
Unused Orbital Visibility = 113
Occultation
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
6000
sec
Orbit 3
Server Version: 20210514
GS Reacq
Exp. 14
Exp. 12
Unused Orbital Visibility = 1016
Exp. 13
Home
Occultation
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
6000
sec