



## 12796 - Second COS FUV Lifetime Position: Focus Sweep Enabling Program (FENA3)

Cycle: 19, Proposal Category: CAL/COS

(Availability Mode: RESTRICTED)

### INVESTIGATORS

<i>Name</i>	<i>Institution</i>	<i>E-Mail</i>
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### VISITS

<i>Visit</i>	<i>Targets used in Visit</i>	<i>Configurations used in Visit</i>	<i>Orbits Used</i>	<i>Last Orbit Planner Run</i>	<i>OP Current with Visit?</i>
01	(1) V-KL-UMA NONE	COS COS/FUV	3	06-Apr-2012 21:18:42.0	yes
02	(1) V-KL-UMA NONE	COS COS/FUV	3	06-Apr-2012 21:19:26.0	yes
03	(3) AZV75 DARK NONE	COS COS/FUV S/C	3	06-Apr-2012 21:20:05.0	yes

9 Total Orbits Used

### ABSTRACT

This program verifies the focus at the new lifetime position by performing focus sweeps with the G130M, G160M, and G140L gratings.

Ray trace models predict that the best focus at the new position is within +/-200 focus steps from the current absolute focus.

The focus sweeps performed in this program scan the focus at 100 focus step increments around the offsets predicted by ray-trace models and at 200

focus step increments at the extremes.

### **OBSERVING DESCRIPTION**

A focus sweep with the G130M/1309 setting is executed in visit 01 and a focus sweep with the G160M/1600 setting is executed in vis 02. Both focus sweeps are executed at a position that corresponds to the spectra moving +35 pixels from the current location. This is accomplished by specifying XAPER=-62 and Y\_POSTARG=+2.94.

The visits in this program should execute 3 weeks after visit 01 of program 12795 (FENA2) executes, preferably in the Mar 12 2012 SMS. Program 12796 should finish executing at least 3 weeks before 12797 executes.

As a result of analysis of data acquired in visit 01 of program 12795 the value of XAPER was changed to -73 and the value of Y POS TARG to +3.5".

Visit 03 is a focus sweep of the G140L grating, using AzV 75.

A new version of APT became available after visits 01 and 02 executed, which takes into account the different lifetime positions, without having to use special commanding, in addition to a FWS update which occurred on the weekend of Mar 25 and which allows different lifetime position. Vis 03 was prepared with the new APT version.

Also, after visits 01 and 02 executed it was noted that the detector was being scrubbed by those data, at the new lifetime position. For this reason it was decided to execute vis 03 at a lower operational voltage.

### **CONSTRAINTS:**

Visit 03 of 12796 should execute on the SMS of Apr 16 2012.

Visits 01 and 02 of 12797, which are also executing on the SMS of Apr 16 2012, should execute BEFORE visit 03 of 12796.

This is because visits 01 and 02 of 12797 measure the PSA to WCA offset, which is gain dependent, and visit 03 of 12796 is likely to scrub the detector, i.e., lower the gain. Even though the PSA to WCA offsets will need to be adjusted in the future it is better to determine values that will be closer to reality once operations at the new lifetime position start.

Proposal 12796 - G130M focus (01) - Second COS FUV Lifetime Position: Focus Sweep Enabling Program (FENA3)

Sat Apr 07 01:20:17 GMT 2012

<b>Visit</b>	<b>Proposal 12796, G130M_focus (01), completed</b> <b>Diagnostic Status: Warning</b> Scientific Instruments: COS/FUV, COS Special Requirements: SCHED 100%					
	<b>Diagnostics</b>	(G130M_focus (01)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE				
(G130M_focus (01)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE						
(G130M_focus (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.						
(G130M_focus (01)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE						
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(G130M_focus (01)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE						
(G130M_focus (01)) Warning (Form): If the target coordinates are not known to 0.4" (or better) an ACQ/SEARCH should precede the ACQ/PEAKXD.						
(G130M_focus (01)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE						
(ACQ/PEAKXD (01.001)) Warning (Form): SEGMENT=A is atypical for FUV ACQ/PEAKXD. See full description for details.						
<b>Fixed Targets</b>	<b>#</b>	<b>Name</b>	<b>Target Coordinates</b>	<b>Targ. Coord. Corrections</b>	<b>Fluxes</b>	<b>Miscellaneous</b>
	(1)	V-KL-UMA Alt Name1: FEIGE48	RA: 11 47 14.4900 (176.8103750d) Dec: +61 15 31.80 (61.25883d) Equinox: J2000	Proper Motion RA: 0.00333 sec of time/yr Proper Motion Dec: 0 Epoch of Position: 2000	V=13.28	Reference Frame: ICRS
<i>Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.</i>						

Proposal 12796 - G130M focus (01) - Second COS FUV Lifetime Position: Focus Sweep Enabling Program (FENA3)

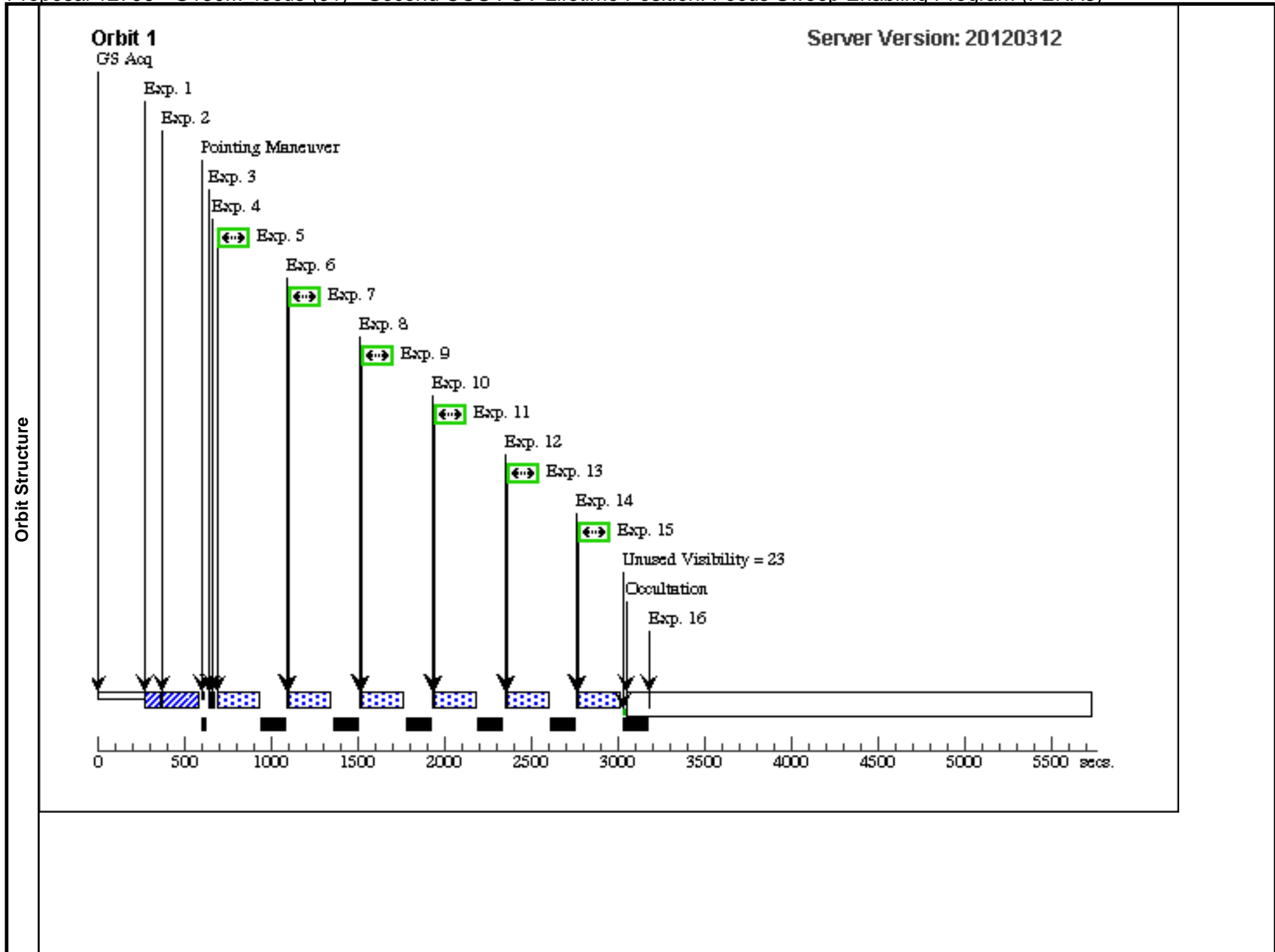
#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
1	ACQ/PEAK XD (COS.sa.345 572)	(1) V-KL-UMA	COS/FUV, ACQ/PEAKXD, PSA	G130M 1309 A	SEGMENT=A			1 Secs [==>]	[1]
<i>Comments: Using segment A only for target acq given that target is too bright to use both segments simultaneously with the G130M grating</i>									
2	PEAKD (COS.sa.345 572)	(1) V-KL-UMA	COS/FUV, ACQ/PEAKD, PSA	G130M 1309 A	NUM-POS=7; SEGMENT=A; STEP-SIZE=1			1 Secs [==>]	[1]
<i>Comments: verification exposure prior to start of 13-exposure focus sweep; uses nominal focus</i>									
3	ApM_+3.5	NONE	COS, ALIGN/APER		XAPER=-73; YAPER=0.0			0 Secs [==>]	[1]
<i>Comments: Move aperture corresponding to postarg = +3.5"</i>									
4	Move to -60 0	NONE	COS, ALIGN/OSM		FOCUS=-600			0 Secs [==>]	[1]
5	G130M_A_f -600 (COS.sp.345 566)	(1) V-KL-UMA	COS/FUV, TIME-TAG, PSA	G130M 1309 A	FP-POS=3; SEGMENT=A; BUFFER-TIME=13 9	POS TARG 0.,3.5; SPEC COM INSTR ELNOAPMAIN		190 Secs [==>]	[1]
6	Move to -40 0	NONE	COS, ALIGN/OSM		FOCUS=-400			0 Secs [==>]	[1]
7	G130M_A_f -400 (COS.sp.345 566)	(1) V-KL-UMA	COS/FUV, TIME-TAG, PSA	G130M 1309 A	FP-POS=3; SEGMENT=A; BUFFER-TIME=13 9	POS TARG 0,3.5; SPEC COM INSTR ELNOAPMAIN		190 Secs [==>]	[1]
8	Move to -20 0	NONE	COS, ALIGN/OSM		FOCUS=-200			0 Secs [==>]	[1]
9	G130M_A_f -200 (COS.sp.345 566)	(1) V-KL-UMA	COS/FUV, TIME-TAG, PSA	G130M 1309 A	FP-POS=3; SEGMENT=A; BUFFER-TIME=13 9	POS TARG 0.,3.5; SPEC COM INSTR ELNOAPMAIN		190 Secs [==>]	[1]
10	Move to -10 0	NONE	COS, ALIGN/OSM		FOCUS=-100			0 Secs [==>]	[1]
11	G130M_A_f -100 (COS.sp.345 566)	(1) V-KL-UMA	COS/FUV, TIME-TAG, PSA	G130M 1309 A	FP-POS=3; SEGMENT=A; BUFFER-TIME=13 9	POS TARG 0.,3.5; SPEC COM INSTR ELNOAPMAIN		190 Secs [==>]	[1]
12	Move to 0	NONE	COS, ALIGN/OSM		FOCUS=0			0 Secs [==>]	[1]
13	G130M_A_f -0 (COS.sp.345 566)	(1) V-KL-UMA	COS/FUV, TIME-TAG, PSA	G130M 1309 A	FP-POS=3; SEGMENT=A; BUFFER-TIME=13 9	POS TARG 0.,3.5; SPEC COM INSTR ELNOAPMAIN		190 Secs [==>]	[1]
14	Move to +10 0	NONE	COS, ALIGN/OSM		FOCUS=+100			0 Secs [==>]	[1]

Proposal 12796 - G130M focus (01) - Second COS FUV Lifetime Position: Focus Sweep Enabling Program (FENA3)

15	G130M_A_f (1) V-KL-UMA +100 (COS.sp.345 566)	COS/FUV, TIME-TAG, PSA	G130M 1309 A	FP-POS=3; SEGMENT=A; BUFFER-TIME=13 9	POS TARG 0.,3.5; SPEC COM INSTR ELNOAPMAIN	190 Secs [==>]	[1]
16	Move to +20 NONE 0	COS, ALIGN/OSM		FOCUS=+200		0 Secs [==>]	[1]
17	G130M_A_f (1) V-KL-UMA +200 (COS.sp.345 566)	COS/FUV, TIME-TAG, PSA	G130M 1309 A	FP-POS=3; SEGMENT=A; BUFFER-TIME=13 9	POS TARG 0,3.5; SPEC COM INSTR ELNOAPMAIN	190 Secs [==>]	[2]
18	Move to +30 NONE 0	COS, ALIGN/OSM		FOCUS=+300		0 Secs [==>]	[2]
19	G130M_A_f (1) V-KL-UMA +300 (COS.sp.345 566)	COS/FUV, TIME-TAG, PSA	G130M 1309 A	FP-POS=3; SEGMENT=A; BUFFER-TIME=13 9	POS TARG 0,3.5; SPEC COM INSTR ELNOAPMAIN	190 Secs [==>]	[2]
20	Move to +50 NONE 0	COS, ALIGN/OSM		FOCUS=+500		0 Secs [==>]	[2]
21	G130M_A_f (1) V-KL-UMA +500 (COS.sp.345 566)	COS/FUV, TIME-TAG, PSA	G130M 1309 A	FP-POS=3; SEGMENT=A; BUFFER-TIME=13 9	POS TARG 0,3.5; SPEC COM INSTR ELNOAPMAIN	190 Secs [==>]	[2]
22	Move to +70 NONE 0	COS, ALIGN/OSM		FOCUS=+700		0 Secs [==>]	[2]
23	G130M_A_f (1) V-KL-UMA +700 (COS.sp.345 566)	COS/FUV, TIME-TAG, PSA	G130M 1309 A	FP-POS=3; SEGMENT=A; BUFFER-TIME=13 9	POS TARG 0,3.5; SPEC COM INSTR ELNOAPMAIN	190 Secs [==>]	[2]
24	G130M_B_f (1) V-KL-UMA +700 (COS.sp.345 565)	COS/FUV, TIME-TAG, PSA	G130M 1309 A	FP-POS=3; SEGMENT=B; BUFFER-TIME=10 0	POS TARG 0,3.5; SPEC COM INSTR ELNOAPMAIN	138 Secs [==>]	[2]
<i>Comments: Switch to segment B, this exposure it at a focus offset of +700</i>							
25	Move to +50 NONE 0	COS, ALIGN/OSM		FOCUS=+500		0 Secs [==>]	[2]
26	G130M_B_f (1) V-KL-UMA +500 (COS.sp.345 565)	COS/FUV, TIME-TAG, PSA	G130M 1309 A	FP-POS=3; SEGMENT=B; BUFFER-TIME=10 0	POS TARG 0,3.5; SPEC COM INSTR ELNOAPMAIN	138 Secs [==>]	[2]
27	Move to +30 NONE 0	COS, ALIGN/OSM		FOCUS=+300		0 Secs [==>]	[2]
28	G130M_B_f (1) V-KL-UMA +300 (COS.sp.345 565)	COS/FUV, TIME-TAG, PSA	G130M 1309 A	FP-POS=3; SEGMENT=B; BUFFER-TIME=10 0	POS TARG 0,3.5; SPEC COM INSTR ELNOAPMAIN	138 Secs [==>]	[3]
29	Move to +20 NONE 0	COS, ALIGN/OSM		FOCUS=+200		0 Secs [==>]	[3]

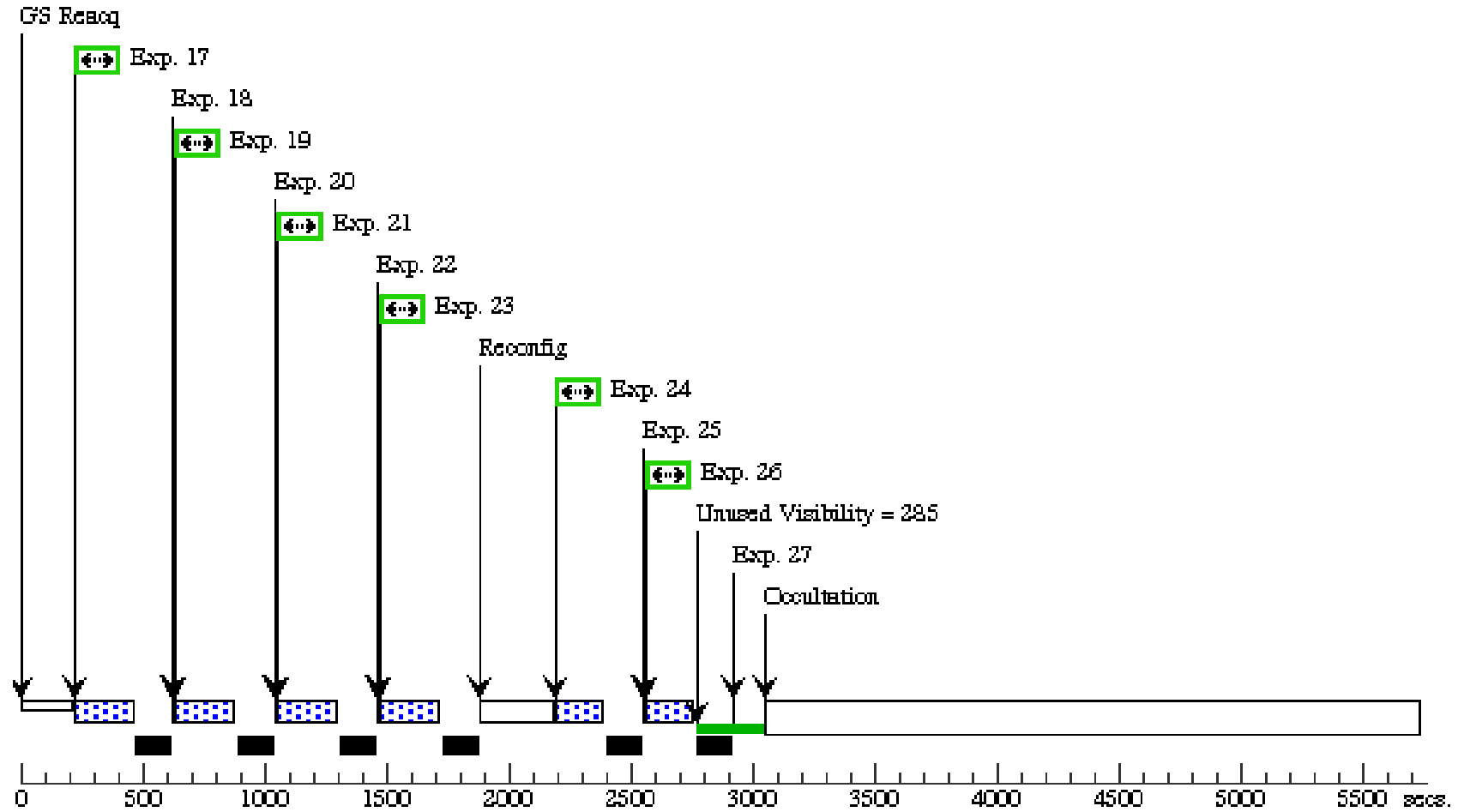
Proposal 12796 - G130M focus (01) - Second COS FUV Lifetime Position: Focus Sweep Enabling Program (FENA3)

30	G130M_B_f (1) V-KL-UMA +200 (COS.sp.345 565)	COS/FUV, TIME-TAG, PSA	G130M 1309 A	FP-POS=3; SEGMENT=B; BUFFER-TIME=10 0	POS TARG 0,3.5; SPEC COM INSTR ELNOAPMAIN	138 Secs [==>]	[3]
31	Move to +10 NONE 0	COS, ALIGN/OSM		FOCUS=+100		0 Secs [==>]	[3]
32	G130M_B_f (1) V-KL-UMA +100 (COS.sp.345 565)	COS/FUV, TIME-TAG, PSA	G130M 1309 A	FP-POS=3; SEGMENT=B; BUFFER-TIME=10 0	POS TARG 0,3.5; SPEC COM INSTR ELNOAPMAIN	138 Secs [==>]	[3]
33	Move to 0 NONE	COS, ALIGN/OSM		FOCUS=0		0 Secs [==>]	[3]
34	G130M_B_f (1) V-KL-UMA -0 (COS.sp.345 565)	COS/FUV, TIME-TAG, PSA	G130M 1309 A	FP-POS=3; SEGMENT=B; BUFFER-TIME=10 0	POS TARG 0,3.5; SPEC COM INSTR ELNOAPMAIN	138 Secs [==>]	[3]
35	Move to -10 NONE 0	COS, ALIGN/OSM		FOCUS=-100		0 Secs [==>]	[3]
36	G130M_B_f (1) V-KL-UMA -100 (COS.sp.345 565)	COS/FUV, TIME-TAG, PSA	G130M 1309 A	FP-POS=3; SEGMENT=B; BUFFER-TIME=10 0	POS TARG 0,3.5; SPEC COM INSTR ELNOAPMAIN	138 Secs [==>]	[3]
37	Move to -20 NONE 0	COS, ALIGN/OSM		FOCUS=-200		0 Secs [==>]	[3]
38	G130M_B_f (1) V-KL-UMA -200 (COS.sp.345 565)	COS/FUV, TIME-TAG, PSA	G130M 1309 A	FP-POS=3; SEGMENT=B; BUFFER-TIME=10 0	POS TARG 0,3.5; SPEC COM INSTR ELNOAPMAIN	138 Secs [==>]	[3]
39	Move to -40 NONE 0	COS, ALIGN/OSM		FOCUS=-400		0 Secs [==>]	[3]
40	G130M_B_f (1) V-KL-UMA -400 (COS.sp.345 565)	COS/FUV, TIME-TAG, PSA	G130M 1309 A	FP-POS=3; SEGMENT=B; BUFFER-TIME=10 0	POS TARG 0,3.5; SPEC COM INSTR ELNOAPMAIN	138 Secs [==>]	[3]
41	Move to -60 NONE 0	COS, ALIGN/OSM		FOCUS=-600		0 Secs [==>]	[3]
42	G130M_B_f (1) V-KL-UMA -600 (COS.sp.345 565)	COS/FUV, TIME-TAG, PSA	G130M 1309 A	FP-POS=3; SEGMENT=B; BUFFER-TIME=10 0	POS TARG 0.0,3.5; SPEC COM INSTR ELNOAPMAIN	138 Secs [==>]	[3]

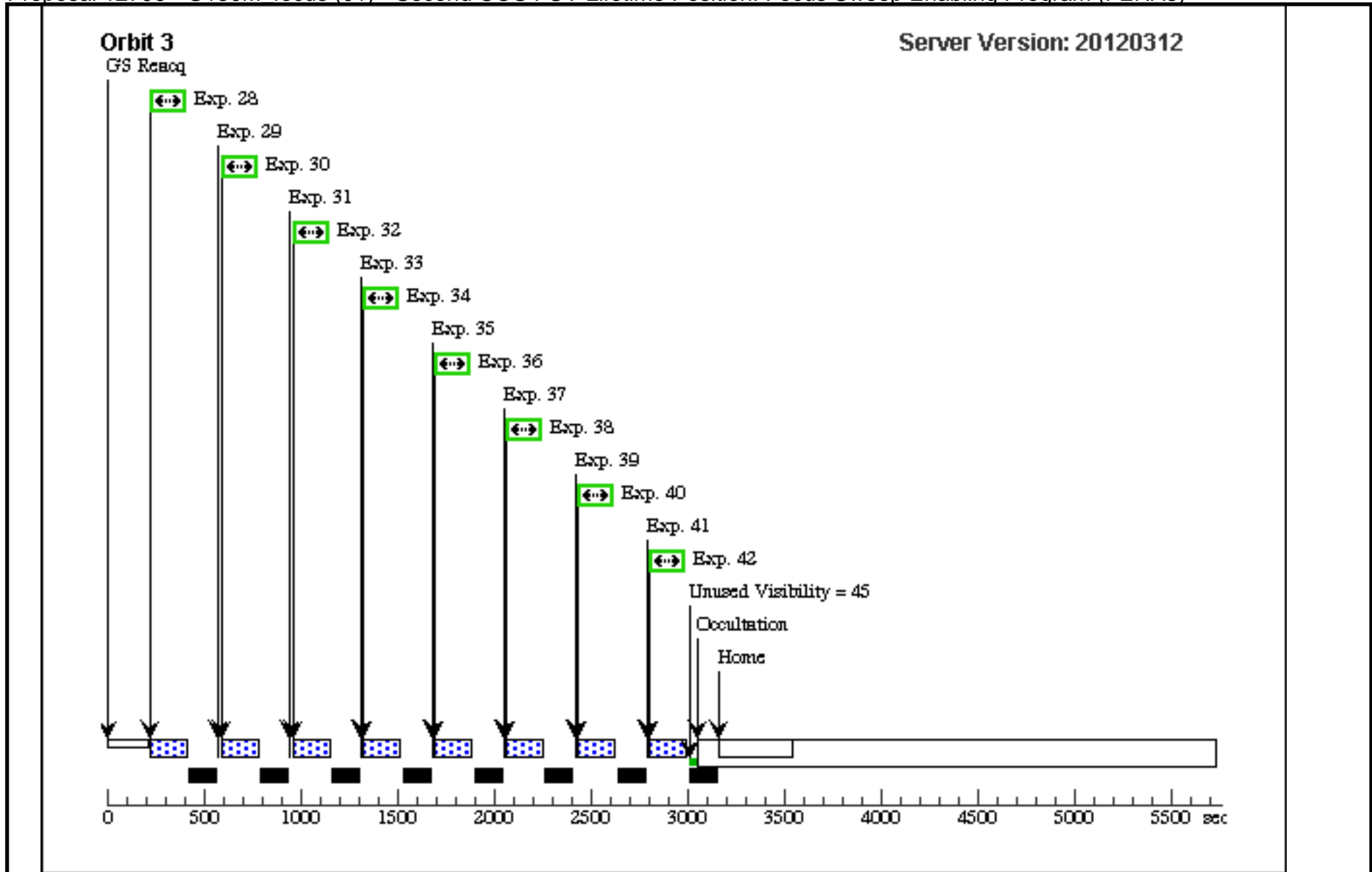


**Orbit 2**

Server Version: 20120312







Proposal 12796 - G160M focus (02) - Second COS FUV Lifetime Position: Focus Sweep Enabling Program (FENA3)

Sat Apr 07 01:20:23 GMT 2012

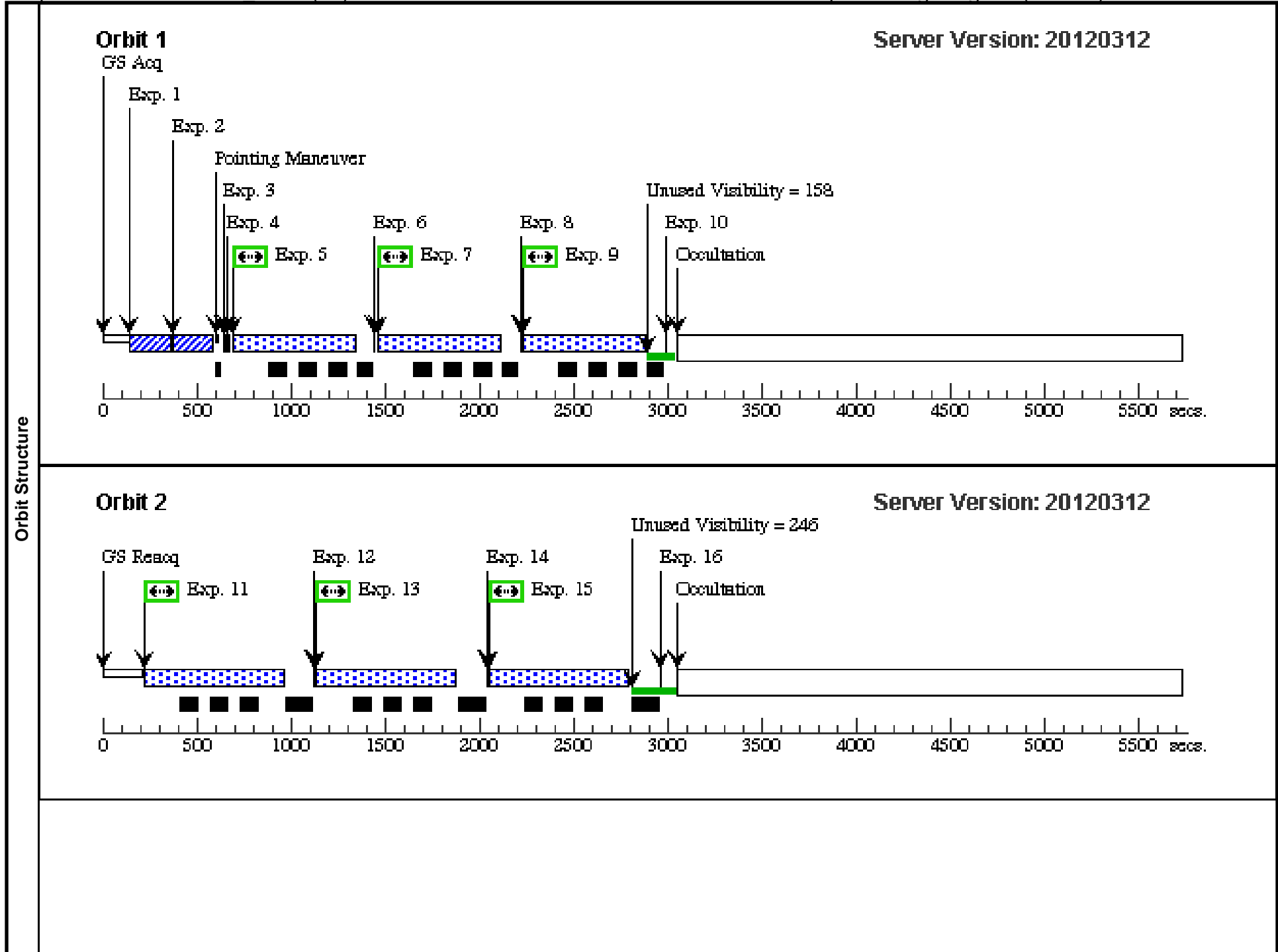
<b>Visit</b>	<p><b>Proposal 12796, G160M_focus (02), completed</b></p> <p><b>Diagnostic Status: Warning</b></p> <p>Scientific Instruments: COS/FUV, COS</p> <p>Special Requirements: SCHED 100%</p>					
	<b>Diagnostics</b>	(G160M_focus (02)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE				
(G160M_focus (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.						
(G160M_focus (02)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE						
(G160M_focus (02)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE						
(G160M_focus (02)) Warning (Form): If the target coordinates are not known to 0.4" (or better) an ACQ/SEARCH should precede the ACQ/PEAKXD.						
(G160M_focus (02)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE						
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<b>Fixed Targets</b>	<b>#</b>	<b>Name</b>	<b>Target Coordinates</b>	<b>Targ. Coord. Corrections</b>	<b>Fluxes</b>	<b>Miscellaneous</b>
	(1)	V-KL-UMA Alt Name1: FEIGE48	RA: 11 47 14.4900 (176.8103750d) Dec: +61 15 31.80 (61.25883d) Equinox: J2000	Proper Motion RA: 0.00333 sec of time/yr Proper Motion Dec: 0 Epoch of Position: 2000	V=13.28	Reference Frame: ICRS
<i>Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.</i>						

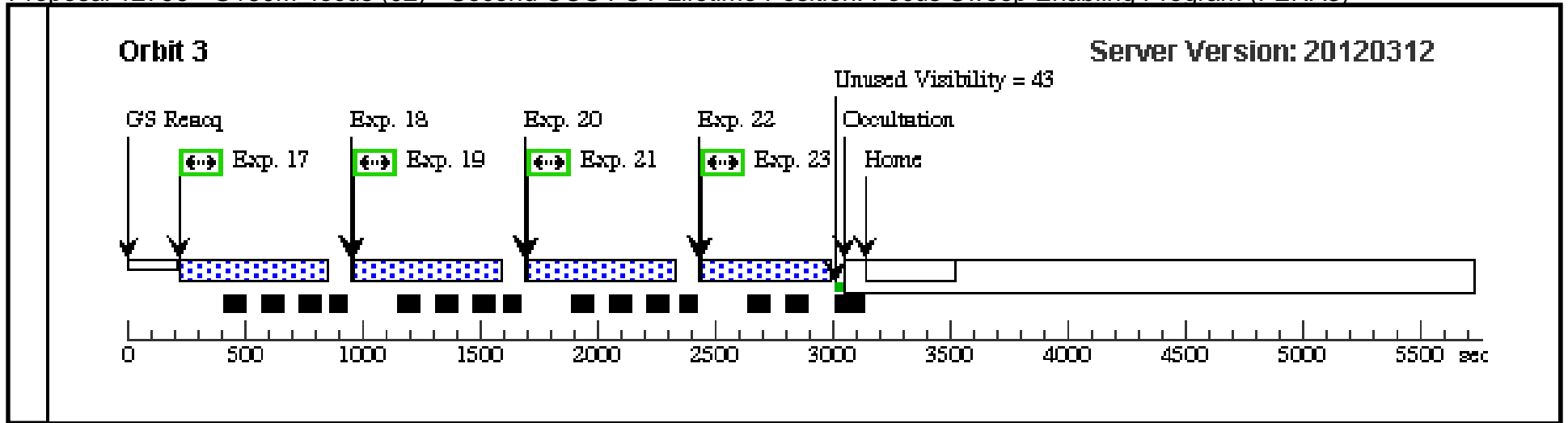
Proposal 12796 - G160M focus (02) - Second COS FUV Lifetime Position: Focus Sweep Enabling Program (FENA3)

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
1	ACQ/PEAK XD (COS.sa.345 580)	(1) V-KL-UMA	COS/FUV, ACQ/PEAKXD, PSA	G160M 1600 A				1 Secs [==>]	[1]
2	PEAKD (COS.sa.345 580)	(1) V-KL-UMA	COS/FUV, ACQ/PEAKD, PSA	G160M 1600 A	NUM-POS=7; STEP-SIZE=1.0			1 Secs [==>]	[1]
3	ApM_+3.5	NONE	COS, ALIGN/APER		XAPER=-73; YAPER=0.0			0 Secs [==>]	[1]
<i>Comments: Move aperture corresponding to postarg = +3.5</i>									
4	Move to -60 0	NONE	COS, ALIGN/OSM		FOCUS=-600			0 Secs [==>]	[1]
5	G160M_f-6 00 (COS.sp.345 579)	(1) V-KL-UMA	COS/FUV, TIME-TAG, PSA	G160M 1600 A	FP-POS=3; BUFFER-TIME=15 9	POS TARG 0,3.5; SPEC COM INSTR ELNOAPMAIN		600 Secs [==>]	[1]
6	Move to -40 0	NONE	COS, ALIGN/OSM		FOCUS=-400			0 Secs [==>]	[1]
7	G160M_f-4 00 (COS.sp.345 579)	(1) V-KL-UMA	COS/FUV, TIME-TAG, PSA	G160M 1600 A	FP-POS=3; BUFFER-TIME=15 9	POS TARG 0,3.5; SPEC COM INSTR ELNOAPMAIN		600 Secs [==>]	[1]
8	Move to -20 0	NONE	COS, ALIGN/OSM		FOCUS=-200			0 Secs [==>]	[1]
9	G160M_f-2 00 (COS.sp.345 579)	(1) V-KL-UMA	COS/FUV, TIME-TAG, PSA	G160M 1600 A	FP-POS=3; BUFFER-TIME=15 9	POS TARG 0,3.5; SPEC COM INSTR ELNOAPMAIN		600 Secs [==>]	[1]
10	Move to -10 0	NONE	COS, ALIGN/OSM		FOCUS=-100			0 Secs [==>]	[1]
11	G160M_f-1 00 (COS.sp.345 579)	(1) V-KL-UMA	COS/FUV, TIME-TAG, PSA	G160M 1600 A	FP-POS=3; BUFFER-TIME=15 9	POS TARG 0,3.5; SPEC COM INSTR ELNOAPMAIN		690 Secs [==>]	[2]
12	Move to 0	NONE	COS, ALIGN/OSM		FOCUS=0			0 Secs [==>]	[2]
13	G160M_f-0 (COS.sp.345 579)	(1) V-KL-UMA	COS/FUV, TIME-TAG, PSA	G160M 1600 A	FP-POS=3; BUFFER-TIME=15 9	POS TARG 0,3.5; SPEC COM INSTR ELNOAPMAIN		690 Secs [==>]	[2]
14	Move to +10 0	NONE	COS, ALIGN/OSM		FOCUS=+100			0 Secs [==>]	[2]
15	G160M_f+1 00 (COS.sp.345 579)	(1) V-KL-UMA	COS/FUV, TIME-TAG, PSA	G160M 1600 A	FP-POS=3; BUFFER-TIME=15 9	POS TARG 0,+3.5; SPEC COM INSTR ELNOAPMAIN		690 Secs [==>]	[2]
16	Move to +20 0	NONE	COS, ALIGN/OSM		FOCUS=+200			0 Secs [==>]	[2]
17	G160M_f+2 00 (COS.sp.345 579)	(1) V-KL-UMA	COS/FUV, TIME-TAG, PSA	G160M 1600 A	FP-POS=3; BUFFER-TIME=15 9	POS TARG 0,3.5; SPEC COM INSTR ELNOAPMAIN		580 Secs [==>]	[3]

Proposal 12796 - G160M focus (02) - Second COS FUV Lifetime Position: Focus Sweep Enabling Program (FENA3)

18	Move to +30 0	NONE	COS, ALIGN/OSM	G160M	FP-POS=3;	POS TARG 0,+3.5;	0 Secs	
							[==>]	[3]
19	G160M_f+3 00 (COS.sp.345 579)	(1) V-KL-UMA	COS/FUV, TIME-TAG, PSA	1600 A	BUFFER-TIME=15 9	SPEC COM INSTR ELNOAPMAIN	580 Secs	
							[==>]	[3]
20	Move to +50 0	NONE	COS, ALIGN/OSM	G160M	FP-POS=3;	POS TARG 0,3.5;	0 Secs	
							[==>]	[3]
21	G160M_f+5 00 (COS.sp.345 579)	(1) V-KL-UMA	COS/FUV, TIME-TAG, PSA	1600 A	BUFFER-TIME=15 9	SPEC COM INSTR ELNOAPMAIN	580 Secs	
							[==>]	[3]
22	Move to +70 0	NONE	COS, ALIGN/OSM	G160M	FP-POS=3;	POS TARG 0,3.5;	0 Secs	
							[==>]	[3]
23	G160M_f+7 00 (COS.sp.345 579)	(1) V-KL-UMA	COS/FUV, TIME-TAG, PSA	1600 A	BUFFER-TIME=15 9	SPEC COM INSTR ELNOAPMAIN	500 Secs	
							[==>]	[3]





Proposal 12796 - G140L focus (03) - Second COS FUV Lifetime Position: Focus Sweep Enabling Program (FENA3)

Sat Apr 07 01:20:24 GMT 2012

<b>Visit</b>	<p><b>Proposal 12796, G140L_focus (03), scheduling</b></p> <p><b>Diagnostic Status: Warning</b></p> <p>Scientific Instruments: S/C, COS/FUV, COS</p> <p>Special Requirements: SCHED 100%; BETWEEN 16-APR-2012 AND 22-APR-2012</p> <p><i>Comments: Due to the non-default FUV HV setting the FUV must be maintained in a state no lower than HVNOM throughout the visit.</i></p> <p>SAA-FREE scheduling only.</p> <p><i>Analysis of visits 01 and 02 of 12796 indicates that there are discrepancies between the focus modeling and the focus offsets predicted from these data and so a focus sweep with the G140L needs to be executed. The target used, Azv 75 is brighter than but similar to the target used in the G140L focus sweep in program 12080. The focus sweep in 12796 applies focus offsets of -800 to +800 focus steps. The absolute focus for G140L/1105 is -370.</i></p> <p><i>Target count rates:</i>  <i>In the G140L/1105 setting the target's local count rate is 0.75 cts/sec/pix which is 12% above the local limit of 0.67 cts/sec/pix. This violation happens where the P-Cygni profile from N V falls. In this kind of stars the strength of the P-Cygni profile is not supposed to increase, if anything it is the absorption that changes. Given that this target was previously observed with STIS E140M the Team decided that the 12 % local count rate violation was not an issue. The global count rate in seg A is slightly above the 15,000 cts/sec at 16040 cts/sec but that should not be an issue either.</i></p> <p><i>BOP and Field</i>  <i>This target falls in a very crowded region of the SMC and as such there are no GSC2 or Galex targets to use with the BOT. The photometric survey of the Magellanic clouds by Zaritsky et al. 2002 (AJ, 123, 2, 855) available in vizier (J/AJ/123/855) observed the AzV 75 field and can be used to clear it: Within 11", which is the radius of the region that needs to be cleared for the PSA (when the TA exposures are taken into account) there are 12 sources. One of them is the target (V=12.756). All the other sources are fainter than V=18.0 and even assuming unreddened OV there are not BOP issues. To clear the BOA region we only have to consider targets brighter than V=10 according to table 10.3 of the COS IHB. According to the catalog in Vizier there is only 1 source brighter than V=13 within 30" other than the target. This source has V=12.956 and so should not pose a problem for the BOA.</i></p>												
	<p>(G140L_focus (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.</p> <p>(G140L_focus (03)) Warning (Form): If the target coordinates are not known to 0.4" (or better) an ACQ/SEARCH should precede the ACQ/PEAKXD.</p> <p>(G140L_focus (03)) Warning (Form): Within a visit, all COS exposures with the same config (FUV or NUV) must have the same LIFETIME-POS parameter.</p>												
<b>Fixed Targets</b>	<table border="1"> <thead> <tr> <th>#</th> <th>Name</th> <th>Target Coordinates</th> <th>Targ. Coord. Corrections</th> <th>Fluxes</th> <th>Miscellaneous</th> </tr> </thead> <tbody> <tr> <td>(3)</td> <td>AZV75</td> <td>RA: 00 50 32.3900 (12.6349583d) Dec: -72 52 36.50 (-72.87681d) Equinox: J2000</td> <td></td> <td>V=12.79</td> <td>Reference Frame: ICRS</td> </tr> </tbody> </table> <p><i>Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.</i></p>	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous	(3)	AZV75	RA: 00 50 32.3900 (12.6349583d) Dec: -72 52 36.50 (-72.87681d) Equinox: J2000		V=12.79	Reference Frame: ICRS
	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous							
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#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
1	FUV HV R AMPUP (16 7/163)	DARK	S/C, DATA, NONE			SAA CONTOUR 31; SPEC COM INSTR ELHLTHVF; GS ACQ SCENARI O BASE1BN3; QASISTATES COS FUV HVLOW HVS EGA; QESIPARM ENDC TSA 167; QESIPARM SEGM ENT A		418 Secs [==>]	[1]
<p>Comments: SQL required for qexposure to specify the si_used = "COS".</p> <p>The special commanding here sets the the nominal high voltage for this visit (HVNOM) for segments A and B (ENDCTSA and ENDCTS B) to 167 and 163, respectively. 403s is the correct rampup time for 162/159. A n allow 3 additional seconds for every positive unit of offset is required. Therefore, the rampup time is 403+(167-162)*3 = 418</p> <p>*** This exposure was copied from vis 01 of 12797 where the HV is lowered to the same values ****</p>									
2	PEAKXD (COS.sa.393 674)	(3) AZV75	COS/FUV, ACQ/PEAKXD, PSA	G140L 1105 A	LIFETIME-POS=O RIGINAL	AFTER BY 0 S TO 900 S		1 Secs [==>]	[1]
3	PEAKD (COS.sa.393 674)	(3) AZV75	COS/FUV, ACQ/PEAKD, PSA	G140L 1105 A	NUM-POS=5; STEP-SIZE=1; LIFETIME-POS=O RIGINAL	AFTER BY 1 S TO 4000 S		1 Secs [==>]	[1]
4	Move to -80 0	NONE	COS, ALIGN/OSM		FOCUS=-800; LIFETIME-POS=A LTERNATE	AFTER BY 1 S TO 4000 S		0 Secs [==>]	[1]
5	ApM+35_f- 800 (COS.sp.393 448)	(3) AZV75	COS/FUV, TIME-TAG, PSA	G140L 1105 A	BUFFER-TIME=10 0; FP-POS=3; LIFETIME-POS=A LTERNATE	AFTER BY 1 S TO 4000 S		200 Secs [==>]	[1]
<p>Comments: COS.sp.393770 for t exposure = 190 sec, S/N=65 at 1310 per resel                  COS.sp.393448 for t exposure = 147 sec, S/N=57 at 1310 per resel                  COS.sp.393677 for t exposure = 110 sec, S/N=49 at 1310 A per resel.                  COS.sp.393679 for t exposure = 100 sec, S/N=47 at 1310 per resel                  COS.sp.393768 for t exposure = 72 sec, S/N=40 at 1310 per resel                  By comparison for AzV 18 (12080) Parviz calculated a S/N=65 per resel at 1300, but from that data I measure only SN=32 per resel between 1433 and 1450 and S/N= 40 per resel between 1316 and 1321.                  Because we want high S/N in the lines (and S/N above is calculated for continuum) we will go with exptime of 200 sec.                  Buffer time returned by ETC is 147 sec, 2/3 is 100 sec.</p>									
6	Move to -60 0	NONE	COS, ALIGN/OSM		FOCUS=-600; LIFETIME-POS=A LTERNATE	AFTER BY 1 S TO 4000 S		0 Secs [==>]	[1]



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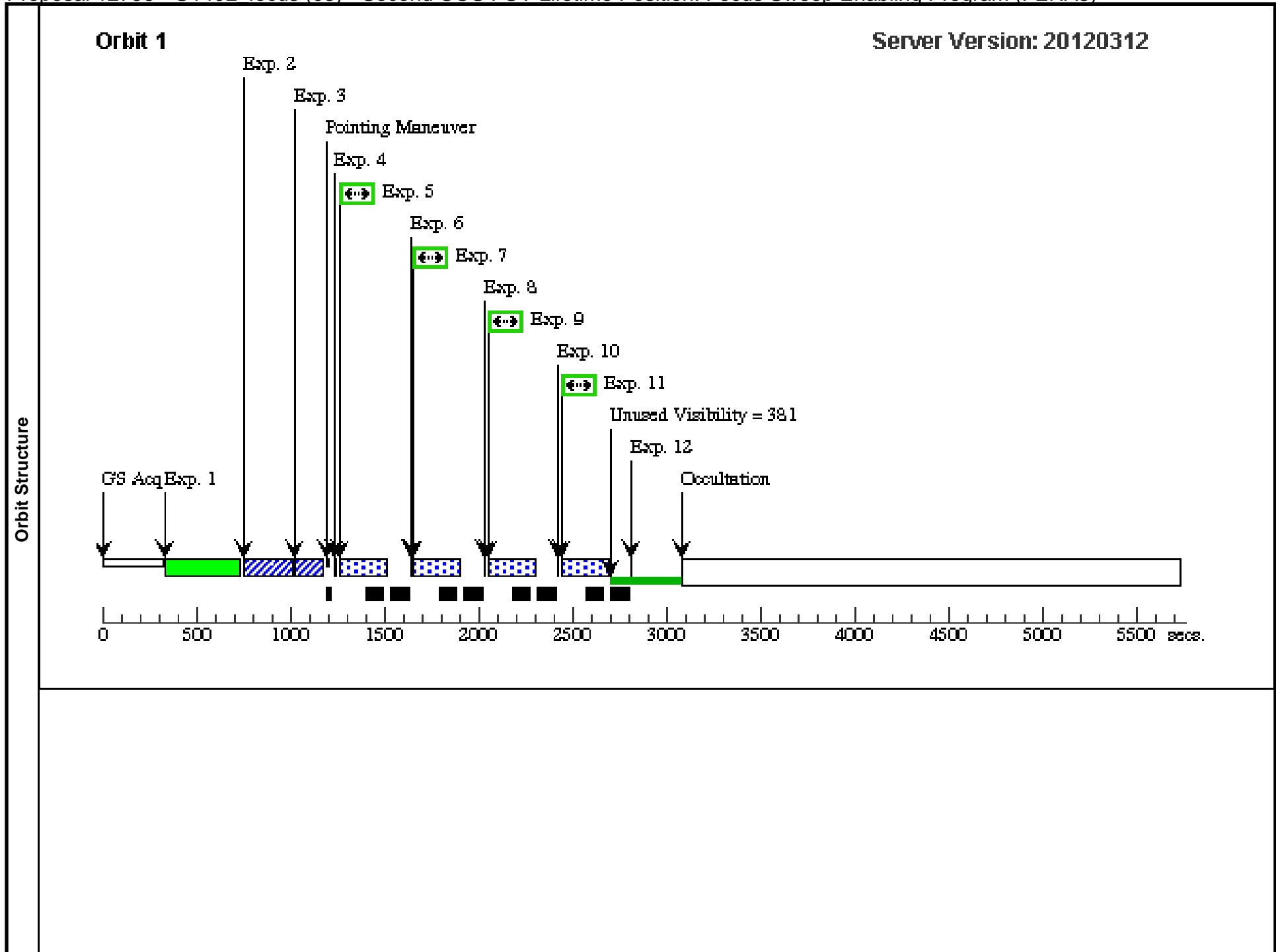
7	ApM+35_f- (3) AZV75 600 (COS.sp.393 448)	COS/FUV, TIME-TAG, PSA	G140L 1105 A	BUFFER-TIME=10 0; FP-POS=3; LIFETIME-POS=A LTERNATE	AFTER BY 1 S TO 4000 S	200 Secs [==>]	[1]
<p><i>Comments: COS.sp.393770 for t exposure = 190 sec, S/N=65 at 1310 per resel          COS.sp.393448 for t exposure = 147 sec, S/N=57 at 1310 per resel          COS.sp.393677 for t exposure = 110 sec, S/N=49 at 1310 A per resel.          COS.sp.393679 for t exposure = 100 sec, S/N=47 at 1310 per resel          COS.sp.393768 for t exposure = 72 sec, S/N=40 at 1310 per resel          By comparison for AzV 18 (12080) Parviz calculated a S/N=65 per resel at 1300, but from that data I measure only SN=32 per resel between 1433 and 1450 and S/N= 40 per resel between 1316 and 1321.          Because we want high S/N in the lines (and S/N above is calculated for continuum) we will go with exptime of 200 sec.          Buffer time returned by ETC is 147 sec, 2/3 is 100 sec.</i></p>							
8	Move to -40 0	NONE	COS, ALIGN/OSM	FOCUS=-400; LIFETIME-POS=A LTERNATE	AFTER BY 1 S TO 4000 S	0 Secs [==>]	[1]
9	ApM+3.5_f- (3) AZV75 400 (COS.sp.393 448)	COS/FUV, TIME-TAG, PSA	G140L 1105 A	BUFFER-TIME=10 0; FP-POS=3; LIFETIME-POS=A LTERNATE	AFTER BY 1 S TO 4000 S	200 Secs [==>]	[1]
10	Move to -20 0	NONE	COS, ALIGN/OSM	FOCUS=-200; LIFETIME-POS=A LTERNATE	AFTER BY 1 S TO 4000 S	0 Secs [==>]	[1]
11	ApM+3.5_f- (3) AZV75 200 (COS.sp.393 448)	COS/FUV, TIME-TAG, PSA	G140L 1105 A	BUFFER-TIME=10 0; FP-POS=3; LIFETIME-POS=A LTERNATE	AFTER BY 1 S TO 4000 S	200 Secs [==>]	[1]
12	Move to -10 0	NONE	COS, ALIGN/OSM	FOCUS=-100; LIFETIME-POS=A LTERNATE	AFTER BY 1 S TO 4000 S	0 Secs [==>]	[1]
13	ApM+3.5_f- (3) AZV75 100 (COS.sp.393 448)	COS/FUV, TIME-TAG, PSA	G140L 1105 A	BUFFER-TIME=10 0; FP-POS=3; LIFETIME-POS=A LTERNATE	AFTER BY 1 S TO 4000 S	200 Secs [==>]	[2]
14	Move to 0 0	NONE	COS, ALIGN/OSM	FOCUS=0; LIFETIME-POS=A LTERNATE	AFTER BY 1 S TO 4000 S	0 Secs [==>]	[2]
15	ApM+3.5_f- (3) AZV75 0 (COS.sp.393 448)	COS/FUV, TIME-TAG, PSA	G140L 1105 A	BUFFER-TIME=10 0; FP-POS=3; LIFETIME-POS=A LTERNATE	AFTER BY 1 S TO 4000 S	200 Secs [==>]	[2]
16	Move to +10 0	NONE	COS, ALIGN/OSM	FOCUS=+100; LIFETIME-POS=A LTERNATE	AFTER BY 1 S TO 4000 S	0 Secs [==>]	[2]
17	ApM+3.5_f (3) AZV75 +100 (COS.sp.393 448)	COS/FUV, TIME-TAG, PSA	G140L 1105 A	BUFFER-TIME=10 0; FP-POS=3; LIFETIME-POS=A LTERNATE	AFTER BY 1 S TO 4000 S	200 Secs [==>]	[2]

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18	Move to +20 0	NONE	COS, ALIGN/OSM		FOCUS=+200; LIFETIME-POS=A LTERNATE	AFTER BY 1 S TO 4000 S	0 Secs [==>]	[2]
19	ApM+3.5_f +200 (COS.sp.393 448)	(3) AZV75	COS/FUV, TIME-TAG, PSA	G140L 1105 A	BUFFER-TIME=10 0; FP-POS=3; LIFETIME-POS=A LTERNATE	AFTER BY 1 S TO 4000 S	200 Secs [==>]	[2]
20	Move to +40 0	NONE	COS, ALIGN/OSM		FOCUS=+400; LIFETIME-POS=A LTERNATE	AFTER BY 1 S TO 4000 S	0 Secs [==>]	[2]
21	ApM+3.5_f +400 (COS.sp.393 448)	(3) AZV75	COS/FUV, TIME-TAG, PSA	G140L 1105 A	BUFFER-TIME=10 0; FP-POS=3; LIFETIME-POS=A LTERNATE	AFTER BY 1 S TO 4000 S	200 Secs [==>]	[2]
22	Move to +60 0	NONE	COS, ALIGN/OSM		FOCUS=+600; LIFETIME-POS=A LTERNATE	AFTER BY 1 S TO 4000 S	0 Secs [==>]	[2]
23	ApM+3.5_f +600 (COS.sp.393 448)	(3) AZV75	COS/FUV, TIME-TAG, PSA	G140L 1105 A	BUFFER-TIME=10 0; FP-POS=3; LIFETIME-POS=A LTERNATE	AFTER BY 1 S TO 4000 S	200 Secs [==>]	[2]
24	Move to +80 0	NONE	COS, ALIGN/OSM		FOCUS=+800; LIFETIME-POS=A LTERNATE	AFTER BY 1 S TO 4000 S	0 Secs [==>]	[2]
25	ApM+3.5_f +800 (COS.sp.393 448)	(3) AZV75	COS/FUV, TIME-TAG, PSA	G140L 1105 A	BUFFER-TIME=10 0; FP-POS=3; LIFETIME-POS=A LTERNATE	AFTER BY 1 S TO 4000 S	200 Secs [==>]	[2]
26	Move to 0	NONE	COS, ALIGN/OSM		FOCUS=0; LIFETIME-POS=A LTERNATE	AFTER BY 1 S TO 4000 S	0 Secs [==>]	[2]
27	ApM+3.5_f- 0 (COS.sp.393 448)	(3) AZV75	COS/FUV, TIME-TAG, PSA	G140L 1105 A	BUFFER-TIME=10 0; FP-POS=3; LIFETIME-POS=A LTERNATE	AFTER BY 1 S TO 4000 S	200 Secs [==>]	[3]
28	HV_RAMP DOWN_TO _HVLOW	DARK	S/C, DATA, NONE			NEW OBSET; QASISTATES COS FUV HVLOW HVL OW; QASISTATES COS SI OBSERVE OBSE RVE	1 Secs [==>]	[3]

Comments: SQL required for qexposure to specify the si\_used = "COS".

New obset SR necessary to force this exposure to be the very last exposure after Home.



**Orbit 2**

Server Version: 20120312

