



## 13070 - Second COS FUV lifetime position: characterization of the spectral resolution and wavelength solution of the new FUV modes (C1055, C1096, C1222)

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	(3) AV75 DARK	COS/FUV COS/NUV S/C	3	18-Oct-2012 21:01:24.0	yes
02	(2) HD93205 DARK	COS/FUV COS/NUV S/C	2	18-Oct-2012 21:01:50.0	yes

5 Total Orbits Used

### ABSTRACT

Previous calibration observations have measured the spectral resolution of the new COS FUV modes at the old lifetime position and the old focus position. The COS FUV lifetime position was moved to +3.5" in the cross dispersion direction, affecting the shape of the LSFs. In addition, the focus position for the new FUV modes was updated to optimize the resolution. Therefore, new measurements of the spectral resolution of the new COS FUV modes are required at the new lifetime and focus positions. We will acquire COS data with the G130M 1055, 1096, and 1222 cenwaves and all FPPOS at the new lifetime position and at the new focus position. We will de-convolve existing FUSE spectra and re-convolve them with model COS LSF in order to analyze the line profiles of numerous H2 lines toward those targets and to test whether the model LSFs reproduce observed COS lines profiles. We will check the wavelength and cenwave dependence of the spectral resolution of the new modes and compare it to model expectations.

### **OBSERVING DESCRIPTION**

Previous calibration observations have measured the spectral resolution of the new COS FUV modes at the old lifetime position and the old focus position. The COS FUV lifetime position was moved to +3.5" in the cross dispersion direction, affecting the shape of the LSFs. In addition, the focus position for the new FUV modes was updated to optimize the resolution. Therefore, new measurements of the spectral resolution of the new COS FUV modes are required at the new lifetime and focus positions. We will acquire COS data with the G130M 1055, 1096, and 1222 cenwaves and all FPPOS at the new lifetime position and at the new focus position. We will de-convolve existing FUSE spectra and re-convolve them with model COS LSF in order to analyze the line profiles of numerous H2 lines toward those targets and to test whether the model LSFs reproduce observed COS lines profiles. We will check the wavelength and cenwave dependence of the spectral resolution of the new modes and compare it to model expectations.

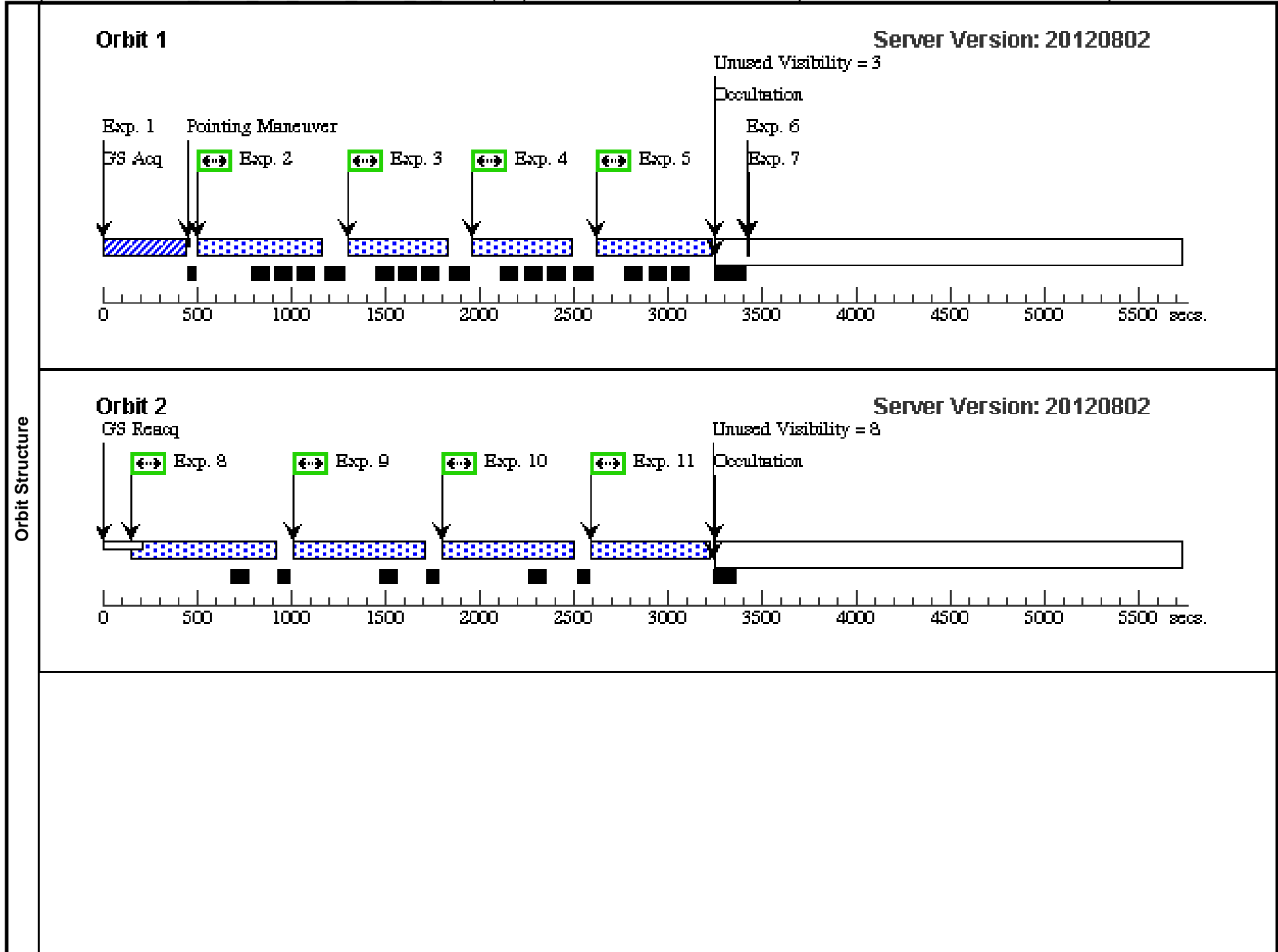
<b>Visit</b>	<b>Proposal 13070, V_1222_AB_1055_1096_A_visib (01), implementation</b> <span style="float: right;">Fri Oct 19 01:01:59 GMT 2012</span> <b>Diagnostic Status: Error</b> Scientific Instruments: COS/NUV, S/C, COS/FUV Special Requirements: SCHED 80%; ORIENT 280D TO 60 D; BETWEEN 05-NOV-2012 AND 12-NOV-2012																
	<b>Diagnosics</b> (AV75_1222_1 (01.002)) Error (Form): The COS G130M/1222 wavelength is not allowed before Cycle 20. (AV75_1222_2 (01.003)) Error (Form): The COS G130M/1222 wavelength is not allowed before Cycle 20. (AV75_1222_3 (01.004)) Error (Form): The COS G130M/1222 wavelength is not allowed before Cycle 20. (AV75_1222_4 (01.005)) Error (Form): The COS G130M/1222 wavelength is not allowed before Cycle 20. (V_1222_AB_1055_1096_A_visib (01)) Warning (Form): If the target coordinates are not known to 0.4" (or better) an ACQ/SEARCH should precede the ACQ/IMAGE.																
<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>AV75</td> <td>RA: 00 50 32.3920 (12.6349667d) Dec: -72 52 36.48 (-72.87680d) Equinox: J2000</td> <td></td> <td>V=12.79</td> <td>Reference Frame: ICRS</td> </tr> </tbody> </table>					#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous	(3)	AV75	RA: 00 50 32.3920 (12.6349667d) Dec: -72 52 36.48 (-72.87680d) Equinox: J2000		V=12.79	Reference Frame: ICRS
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Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.																	

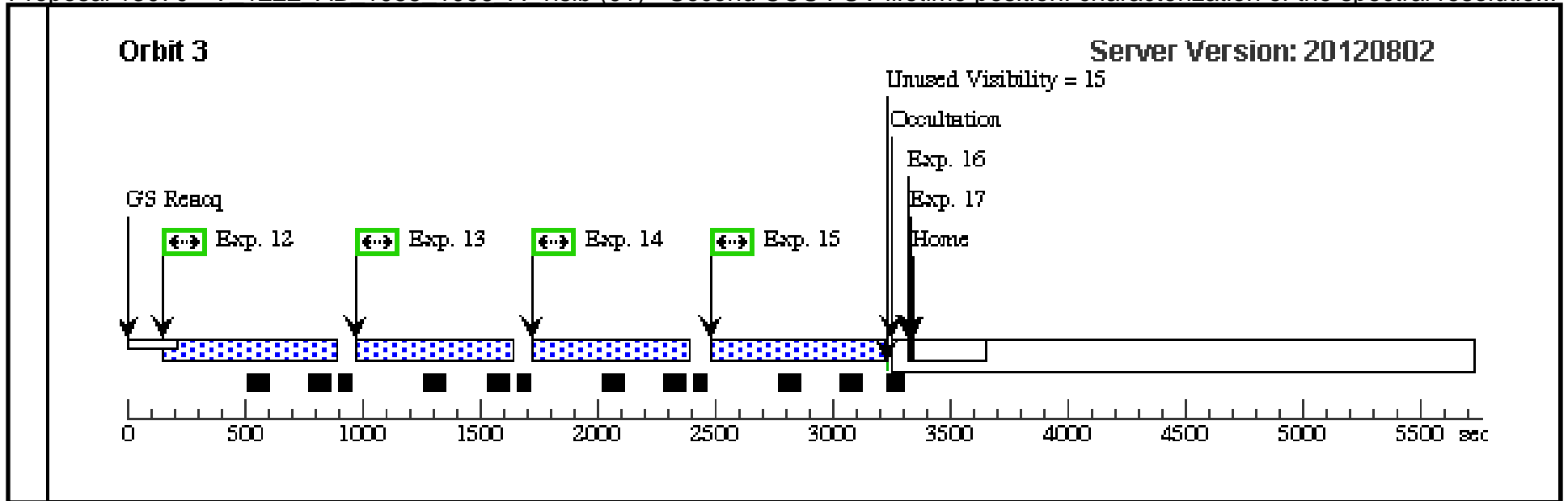
Proposal 13070 - V 1222 AB 1055 1096 A visib (01) - Second COS FUV lifetime position: characterization of the spectral resolutio...

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
1	image_acq_ AV75 (COS.ta.393 627)	(3) AV75	COS/NUV, ACQ/IMAGE, BOA	MIRRORA				15 Secs [==>]	[1]
2	AV75_1222_1 (COS.sp.428 035)	(3) AV75	COS/FUV, TIME-TAG, PSA	G130M 1222 A	BUFFER-TIME=12 0; FP-POS=1			480 Secs [==>]	[1]
3	AV75_1222_2 (COS.sp.428 035)	(3) AV75	COS/FUV, TIME-TAG, PSA	G130M 1222 A	BUFFER-TIME=12 0; FP-POS=2			480 Secs [==>]	[1]
4	AV75_1222_3 (COS.sp.428 035)	(3) AV75	COS/FUV, TIME-TAG, PSA	G130M 1222 A	BUFFER-TIME=12 0; FP-POS=3			480 Secs [==>]	[1]
5	AV75_1222_4 (COS.sp.428 035)	(3) AV75	COS/FUV, TIME-TAG, PSA	G130M 1222 A	BUFFER-TIME=12 0; FP-POS=4			560 Secs [==>]	[1]
6	Special Com manding to overwrite fo cus of 1055 (@-2200f)	DARK	S/C, DATA, NONE			SPEC COM INSTR ELSETFOCUS; QESIPARM ACTIO N REPLACE; QESIPARM GRATI NG G130M; QESIPARM CENT WAVE 1055; QESIPARM FOCUS -2200		10 Secs [==>]	[1]
<i>Comments: Special Commanding to overwrite the focus of 1055 to a value of -2200</i>									
7	Special Com manding to overwrite fo cus of 1096 (@-2100f)	DARK	S/C, DATA, NONE			SPEC COM INSTR ELSETFOCUS; QESIPARM ACTIO N REPLACE; QESIPARM GRATI NG G130M; QESIPARM CENT WAVE 1096; QESIPARM FOCUS -2100		10 Secs [==>]	[1]
<i>Comments: Special Commanding to overwrite the focus of 1096 to a value of -2100</i>									
8	AV75_1055_1_A (COS.sp.428 036)	(3) AV75	COS/FUV, TIME-TAG, PSA	G130M 1055 A	FP-POS=1; BUFFER-TIME=42 5			650 Secs [==>]	[2]
9	AV75_1055_2_A (COS.sp.428 036)	(3) AV75	COS/FUV, TIME-TAG, PSA	G130M 1055 A	FP-POS=2; BUFFER-TIME=42 5			650 Secs [==>]	[2]
10	AV75_1055_3_A (COS.sp.428 036)	(3) AV75	COS/FUV, TIME-TAG, PSA	G130M 1055 A	FP-POS=3; BUFFER-TIME=42 5			650 Secs [==>]	[2]

Proposal 13070 - V 1222 AB 1055 1096 A visib (01) - Second COS FUV lifetime position: characterization of the spectral resolutio...

11	AV75_1055 _4_A (COS.sp.428 036)	(3) AV75	COS/FUV, TIME-TAG, PSA	G130M 1055 A	FP-POS=4; BUFFER-TIME=49 0	580 Secs [==>]	[2]
12	AV75_1096 _1_A (COS.sp.428 038)	(3) AV75	COS/FUV, TIME-TAG, PSA	G130M 1096 A	FP-POS=1; BUFFER-TIME=26 0	620 Secs [==>]	[3]
13	AV75_1096 _2_A (COS.sp.428 038)	(3) AV75	COS/FUV, TIME-TAG, PSA	G130M 1096 A	FP-POS=2; BUFFER-TIME=26 0	620 Secs [==>]	[3]
14	AV75_1096 _3_A (COS.sp.428 038)	(3) AV75	COS/FUV, TIME-TAG, PSA	G130M 1096 A	FP-POS=3; BUFFER-TIME=26 0	620 Secs [==>]	[3]
15	AV75_1096 _4_A (COS.sp.428 038)	(3) AV75	COS/FUV, TIME-TAG, PSA	G130M 1096 A	FP-POS=4; BUFFER-TIME=26 0	690 Secs [==>]	[3]
16	Special Com manding to RESTORE 1 055	DARK	S/C, DATA, NONE		SPEC COM INSTR ELSETFOCUS; QESIPARM ACTIO N RESTORE; QESIPARM GRATI NG G130M; QESIPARM CENT WAVE 1055	10 Secs [==>]	[3]
<i>Comments: Special Commanding to restore the 1055 focus settings.</i>							
17	Special Com manding to RESTORE 1 096	DARK	S/C, DATA, NONE		SPEC COM INSTR ELSETFOCUS; QESIPARM ACTIO N RESTORE; QESIPARM GRATI NG G130M; QESIPARM CENT WAVE 1096	10 Secs [==>]	[3]
<i>Comments: Special Commanding to restore the 1096 focus settings.</i>							





Proposal 13070 - V 1055 1096 B 2 100percent orbits (02) - Second COS FUV lifetime position: characterization of the spectral res...

<b>Visit</b>	Proposal 13070, V_1055_1096_B_2_100percent_orbits (02), completed <span style="float: right;">Fri Oct 19 01:02:06 GMT 2012</span> <b>Diagnostic Status: Warning</b> Scientific Instruments: COS/NUV, S/C, COS/FUV Special Requirements: SCHED 100%; BETWEEN 08-OCT-2012 AND 28-OCT-2012																
	(V_1055_1096_B_2_100percent_orbits (02)) Warning (Form): If the target coordinates are not known to 0.4" (or better) an ACQ/SEARCH should precede the ACQ/PEAKXD.																
<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>(2)</td> <td>HD93205</td> <td>RA: 10 44 33.7480 (161.1406167d) Dec: -59 44 15.42 (-59.73762d) Equinox: J2000</td> <td>Proper Motion RA: -6.7 mas/yr Proper Motion Dec: 1.2 mas/yr Epoch of Position: 1991.25</td> <td>V=7.76</td> <td>Reference Frame: ICRS</td> </tr> </tbody> </table>					#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous	(2)	HD93205	RA: 10 44 33.7480 (161.1406167d) Dec: -59 44 15.42 (-59.73762d) Equinox: J2000	Proper Motion RA: -6.7 mas/yr Proper Motion Dec: 1.2 mas/yr Epoch of Position: 1991.25	V=7.76	Reference Frame: ICRS
	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous											
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Proposal 13070 - V 1055 1096 B 2 100percent orbits (02) - Second COS FUV lifetime position: characterization of the spectral res...

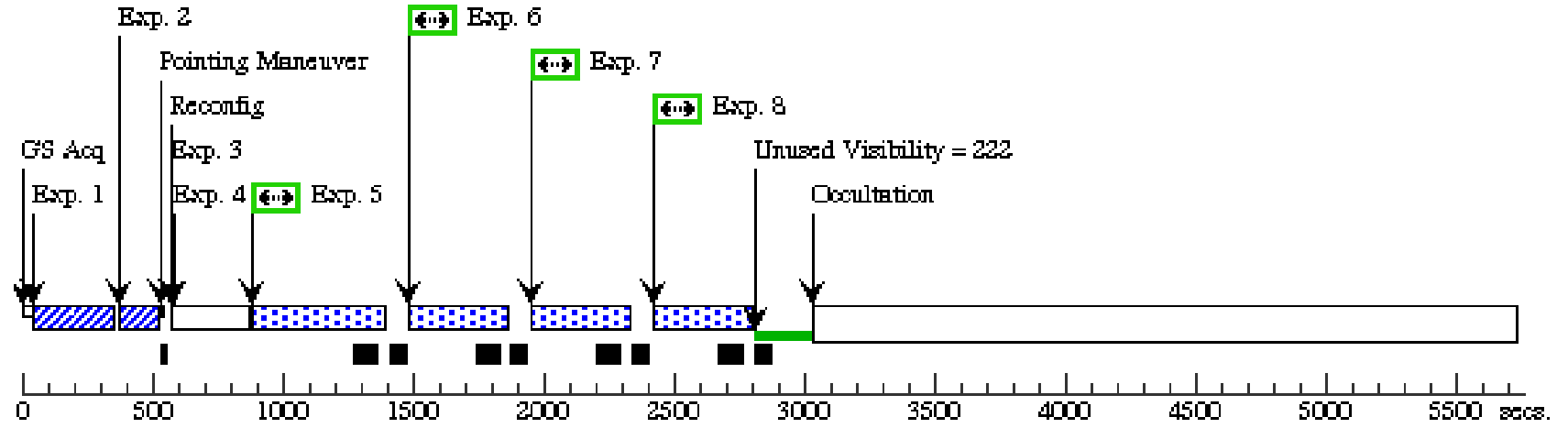
#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit	
Exposures	1	HD93205_p eakxd (COS.sa.427 880)	(2) HD93205	COS/NUV, ACQ/PEAKXD, PSA	G285M 2637 A			1 Secs [==>]	[1]	
	2	HD93205_p eakd (COS.sa.427 880)	(2) HD93205	COS/NUV, ACQ/PEAKD, PSA	G285M 2637 A	STEP-SIZE=0.9; NUM-POS=5; CENTER=FLUX-W T-FLR		1 Secs [==>]	[1]	
	3	Special Com manding to overwrite fo cus of 1055 (@-2200f)	DARK	S/C, DATA, NONE			SPEC COM INSTR ELSETFOCUS; QESIPARM ACTIO N REPLACE; QESIPARM GRATI NG G130M; QESIPARM CENT WAVE 1055; QESIPARM FOCUS -2200	10 Secs [==>]	[1]	
	<i>Comments: Special Commanding to overwrite the focus of 1055 to a value of -2200</i>									
	4	Special Com manding to overwrite fo cus of 1096 (@-2100f)	DARK	S/C, DATA, NONE			SPEC COM INSTR ELSETFOCUS; QESIPARM ACTIO N REPLACE; QESIPARM GRATI NG G130M; QESIPARM CENT WAVE 1096; QESIPARM FOCUS -2100	10 Secs [==>]	[1]	
	<i>Comments: Special Commanding to overwrite the focus of 1096 to a value of -2100</i>									
	5	HD93205_1 055_1_B (COS.sp.428 030)	(2) HD93205	COS/FUV, TIME-TAG, PSA	G130M 1055 A	FP-POS=1; SEGMENT=B; BUFFER-TIME=22 0			330 Secs [==>]	[1]
	6	HD93205_1 055_1_B (COS.sp.428 030)	(2) HD93205	COS/FUV, TIME-TAG, PSA	G130M 1055 A	FP-POS=2; SEGMENT=B; BUFFER-TIME=22 0			330 Secs [==>]	[1]
7	HD93205_1 055_1_B (COS.sp.428 030)	(2) HD93205	COS/FUV, TIME-TAG, PSA	G130M 1055 A	FP-POS=3; SEGMENT=B; BUFFER-TIME=22 0			330 Secs [==>]	[1]	
8	HD93205_1 055_1_B (COS.sp.428 030)	(2) HD93205	COS/FUV, TIME-TAG, PSA	G130M 1055 A	FP-POS=4; SEGMENT=B; BUFFER-TIME=22 0			330 Secs [==>]	[1]	

Proposal 13070 - V 1055 1096 B 2 100percent orbits (02) - Second COS FUV lifetime position: characterization of the spectral res...

9	HD93205_1 096_1_B (COS.sp.428 031)	(2) HD93205	COS/FUV, TIME-TAG, PSA	G130M 1096 A	FP-POS=1; SEGMENT=B; BUFFER-TIME=14 0	250 Secs [==>]	[2]
10	HD93205_1 096_1_B (COS.sp.428 031)	(2) HD93205	COS/FUV, TIME-TAG, PSA	G130M 1096 A	FP-POS=2; SEGMENT=B; BUFFER-TIME=14 0	250 Secs [==>]	[2]
11	HD93205_1 096_1_B (COS.sp.428 031)	(2) HD93205	COS/FUV, TIME-TAG, PSA	G130M 1096 A	FP-POS=3; SEGMENT=B; BUFFER-TIME=14 0	250 Secs [==>]	[2]
12	HD93205_1 096_1_B (COS.sp.428 031)	(2) HD93205	COS/FUV, TIME-TAG, PSA	G130M 1096 A	FP-POS=4; SEGMENT=B; BUFFER-TIME=14 0	250 Secs [==>]	[2]
13	Special Com manding to RESTORE 1 055	DARK	S/C, DATA, NONE		SPEC COM INSTR ELSETFOCUS; QESIPARM ACTIO N RESTORE; QESIPARM GRATI NG G130M; QESIPARM CENT WAVE 1055	10 Secs [==>]	[2]
<i>Comments: Special Commanding to restore the G130M 1055 focus</i>							
14	Special Com manding to RESTORE 1 096	DARK	S/C, DATA, NONE		SPEC COM INSTR ELSETFOCUS; QESIPARM ACTIO N RESTORE; QESIPARM GRATI NG G130M; QESIPARM CENT WAVE 1096	10 Secs [==>]	[2]
<i>Comments: Special Commanding to restore the G130M 1096 focus</i>							

**Orbit 1**

Server Version: 20120802



Orbit Structure

