



13970 - COS FUV Detector Gain Maps

Cycle: 22, Proposal Category: CAL/COS

(Availability Mode: RESTRICTED)

INVESTIGATORS

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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>
A1	DEUTERIUM NONE	COS COS/FUV	1	22-Jan-2015 21:18:21.0	yes
A2	DEUTERIUM NONE	COS COS/FUV	1	22-Jan-2015 21:18:23.0	yes
B1	DEUTERIUM NONE	COS COS/FUV	1	22-Jan-2015 21:18:24.0	yes
B2	DEUTERIUM NONE	COS COS/FUV	1	22-Jan-2015 21:18:25.0	yes
B3	DARK DEUTERIUM NONE	COS COS/FUV S/C	1	22-Jan-2015 21:18:28.0	yes

5 Total Orbits Used

ABSTRACT

This program uses the deuterium lamp to illuminate the regions of the detector being used to collect spectra. The data obtained will be used to create gain maps of the detector. Because of the strongly varying intensity of the lamp as a function of wavelength, G130M/1309 data will be obtained for Segment A, and G160M/1600 will be used for Segment B.

Gain map data will be obtained both before and after any Lifetime Position move, or if a change is made to the nominal high voltage value on either segment.

OBSERVING DESCRIPTION

This program will obtain spectra from the deuterium lamp with enough counts to permit the construction of a gain map covering the region where the spectra fall at the current lifetime position. In order to efficiently illuminate the two segments, the G130M/1309 setting will be used for Segment A, and G160M/1600 will be used for Segment B. Both segments can safely remain on with either setting.

Gain maps should be taken before and after any high voltage change and before and after any change in Lifetime Position. At LP3, multiple nominal HV levels will be in use at the same time, and data should be taken at each of these voltages.

- * Visits A1 and A2 data will be taken before and after a change to the Nominal HV on Segment A.
- * Visit B1 data will be taken at the LIFE_ADJ=2 position at the end of LP2 operations.
- * Visit B2 data will be taken at the LIFE_ADJ=3 position using the nominal HV level (i.e. the value used at all except G130M/1055/1095/1222) at the beginning of LP3 operations
- * Visit B3 data will be taken at the LIFE_ADJ=3 position using the G130M/1222 HV levels at the beginning of LP3 operations (171/167).

The procedure for collecting this data in each visit is:

- * Adjust the HV values if necessary.
- * Adjust the aperture in the cross dispersion direction so that the deuterium lamp will illuminate the appropriate region on Segment A when using G130M/1309. At the LP2 position, LAPXSTP should be -235.

* Take a 400 second deuterium lamp exposure using both detector segments.

* For visits B2 & B3 (after the move to LP3), adjust the aperture to a second cross-dispersion location to obtain additional coverage on Segment A and take another 400 second deuterium lamp exposure.

* Adjust the aperture in the cross dispersion direction so that the deuterium lamp will illuminate the appropriate region on Segment B when using G160M/1600. At the LP2 position, LAPXSTP should be -241. Since TRANS resets its aperture zero point when the previous FCA exposure is taken, the aperture is explicitly moved by -6 steps, as it was in Program 13494.

* Take a 400 second deuterium lamp exposure using both detector segments.

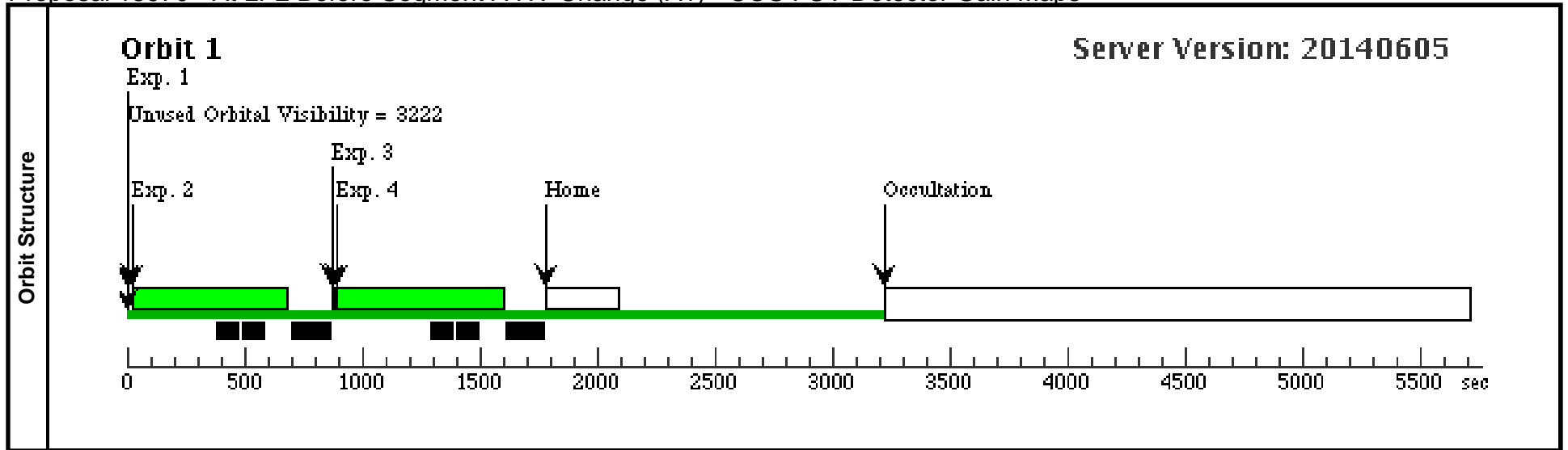
* For visits B2 & B3 (after the move to LP3), adjust the aperture to a second cross-dispersion location to obtain additional coverage on Segment B and take another 400 second deuterium lamp exposure.

Obtaining a gain map at all HV transitions will help to improve the modeling of the modal gain as a function of time and extracted charge, since it will provide data that cover the full timespan of each high voltage at each LP. Improving these models will allow better predictions of the future lifetime of the detector.

Proposal 13970 - At LP2 Before Segment A HV Change (A1) - COS FUV Detector Gain Maps

Fri Jan 23 02:18:29 GMT 2015

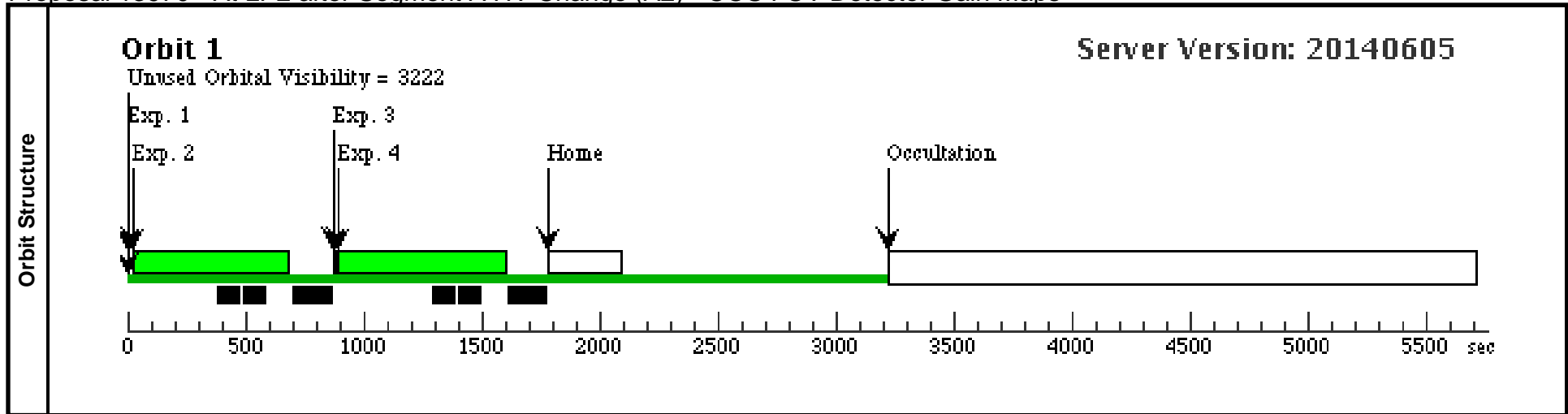
Visit	Proposal 13970, At LP2 Before Segment A HV Change (A1), implementation Diagnostic Status: Warning Scientific Instruments: COS/FUV, COS Special Requirements: ON HOLD ; PARALLEL <i>Comments: This visit collects data before the HV is increased; it should be the last COS visit executed before a Segment A HV change while still operating at LP2</i> <i>On Hold Comments: On hold until the Segment A HV at LP2 is adjusted.</i>										
	Diagnostics	(At LP2 Before Segment A HV Change (A1)) Warning (Orbit Planner): MAXIMUM DURATION EXCEEDED FOR INTERNAL OR EARTH CALIB SU (Aperture Adjustment for Segment A (A1.001)) Warning (Form): This ALIGN/APER exposure should be preceded by a science exposure to define the starting position for the scan.									
Exposures		#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1	Aperture Adjustment for Segment A	NONE	COS, ALIGN/APER			XAPER=-287			0.0 Secs (0 Secs) [==>]	[1]
	<i>Comments: Put the aperture in the appropriate position to illuminate the LP2 region of the detector when illuminating Segment A with G130M/1309.</i> PSA LAPXSTP value at LP2 is 52.1 Desired LAPXSTP value for FCA to illuminate Segment A with G130M/1309 at LP2 is -235 Therefore, XAPER is set to -287										
	2	G130M/130 9 Deuterium Exposure	DEUTERIUM	COS/FUV, TIME-TAG, FCA	G130M 1309 A		CURRENT=MEDIUM; BUFFER-TIME=111; FP-POS=1			400 Secs (400 Secs) [==>]	[1]
	<i>Comments: Deuterium exposure optimized for Segment A. FP-POS=1 was chosen because previous observations show that it has slightly more counts than the other FP-POS values.</i>										
3	Aperture Adjustment for Segment B	NONE	COS, ALIGN/APER			XAPER=-293	QESIPARM XSTEP S -6		0.0 Secs (0 Secs) [==>]	[1]	
<i>Comments: Put the aperture in the appropriate position to illuminate the correct region of the detector when illuminating Segment B with G160M/1600.</i> PSA LAPXSTP value at LP2 is 52.1 Desired LAPXSTP value for FCA to illuminate Segment B with G160M/1600 is -241 Therefore, XAPER is set to -293. *BUT* because of the TRANS rules, the "QESIPARM XSTEPS -6" Special Requirement is required to move the aperture to the correct location.											
4	G160M/160 0 Deuterium Exposure	DEUTERIUM	COS/FUV, TIME-TAG, FCA	G160M 1600 A		CURRENT=MEDIUM; BUFFER-TIME=111; FP-POS=4			400 Secs (400 Secs) [==>]	[1]	
<i>Comments: Deuterium exposure optimized for Segment B. FP-POS=4 was chosen because previous observations show that it has slightly more counts than the other FP-POS values.</i>											



Proposal 13970 - At LP2 after Segment A HV Change (A2) - COS FUV Detector Gain Maps

Fri Jan 23 02:18:29 GMT 2015

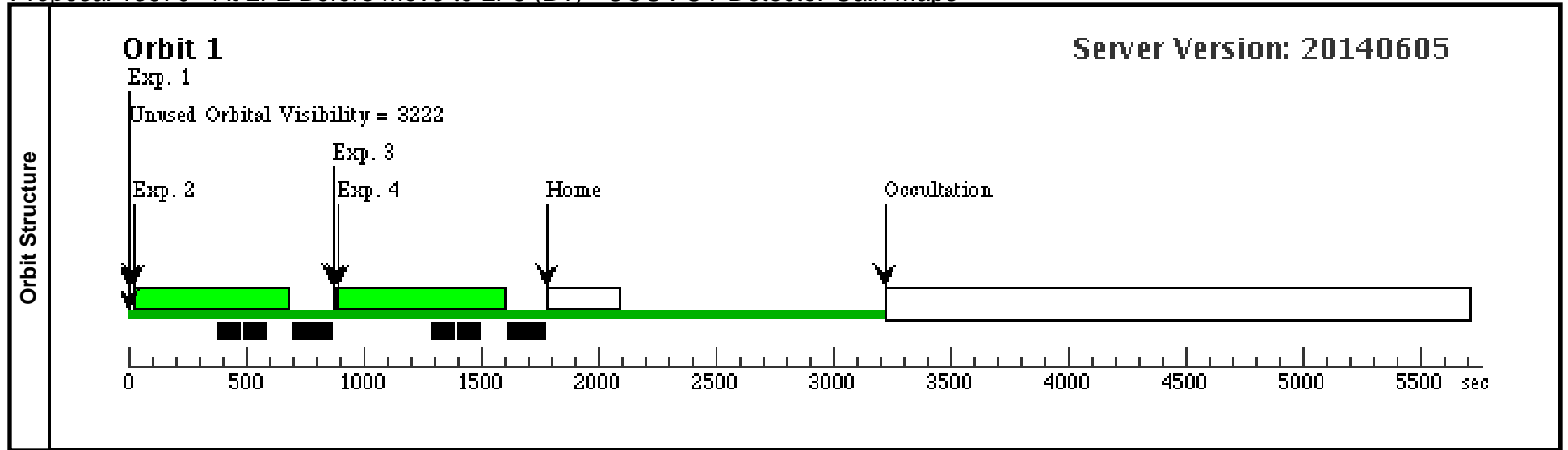
Visit	<p>Proposal 13970, At LP2 after Segment A HV Change (A2), implementation</p> <p>Diagnostic Status: Warning</p> <p>Scientific Instruments: COS/FUV, COS</p> <p>Special Requirements: AFTER A1; ON HOLD ; PARALLEL</p> <p><i>Comments: This visit collects data after the HV is increased; it should be one of the first COS visits executed after a Segment A HV change while still operating at LP2</i></p> <p><i>On Hold Comments: On hold until the Segment A HV at LP2 is adjusted.</i></p>									
Diagnostics	<p>(At LP2 after Segment A HV Change (A2)) Warning (Orbit Planner): MAXIMUM DURATION EXCEEDED FOR INTERNAL OR EARTH CALIB SU</p> <p>(Aperture Adjustment for Segment A (A2.001)) Warning (Form): This ALIGN/APER exposure should be preceded by a science exposure to define the starting position for the scan.</p>									
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
<p>1</p> <p>Aperture Adjustment for Segment A</p> <p><i>Comments: Put the aperture in the appropriate position to illuminate the LP2 region of the detector when illuminating Segment A with G130M/1309.</i></p> <p><i>PSA LAPXSTP value at LP2 is 52.1</i></p> <p><i>Desired LAPXSTP value for FCA to illuminate Segment A with G130M/1309 at LP2 is -235</i></p> <p><i>Therefore, XAPER is set to -287</i></p>	NONE	COS, ALIGN/APER		XAPER=-287			0.0 Secs (0 Secs)			
	[==>]	[1]								
	<p>2</p> <p>G130M/1309 Deuterium Exposure</p> <p><i>Comments: Deuterium exposure optimized for Segment A. FP-POS=1 was chosen because previous observations show that it has slightly more counts than the other FP-POS values.</i></p>	DEUTERIUM	COS/FUV, TIME-TAG, FCA	G130M 1309 A	CURRENT=MEDIUM; BUFFER-TIME=111; FP-POS=1			400 Secs (400 Secs)		
		[==>]	[1]							
<p>3</p> <p>Aperture Adjustment for Segment B</p> <p><i>Comments: Put the aperture in the appropriate position to illuminate the correct region of the detector when illuminating Segment B with G160M/1600.</i></p> <p><i>PSA LAPXSTP value at LP2 is 52.1</i></p> <p><i>Desired LAPXSTP value for FCA to illuminate Segment B with G160M/1600 is -241</i></p> <p><i>Therefore, XAPER is set to -293. *BUT* because of the TRANS rules, the "QESIPARM XSTEPS -6" Special Requirement is required to move the aperture to the correct location.</i></p>	NONE	COS, ALIGN/APER		XAPER=-293	QESIPARM XSTEP S -6		0.0 Secs (0 Secs)			
	[==>]	[1]								
<p>4</p> <p>G160M/1600 Deuterium Exposure</p> <p><i>Comments: Deuterium exposure optimized for Segment B. FP-POS=4 was chosen because previous observations show that it has slightly more counts than the other FP-POS values.</i></p>	DEUTERIUM	COS/FUV, TIME-TAG, FCA	G160M 1600 A	CURRENT=MEDIUM; BUFFER-TIME=111; FP-POS=4			400 Secs (400 Secs)			
	[==>]	[1]								



Proposal 13970 - At LP2 Before Move to LP3 (B1) - COS FUV Detector Gain Maps

Fri Jan 23 02:18:29 GMT 2015

Visit	Proposal 13970, At LP2 Before Move to LP3 (B1), implementation Diagnostic Status: Warning Scientific Instruments: COS/FUV, COS Special Requirements: BEFORE 09-FEB-2015:00:00:00; PARALLEL <i>Comments: This visit collects data at LP2 before the move to LP3; it should be the last COS visit executed before the Lifetime move.</i>										
	Diagnostics	(At LP2 Before Move to LP3 (B1)) Warning (Orbit Planner): MAXIMUM DURATION EXCEEDED FOR INTERNAL OR EARTH CALIB SU (Aperture Adjustment for Segment A (B1.001)) Warning (Form): This ALIGN/APER exposure should be preceded by a science exposure to define the starting position for the scan.									
Exposures		#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1	Aperture Adjustment for Segment A	NONE	COS, ALIGN/APER			XAPER=-287			0.0 Secs (0 Secs) [==>]	[1]
	<i>Comments: Put the aperture in the appropriate position to illuminate the LP2 region of the detector when illuminating Segment A with G130M/1309.</i> PSA LAPXSTP value at LP2 is 52.1 Desired LAPXSTP value for FCA to illuminate Segment A with G130M/1309 at LP2 is -235 Therefore, XAPER is set to -287										
	2	G130M/130 9 Deuterium Exposure	DEUTERIUM	COS/FUV, TIME-TAG, FCA	G130M 1309 A		CURRENT=MEDIUM; BUFFER-TIME=11 1; FP-POS=1			400 Secs (400 Secs) [==>]	[1]
	<i>Comments: Deuterium exposure optimized for Segment A. FP-POS=1 was chosen because previous observations show that it has slightly more counts than the other FP-POS values.</i>										
3	Aperture Adjustment for Segment B	NONE	COS, ALIGN/APER			XAPER=-293	QESIPARM XSTEP S -6		0.0 Secs (0 Secs) [==>]	[1]	
<i>Comments: Put the aperture in the appropriate position to illuminate the correct region of the detector when illuminating Segment B with G160M/1600.</i> PSA LAPXSTP value at LP2 is 52.1 Desired LAPXSTP value for FCA to illuminate Segment B with G160M/1600 is -241 Therefore, XAPER is set to -293. *BUT* because of the TRANS rules, the "QESIPARM XSTEPS -6" Special Requirement is required to move the aperture to the correct location.											
4	G160M/160 0 Deuterium Exposure	DEUTERIUM	COS/FUV, TIME-TAG, FCA	G160M 1600 A		CURRENT=MEDIUM; BUFFER-TIME=11 1; FP-POS=4			400 Secs (400 Secs) [==>]	[1]	
<i>Comments: Deuterium exposure optimized for Segment B. FP-POS=4 was chosen because previous observations show that it has slightly more counts than the other FP-POS values.</i>											



Proposal 13970 - At LP3 after Move to LP3 Using HV for most modes (B2) - COS FUV Detector Gain Maps

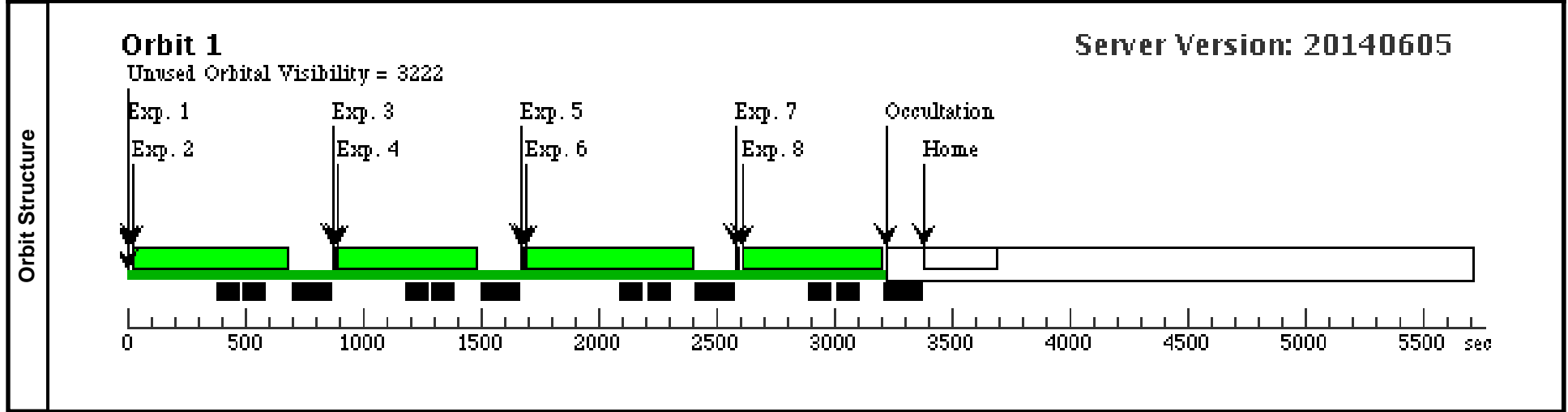
Visit	<p style="text-align: right;">Fri Jan 23 02:18:30 GMT 2015</p> <p>Proposal 13970, At LP3 after Move to LP3 Using HV for most modes (B2), implementation Diagnostic Status: Warning Scientific Instruments: COS/FUV, COS Special Requirements: AFTER B1; BETWEEN 09-FEB-2015:00:00:00 AND 16-FEB-2015:00:00:00; PARALLEL <i>Comments: This visit collects data at LP3 after the move to LP3. It uses the HV values appropriate for most modes at LP3. It should be one of the first COS visits executed after the move.</i></p>
Diagnostics	<p>(At LP3 after Move to LP3 Using HV for most modes (B2)) Warning (Orbit Planner): MAXIMUM DURATION EXCEEDED FOR INTERNAL OR EARTH CALIB SU (Aperture Adjustment 1 for Segment A (B2.001)) Warning (Form): This ALIGN/APER exposure should be preceded by a science exposure to define the starting position for the scan.</p>

Proposal 13970 - At LP3 after Move to LP3 Using HV for most modes (B2) - COS FUV Detector Gain Maps

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit	
Exposures	1	Aperture Adjustment 1 f or Segment A	NONE	COS, ALIGN/APER		XAPER=-253		0.0 Secs (0 Secs) [==>]	[1]	
	<p>Comments: Put the aperture in the appropriate position to illuminate a portion of the LP3 region of the detector when illuminating Segment A with G130M/1309.</p> <p>PSA LAPXSTP value at LP3 is 182.1 Desired LAPXSTP value for FCA to illuminate Segment A with G130M/1309 at Position 1 for LP3 is -71 Therefore, XAPER is set to -71 - 182.1 = -253</p>									
	2	G130M/1309 Deuterium Exposure 1	DEUTERIUM	COS/FUV, TIME-TAG, FCA	G130M 1309 A	CURRENT=MEDIUM; BUFFER-TIME=111; FP-POS=1			400 Secs (400 Secs) [==>]	[1]
	<p>Comments: Deuterium exposure optimized for Segment A. FP-POS=1 was chosen because previous observations show that it has slightly more counts than the other FP-POS values.</p>									
	3	Aperture Adjustment 2 f or Segment A	NONE	COS, ALIGN/APER		XAPER=-310	QESIPARM XSTEP S -57		0.0 Secs (0 Secs) [==>]	[1]
	<p>Comments: Put the aperture in the appropriate position to illuminate a portion of the LP3 region of the detector when illuminating Segment A with G130M/1309.</p> <p>PSA LAPXSTP value at LP3 is 182.1 Desired LAPXSTP value for FCA to illuminate Segment A with G130M/1309 at Position 2 for LP3 is -128 Therefore, XAPER is set to -128 - 182.1 = -310. *HOWEVER*, because of the TRANS rules, the "QESIPARM XSTEPS -57" [(-310 - -253) = -57] Special Requirement is necessary to move the aperture to the correct location.</p>									
4	G130M/1309 Deuterium Exposure 2	DEUTERIUM	COS/FUV, TIME-TAG, FCA	G130M 1309 A	CURRENT=MEDIUM; BUFFER-TIME=111; FP-POS=1			400 Secs (400 Secs) [==>]	[1]	
<p>Comments: Deuterium exposure optimized for Segment A. FP-POS=1 was chosen because previous observations show that it has slightly more counts than the other FP-POS values.</p>										
5	Aperture Adjustment 1 f or Segment B	NONE	COS, ALIGN/APER		XAPER=-256	QESIPARM XSTEP S 54		0.0 Secs (0 Secs) [==>]	[1]	
<p>Comments: Put the aperture in the appropriate position to illuminate a portion of the LP3 region of the detector when illuminating Segment B with G160M/1600.</p> <p>PSA LAPXSTP value at LP3 is 182.1 Desired LAPXSTP value for FCA to illuminate Segment B with G160M/1600 at Position 1 for LP3 is -74 Therefore, XAPER is set to -74 - 182.1 = -256. *HOWEVER*, because of the TRANS rules, the "QESIPARM XSTEPS 54" [(-256 - -310) = +54] Special Requirement is necessary to move the aperture to the correct location.</p>										
6	G160M/1600 Deuterium Exposure 1	DEUTERIUM	COS/FUV, TIME-TAG, FCA	G160M 1600 A	CURRENT=MEDIUM; BUFFER-TIME=111; FP-POS=4			400 Secs (400 Secs) [==>]	[1]	
<p>Comments: Deuterium exposure optimized for Segment B. FP-POS=4 was chosen because previous observations show that it has slightly more counts than the other FP-POS values.</p>										

Proposal 13970 - At LP3 after Move to LP3 Using HV for most modes (B2) - COS FUV Detector Gain Maps

7	Aperture Adjustment 2 f or Segment B	NONE	COS, ALIGN/APER	XAPER=-311	QESIPARM XSTEP S-55	0.0 Secs (0 Secs)	[==>]	[1]
<p>Comments: Put the aperture in the appropriate position to illuminate a portion of the LP3 region of the detector when illuminating Segment B with G160M/1600.</p> <p>PSA LAPXSTP value at LP3 is 182.1 Desired LAPXSTP value for FCA to illuminate Segment B with G160M/1600 at Position 2 for LP3 is -129 Therefore, XAPER is set to -129 - 182.1 = -311. *HOWEVER*, because of the TRANS rules, the "QESIPARM XSTEPS -55" [(-311 - -256) = -55] Special Requirement is necessary to move the aperture to the correct location.</p>								
8	G160M/1600 Deuterium Exposure 2	DEUTERIUM	COS/FUV, TIME-TAG, FCA	G160M 1600 A	CURRENT=MEDIUM; BUFFER-TIME=11; FP-POS=4	400 Secs (400 Secs)	[==>]	[1]
<p>Comments: Deuterium exposure optimized for Segment B. FP-POS=4 was chosen because previous observations show that it has slightly more counts than the other FP-POS values.</p>								



Proposal 13970 - At LP3 after Move to LP3 Using HV for G130M/1222 (B3) - COS FUV Detector Gain Maps

Visit	<p>Proposal 13970, At LP3 after Move to LP3 Using HV for G130M/1222 (B3), implementation Fri Jan 23 02:18:30 GMT 2015</p> <p>Diagnostic Status: Warning</p> <p>Scientific Instruments: S/C, COS/FUV, COS</p> <p>Special Requirements: AFTER B1; BETWEEN 09-FEB-2015:00:00:00 AND 16-FEB-2015:00:00:00; PARALLEL</p> <p><i>Comments: This visit collects data at LP3 after the move to LP3. It uses the HV values appropriate for G130M/1222. It should be one of the first COS visits executed after the move.</i></p>
Diagnostics	<p>(At LP3 after Move to LP3 Using HV for G130M/1222 (B3)) Warning (Orbit Planner): MAXIMUM DURATION EXCEEDED FOR INTERNAL OR EARTH CALIB SU</p> <p>(Aperture Adjustment 1 for Segment A (B3.002)) Warning (Form): This ALIGN/APER exposure should be preceded by a science exposure to define the starting position for the scan.</p>

Proposal 13970 - At LP3 after Move to LP3 Using HV for G130M/1222 (B3) - COS FUV Detector Gain Maps

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit	
Exposures	1	Adjust HV to G130M/1222 values	DARK	S/C, DATA, NONE		SAA CONTOUR 31; SPEC COM INSTR ELHLTHVF; QASISTATES COS FUV HVLOW HVN OM; QESIPARM ENDC TSA 171; QESIPARM ENDC TSB 167; QESIPARM SEGM ENT AB		295 Secs (295 Secs) [==>]	[1]	
	<i>Comments: Adjust the HV to the LP3 G130M/1222 values.</i>									
	2	Aperture Adjustment 1 for Segment A	NONE	COS, ALIGN/APER		XAPER=-253			0.0 Secs (0 Secs) [==>]	[1]
	<i>Comments: Put the aperture in the appropriate position to illuminate a portion of the LP3 region of the detector when illuminating Segment A with G130M/1309.</i>									
	<i>PSA LAPXSTP value at LP3 is 182.1 Desired LAPXSTP value for FCA to illuminate Segment A with G130M/1309 at Position 1 for LP3 is -71 Therefore, XAPER is set to -71 - 182.1 = -253</i>									
Exposures	3	G130M/1309 Deuterium Exposure 1	DEUTERIUM	COS/FUV, TIME-TAG, FCA	G130M 1309 A	CURRENT=MEDIUM; BUFFER-TIME=111; FP-POS=1		400 Secs (400 Secs) [==>]	[1]	
	<i>Comments: Deuterium exposure optimized for Segment A. FP-POS=1 was chosen because previous observations show that it has slightly more counts than the other FP-POS values.</i>									
	4	Aperture Adjustment 2 for Segment A	NONE	COS, ALIGN/APER		XAPER=-310	QESIPARM XSTEP S-57	0.0 Secs (0 Secs) [==>]	[1]	
<i>Comments: Put the aperture in the appropriate position to illuminate a portion of the LP3 region of the detector when illuminating Segment A with G130M/1309.</i>										
<i>PSA LAPXSTP value at LP3 is 182.1 Desired LAPXSTP value for FCA to illuminate Segment A with G130M/1309 at Position 2 for LP3 is -128 Therefore, XAPER is set to -128 - 182.1 = -310. *HOWEVER*, because of the TRANS rules, the "QESIPARM XSTEPS -57" [(-310 - -253) = -57] Special Requirement is necessary to move the aperture to the correct location.</i>										
Exposures	5	G130M/1309 Deuterium Exposure 2	DEUTERIUM	COS/FUV, TIME-TAG, FCA	G130M 1309 A	CURRENT=MEDIUM; BUFFER-TIME=111; FP-POS=1		400 Secs (400 Secs) [==>]	[1]	
	<i>Comments: Deuterium exposure optimized for Segment A. FP-POS=1 was chosen because previous observations show that it has slightly more counts than the other FP-POS values.</i>									

Proposal 13970 - At LP3 after Move to LP3 Using HV for G130M/1222 (B3) - COS FUV Detector Gain Maps

6	Aperture Adjustment 1 f or Segment B	NONE	COS, ALIGN/APER	XAPER=-256	QESIPARM XSTEP S 54	0.0 Secs (0 Secs)	[==>]	[1]
<p>Comments: Put the aperture in the appropriate position to illuminate a portion of the LP3 region of the detector when illuminating Segment B with G160M/1600.</p> <p>PSA LAPXSTP value at LP3 is 182.1 Desired LAPXSTP value for FCA to illuminate Segment B with G160M/1600 at Position 1 for LP3 is -74 Therefore, XAPER is set to $-74 - 182.1 = -256$. *HOWEVER*, because of the TRANS rules, the "QESIPARM XSTEPS 54" $(-256 - -310) = +54$ Special Requirement is necessary to move the aperture to the correct location.</p>								
7	G160M/1600 Deuterium Exposure 1	DEUTERIUM	COS/FUV, TIME-TAG, FCA	G160M 1600 A	CURRENT=MEDIUM; BUFFER-TIME=111; FP-POS=4	400 Secs (400 Secs)	[==>]	[1]
<p>Comments: Deuterium exposure optimized for Segment B. FP-POS=4 was chosen because previous observations show that it has slightly more counts than the other FP-POS values.</p>								
8	Aperture Adjustment 2 f or Segment B	NONE	COS, ALIGN/APER	XAPER=-311	QESIPARM XSTEP S -55	0.0 Secs (0 Secs)	[==>]	[1]
<p>Comments: Put the aperture in the appropriate position to illuminate a portion of the LP3 region of the detector when illuminating Segment B with G160M/1600.</p> <p>PSA LAPXSTP value at LP3 is 182.1 Desired LAPXSTP value for FCA to illuminate Segment B with G160M/1600 at Position 2 for LP3 is -129 Therefore, XAPER is set to $-129 - 182.1 = -311$. *HOWEVER*, because of the TRANS rules, the "QESIPARM XSTEPS -55" $(-311 - -256) = -55$ Special Requirement is necessary to move the aperture to the correct location.</p>								
9	G160M/1600 Deuterium Exposure 2	DEUTERIUM	COS/FUV, TIME-TAG, FCA	G160M 1600 A	CURRENT=MEDIUM; BUFFER-TIME=111; FP-POS=4	400 Secs (400 Secs)	[==>]	[1]
<p>Comments: Deuterium exposure optimized for Segment B. FP-POS=4 was chosen because previous observations show that it has slightly more counts than the other FP-POS values.</p>								

