



15370 - COS FUV Gain Map at LP3/LP4

Cycle: 24, Proposal Category: CAL/COS

(Availability Mode: RESTRICTED)

INVESTIGATORS

<i>Name</i>	<i>Institution</i>	<i>E-Mail</i>
Dr. David J. Sahnou (PI) (Contact)	Space Telescope Science Institute	sahnou@stsci.edu
Mees Fix (CoI)	Space Telescope Science Institute	mfix@stsci.edu
Dr. Steven V. Penton (CoI)	Space Telescope Science Institute	penton@stsci.edu

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>
L1	DEUTERIUM NONE	COS COS/FUV	1	26-Sep-2017 19:07:35.0	yes
L2	DARK DEUTERIUM NONE	COS COS/FUV S/C	1	26-Sep-2017 19:07:37.0	yes
L3	DARK DEUTERIUM NONE	COS COS/FUV S/C	1	26-Sep-2017 19:07:39.0	yes
M3	DARK DEUTERIUM NONE	COS COS/FUV S/C	1	26-Sep-2017 19:07:41.0	yes
L4	DEUTERIUM NONE	COS COS/FUV	1	26-Sep-2017 19:07:42.0	yes

<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>
M4	DEUTERIUM NONE	COS COS/FUV	1	26-Sep-2017 19:07:44.0	yes
L5	DARK DEUTERIUM NONE	COS COS/FUV S/C	1	26-Sep-2017 19:07:45.0	yes
M5	DARK DEUTERIUM NONE	COS COS/FUV S/C	1	26-Sep-2017 19:07:47.0	yes

8 Total Orbits Used

ABSTRACT

Obtain gain maps of the FUV detector before and after changes to the Lifetime Position and nominal high voltage levels. These data will be used to check that the modal gain changes as expected, and to provide anchor points for the predictions of modal gain as a function of time.

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. 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.

These gain maps will be taken immediately before (visits L1, L2, L3) and after (visits L4, L5) the nominal Lifetime Position is changed from LP3 to LP4 on October 2, 2017. The visits executing before the move will use LP3 for the aperture reference; those executing after the move will use LP4.

*Visit L1 will be taken at LIFE_ADJ=3 at the nominal Standard Modes HV values (167/175).

*Visit L2 will be taken at LIFE_ADJ=3 at the nominal HV values for G130M/1222 & 1223 (171/175).

*Visit L3 will be taken at LIFE_ADJ=2 at the nominal Blue Mode HV values (173/175).

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*Visit L4 will be taken at LIFE_ADJ=4 at the nominal Standard Modes HV values (163/163).

*Visit L5 will be taken at LIFE_ADJ=4 at the nominal HV values for G130M/1222 & 1223 (163/167).

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.

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

* 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.

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

* Adjust the aperture to a second cross-dispersion location to obtain additional coverage on Segment B and take another 400 second deuterium lamp exposure.

*Return the HV values to the nominal values for the standard modes, if necessary.

Note that because TRANS resets its aperture zero point when FCA exposures are taken, the aperture is explicitly moved using "QESIPARM XSTEPS", as was done in Program 13970, 14439, 14519, 14525, 14941, etc.

For reference, the soft and hard stops for the apertures are listed below. All aperture moves should be kept within these ranges.

MEB1:

SOFT STOPS = -275 to 275

HARD STOPS = -282 to 285

MEB2:

SOFT STOPS = -275 to 275

HARD STOPS = -284 to 283

Summary:

Visits L1, L2, and L3 use a reference position of LP3, with LAPXSTP = 182.1

Visits L4 and L5 use a reference position of LP4, with LAPXSTP = 235.1

Visit	LP	Grating/Segment	Y Position	LAPXSTP	XAPER	XSTEPS
L1,L2	3	G130M/A	1	-72	-254	N/A
L1,L2	3	G130M/A	2	-128	-310	-56
L1,L2	3	G160M/B	1	-84	-266	+44
L1,L2	3	G160M/B	2	-140	-322	-56
L3	2	G130M/A	1	-213	-395	N/A
L3	2	G130M/A	2	-267*	-449	-54

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L3	2	G160M/B	1	-225	-407	+42
L3	2	G160M/B	2	-267*	-449	-42
L4,L5	4	G130M/A	1	-32	-267	N/A
L4,L5	4	G130M/A	2	-86	-321	-54
L4,L5	4	G160M/B	1	-41	-276	+45
L4,L5	4	G160M/B	2	-95	-330	-54

* Limited to be within the soft stops

Visit	LP	HV	Mode
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L1	3	167/175	Standard
L2	3	171/175	G130M/1222
L3	2	173/175	Blue
L4	4	163/163	Standard
L5	4	163/167	G130M/1222

Update made on 9/26/17:

Visit M3, which is intended to replace visit L3, was added. The new visit is a copy of visit L3, except it has an additional aperture move after the final deuterium exposure. This move returns the aperture to the nominal (LP3) location. Visit L3 did not allow enough time for the aperture to return to its home position.

Update 2 made on 9/26/17

Visits M4 and M5 were added to replace visits L4 and L5. Like M3, they are copies of the corresponding L visits, but with an additional aperture move added to return it to the nominal position (this time LP4).

Proposal 15370 - Before LP4 move - Standard Modes (L1) - COS FUV Gain Map at LP3/LP4

Visit	<p>Proposal 15370, Before LP4 move - Standard Modes (L1), scheduled Tue Sep 26 23:07:48 GMT 2017</p> <p>Diagnostic Status: Warning</p> <p>Scientific Instruments: COS, COS/FUV</p> <p>Special Requirements: BETWEEN 01-OCT-2017:00:00:00 AND 02-OCT-2017:00:00:00; PARALLEL</p> <p><i>Comments: This visit collects data at LP3. It uses the HV values appropriate for the standard modes at LP3 before the HV increase. It should be one of the last COS visits executed before the HV change.</i></p>
Diagnostics	<p>(Before LP4 move - Standard Modes (L1)) Warning (Orbit Planner): MAXIMUM DURATION EXCEEDED FOR INTERNAL OR EARTH CALIB SU</p> <p>(Aperture Adjustment 1 for Segment A (L1.001)) Warning (Form): This ALIGN/APER exposure should be preceded by a science exposure to define the starting position for the scan.</p>

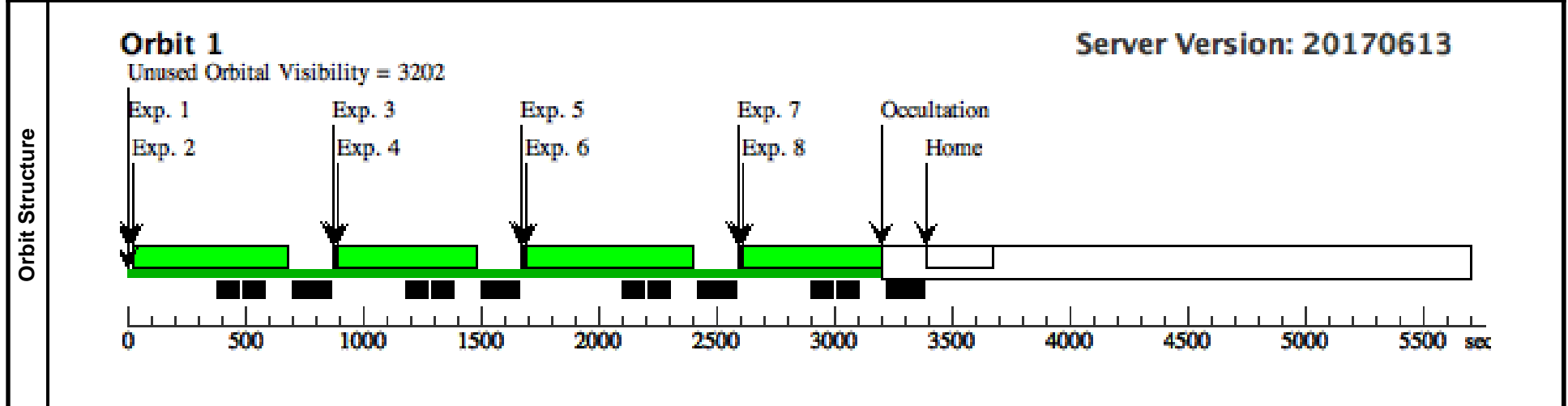
Proposal 15370 - Before LP4 move - Standard Modes (L1) - COS FUV Gain Map at LP3/LP4

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	Aperture Adjustment 1 f or Segment A	NONE	COS, ALIGN/APER		XAPER=-254			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 -72 Therefore, XAPER is set to $-72 - 182.1 = -254$</p>									
2	G130M/130 Deuterium Exposure 1	DEUTERIUM	COS/FUV, TIME-TAG, FCA	G130M 1309 A	CURRENT=MEDIUM; BUFFER-TIME=111; FP-POS=1; SEGMENT=BOTH; LIFETIME-POS=L P3			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 -56		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 -56" $(-310 - -254) = -56$ Special Requirement is necessary to move the aperture to the correct location.</p>									
4	G130M/130 Deuterium Exposure 2	DEUTERIUM	COS/FUV, TIME-TAG, FCA	G130M 1309 A	CURRENT=MEDIUM; BUFFER-TIME=111; FP-POS=1; SEGMENT=BOTH; LIFETIME-POS=L P3			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=-266	QESIPARM XSTEP S 44		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 -84 Therefore, XAPER is set to $-84 - 182.1 = -266$. *HOWEVER*, because of the TRANS rules, the "QESIPARM XSTEPS 44" $(-266 - -310) = +44$ Special Requirement is necessary to move the aperture to the correct location.</p>									

Exposures

Proposal 15370 - Before LP4 move - Standard Modes (L1) - COS FUV Gain Map at LP3/LP4

6	G160M/1600 Deuterium Exposure 1	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>							
7	Aperture Adjustment 2 for Segment B	NONE	COS, ALIGN/APER	XAPER=-322	QESIPARM XSTEP S-56	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 -140 Therefore, XAPER is set to $-140 - 182.1 = -322$. *HOWEVER*, because of the TRANS rules, the "QESIPARM XSTEPS -56" $(-322 - -266) = -56$ 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 15370 - Before LP4 move - G130M/1222 (L2) - COS FUV Gain Map at LP3/LP4

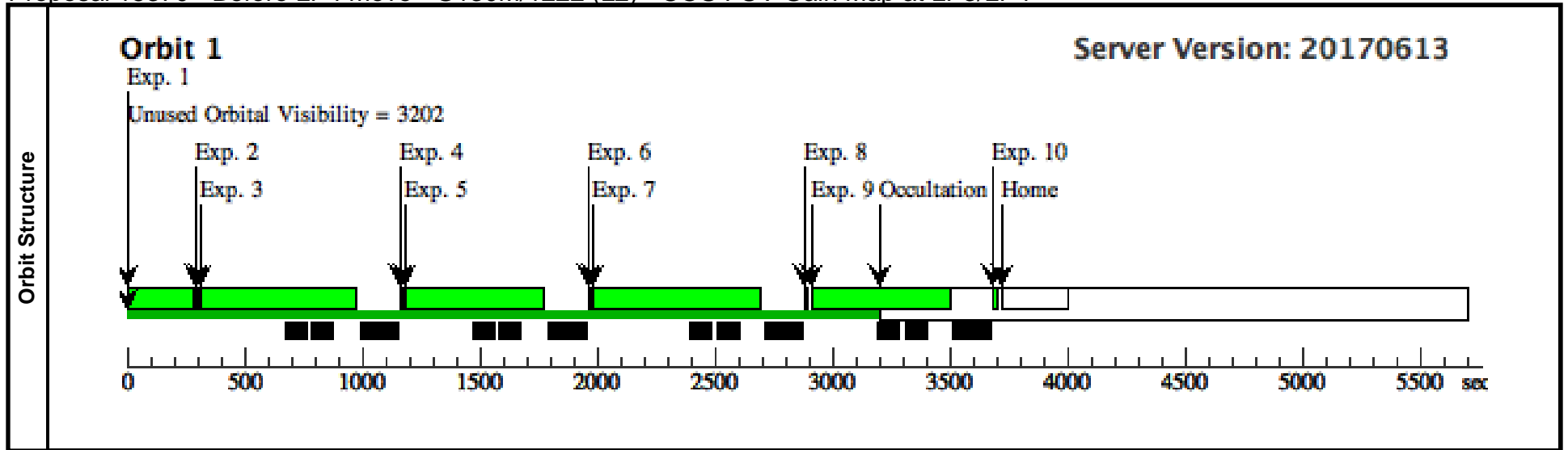
Visit	<p>Proposal 15370, Before LP4 move - G130M/1222 (L2), scheduled Tue Sep 26 23:07:49 GMT 2017</p> <p>Diagnostic Status: Warning</p> <p>Scientific Instruments: S/C, COS, COS/FUV</p> <p>Special Requirements: BETWEEN 01-OCT-2017:00:00:00 AND 02-OCT-2017:00:00:00; PARALLEL</p> <p><i>Comments: This visit collects data at LP3. It uses the HV values appropriate for G130M/1222.</i></p>
Diagnostics	<p>(Before LP4 move - G130M/1222 (L2)) Warning (Orbit Planner): MAXIMUM DURATION EXCEEDED FOR INTERNAL OR EARTH CALIB SU</p> <p>(Aperture Adjustment 1 for Segment A (L2.002)) Warning (Form): This ALIGN/APER exposure should be preceded by a science exposure to define the starting position for the scan.</p>

Proposal 15370 - Before LP4 move - G130M/1222 (L2) - COS FUV Gain Map at LP3/LP4

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit	
Exposures	1	Adjust HV t o G130M/12 22 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 175; QESIPARM SEGM ENT AB		295 Secs (295 Secs) [==>]	[1]	
	<i>Comments: Adjust the HV to the appropriate G130M/1222 values.</i>									
	2	Aperture Ad justment 1 f or Segment A	NONE	COS, ALIGN/APER		XAPER=-254			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 -72 Therefore, XAPER is set to -72 - 182.1 = -254</i>									
3	G130M/130 9 Deuterium Exposure 1	DEUTERIUM	COS/FUV, TIME-TAG, FCA	G130M 1309 A	CURRENT=MEDIU M; BUFFER-TIME=11 1; FP-POS=1; SEGMENT=BOTH; LIFETIME-POS=L P3			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 Ad justment 2 f or Segment A	NONE	COS, ALIGN/APER		XAPER=-310	QESIPARM XSTEP S -56		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 -56" [(-310 - -254) = -56] Special Requirement is necessary to move the aperture to the correct l ocation.</i>										
5	G130M/130 9 Deuterium Exposure 2	DEUTERIUM	COS/FUV, TIME-TAG, FCA	G130M 1309 A	CURRENT=MEDIU M; BUFFER-TIME=11 1; FP-POS=1; SEGMENT=BOTH; LIFETIME-POS=L P3			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 15370 - Before LP4 move - G130M/1222 (L2) - COS FUV Gain Map at LP3/LP4

6	Aperture Adjustment 1 for Segment B	NONE	COS, ALIGN/APER		XAPER=-266	QESIPARM XSTEP S 44	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 -84 Therefore, XAPER is set to $-84 - 182.1 = -266$. *HOWEVER*, because of the TRANS rules, the "QESIPARM XSTEPS 44" $(-266 - -310) = +44$ 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;		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 for Segment B	NONE	COS, ALIGN/APER		XAPER=-322	QESIPARM XSTEP S -56	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 -140 Therefore, XAPER is set to $-140 - 182.1 = -322$. *HOWEVER*, because of the TRANS rules, the "QESIPARM XSTEPS -56" $(-322 - -266) = -56$ 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;		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>									
10	Return to nominal HV for most modes	DARK	S/C, DATA, NONE			SPEC COM INSTR ELHVADJPROP; QESIPARM ENDC TSA 167; QESIPARM ENDC TSB 175	39 Secs (39 Secs)	[==>]	[1]
<p>Comments: Set HV to nominal values used for the standard modes.</p> <p>HV increase is $(167-171) = -4$ for Segment A, and $(175-175) = 0$ for Segment B. Therefore, exposure time is 39 seconds + ceiling(0*1.1) = 39 seconds</p>									



Proposal 15370 - Blue Modes (L3) - COS FUV Gain Map at LP3/LP4

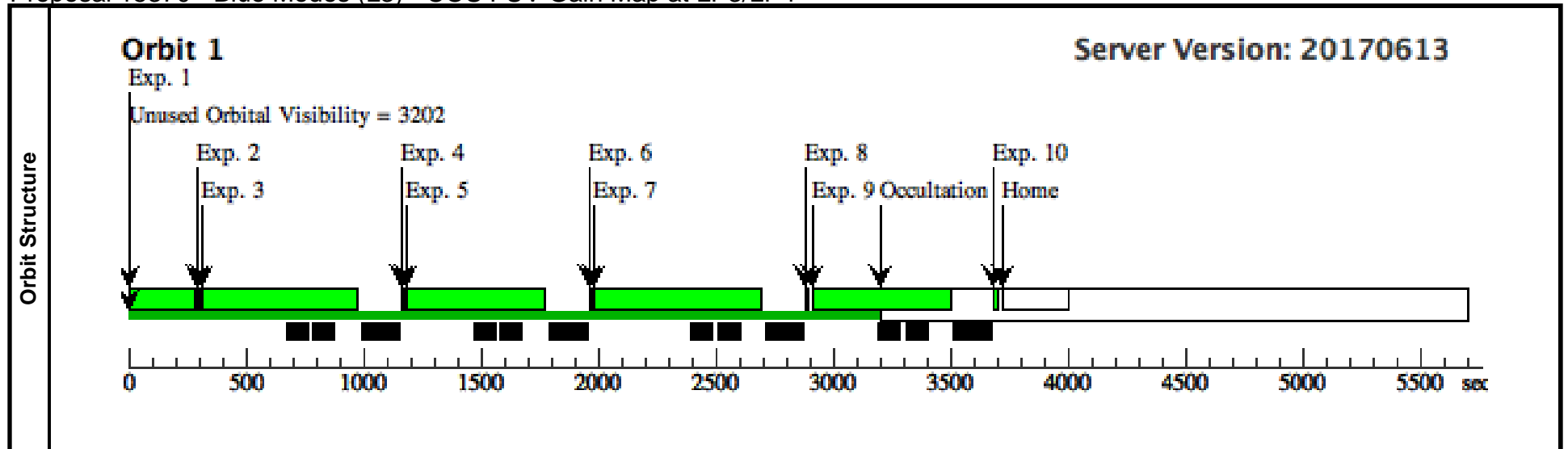
Visit	<p>Proposal 15370, Blue Modes (L3), scheduling</p> <p>Diagnostic Status: Warning</p> <p>Scientific Instruments: S/C, COS, COS/FUV</p> <p>Special Requirements: BETWEEN 01-OCT-2017:00:00:00 AND 02-OCT-2017:00:00:00; PARALLEL</p> <p><i>Comments: This visit collects data at LP2. It uses the HV values appropriate for the Blue Modes (173/175).</i></p>	Tue Sep 26 23:07:49 GMT 2017
	Diagnostics	<p>(Blue Modes (L3)) Warning (Orbit Planner): MAXIMUM DURATION EXCEEDED FOR INTERNAL OR EARTH CALIB SU</p> <p>(Aperture Adjustment 1 for Segment A (L3.002)) Warning (Form): This ALIGN/APER exposure should be preceded by a science exposure to define the starting position for the scan.</p>

Proposal 15370 - Blue Modes (L3) - COS FUV Gain Map at LP3/LP4

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit	
Exposures	1	Adjust HV to Blue Mode values	DARK	S/C, DATA, NONE		SAA CONTOUR 31; SPEC COM INSTR ELHLTHVF; QASISTATES COS FUV HVLOW HVN OM; QESIPARM ENDC TSA 173; QESIPARM ENDC TSB 175; QESIPARM SEGMENT AB		295 Secs (295 Secs) [==>]	[1]	
	<i>Comments: Adjust the HV to the Blue Mode values.</i>									
	2	Aperture Adjustment 1 for Segment A	NONE	COS, ALIGN/APER		XAPER=-395			0.0 Secs (0 Secs) [==>]	[1]
	<i>Comments: Put the aperture in the appropriate position to illuminate a portion of the LP2/Blue Modes 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 LP2 is -213 Therefore, XAPER is set to -213 - 182.1 = -395</i>									
3	G130M/1309 Deuterium Exposure 1	DEUTERIUM	COS/FUV, TIME-TAG, FCA	G130M 1309 A	CURRENT=MEDIUM; BUFFER-TIME=111; FP-POS=1; SEGMENT=BOTH; LIFETIME-POS=L P3			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=-449	QESIPARM XSTEP S -54		0.0 Secs (0 Secs) [==>]	[1]	
<i>Comments: Put the aperture in the appropriate position to illuminate a portion of the LP2/Blue Modes 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 LP2 is -267 Therefore, XAPER is set to -267 - 182.1 = -449. *HOWEVER*, because of the TRANS rules, the "QESIPARM XSTEPS -54" [(-449 - -395) = -54] Special Requirement is necessary to move the aperture to the correct location.</i>										
5	G130M/1309 Deuterium Exposure 2	DEUTERIUM	COS/FUV, TIME-TAG, FCA	G130M 1309 A	CURRENT=MEDIUM; BUFFER-TIME=111; FP-POS=1; SEGMENT=BOTH; LIFETIME-POS=L P3			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 15370 - Blue Modes (L3) - COS FUV Gain Map at LP3/LP4

6	Aperture Adjustment 1 for Segment B	NONE	COS, ALIGN/APER	XAPER=-407	QESIPARM XSTEP S 42	0.0 Secs (0 Secs)	[==>]	[1]
<p><i>Comments: Put the aperture in the appropriate position to illuminate a portion of the LP2/Blue Modes region of the detector when illuminating Segment B with G160M/1600.</i></p> <p><i>PSA LAPXSTP value at LP3 is 182.1</i> <i>Desired LAPXSTP value for FCA to illuminate Segment B with G160M/1600 at Position 1 for LP2 is -225</i></p> <p><i>Therefore, XAPER is set to -225 - 182.1 = -407. *HOWEVER*, because of the TRANS rules, the "QESIPARM XSTEPS 48" [(-407 - -449) = +42] Special Requirement is necessary to move the aperture to the correct location.</i></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><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>								
8	Aperture Adjustment 2 for Segment B	NONE	COS, ALIGN/APER	XAPER=-449	QESIPARM XSTEP S -42	0.0 Secs (0 Secs)	[==>]	[1]
<p><i>Comments: Put the aperture in the appropriate position to illuminate a portion of the LP2/Blue Modes region of the detector when illuminating Segment B with G160M/1600.</i></p> <p><i>PSA LAPXSTP value at LP3 is 182.1</i> <i>Desired LAPXSTP value for FCA to illuminate Segment B with G160M/1600 at Position 2 for LP2 is -280, but the aperture soft stop is at -275 and we don't want to exceed that value when including the 5 step overshoot.. To leave some pad, I will set it to match the G130M exposure (-267).</i></p> <p><i>Therefore, XAPER is set to -267 - 182.1 = -449. *HOWEVER*, because of the TRANS rules, the "QESIPARM XSTEPS -42" [(-449 - -407) = -42] Special Requirement is necessary to move the aperture to the correct location.</i></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><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>								
10	Return to nominal standard modes	DARK	S/C, DATA, NONE		SPEC COM INSTR ELHVADJPROP; QESIPARM ENDC TSA 167; QESIPARM ENDC TSB 175	39 Secs (39 Secs)	[==>]	[1]
<p><i>Comments: Set HV to nominal values used for the standard modes.</i></p> <p><i>Exposure Time is 39 seconds since the HV is not increasing on either segment.</i></p>								



Proposal 15370 - Blue Modes (M3) - COS FUV Gain Map at LP3/LP4

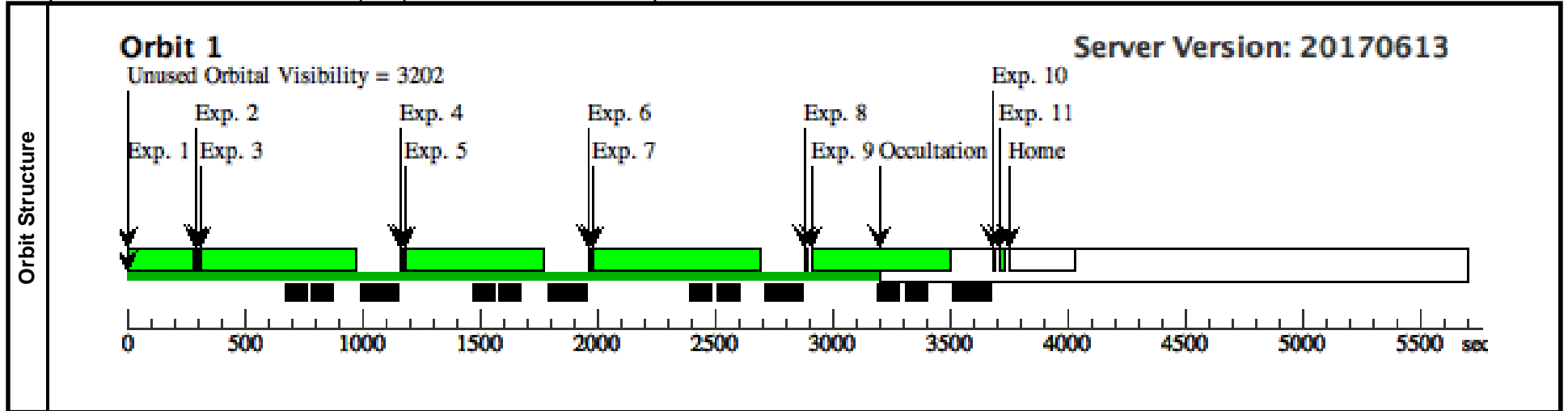
Visit	<p>Proposal 15370, Blue Modes (M3), scheduled Tue Sep 26 23:07:49 GMT 2017</p> <p>Diagnostic Status: Warning</p> <p>Scientific Instruments: S/C, COS, COS/FUV</p> <p>Special Requirements: BETWEEN 01-OCT-2017:00:00:00 AND 02-OCT-2017:00:00:00; PARALLEL</p> <p><i>Comments: This visit collects data at LP2. It uses the HV values appropriate for the Blue Modes (173/175).</i></p>
	Diagnostics

Proposal 15370 - Blue Modes (M3) - COS FUV Gain Map at LP3/LP4

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit	
Exposures	1	Adjust HV to Blue Mode values	DARK	S/C, DATA, NONE		SAA CONTOUR 31; SPEC COM INSTR ELHLTHVF; QASISTATES COS FUV HVLOW HVN OM; QESIPARM ENDC TSA 173; QESIPARM ENDC TSB 175; QESIPARM SEGMENT AB		295 Secs (295 Secs) [==>]	[1]	
	<i>Comments: Adjust the HV to the Blue Mode values.</i>									
	2	Aperture Adjustment 1 for Segment A	NONE	COS, ALIGN/APER		XAPER=-395			0.0 Secs (0 Secs) [==>]	[1]
	<i>Comments: Put the aperture in the appropriate position to illuminate a portion of the LP2/Blue Modes 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 LP2 is -213 Therefore, XAPER is set to -213 - 182.1 = -395</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; SEGMENT=BOTH; LIFETIME-POS=L P3		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=-449	QESIPARM XSTEP S -54		0.0 Secs (0 Secs) [==>]	[1]
	<i>Comments: Put the aperture in the appropriate position to illuminate a portion of the LP2/Blue Modes 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 LP2 is -267 Therefore, XAPER is set to -267 - 182.1 = -449. *HOWEVER*, because of the TRANS rules, the "QESIPARM XSTEPS -54" [(-449 - -395) = -54] 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; SEGMENT=BOTH; LIFETIME-POS=L P3		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 15370 - Blue Modes (M3) - COS FUV Gain Map at LP3/LP4

6	Aperture Adjustment 1 for Segment B	NONE	COS, ALIGN/APER	XAPER=-407	QESIPARM XSTEP S 42	0.0 Secs (0 Secs)	[==>]	[1]
<p><i>Comments: Put the aperture in the appropriate position to illuminate a portion of the LP2/Blue Modes region of the detector when illuminating Segment B with G160M/1600.</i></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 LP2 is -225</p> <p>Therefore, XAPER is set to $-225 - 182.1 = -407$. *HOWEVER*, because of the TRANS rules, the "QESIPARM XSTEPS 48" $(-407 - -449) = +42$ 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><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>								
8	Aperture Adjustment 2 for Segment B	NONE	COS, ALIGN/APER	XAPER=-449	QESIPARM XSTEP S -42	0.0 Secs (0 Secs)	[==>]	[1]
<p><i>Comments: Put the aperture in the appropriate position to illuminate a portion of the LP2/Blue Modes region of the detector when illuminating Segment B with G160M/1600.</i></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 LP2 is -280, but the aperture soft stop is at -275 and we don't want to exceed that value when including the 5 step overshoot. To leave some pad, I will set it to match the G130M exposure (-267).</p> <p>Therefore, XAPER is set to $-267 - 182.1 = -449$. *HOWEVER*, because of the TRANS rules, the "QESIPARM XSTEPS -42" $(-449 - -407) = -42$ 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><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>								
10	Return Aperture to Nominal Position	NONE	COS, ALIGN/APER	XAPER=0	QESIPARM XSTEP S 449	0.0 Secs (0 Secs)	[==>]	[1]
<p><i>Comments: Return the aperture to its nominal position, i.e. XAPER=0</i> *HOWEVER*, because of the TRANS rules, the "QESIPARM XSTEPS +449" $(0 - -449) = +449$ Special Requirement is necessary to move the aperture to the correct location.</p>								
11	Return to nominal HV for standard modes	DARK	S/C, DATA, NONE		SPEC COM INSTR ELHVADJPROP; QESIPARM ENDC TSA 167; QESIPARM ENDC TSB 175	39 Secs (39 Secs)	[==>]	[1]
<p><i>Comments: Set HV to nominal values used for the standard modes.</i></p> <p>Exposure Time is 39 seconds since the HV is not increasing on either segment.</p>								



Proposal 15370 - After LP4 move - Standard Modes (L4) - COS FUV Gain Map at LP3/LP4

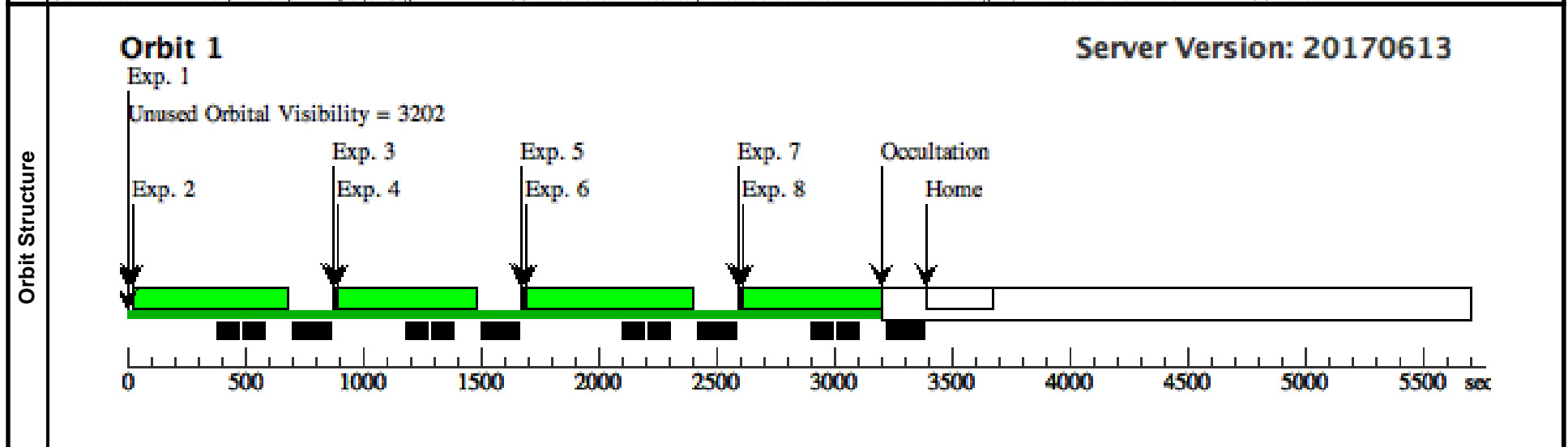
Visit	<p style="text-align: right;">Tue Sep 26 23:07:49 GMT 2017</p> <p>Proposal 15370, After LP4 move - Standard Modes (L4), scheduling Diagnostic Status: Warning Scientific Instruments: COS, COS/FUV Special Requirements: BETWEEN 02-OCT-2017:00:00:00 AND 03-OCT-2017:00:00:00; PARALLEL <i>Comments: This visit collects data at LP4. It uses the HV values appropriate for the Standard Modes at LP4 (163/163).</i></p>
Diagnostics	<p>(After LP4 move - Standard Modes (L4)) Warning (Orbit Planner): MAXIMUM DURATION EXCEEDED FOR INTERNAL OR EARTH CALIB SU (Aperture Adjustment 1 for Segment A (L4.001)) Warning (Form): This ALIGN/APER exposure should be preceded by a science exposure to define the starting position for the scan.</p>

Proposal 15370 - After LP4 move - Standard Modes (L4) - COS FUV Gain Map at LP3/LP4

#	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=-267		0.0 Secs (0 Secs) [==>]	[1]	
	<p><i>Comments: Put the aperture in the appropriate position to illuminate a portion of the LP4 region of the detector when illuminating Segment A with G130M/1309.</i></p> <p>PSA LAPXSTP value at LP4 is 235.1 Desired LAPXSTP value for FCA to illuminate Segment A with G130M/1309 at Position 1 for LP4 is -32 Therefore, XAPER is set to $-32 - 235.1 = -267$</p>									
	2	G130M/130 Deuterium Exposure 1	DEUTERIUM	COS/FUV, TIME-TAG, FCA	G130M 1309 A	CURRENT=MEDIUM; BUFFER-TIME=111; FP-POS=1; SEGMENT=BOTH; LIFETIME-POS=L P4		400 Secs (400 Secs) [==>]	[1]	
	<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>									
	3	Aperture Adjustment 2 f or Segment A	NONE	COS, ALIGN/APER		XAPER=-321	QESIPARM XSTEP S -54		0.0 Secs (0 Secs) [==>]	[1]
<p><i>Comments: Put the aperture in the appropriate position to illuminate a portion of the LP4 region of the detector when illuminating Segment A with G130M/1309.</i></p> <p>PSA LAPXSTP value at LP4 is 235.1 Desired LAPXSTP value for FCA to illuminate Segment A with G130M/1309 at Position 2 for LP4 is -86 Therefore, XAPER is set to $-86 - 235.1 = -321$. *HOWEVER*, because of the TRANS rules, the "QESIPARM XSTEPS -54" $[(-321 - -267) = -54]$ Special Requirement is necessary to move the aperture to the correct location.</p>										
4	G130M/130 Deuterium Exposure 2	DEUTERIUM	COS/FUV, TIME-TAG, FCA	G130M 1309 A	CURRENT=MEDIUM; BUFFER-TIME=111; FP-POS=1; SEGMENT=BOTH; LIFETIME-POS=L P4		400 Secs (400 Secs) [==>]	[1]		
<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>										
5	Aperture Adjustment 1 f or Segment B	NONE	COS, ALIGN/APER		XAPER=-276	QESIPARM XSTEP S 45		0.0 Secs (0 Secs) [==>]	[1]	
<p><i>Comments: Put the aperture in the appropriate position to illuminate a portion of the LP4 region of the detector when illuminating Segment B with G160M/1600.</i></p> <p>PSA LAPXSTP value at LP4 is 235.1 Desired LAPXSTP value for FCA to illuminate Segment B with G160M/1600 at Position 1 for LP4 is -41 Therefore, XAPER is set to $-41 - 235.1 = -276$. *HOWEVER*, because of the TRANS rules, the "QESIPARM XSTEPS 45" $[(-276 - -321) = +45]$ Special Requirement is necessary to move the aperture to the correct location.</p>										

Proposal 15370 - After LP4 move - Standard Modes (L4) - COS FUV Gain Map at LP3/LP4

6	G160M/160 DEUTERIUM 0 Deuterium Exposure 1	COS/FUV, TIME-TAG, FCA	G160M 1600 A	CURRENT=MEDIU M; BUFFER-TIME=11 1; FP-POS=4; SEGMENT=BOTH; LIFETIME-POS=L P4	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>								
7	Aperture Ad NONE justment 2 f or Segment B	COS, ALIGN/APER		XAPER=-330	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 LP4 region of the detector when illuminating Segment B with G160M/1600.</p>								
<p>PSA LAPXSTP value at LP4 is 235.1 Desired LAPXSTP value for FCA to illuminate Segment B with G160M/1600 at Position 2 for LP4 is -95.</p>								
<p>Therefore, XAPER is set to $-95 - 235.1 = -330$. *HOWEVER*, because of the TRANS rules, the "QESIPARM XSTEPS -54" $(-330 - -276) = -54$ Special Requirement is necessary to move the aperture to the correct location.</p>								
8	G160M/160 DEUTERIUM 0 Deuterium Exposure 2	COS/FUV, TIME-TAG, FCA	G160M 1600 A	CURRENT=MEDIU M; BUFFER-TIME=11 1; FP-POS=4; SEGMENT=BOTH; LIFETIME-POS=L P4	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 15370 - After LP4 move - Standard Modes (M4) - COS FUV Gain Map at LP3/LP4

Visit	<p>Proposal 15370, After LP4 move - Standard Modes (M4) Tue Sep 26 23:07:49 GMT 2017</p> <p>Diagnostic Status: Warning</p> <p>Scientific Instruments: COS, COS/FUV</p> <p>Special Requirements: BETWEEN 02-OCT-2017:00:00:00 AND 03-OCT-2017:00:00:00; PARALLEL</p> <p><i>Comments: This visit collects data at LP4. It uses the HV values appropriate for the Standard Modes at LP4 (163/163).</i></p>
Diagnostics	<p>(After LP4 move - Standard Modes (M4)) Warning (Orbit Planner): MAXIMUM DURATION EXCEEDED FOR INTERNAL OR EARTH CALIB SU</p> <p>(Aperture Adjustment 1 for Segment A (M4.001)) Warning (Form): This ALIGN/APER exposure should be preceded by a science exposure to define the starting position for the scan.</p>

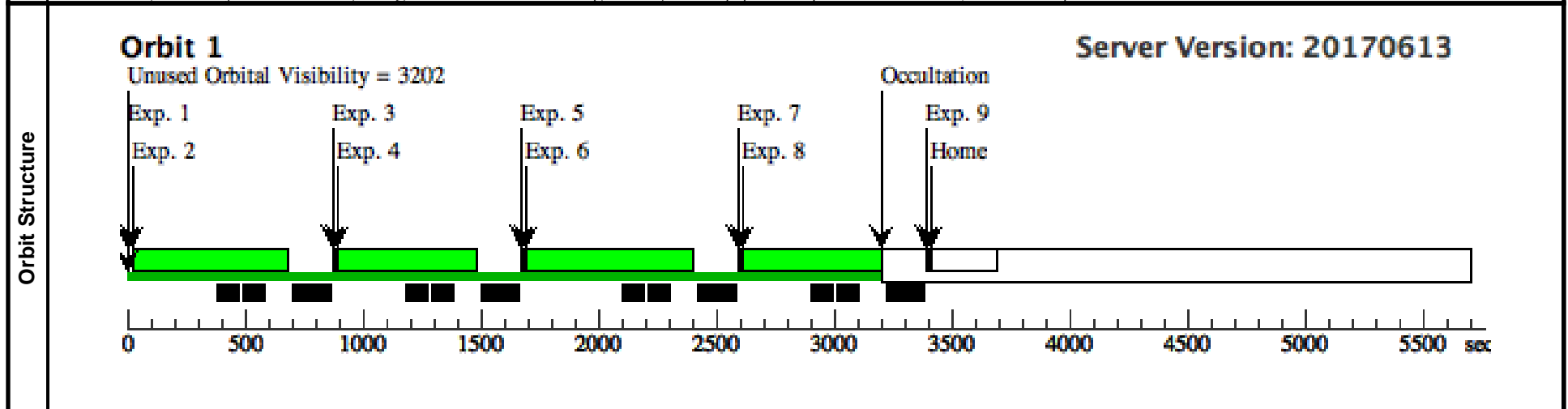
Proposal 15370 - After LP4 move - Standard Modes (M4) - COS FUV Gain Map at LP3/LP4

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	Aperture Adjustment 1 f or Segment A	NONE	COS, ALIGN/APER		XAPER=-267			0.0 Secs (0 Secs) [==>]	[1]
<p>Comments: Put the aperture in the appropriate position to illuminate a portion of the LP4 region of the detector when illuminating Segment A with G130M/1309.</p> <p>PSA LAPXSTP value at LP4 is 235.1 Desired LAPXSTP value for FCA to illuminate Segment A with G130M/1309 at Position 1 for LP4 is -32 Therefore, XAPER is set to $-32 - 235.1 = -267$</p>									
2	G130M/130 Deuterium Exposure 1	DEUTERIUM	COS/FUV, TIME-TAG, FCA	G130M 1309 A	CURRENT=MEDIUM; BUFFER-TIME=111; FP-POS=1; SEGMENT=BOTH; LIFETIME-POS=L P4			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=-321	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 LP4 region of the detector when illuminating Segment A with G130M/1309.</p> <p>PSA LAPXSTP value at LP4 is 235.1 Desired LAPXSTP value for FCA to illuminate Segment A with G130M/1309 at Position 2 for LP4 is -86 Therefore, XAPER is set to $-86 - 235.1 = -321$. *HOWEVER*, because of the TRANS rules, the "QESIPARM XSTEPS -54" $[(-321 - -267) = -54]$ Special Requirement is necessary to move the aperture to the correct location.</p>									
4	G130M/130 Deuterium Exposure 2	DEUTERIUM	COS/FUV, TIME-TAG, FCA	G130M 1309 A	CURRENT=MEDIUM; BUFFER-TIME=111; FP-POS=1; SEGMENT=BOTH; LIFETIME-POS=L P4			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=-276	QESIPARM XSTEP S 45		0.0 Secs (0 Secs) [==>]	[1]
<p>Comments: Put the aperture in the appropriate position to illuminate a portion of the LP4 region of the detector when illuminating Segment B with G160M/1600.</p> <p>PSA LAPXSTP value at LP4 is 235.1 Desired LAPXSTP value for FCA to illuminate Segment B with G160M/1600 at Position 1 for LP4 is -41 Therefore, XAPER is set to $-41 - 235.1 = -276$. *HOWEVER*, because of the TRANS rules, the "QESIPARM XSTEPS 45" $[(-276 - -321) = +45]$ Special Requirement is necessary to move the aperture to the correct location.</p>									

Exposures

Proposal 15370 - After LP4 move - Standard Modes (M4) - COS FUV Gain Map at LP3/LP4

6	G160M/160 0 Deuterium Exposure 1	DEUTERIUM	COS/FUV, TIME-TAG, FCA	G160M 1600 A	CURRENT=MEDIU M; BUFFER-TIME=11 1; FP-POS=4; SEGMENT=BOTH; LIFETIME-POS=L P4	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>							
7	Aperture Ad justment 2 f or Segment B	NONE	COS, ALIGN/APER		XAPER=-330 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 LP4 region of the detector when illuminating Segment B with G160M/1600.</p> <p>PSA LAPXSTP value at LP4 is 235.1 Desired LAPXSTP value for FCA to illuminate Segment B with G160M/1600 at Position 2 for LP4 is -95. Therefore, XAPER is set to $-95 - 235.1 = -330$. *HOWEVER*, because of the TRANS rules, the "QESIPARM XSTEPS -54" $(-330 - -276) = -54$ Special Requirement is necessary to move the aperture to the correct location.</p>							
8	G160M/160 0 Deuterium Exposure 2	DEUTERIUM	COS/FUV, TIME-TAG, FCA	G160M 1600 A	CURRENT=MEDIU M; BUFFER-TIME=11 1; FP-POS=4; SEGMENT=BOTH; LIFETIME-POS=L P4	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>							
9	Return Aper ture to Nomi nal Position	NONE	COS, ALIGN/APER		XAPER=0 QESIPARM XSTEP S 330	0.0 Secs (0 Secs) [==>]	[1]
<p>Comments: Return the aperture to its nominal position, i.e. XAPER=0 *HOWEVER*, because of the TRANS rules, the "QESIPARM XSTEPS +330" $(0 - -330) = +330$ Special Requirement is necessary to move the aperture to the correct location.</p>							



Proposal 15370 - After LP4 move - G130M/1222 (L5) - COS FUV Gain Map at LP3/LP4

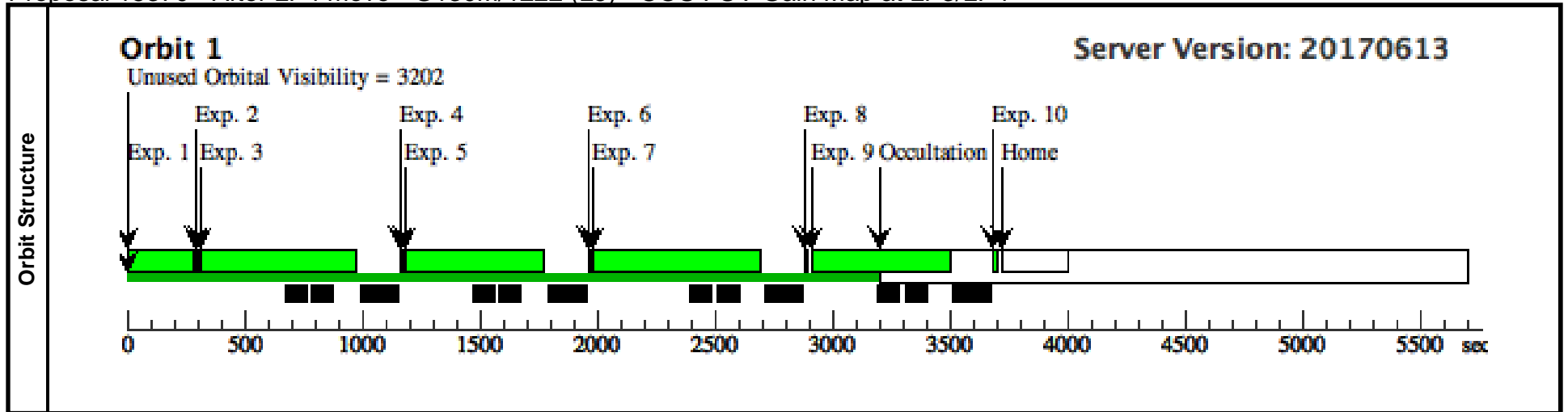
Visit	<p>Proposal 15370, After LP4 move - G130M/1222 (L5), scheduling Tue Sep 26 23:07:49 GMT 2017</p> <p>Diagnostic Status: Warning</p> <p>Scientific Instruments: S/C, COS, COS/FUV</p> <p>Special Requirements: BETWEEN 02-OCT-2017:00:00:00 AND 03-OCT-2017:00:00:00; PARALLEL</p> <p><i>Comments: This visit collects data at LP4. It uses the HV values appropriate for G130M/1222 & 1223 at LP4 (163/167).</i></p>
Diagnostics	<p>(After LP4 move - G130M/1222 (L5)) Warning (Orbit Planner): MAXIMUM DURATION EXCEEDED FOR INTERNAL OR EARTH CALIB SU</p> <p>(Aperture Adjustment 1 for Segment A (L5.002)) Warning (Form): This ALIGN/APER exposure should be preceded by a science exposure to define the starting position for the scan.</p>

Proposal 15370 - After LP4 move - G130M/1222 (L5) - COS FUV Gain Map at LP3/LP4

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit	
Exposures	1	Adjust HV to LP4 G130M/1222 values	DARK	S/C, DATA, NONE		SAA CONTOUR 31; SPEC COM INSTR ELHLTHVF; QASISTATES COS FUV HVLOW HVN OM; QESIPARM ENDC TSA 163; QESIPARM ENDC TSB 167; QESIPARM SEGMENT AB		295 Secs (295 Secs) [==>]	[1]	
	<i>Comments: Adjust the HV to the LP4 values.</i>									
	2	Aperture Adjustment 1 for Segment A	NONE	COS, ALIGN/APER		XAPER=-267			0.0 Secs (0 Secs) [==>]	[1]
	<i>Comments: Put the aperture in the appropriate position to illuminate a portion of the LP4 region of the detector when illuminating Segment A with G130M/1309.</i>									
	<i>PSA LAPXSTP value at LP4 is 235.1 Desired LAPXSTP value for FCA to illuminate Segment A with G130M/1309 at Position 1 for LP4 is -32 Therefore, XAPER is set to -32 - 235.1 = -267</i>									
3	G130M/1309 Deuterium Exposure 1	DEUTERIUM	COS/FUV, TIME-TAG, FCA	G130M 1309 A	CURRENT=MEDIUM; BUFFER-TIME=111; FP-POS=1; SEGMENT=BOTH; LIFETIME-POS=L P4			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=-321	QESIPARM XSTEP S -54		0.0 Secs (0 Secs) [==>]	[1]	
<i>Comments: Put the aperture in the appropriate position to illuminate a portion of the LP4 region of the detector when illuminating Segment A with G130M/1309.</i>										
<i>PSA LAPXSTP value at LP4 is 235.1 Desired LAPXSTP value for FCA to illuminate Segment A with G130M/1309 at Position 2 for LP4 is -86 Therefore, XAPER is set to -86 - 235.1 = -321. *HOWEVER*, because of the TRANS rules, the "QESIPARM XSTEPS -54" [(-321 - -267) = -54] Special Requirement is necessary to move the aperture to the correct location.</i>										
5	G130M/1309 Deuterium Exposure 2	DEUTERIUM	COS/FUV, TIME-TAG, FCA	G130M 1309 A	CURRENT=MEDIUM; BUFFER-TIME=111; FP-POS=1; SEGMENT=BOTH; LIFETIME-POS=L P4			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 15370 - After LP4 move - G130M/1222 (L5) - COS FUV Gain Map at LP3/LP4

6	Aperture Adjustment 1 for Segment B	NONE	COS, ALIGN/APER	XAPER=-276	QESIPARM XSTEP S 45	0.0 Secs (0 Secs)	[==>]	[1]
<p>Comments: Put the aperture in the appropriate position to illuminate a portion of the LP4 region of the detector when illuminating Segment B with G160M/1600.</p> <p>PSA LAPXSTP value at LP4 is 235.1 Desired LAPXSTP value for FCA to illuminate Segment B with G160M/1600 at Position 1 for LP4 is -41 Therefore, XAPER is set to $-41 - 235.1 = -276$. *HOWEVER*, because of the TRANS rules, the "QESIPARM XSTEPS 45" $(-276 - -321) = +45$ 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; SEGMENT=BOTH; LIFETIME-POS=L P4	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 for Segment B	NONE	COS, ALIGN/APER	XAPER=-330	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 LP4 region of the detector when illuminating Segment B with G160M/1600.</p> <p>PSA LAPXSTP value at LP4 is 235.1 Desired LAPXSTP value for FCA to illuminate Segment B with G160M/1600 at Position 2 for LP4 is -95. Therefore, XAPER is set to $-95 - 235.1 = -330$. *HOWEVER*, because of the TRANS rules, the "QESIPARM XSTEPS -54" $(-330 - -276) = -54$ 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; SEGMENT=BOTH; LIFETIME-POS=L P4	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>								
10	Return to nominal HV for standard modes	DARK	S/C, DATA, NONE		SPEC COM INSTR ELHVADJPROP; QESIPARM ENDC TSA 163; QESIPARM ENDC TSB 163	39 Secs (39 Secs)	[==>]	[1]
<p>Comments: Set HV to nominal values used for the standard modes.</p> <p>Exposure Time is 39 seconds since the HV is not increasing on either segment.</p>								



Proposal 15370 - After LP4 move - G130M/1222 (M5) - COS FUV Gain Map at LP3/LP4

Visit	<p>Proposal 15370, After LP4 move - G130M/1222 (M5) Tue Sep 26 23:07:49 GMT 2017</p> <p>Diagnostic Status: Warning</p> <p>Scientific Instruments: S/C, COS, COS/FUV</p> <p>Special Requirements: BETWEEN 02-OCT-2017:00:00:00 AND 03-OCT-2017:00:00:00; PARALLEL</p> <p><i>Comments: This visit collects data at LP4. It uses the HV values appropriate for G130M/1222 & 1223 at LP4 (163/167).</i></p>
Diagnostics	<p>(After LP4 move - G130M/1222 (M5)) Warning (Orbit Planner): MAXIMUM DURATION EXCEEDED FOR INTERNAL OR EARTH CALIB SU</p> <p>(Aperture Adjustment 1 for Segment A (M5.002)) Warning (Form): This ALIGN/APER exposure should be preceded by a science exposure to define the starting position for the scan.</p>

Proposal 15370 - After LP4 move - G130M/1222 (M5) - COS FUV Gain Map at LP3/LP4

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit	
Exposures	1	Adjust HV to LP4 G130 M/1222 values	DARK	S/C, DATA, NONE		SAA CONTOUR 31; SPEC COM INSTR ELHLTHVF; QASISTATES COS FUV HVLOW HVN OM; QESIPARM ENDC TSA 163; QESIPARM ENDC TSB 167; QESIPARM SEGMENT AB		295 Secs (295 Secs) [==>]	[1]	
	<i>Comments: Adjust the HV to the LP4 values.</i>									
	2	Aperture Adjustment 1 for Segment A	NONE	COS, ALIGN/APER		XAPER=-267			0.0 Secs (0 Secs) [==>]	[1]
	<i>Comments: Put the aperture in the appropriate position to illuminate a portion of the LP4 region of the detector when illuminating Segment A with G130M/1309.</i>									
	<i>PSA LAPXSTP value at LP4 is 235.1 Desired LAPXSTP value for FCA to illuminate Segment A with G130M/1309 at Position 1 for LP4 is -32 Therefore, XAPER is set to -32 - 235.1 = -267</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; SEGMENT=BOTH; LIFETIME-POS=L P4		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=-321	QESIPARM XSTEP S -54		0.0 Secs (0 Secs) [==>]	[1]
	<i>Comments: Put the aperture in the appropriate position to illuminate a portion of the LP4 region of the detector when illuminating Segment A with G130M/1309.</i>									
	<i>PSA LAPXSTP value at LP4 is 235.1 Desired LAPXSTP value for FCA to illuminate Segment A with G130M/1309 at Position 2 for LP4 is -86 Therefore, XAPER is set to -86 - 235.1 = -321. *HOWEVER*, because of the TRANS rules, the "QESIPARM XSTEPS -54" [(-321 - -267) = -54] 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; SEGMENT=BOTH; LIFETIME-POS=L P4		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 15370 - After LP4 move - G130M/1222 (M5) - COS FUV Gain Map at LP3/LP4

6	Aperture Adjustment 1 for Segment B	NONE	COS, ALIGN/APER	XAPER=-276	QESIPARM XSTEP S 45	0.0 Secs (0 Secs)	[==>]	[1]
<p>Comments: Put the aperture in the appropriate position to illuminate a portion of the LP4 region of the detector when illuminating Segment B with G160M/1600.</p> <p>PSA LAPXSTP value at LP4 is 235.1 Desired LAPXSTP value for FCA to illuminate Segment B with G160M/1600 at Position 1 for LP4 is -41 Therefore, XAPER is set to $-41 - 235.1 = -276$. *HOWEVER*, because of the TRANS rules, the "QESIPARM XSTEPS 45" $[(-276 - -321) = +45]$ 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; SEGMENT=BOTH; LIFETIME-POS=L P4	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 for Segment B	NONE	COS, ALIGN/APER	XAPER=-330	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 LP4 region of the detector when illuminating Segment B with G160M/1600.</p> <p>PSA LAPXSTP value at LP4 is 235.1 Desired LAPXSTP value for FCA to illuminate Segment B with G160M/1600 at Position 2 for LP4 is -95. Therefore, XAPER is set to $-95 - 235.1 = -330$. *HOWEVER*, because of the TRANS rules, the "QESIPARM XSTEPS -54" $[(-330 - -276) = -54]$ 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; SEGMENT=BOTH; LIFETIME-POS=L P4	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>								
10	Return Aperture to Nominal Position	NONE	COS, ALIGN/APER	XAPER=0	QESIPARM XSTEP S 330	0.0 Secs (0 Secs)	[==>]	[1]
<p>Comments: Return the aperture to its nominal position, i.e. XAPER=0 *HOWEVER*, because of the TRANS rules, the "QESIPARM XSTEPS +330" $[(0 - -330) = +330]$ Special Requirement is necessary to move the aperture to the correct location.</p>								
11	Return to nominal HV for standard modes	DARK	S/C, DATA, NONE		SPEC COM INSTR ELHVADJPROP; QESIPARM ENDC TSA 163; QESIPARM ENDC TSB 163	39 Secs (39 Secs)	[==>]	[1]
<p>Comments: Set HV to nominal values used for the standard modes. Exposure Time is 39 seconds since the HV is not increasing on either segment.</p>								

