



# 17853 - Cycle 32 COS FUV Characterization of Modal Gain When Changing High Voltage

Cycle: 32, 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>
2A	DARK DEUTERIUM NONE	COS COS/FUV S/C	1	10-Feb-2025 07:00:13.0	yes
2C	DARK DEUTERIUM NONE	COS COS/FUV S/C	1	10-Feb-2025 07:00:14.0	yes
3A	DARK DEUTERIUM NONE	COS COS/FUV S/C	1	10-Feb-2025 07:00:16.0	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>
3C	DARK DEUTERIUM NONE	COS COS/FUV S/C	1	10-Feb-2025 07:00:17.0	yes
4A	DARK DEUTERIUM NONE	COS COS/FUV S/C	1	10-Feb-2025 07:00:18.0	yes
4C	DARK DEUTERIUM NONE	COS COS/FUV S/C	1	10-Feb-2025 07:00:19.0	yes
5A	DARK DEUTERIUM NONE	COS COS/FUV S/C	1	10-Feb-2025 07:00:20.0	yes
5C	DARK DEUTERIUM NONE	COS COS/FUV S/C	1	10-Feb-2025 07:00:21.0	yes
6A	DARK DEUTERIUM NONE	COS COS/FUV S/C	1	10-Feb-2025 07:00:22.0	yes
6C	DARK DEUTERIUM NONE	COS COS/FUV S/C	1	10-Feb-2025 07:00:23.0	yes

10 Total Orbits Used

### **ABSTRACT**

This program uses the deuterium lamp to illuminate the regions of the detector being used to collect spectra during Cycle 32. 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 change is made to any nominal high voltage value on either segment, and before and after

any lifetime move. Obtaining a gain map at these times 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 time span of each high voltage at each LP. Improving these models will allow better predictions of the future lifetime of the detector.

### **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.

Gain maps should be taken before and after any high voltage change, and before and after any change in Lifetime Position. They should be obtained at the appropriate HV levels and detector locations.

The plan for this cycle includes 2 one-orbit contingency visits for each HV change. These two visits will be used if a HV change is made during the cycle. One will be taken immediately before the change using the current HV values (visits 2A, 3A, 4A, 5A, or 6A), and one will be taken after at the new values (visits 2C, 3C, 4C, 5C, or 6C).

The procedure for collecting this data in each visit is given below.

\* Take an exposure at LP1 to set up the aperture position and HV. This can also be used to measure the gain at LP1. These exposures will use G130M/1309 for visits 2A, 2C, 3A, and 3C; and G160M/1600 for visits 4A, 4C, 5A, 5C, 6A, and 6C.

\* Adjust the HV values

\* 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 440 second deuterium lamp exposure using both detector segments.

Proposal 17853 (STScI Edit Number: 0, Created: Monday, February 10, 2025, 7:00:23AM Eastern Standard Time) - Overview

- \* Adjust the aperture to a second cross-dispersion location to obtain additional coverage on Segment A and take another 440 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 440 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 440 second deuterium lamp exposure.
  
- \* Return the aperture to the HOME position

All G130M/1309 exposures use FP-POS=1, and all G160M/1600 exposures use FP-POS=4. These choices give slightly more counts than other FP-POS values.

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, 14941, 15534, 15772, etc.

For reference, the soft and hard stops for the apertures are listed below. All aperture moves are 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

Proposal 17853 (STScI Edit Number: 0, Created: Monday, February 10, 2025, 7:00:23AM Eastern Standard Time) - Overview

The initial exposure of each visit uses the FCA\_LP1 aperture position, LAPXSTP = -153. Thus all XAPER values are relative to that position.

Summary table:

Visit	LP	Grating/Segment	Y Position	LAPXSTP	XAPER	HV
2A/2C	2	G130M/A	1	-213	-60	173/175
2A/2C	2	G130M/A	2	-267*	-114	173/175
2A/2C	2	G160M/B	1	-215	-62	173/175
2A/2C	2	G160M/B	2	-267*	-114	173/175
3A/3C	3	G130M/A	1	-72	+81	173/175
3A/3C	3	G130M/A	2	-128	+25	173/175
3A/3C	3	G160M/B	1	-84	+69	173/175
3A/3C	3	G160M/B	2	-140	+13	173/175
4A/4C	4	G130M/A	1	-32	+121	173/175
4A/4C	4	G130M/A	2	-86	+67	173/175
4A/4C	4	G160M/B	1	-41	+112	173/175
4A/4C	4	G160M/B	2	-95	+58	173/175
5A/5C	5	G130M/A	1	-213	-60	173/175
5A/5C	5	G130M/A	2	-267*	-114	173/175
5A/5C	5	G160M/B	1	-215	-62	173/175
5A/5C	5	G160M/B	2	-267*	-114	173/175

6A/6C	6	G130M/A	1	-213	-60	173/175
6A/6C	6	G130M/A	2	-267*	-114	173/175
6A/6C	6	G160M/B	1	-215	-62	173/175
6A/6C	6	G160M/B	2	-267*	-114	173/175

\* Limited to be within the soft stops

The LP2, LP5 and LP6 aperture positions are identical, but the Y extent of the spectra on the detector is large enough to cover the detector region used for these LPs.

Note that the HVs in the table above are the current HV values. They should be modified to reflect the HV adjustments being made. In addition, any HV changes may require a change to the regular gain map program (PID 17851).

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Note added on 2/5/25:

We will be adjusting the HV on FUVA from 173 to 178 for LP2, LP3, LP5, and LP6 in March 2025, so I removed the hold on visits 2A, 2C, 3A, 3C, and adjusted the HV for 2C and 3C.

Proposal 17853 - LP2 gain map - before HV increase (2A) - Cycle 32 COS FUV Characterization of Modal Gain When Changing High ...

<b>Visit</b>	<p>Proposal 17853, LP2 gain map - before HV increase (2A), implementation <span style="float: right;">Mon Feb 10 12:00:23 GMT 2025</span></p> <p><b>Diagnostic Status: Warning</b></p> <p>Scientific Instruments: S/C, COS, COS/FUV</p> <p>Special Requirements: PARALLEL</p> <p><i>Comments: This visit collects data at LP2. It uses the HV values appropriate for LP2 (173/175).</i></p>
<b>Diagnostics</b>	<p>(LP2 gain map - before HV increase (2A)) Warning (Orbit Planner): MAXIMUM DURATION EXCEEDED FOR INTERNAL OR EARTH CALIB VISIT</p>

Proposal 17853 - LP2 gain map - before HV increase (2A) - Cycle 32 COS FUV Characterization of Modal Gain When Changing High ...

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	G130M/130 9 Deuterium Exposure - Set up at LP1	DEUTERIUM	COS/FUV, TIME-TAG, FCA	G130M 1309 A	CURRENT=MEDIUM; BUFFER-TIME=196; FP-POS=1; SEGMENT=BOTH; LIFETIME-POS=LPI			125 Secs (125 Secs) [==>]	[1]
<p><i>Comments: Short exposure to set aperture to LP1, which is near the center of the aperture range used in this program. It also sets the HV to the LP1 values.</i></p>									
2	Adjust HV to LP2 values	DARK	S/C, DATA, NONE			SAA CONTOUR 31; SPEC COM INSTR ELHVADJPROP; QASISTATES COS FUV HVNOM HVNOM; QESIPARM ENDC TSA 173; QESIPARM ENDC TSB 175; QESIPARM SEGMENT AB		39 Secs (39 Secs) [==>]	[1]
<p><i>Comments: Adjust the HV to the LP2 values.</i></p> <p><i>Since the HV is not increasing, exposure time = 39 seconds</i></p>									
3	Aperture Adjustment 1 for Segment A	NONE	COS, ALIGN/APER		XAPER=-60			0.0 Secs (0 Secs) [==>]	[1]
<p><i>Comments: Put the aperture in the appropriate position to illuminate a portion of the LP2 region of the detector when illuminating Segment A with G130M/1309.</i></p> <p><i>FCA LAPXSTP value at LP1 is -153</i> <i>Desired LAPXSTP value for FCA to illuminate Segment A with G130M/1309 at Position 1 for LP2 is -213</i> <i>Therefore, XAPER is set to -213 - -153 = -60</i></p>									
4	G130M/130 9 Deuterium Exposure 1	DEUTERIUM	COS/FUV, TIME-TAG, FCA	G130M 1309 A	CURRENT=MEDIUM; BUFFER-TIME=165; FP-POS=1; SEGMENT=BOTH; LIFETIME-POS=LPI			440 Secs (440 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 2 for Segment A	NONE	COS, ALIGN/APER		XAPER=-114	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 LP2 region of the detector when illuminating Segment A with G130M/1309.</i></p> <p><i>FCA LAPXSTP value at LP1 is -153</i> <i>Desired LAPXSTP value for FCA to illuminate Segment A with G130M/1309 at Position 2 for LP2 is -267</i> <i>Therefore, XAPER is set to -267 - -153 = -114. *HOWEVER*, because of the TRANS rules, the "QESIPARM XSTEPS -54" [(-114 - -60) = -54] Special Requirement is necessary to move the aperture to the correct location.</i></p>									

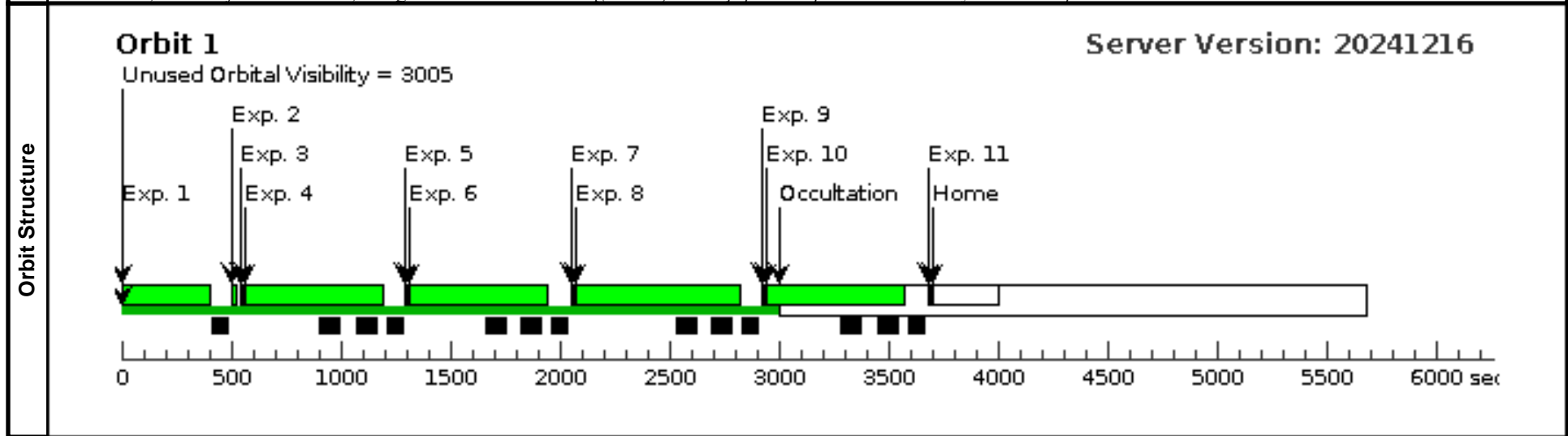
Proposal 17853 - LP2 gain map - before HV increase (2A) - Cycle 32 COS FUV Characterization of Modal Gain When Changing High ...

6	G130M/130 9 Deuterium Exposure 2	DEUTERIUM	COS/FUV, TIME-TAG, FCA	G130M 1309 A	CURRENT=MEDIUM; BUFFER-TIME=165; FP-POS=1; SEGMENT=BOTH; LIFETIME-POS=L PI	440 Secs (440 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>							
7	Aperture Adjustment 1 for Segment B	NONE	COS, ALIGN/APER		XAPER=-62 QESIPARM XSTEP S 52	0.0 Secs (0 Secs) [==>]	[1]
<p><i>Comments: Put the aperture in the appropriate position to illuminate a portion of the LP2 region of the detector when illuminating Segment B with G160M/1600.</i></p> <p><i>FCA LAPXSTP value at LP1 is -153</i>  <i>Desired LAPXSTP value for FCA to illuminate Segment B with G160M/1600 at Position 1 for LP2 is -215</i>  <i>Therefore, XAPER is set to -215 - -153 = -62. *HOWEVER*, because of the TRANS rules, the "QESIPARM XSTEPS 52" [(-62 - -114) = +52] Special Requirement is necessary to move the aperture to the correct location.</i></p>							
8	G160M/160 0 Deuterium Exposure 1	DEUTERIUM	COS/FUV, TIME-TAG, FCA	G160M 1600 A	CURRENT=MEDIUM; BUFFER-TIME=165; FP-POS=4; SEGMENT=BOTH; LIFETIME-POS=L PI	440 Secs (440 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>							
9	Aperture Adjustment 2 for Segment B	NONE	COS, ALIGN/APER		XAPER=-114 QESIPARM XSTEP S -52	0.0 Secs (0 Secs) [==>]	[1]
<p><i>Comments: Put the aperture in the appropriate position to illuminate a portion of the LP2 region of the detector when illuminating Segment B with G160M/1600.</i></p> <p><i>FCA LAPXSTP value at LP1 is -153</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>  <i>Therefore, XAPER is set to -267 - -153 = -114. *HOWEVER*, because of the TRANS rules, the "QESIPARM XSTEPS -52" [(-114 - -62) = -52] Special Requirement is necessary to move the aperture to the correct location.</i></p>							
10	G160M/160 0 Deuterium Exposure 2	DEUTERIUM	COS/FUV, TIME-TAG, FCA	G160M 1600 A	CURRENT=MEDIUM; BUFFER-TIME=165; FP-POS=4; SEGMENT=BOTH; LIFETIME-POS=L PI	440 Secs (440 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>							

11	Return Aperture to Nominal Position	NONE	COS, ALIGN/APER	XAPER=0	QESIPARM XSTEP S 114	0 Secs (0 Secs)	
						[==>]	[!]

Comments: Return aperture to nominal position by setting XAPER=0

*\*HOWEVER\*, because of the TRANS rules, the "QESIPARM XSTEPS +114" [(0 - -114) = +114] Special Requirement is necessary to move the aperture to its correct location.*



Proposal 17853 - LP2 gain map - after HV increase (2C) - Cycle 32 COS FUV Characterization of Modal Gain When Changing High V...

<b>Visit</b>	<p>Proposal 17853, LP2 gain map - after HV increase (2C), implementation <span style="float: right;">Mon Feb 10 12:00:24 GMT 2025</span></p> <p><b>Diagnostic Status: Warning</b></p> <p>Scientific Instruments: S/C, COS, COS/FUV</p> <p>Special Requirements: PARALLEL</p> <p><i>Comments: This visit collects data at LP2. It uses the HV values appropriate for LP2 after the HV change (178/175).</i></p>
<b>Diagnostics</b>	<p>(LP2 gain map - after HV increase (2C)) Warning (Orbit Planner): MAXIMUM DURATION EXCEEDED FOR INTERNAL OR EARTH CALIB VISIT</p>

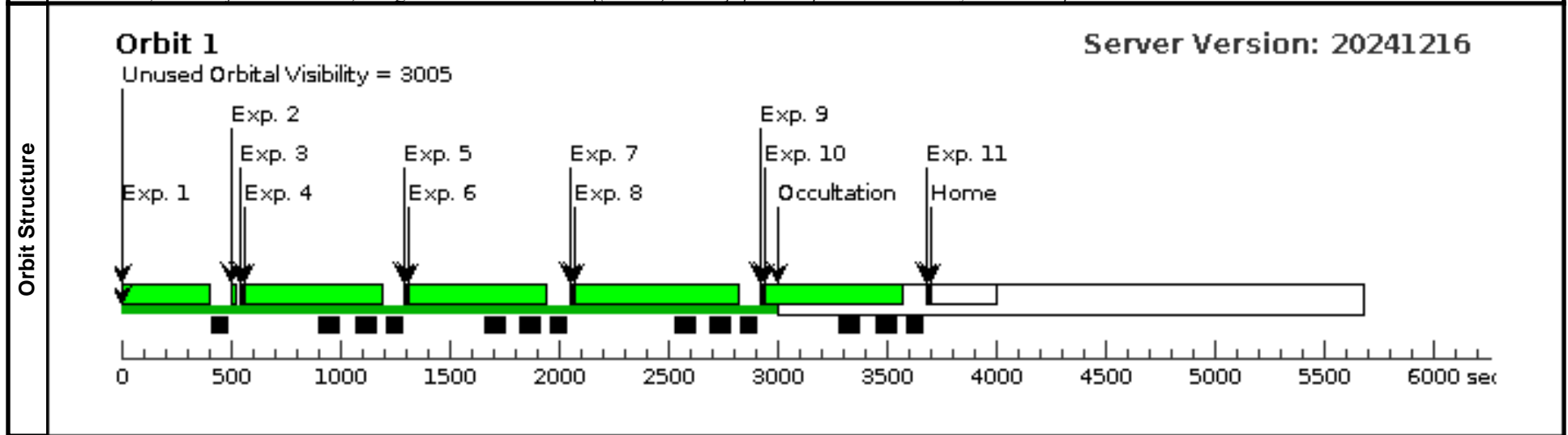
Proposal 17853 - LP2 gain map - after HV increase (2C) - Cycle 32 COS FUV Characterization of Modal Gain When Changing High V...

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	G130M/130 9 Deuterium Exposure - Set up at LP1	DEUTERIUM	COS/FUV, TIME-TAG, FCA	G130M 1309 A	CURRENT=MEDIUM; BUFFER-TIME=196; FP-POS=1; SEGMENT=BOTH; LIFETIME-POS=LPI			125 Secs (125 Secs) [==>]	[1]
<p><i>Comments: Short exposure to set aperture to LP1, which is near the center of the aperture range used in this program. It also sets the HV to the LP1 values.</i></p>									
2	Adjust HV to new LP2 values	DARK	S/C, DATA, NONE			SAA CONTOUR 31; SPEC COM INSTR ELHVADJPROP; QASISTATES COS FUV HVNOM HVNOM; QESIPARM ENDC TSA 178; QESIPARM ENDC TSB 175; QESIPARM SEGMENT AB		39 Secs (39 Secs) [==>]	[1]
<p><i>Comments: Adjust the HV to the LP2 values.</i></p> <p><i>Since the HV is not increasing, exposure time = 39 seconds</i></p>									
3	Aperture Adjustment 1 for Segment A	NONE	COS, ALIGN/APER		XAPER=-60			0.0 Secs (0 Secs) [==>]	[1]
<p><i>Comments: Put the aperture in the appropriate position to illuminate a portion of the LP2 region of the detector when illuminating Segment A with G130M/1309.</i></p> <p><i>FCA LAPXSTP value at LP1 is -153</i></p> <p><i>Desired LAPXSTP value for FCA to illuminate Segment A with G130M/1309 at Position 1 for LP2 is -213</i></p> <p><i>Therefore, XAPER is set to -213 - -153 = -60</i></p>									
4	G130M/130 9 Deuterium Exposure 1	DEUTERIUM	COS/FUV, TIME-TAG, FCA	G130M 1309 A	CURRENT=MEDIUM; BUFFER-TIME=165; FP-POS=1; SEGMENT=BOTH; LIFETIME-POS=LPI			440 Secs (440 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 2 for Segment A	NONE	COS, ALIGN/APER		XAPER=-114	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 LP2 region of the detector when illuminating Segment A with G130M/1309.</i></p> <p><i>FCA LAPXSTP value at LP1 is -153</i></p> <p><i>Desired LAPXSTP value for FCA to illuminate Segment A with G130M/1309 at Position 2 for LP2 is -267</i></p> <p><i>Therefore, XAPER is set to -267 - -153 = -114. *HOWEVER*, because of the TRANS rules, the "QESIPARM XSTEPS -54" [(-114 - -60) = -54] Special Requirement is necessary to move the aperture to the correct location.</i></p>									

Proposal 17853 - LP2 gain map - after HV increase (2C) - Cycle 32 COS FUV Characterization of Modal Gain When Changing High V...

6	G130M/130 9 Deuterium Exposure 2	DEUTERIUM	COS/FUV, TIME-TAG, FCA	G130M 1309 A	CURRENT=MEDIUM; BUFFER-TIME=165; FP-POS=1; SEGMENT=BOTH; LIFETIME-POS=L PI	440 Secs (440 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>							
7	Aperture Adjustment 1 for Segment B	NONE	COS, ALIGN/APER		XAPER=-62 QESIPARM XSTEP S 52	0.0 Secs (0 Secs) [==>]	[1]
<p><i>Comments: Put the aperture in the appropriate position to illuminate a portion of the LP2 region of the detector when illuminating Segment B with G160M/1600.</i></p> <p><i>FCA LAPXSTP value at LP1 is -153</i>  <i>Desired LAPXSTP value for FCA to illuminate Segment B with G160M/1600 at Position 1 for LP2 is -215</i>  <i>Therefore, XAPER is set to -215 - -153 = -62. *HOWEVER*, because of the TRANS rules, the "QESIPARM XSTEPS 52" [(-62 - -114) = +52] Special Requirement is necessary to move the aperture to the correct location.</i></p>							
8	G160M/160 0 Deuterium Exposure 1	DEUTERIUM	COS/FUV, TIME-TAG, FCA	G160M 1600 A	CURRENT=MEDIUM; BUFFER-TIME=165; FP-POS=4; SEGMENT=BOTH; LIFETIME-POS=L PI	440 Secs (440 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>							
9	Aperture Adjustment 2 for Segment B	NONE	COS, ALIGN/APER		XAPER=-114 QESIPARM XSTEP S -52	0.0 Secs (0 Secs) [==>]	[1]
<p><i>Comments: Put the aperture in the appropriate position to illuminate a portion of the LP2 region of the detector when illuminating Segment B with G160M/1600.</i></p> <p><i>FCA LAPXSTP value at LP1 is -153</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>  <i>Therefore, XAPER is set to -267 - -153 = -114. *HOWEVER*, because of the TRANS rules, the "QESIPARM XSTEPS -52" [(-114 - -62) = -52] Special Requirement is necessary to move the aperture to the correct location.</i></p>							
10	G160M/160 0 Deuterium Exposure 2	DEUTERIUM	COS/FUV, TIME-TAG, FCA	G160M 1600 A	CURRENT=MEDIUM; BUFFER-TIME=165; FP-POS=4; SEGMENT=BOTH; LIFETIME-POS=L PI	440 Secs (440 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>							

11	Return Aperture to Nominal Position	NONE	COS, ALIGN/APER	XAPER=0	QESIPARM XSTEP S 114	0 Secs (0 Secs)	
						[==>]	[!]
<p>Comments: Return aperture to nominal position by setting XAPER=0</p> <p><i>*HOWEVER*, because of the TRANS rules, the "QESIPARM XSTEPS +114" [(0 - -114) = +114] Special Requirement is necessary to move the aperture to its correct location.</i></p>							



Proposal 17853 - LP3 gain map - before HV increase (3A) - Cycle 32 COS FUV Characterization of Modal Gain When Changing High ...

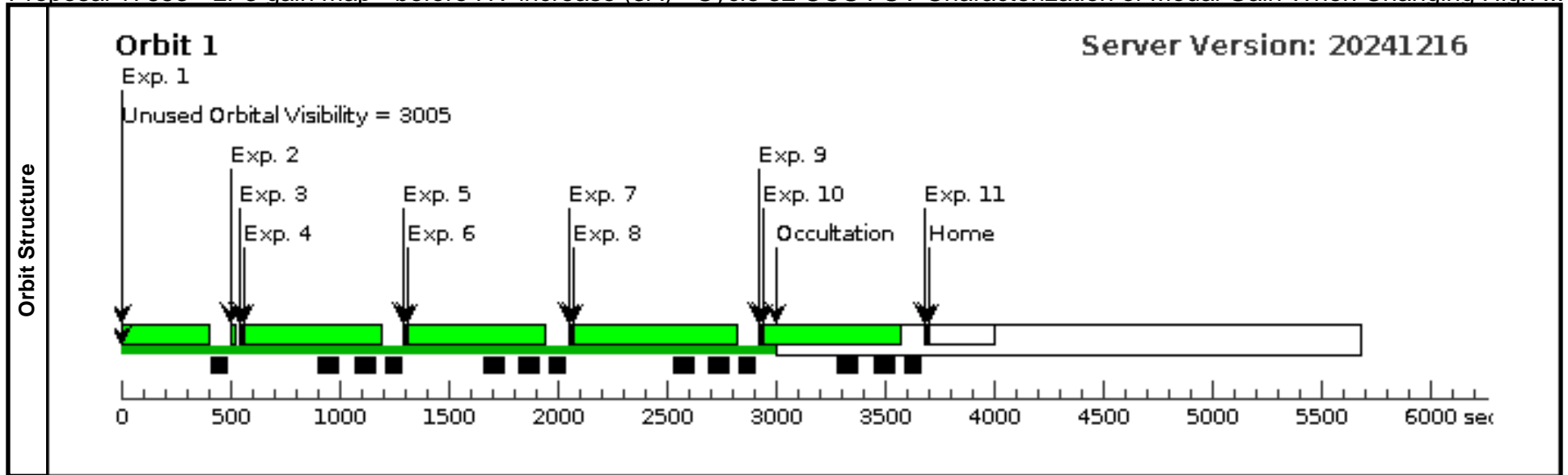
<b>Visit</b>	<p>Proposal 17853, LP3 gain map - before HV increase (3A), implementation <span style="float: right;">Mon Feb 10 12:00:24 GMT 2025</span></p> <p><b>Diagnostic Status: Warning</b></p> <p>Scientific Instruments: S/C, COS, COS/FUV</p> <p>Special Requirements: PARALLEL</p> <p><i>Comments: This visit collects data at LP3. It uses the HV values appropriate for LP3 (173/175).</i></p>
<b>Diagnostics</b>	<p>(LP3 gain map - before HV increase (3A)) Warning (Orbit Planner): MAXIMUM DURATION EXCEEDED FOR INTERNAL OR EARTH CALIB VISIT</p>

Proposal 17853 - LP3 gain map - before HV increase (3A) - Cycle 32 COS FUV Characterization of Modal Gain When Changing High ...

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	G130M/1309 Deuterium Exposure - Set up at LP1	DEUTERIUM	COS/FUV, TIME-TAG, FCA	G130M 1309 A	CURRENT=MEDIUM; BUFFER-TIME=196; FP-POS=1; SEGMENT=BOTH; LIFETIME-POS=LPI			125 Secs (125 Secs) [==>]	[1]
<p><i>Comments: Short exposure to set aperture to LP1, which is near the center of the aperture range used in this program. It also sets the HV to the LP1 values.</i></p>									
2	Adjust HV to LP3 values	DARK	S/C, DATA, NONE			SAA CONTOUR 31; SPEC COM INSTR ELHVADJPROP; QASISTATES COS FUV HVNOM HVNOM; QESIPARM ENDC TSA 173; QESIPARM ENDC TSB 175; QESIPARM SEGMENT AB		39 Secs (39 Secs) [==>]	[1]
<p><i>Comments: Adjust the HV to LP3 values.</i></p> <p><i>Since the HV is not increasing, exposure time = 39 seconds</i></p>									
3	Aperture Adjustment 1 for Segment A	NONE	COS, ALIGN/APER		XAPER=81			0.0 Secs (0 Secs) [==>]	[1]
<p><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></p> <p><i>FCA LAPXSTP value at LP1 is -153</i> <i>Desired LAPXSTP value for FCA to illuminate Segment A with G130M/1309 at Position 1 for LP3 is -72</i> <i>Therefore, XAPER is set to -72 - -153 = +81</i></p>									
4	G130M/1309 Deuterium Exposure 1	DEUTERIUM	COS/FUV, TIME-TAG, FCA	G130M 1309 A	CURRENT=MEDIUM; BUFFER-TIME=165; FP-POS=1; SEGMENT=BOTH; LIFETIME-POS=LPI			440 Secs (440 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 2 for Segment A	NONE	COS, ALIGN/APER		XAPER=25	QESIPARM XSTEP S -56		0.0 Secs (0 Secs) [==>]	[1]
<p><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></p> <p><i>FCA LAPXSTP value at LP1 is -153</i> <i>Desired LAPXSTP value for FCA to illuminate Segment A with G130M/1309 at Position 2 for LP3 is -128</i> <i>Therefore, XAPER is set to -128 - -153 = +25. *HOWEVER*, because of the TRANS rules, the "QESIPARM XSTEPS -56" [(+25 - +81) = -56] Special Requirement is necessary to move the aperture to the correct location.</i></p>									

Proposal 17853 - LP3 gain map - before HV increase (3A) - Cycle 32 COS FUV Characterization of Modal Gain When Changing High ...

6	G130M/130 9 Deuterium Exposure 2	DEUTERIUM	COS/FUV, TIME-TAG, FCA	G130M 1309 A	CURRENT=MEDIUM; BUFFER-TIME=165; FP-POS=1; SEGMENT=BOTH; LIFETIME-POS=L PI	440 Secs (440 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>							
7	Aperture Adjustment 1 for Segment B	NONE	COS, ALIGN/APER		XAPER=69 QESIPARM XSTEP S 44	0.0 Secs (0 Secs) [==>]	[1]
<p><i>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.</i></p> <p><i>FCA LAPXSTP value at LP1 is -153</i>  <i>Desired LAPXSTP value for FCA to illuminate Segment B with G160M/1600 at Position 1 for LP3 is -84</i>  <i>Therefore, XAPER is set to -84 - -153 = +69. *HOWEVER*, because of the TRANS rules, the "QESIPARM XSTEPS 44" [(+69 - +25) = +44] Special Requirement is necessary to move the aperture to the correct location.</i></p>							
8	G160M/160 0 Deuterium Exposure 1	DEUTERIUM	COS/FUV, TIME-TAG, FCA	G160M 1600 A	CURRENT=MEDIUM; BUFFER-TIME=165; FP-POS=4; SEGMENT=BOTH; LIFETIME-POS=L PI	440 Secs (440 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>							
9	Aperture Adjustment 2 for Segment B	NONE	COS, ALIGN/APER		XAPER=13 QESIPARM XSTEP S -56	0.0 Secs (0 Secs) [==>]	[1]
<p><i>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.</i></p> <p><i>FCA LAPXSTP value at LP1 is -153</i>  <i>Desired LAPXSTP value for FCA to illuminate Segment B with G160M/1600 at Position 2 for LP3 is -140.</i>  <i>Therefore, XAPER is set to -140 - -153 = +13. *HOWEVER*, because of the TRANS rules, the "QESIPARM XSTEPS -56" [(+13 - +69) = -56] Special Requirement is necessary to move the aperture to the correct location.</i></p>							
10	G160M/160 0 Deuterium Exposure 2	DEUTERIUM	COS/FUV, TIME-TAG, FCA	G160M 1600 A	CURRENT=MEDIUM; BUFFER-TIME=165; FP-POS=4; SEGMENT=BOTH; LIFETIME-POS=L PI	440 Secs (440 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>							
11	Return Aperture to Nominal Position	NONE	COS, ALIGN/APER		XAPER=0 QESIPARM XSTEP S -13	0 Secs (0 Secs) [==>]	[1]
<p><i>Comments: Return aperture to nominal position by setting XAPER=0</i></p> <p><i>*HOWEVER*, because of the TRANS rules, the "QESIPARM XSTEPS -13" [(0 - 13) = -13] Special Requirement is necessary to move the aperture to its correct location.</i></p>							



Proposal 17853 - LP3 gain map - after HV increase (3C) - Cycle 32 COS FUV Characterization of Modal Gain When Changing High V...

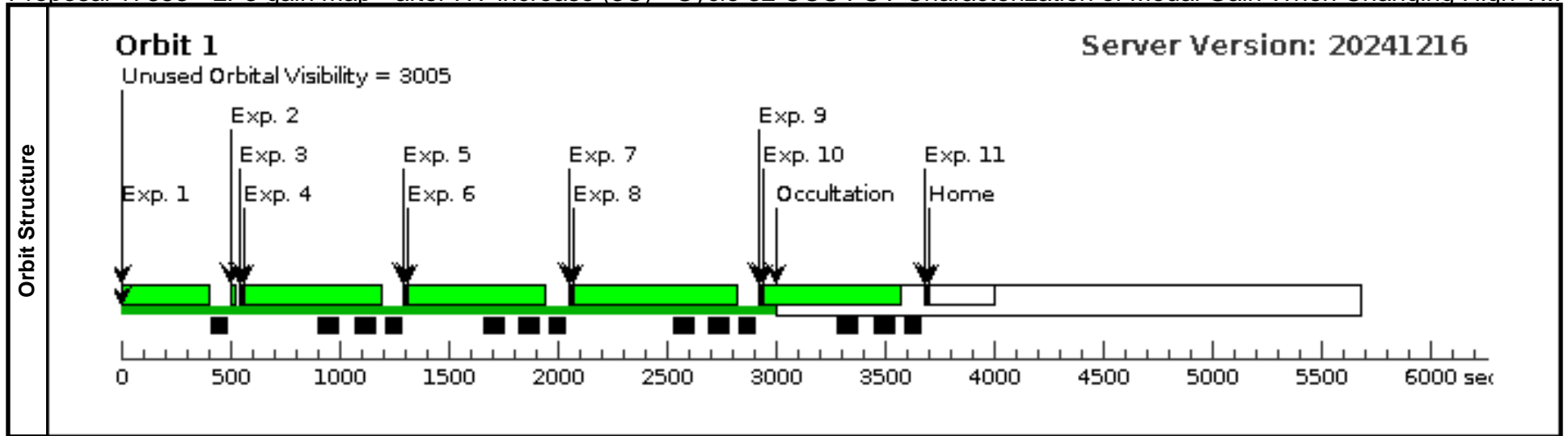
<b>Visit</b>	<p style="text-align: right;">Mon Feb 10 12:00:24 GMT 2025</p> <p><b>Proposal 17853, LP3 gain map - after HV increase (3C), implementation</b>  <b>Diagnostic Status: Warning</b>                  Scientific Instruments: S/C, COS, COS/FUV                  Special Requirements: PARALLEL  <i>Comments: This visit collects data at LP3. It uses the HV values appropriate for LP3 after the HV change (178/175).</i></p>
<b>Diagnostics</b>	<p>(LP3 gain map - after HV increase (3C)) Warning (Orbit Planner): MAXIMUM DURATION EXCEEDED FOR INTERNAL OR EARTH CALIB VISIT</p>

Proposal 17853 - LP3 gain map - after HV increase (3C) - Cycle 32 COS FUV Characterization of Modal Gain When Changing High V...

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	G130M/130 9 Deuterium Exposure - Set up at LP1	DEUTERIUM	COS/FUV, TIME-TAG, FCA	G130M 1309 A	CURRENT=MEDIUM; BUFFER-TIME=196; FP-POS=1; SEGMENT=BOTH; LIFETIME-POS=L PI			125 Secs (125 Secs) [==>]	[1]
<p><i>Comments: Short exposure to set aperture to LP1, which is near the center of the aperture range used in this program. It also sets the HV to the LP1 values.</i></p>									
2	Adjust HV to new LP3 values	DARK	S/C, DATA, NONE			SAA CONTOUR 31; SPEC COM INSTR ELHVADJPROP; QASISTATES COS FUV HVNOM HVNOM; QESIPARM ENDC TSA 178; QESIPARM ENDC TSB 175; QESIPARM SEGMENT AB		39 Secs (39 Secs) [==>]	[1]
<p><i>Comments: Adjust the HV to LP3 values.</i></p> <p><i>Since the HV is not increasing, exposure time = 39 seconds</i></p>									
3	Aperture Adjustment for Segment A	NONE	COS, ALIGN/APER		XAPER=81			0.0 Secs (0 Secs) [==>]	[1]
<p><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></p> <p><i>FCA LAPXSTP value at LP1 is -153</i> <i>Desired LAPXSTP value for FCA to illuminate Segment A with G130M/1309 at Position 1 for LP3 is -72</i> <i>Therefore, XAPER is set to -72 - -153 = +81</i></p>									
4	G130M/130 9 Deuterium Exposure 1	DEUTERIUM	COS/FUV, TIME-TAG, FCA	G130M 1309 A	CURRENT=MEDIUM; BUFFER-TIME=165; FP-POS=1; SEGMENT=BOTH; LIFETIME-POS=L PI			440 Secs (440 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 for Segment A	NONE	COS, ALIGN/APER		XAPER=25	QESIPARM XSTEP S -56		0.0 Secs (0 Secs) [==>]	[1]
<p><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></p> <p><i>FCA LAPXSTP value at LP1 is -153</i> <i>Desired LAPXSTP value for FCA to illuminate Segment A with G130M/1309 at Position 2 for LP3 is -128</i> <i>Therefore, XAPER is set to -128 - -153 = +25. *HOWEVER*, because of the TRANS rules, the "QESIPARM XSTEPS -56" [(+25 - +81) = -56] Special Requirement is necessary to move the aperture to the correct location.</i></p>									

Proposal 17853 - LP3 gain map - after HV increase (3C) - Cycle 32 COS FUV Characterization of Modal Gain When Changing High V...

6	G130M/130 9 Deuterium Exposure 2	DEUTERIUM	COS/FUV, TIME-TAG, FCA	G130M 1309 A	CURRENT=MEDIUM; BUFFER-TIME=165; FP-POS=1; SEGMENT=BOTH; LIFETIME-POS=L PI	440 Secs (440 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>							
7	Aperture Adjustment 1 for Segment B	NONE	COS, ALIGN/APER		XAPER=69 QESIPARM XSTEP S 44	0.0 Secs (0 Secs) [==>]	[1]
<p><i>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.</i></p> <p><i>FCA LAPXSTP value at LP1 is -153</i> <i>Desired LAPXSTP value for FCA to illuminate Segment B with G160M/1600 at Position 1 for LP3 is -84</i></p> <p><i>Therefore, XAPER is set to -84 - -153 = +69. *HOWEVER*, because of the TRANS rules, the "QESIPARM XSTEPS 44" [(+69 - +25) = +44] Special Requirement is necessary to move the aperture to the correct location.</i></p>							
8	G160M/160 0 Deuterium Exposure 1	DEUTERIUM	COS/FUV, TIME-TAG, FCA	G160M 1600 A	CURRENT=MEDIUM; BUFFER-TIME=165; FP-POS=4; SEGMENT=BOTH; LIFETIME-POS=L PI	440 Secs (440 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>							
9	Aperture Adjustment 2 for Segment B	NONE	COS, ALIGN/APER		XAPER=13 QESIPARM XSTEP S -56	0.0 Secs (0 Secs) [==>]	[1]
<p><i>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.</i></p> <p><i>FCA LAPXSTP value at LP1 is -153</i> <i>Desired LAPXSTP value for FCA to illuminate Segment B with G160M/1600 at Position 2 for LP3 is -140.</i></p> <p><i>Therefore, XAPER is set to -140 - -153 = +13. *HOWEVER*, because of the TRANS rules, the "QESIPARM XSTEPS -56" [(+13 - +69) = -56] Special Requirement is necessary to move the aperture to the correct location.</i></p>							
10	G160M/160 0 Deuterium Exposure 2	DEUTERIUM	COS/FUV, TIME-TAG, FCA	G160M 1600 A	CURRENT=MEDIUM; BUFFER-TIME=165; FP-POS=4; SEGMENT=BOTH; LIFETIME-POS=L PI	440 Secs (440 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>							
11	Return Aperture to Nominal Position	NONE	COS, ALIGN/APER		XAPER=0 QESIPARM XSTEP S -13	0 Secs (0 Secs) [==>]	[1]
<p><i>Comments: Return aperture to nominal position by setting XAPER=0</i></p> <p><i>*HOWEVER*, because of the TRANS rules, the "QESIPARM XSTEPS -13" [(0 - 13) = -13] Special Requirement is necessary to move the aperture to its correct location.</i></p>							



Proposal 17853 - LP4 gain map - before HV increase (4A) - Cycle 32 COS FUV Characterization of Modal Gain When Changing High ...

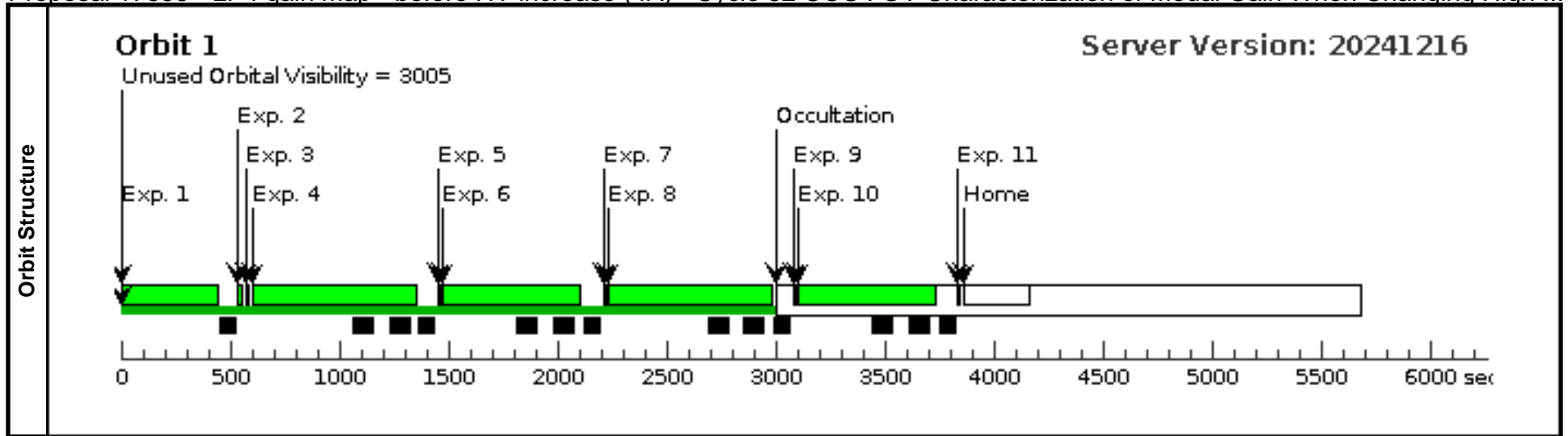
<b>Visit</b>	<p style="text-align: right;">Mon Feb 10 12:00:24 GMT 2025</p> <p><b>Proposal 17853, LP4 gain map - before HV increase (4A), implementation</b>  <b>Diagnostic Status: Warning</b>                  Scientific Instruments: S/C, COS, COS/FUV                  Special Requirements: ON HOLD ; PARALLEL  <i>Comments: This visit collects data at LP4. It uses the HV values appropriate for LP4 (173/175).</i>  <i>On Hold Comments: Only needed if HV changed during Cycle 32</i>  <i>HV Values will have to be updated before execution!</i></p>
<b>Diagnostics</b>	<p>(LP4 gain map - before HV increase (4A)) Warning (Orbit Planner): MAXIMUM DURATION EXCEEDED FOR INTERNAL OR EARTH CALIB VISIT</p>

Proposal 17853 - LP4 gain map - before HV increase (4A) - Cycle 32 COS FUV Characterization of Modal Gain When Changing High ...

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	G160M/1600 Deuterium Exposure - Set up at LP1	DEUTERIUM	COS/FUV, TIME-TAG, FCA	G160M 1600 A	CURRENT=MEDIUM; BUFFER-TIME=196; FP-POS=4; SEGMENT=BOTH; LIFETIME-POS=LPI			125 Secs (125 Secs) [==>]	[1]
<p><i>Comments: Short exposure to set aperture to LP1, which is near the center of the aperture range used in this program. It also sets the HV to the LP1 values.</i></p>									
2	Adjust HV to LP4 values	DARK	S/C, DATA, NONE			SAA CONTOUR 31; SPEC COM INSTR ELHVADJPROP; QASISTATES COS FUV HVNOM HVNOM; QESIPARM ENDC TSA 173; QESIPARM ENDC TSB 175; QESIPARM SEGMENT AB		39 Secs (39 Secs) [==>]	[1]
<p><i>Comments: Adjust the HV to LP4 values.</i></p> <p><i>Since the HV is not increasing, exposure time = 39 seconds</i></p>									
3	Aperture Adjustment 1 for Segment A	NONE	COS, ALIGN/APER		XAPER=121			0.0 Secs (0 Secs) [==>]	[1]
<p><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></p> <p><i>FCA LAPXSTP value at LP1 is -153</i></p> <p><i>Desired LAPXSTP value for FCA to illuminate Segment A with G130M/1309 at Position 1 for LP4 is -32</i></p> <p><i>Therefore, XAPER is set to -32 - -153 = +121</i></p>									
4	G130M/1309 Deuterium Exposure 1	DEUTERIUM	COS/FUV, TIME-TAG, FCA	G130M 1309 A	CURRENT=MEDIUM; BUFFER-TIME=165; FP-POS=1; SEGMENT=BOTH; LIFETIME-POS=LPI			440 Secs (440 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 2 for Segment A	NONE	COS, ALIGN/APER		XAPER=67	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 LP3 region of the detector when illuminating Segment A with G130M/1309.</i></p> <p><i>FCA LAPXSTP value at LP1 is -153</i></p> <p><i>Desired LAPXSTP value for FCA to illuminate Segment A with G130M/1309 at Position 2 for LP4 is -86</i></p> <p><i>Therefore, XAPER is set to -86 - -153 = +67. *HOWEVER*, because of the TRANS rules, the "QESIPARM XSTEPS -54" [(+67 - +121) = -54] Special Requirement is necessary to move the aperture to the correct location.</i></p>									

Proposal 17853 - LP4 gain map - before HV increase (4A) - Cycle 32 COS FUV Characterization of Modal Gain When Changing High ...

6	G130M/130 9 Deuterium Exposure 2	DEUTERIUM	COS/FUV, TIME-TAG, FCA	G130M 1309 A	CURRENT=MEDIUM; BUFFER-TIME=165; FP-POS=1; SEGMENT=BOTH; LIFETIME-POS=L PI	440 Secs (440 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>							
7	Aperture Adjustment 1 for Segment B	NONE	COS, ALIGN/APER		XAPER=112 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 LP3 region of the detector when illuminating Segment B with G160M/1600.</i></p> <p><i>FCA LAPXSTP value at LP1 is -153</i>  <i>Desired LAPXSTP value for FCA to illuminate Segment B with G160M/1600 at Position 1 for LP4 is -41</i></p> <p><i>Therefore, XAPER is set to -41 - -153 = +112. *HOWEVER*, because of the TRANS rules, the "QESIPARM XSTEPS 45" [(+112 - +67) = +45] Special Requirement is necessary to move the aperture to the correct location.</i></p>							
8	G160M/160 0 Deuterium Exposure 1	DEUTERIUM	COS/FUV, TIME-TAG, FCA	G160M 1600 A	CURRENT=MEDIUM; BUFFER-TIME=165; FP-POS=4; SEGMENT=BOTH; LIFETIME-POS=L PI	440 Secs (440 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>							
9	Aperture Adjustment 2 for Segment B	NONE	COS, ALIGN/APER		XAPER=58 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 LP3 region of the detector when illuminating Segment B with G160M/1600.</i></p> <p><i>FCA LAPXSTP value at LP1 is -153</i>  <i>Desired LAPXSTP value for FCA to illuminate Segment B with G160M/1600 at Position 2 for LP3 is -95.</i></p> <p><i>Therefore, XAPER is set to -95 - -153 = +58. *HOWEVER*, because of the TRANS rules, the "QESIPARM XSTEPS -54" [(+58 - +112) = -54] Special Requirement is necessary to move the aperture to the correct location.</i></p>							
10	G160M/160 0 Deuterium Exposure 2	DEUTERIUM	COS/FUV, TIME-TAG, FCA	G160M 1600 A	CURRENT=MEDIUM; BUFFER-TIME=165; FP-POS=4; SEGMENT=BOTH; LIFETIME-POS=L PI	440 Secs (440 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>							
11	Return Aperture to Nominal Position	NONE	COS, ALIGN/APER		XAPER=0 QESIPARM XSTEP S -58	0 Secs (0 Secs) [==>]	[1]
<p><i>Comments: Return aperture to nominal position by setting XAPER=0</i></p> <p><i>*HOWEVER*, because of the TRANS rules, the "QESIPARM XSTEPS -58" [(0 - 58) = -58] Special Requirement is necessary to move the aperture to its correct location.</i></p>							



Proposal 17853 - LP4 gain map - after HV increase (4C) - Cycle 32 COS FUV Characterization of Modal Gain When Changing High V...

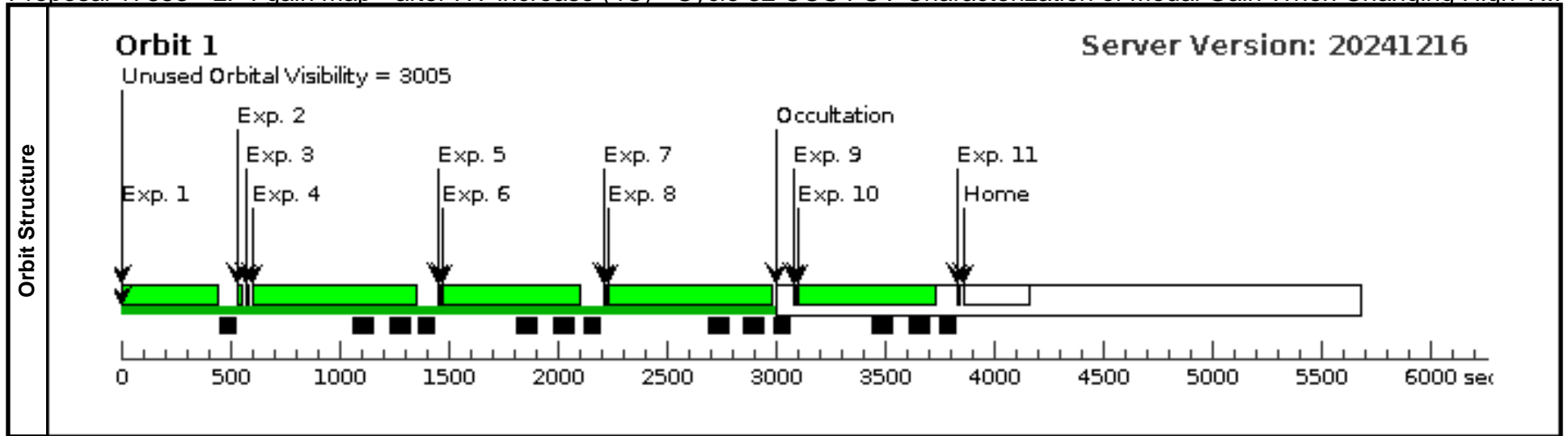
<b>Visit</b>	<p style="text-align: right;">Mon Feb 10 12:00:24 GMT 2025</p> <p><b>Proposal 17853, LP4 gain map - after HV increase (4C), implementation</b>  <b>Diagnostic Status: Warning</b>                  Scientific Instruments: S/C, COS, COS/FUV                  Special Requirements: ON HOLD ; PARALLEL  <i>Comments: This visit collects data at LP4. It uses the HV values appropriate for LP4 (173/175).</i>  <i>On Hold Comments: Only needed if HV changed during Cycle 32</i>  <i>HV Values will have to be updated before execution!</i></p>
<b>Diagnostics</b>	<p>(LP4 gain map - after HV increase (4C)) Warning (Orbit Planner): MAXIMUM DURATION EXCEEDED FOR INTERNAL OR EARTH CALIB VISIT</p>

Proposal 17853 - LP4 gain map - after HV increase (4C) - Cycle 32 COS FUV Characterization of Modal Gain When Changing High V...

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	G160M/160 0 Deuterium Exposure - Set up at LP1	DEUTERIUM	COS/FUV, TIME-TAG, FCA	G160M 1600 A	CURRENT=MEDIUM; BUFFER-TIME=196; FP-POS=4; SEGMENT=BOTH; LIFETIME-POS=LPI			125 Secs (125 Secs) [==>]	[1]
<p><i>Comments: Short exposure to set aperture to LP1, which is near the center of the aperture range used in this program. It also sets the HV to the LP1 values.</i></p>									
2	Adjust HV to LP4 values	DARK	S/C, DATA, NONE			SAA CONTOUR 31; SPEC COM INSTR ELHVADJPROP; QASISTATES COS FUV HVNOM HVNOM; QESIPARM ENDC TSA 173; QESIPARM ENDC TSB 175; QESIPARM SEGMENT AB		39 Secs (39 Secs) [==>]	[1]
<p><i>Comments: Adjust the HV to LP4 values.</i></p> <p><i>Since the HV is not increasing, exposure time = 39 seconds</i></p>									
3	Aperture Adjustment 1 for Segment A	NONE	COS, ALIGN/APER		XAPER=121			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><i>FCA LAPXSTP value at LP1 is -153</i></p> <p><i>Desired LAPXSTP value for FCA to illuminate Segment A with G130M/1309 at Position 1 for LP4 is -32</i></p> <p><i>Therefore, XAPER is set to -32 - -153 = +121</i></p>									
4	G130M/1309 Deuterium Exposure 1	DEUTERIUM	COS/FUV, TIME-TAG, FCA	G130M 1309 A	CURRENT=MEDIUM; BUFFER-TIME=165; FP-POS=1; SEGMENT=BOTH; LIFETIME-POS=LPI			440 Secs (440 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 2 for Segment A	NONE	COS, ALIGN/APER		XAPER=67	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><i>FCA LAPXSTP value at LP1 is -153</i></p> <p><i>Desired LAPXSTP value for FCA to illuminate Segment A with G130M/1309 at Position 2 for LP4 is -86</i></p> <p><i>Therefore, XAPER is set to -86 - -153 = +67. *HOWEVER*, because of the TRANS rules, the "QESIPARM XSTEPS -54" [(+67 - +121) = -54] Special Requirement is necessary to move the aperture to the correct location.</i></p>									

Proposal 17853 - LP4 gain map - after HV increase (4C) - Cycle 32 COS FUV Characterization of Modal Gain When Changing High V...

6	G130M/130 9 Deuterium Exposure 2	DEUTERIUM	COS/FUV, TIME-TAG, FCA	G130M 1309 A	CURRENT=MEDIUM; BUFFER-TIME=165; FP-POS=1; SEGMENT=BOTH; LIFETIME-POS=L PI	440 Secs (440 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>							
7	Aperture Adjustment 1 for Segment B	NONE	COS, ALIGN/APER		XAPER=112 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><i>FCA LAPXSTP value at LP1 is -153</i>  <i>Desired LAPXSTP value for FCA to illuminate Segment B with G160M/1600 at Position 1 for LP4 is -41</i></p> <p><i>Therefore, XAPER is set to -41 - -153 = +112. *HOWEVER*, because of the TRANS rules, the "QESIPARM XSTEPS 45" [(+112 - +67) = +45] Special Requirement is necessary to move the aperture to the correct location.</i></p>							
8	G160M/160 0 Deuterium Exposure 1	DEUTERIUM	COS/FUV, TIME-TAG, FCA	G160M 1600 A	CURRENT=MEDIUM; BUFFER-TIME=165; FP-POS=4; SEGMENT=BOTH; LIFETIME-POS=L PI	440 Secs (440 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>							
9	Aperture Adjustment 2 for Segment B	NONE	COS, ALIGN/APER		XAPER=58 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 B with G160M/1600.</i></p> <p><i>FCA LAPXSTP value at LP1 is -153</i>  <i>Desired LAPXSTP value for FCA to illuminate Segment B with G160M/1600 at Position 2 for LP4 is -95.</i></p> <p><i>Therefore, XAPER is set to -95 - -153 = +58. *HOWEVER*, because of the TRANS rules, the "QESIPARM XSTEPS -54" [(+58 - +112) = -54] Special Requirement is necessary to move the aperture to the correct location.</i></p>							
10	G160M/160 0 Deuterium Exposure 2	DEUTERIUM	COS/FUV, TIME-TAG, FCA	G160M 1600 A	CURRENT=MEDIUM; BUFFER-TIME=165; FP-POS=4; SEGMENT=BOTH; LIFETIME-POS=L PI	440 Secs (440 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>							
11	Return Aperture to Nominal Position	NONE	COS, ALIGN/APER		XAPER=0 QESIPARM XSTEP S -58	0 Secs (0 Secs) [==>]	[1]
<p><i>Comments: Return aperture to nominal position by setting XAPER=0</i></p> <p><i>*HOWEVER*, because of the TRANS rules, the "QESIPARM XSTEPS -58" [(0 - 58) = -58] Special Requirement is necessary to move the aperture to its correct location.</i></p>							



Proposal 17853 - LP5 gain map - before HV increase (5A) - Cycle 32 COS FUV Characterization of Modal Gain When Changing High ...

<b>Visit</b>	<p style="text-align: right;">Mon Feb 10 12:00:24 GMT 2025</p> <p><b>Proposal 17853, LP5 gain map - before HV increase (5A), implementation</b>  <b>Diagnostic Status: Warning</b>                  Scientific Instruments: S/C, COS, COS/FUV                  Special Requirements: ON HOLD ; PARALLEL  <i>Comments: This visit collects data at LP5. It uses the HV values appropriate for LP5 (173/175).</i>  <i>On Hold Comments: Only needed if HV changed during Cycle 32</i>  <i>HV Values will have to be updated before execution!</i></p>
<b>Diagnostics</b>	<p>(LP5 gain map - before HV increase (5A)) Warning (Orbit Planner): MAXIMUM DURATION EXCEEDED FOR INTERNAL OR EARTH CALIB VISIT</p>

Proposal 17853 - LP5 gain map - before HV increase (5A) - Cycle 32 COS FUV Characterization of Modal Gain When Changing High ...

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	G160M/1600 Deuterium Exposure - Set up at LP1	DEUTERIUM	COS/FUV, TIME-TAG, FCA	G160M 1600 A	CURRENT=MEDIUM; BUFFER-TIME=196; FP-POS=4; SEGMENT=BOTH; LIFETIME-POS=LPI			125 Secs (125 Secs) [==>]	[1]
<p><i>Comments: Short exposure to set aperture to LP1, which is near the center of the aperture range used in this program. It also sets the HV to the LP1 values.</i></p>									
2	Adjust HV to LP5 values	DARK	S/C, DATA, NONE			SAA CONTOUR 31; SPEC COM INSTR ELHVADJPROP; QASISTATES COS FUV HVNOM HVNOM; QESIPARM ENDC TSA 173; QESIPARM ENDC TSB 175; QESIPARM SEGMENT AB		39 Secs (39 Secs) [==>]	[1]
<p><i>Comments: Adjust the HV to LP5 values.</i></p> <p><i>Since the HV is not increasing, exposure time = 39 seconds</i></p>									
3	Aperture Adjustment 1 for Segment A	NONE	COS, ALIGN/APER		XAPER=-60			0.0 Secs (0 Secs) [==>]	[1]
<p><i>Comments: Put the aperture in the appropriate position to illuminate a portion of the LP5 region of the detector when illuminating Segment A with G130M/1309.</i></p> <p><i>FCA LAPXSTP value at LP1 is -153</i> <i>Desired LAPXSTP value for FCA to illuminate Segment A with G130M/1309 at Position 1 for LP5 is -213</i> <i>Therefore, XAPER is set to -213 - -153 = -60</i></p>									
4	G130M/1309 Deuterium Exposure 1	DEUTERIUM	COS/FUV, TIME-TAG, FCA	G130M 1309 A	CURRENT=MEDIUM; BUFFER-TIME=165; FP-POS=1; SEGMENT=BOTH; LIFETIME-POS=LPI			440 Secs (440 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 2 for Segment A	NONE	COS, ALIGN/APER		XAPER=-114	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 LP5 region of the detector when illuminating Segment A with G130M/1309.</i></p> <p><i>FCA LAPXSTP value at LP1 is -153</i> <i>Desired LAPXSTP value for FCA to illuminate Segment A with G130M/1309 at Position 2 for LP5 is -267</i> <i>Therefore, XAPER is set to -267 - -153 = -114. *HOWEVER*, because of the TRANS rules, the "QESIPARM XSTEPS -54" [(-114 - -60) = -54] Special Requirement is necessary to move the aperture to the correct location.</i></p>									

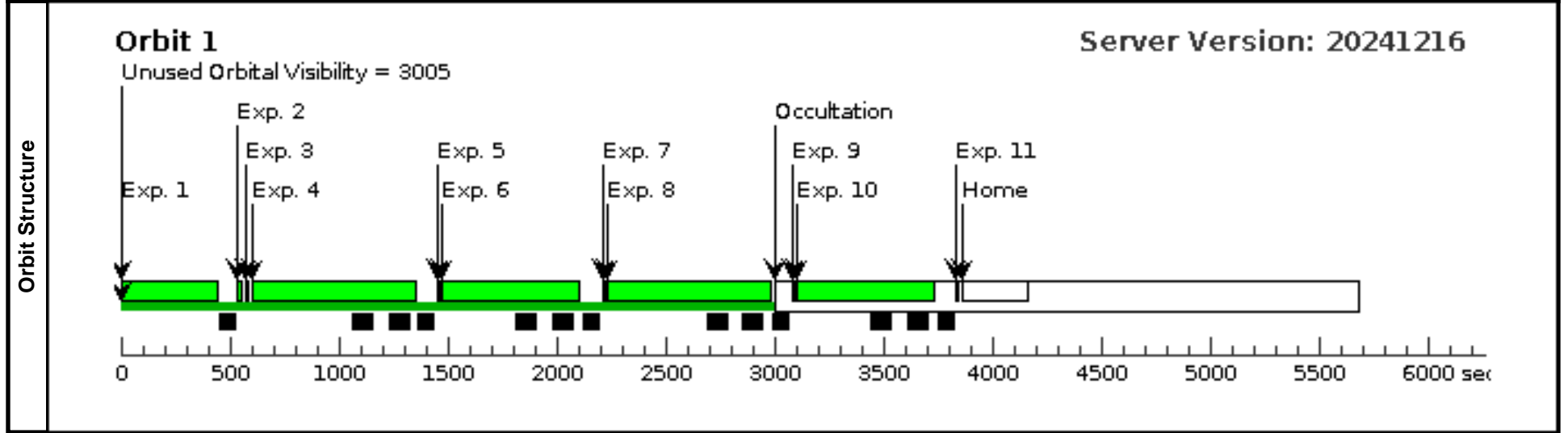
Proposal 17853 - LP5 gain map - before HV increase (5A) - Cycle 32 COS FUV Characterization of Modal Gain When Changing High ...

6	G130M/130 9 Deuterium Exposure 2	DEUTERIUM	COS/FUV, TIME-TAG, FCA	G130M 1309 A	CURRENT=MEDIUM; BUFFER-TIME=165; FP-POS=1; SEGMENT=BOTH; LIFETIME-POS=L PI	440 Secs (440 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>							
7	Aperture Adjustment 1 for Segment B	NONE	COS, ALIGN/APER		XAPER=-62 QESIPARM XSTEP S 52	0.0 Secs (0 Secs) [==>]	[1]
<p><i>Comments: Put the aperture in the appropriate position to illuminate a portion of the LP5 region of the detector when illuminating Segment B with G160M/1600.</i></p> <p><i>FCA LAPXSTP value at LP1 is -153</i>  <i>Desired LAPXSTP value for FCA to illuminate Segment B with G160M/1600 at Position 1 for LP5 is -215</i>  <i>Therefore, XAPER is set to -215 - -153 = -62. *HOWEVER*, because of the TRANS rules, the "QESIPARM XSTEPS 52" [(-62 - -114) = +52] Special Requirement is necessary to move the aperture to the correct location.</i></p>							
8	G160M/160 0 Deuterium Exposure 1	DEUTERIUM	COS/FUV, TIME-TAG, FCA	G160M 1600 A	CURRENT=MEDIUM; BUFFER-TIME=165; FP-POS=4; SEGMENT=BOTH; LIFETIME-POS=L PI	440 Secs (440 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>							
9	Aperture Adjustment 2 for Segment B	NONE	COS, ALIGN/APER		XAPER=-114 QESIPARM XSTEP S -52	0.0 Secs (0 Secs) [==>]	[1]
<p><i>Comments: Put the aperture in the appropriate position to illuminate a portion of the LP5 region of the detector when illuminating Segment B with G160M/1600.</i></p> <p><i>FCA LAPXSTP value at LP1 is -153</i>  <i>Desired LAPXSTP value for FCA to illuminate Segment B with G160M/1600 at Position 2 for LP5 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>  <i>Therefore, XAPER is set to -267 - -153 = -114. *HOWEVER*, because of the TRANS rules, the "QESIPARM XSTEPS -52" [(-114 - -62) = -52] Special Requirement is necessary to move the aperture to the correct location.</i></p>							
10	G160M/160 0 Deuterium Exposure 2	DEUTERIUM	COS/FUV, TIME-TAG, FCA	G160M 1600 A	CURRENT=MEDIUM; BUFFER-TIME=165; FP-POS=4; SEGMENT=BOTH; LIFETIME-POS=L PI	440 Secs (440 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>							

11	Return Aperture to Nominal Position	NONE	COS, ALIGN/APER	XAPER=0	QESIPARM XSTEP S 114	0 Secs (0 Secs)	
						[==>]	[!]

Comments: Return aperture to nominal position by setting XAPER=0

*\*HOWEVER\*, because of the TRANS rules, the "QESIPARM XSTEPS +114" [(0 - -114) = +114] Special Requirement is necessary to move the aperture to its correct location.*



Proposal 17853 - LP5 gain map - after HV increase (5C) - Cycle 32 COS FUV Characterization of Modal Gain When Changing High V...

<b>Visit</b>	<p style="text-align: right;">Mon Feb 10 12:00:24 GMT 2025</p> <p><b>Proposal 17853, LP5 gain map - after HV increase (5C), implementation</b>  <b>Diagnostic Status: Warning</b>                  Scientific Instruments: S/C, COS, COS/FUV                  Special Requirements: ON HOLD ; PARALLEL  <i>Comments: This visit collects data at LP5. It uses the HV values appropriate for LP5 (173/175).</i>  <i>On Hold Comments: Only needed if HV changed during Cycle 32</i>  <i>HV Values will have to be updated before execution!</i></p>
<b>Diagnostics</b>	<p>(LP5 gain map - after HV increase (5C)) Warning (Orbit Planner): MAXIMUM DURATION EXCEEDED FOR INTERNAL OR EARTH CALIB VISIT</p>

Proposal 17853 - LP5 gain map - after HV increase (5C) - Cycle 32 COS FUV Characterization of Modal Gain When Changing High V...

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	G160M/160 0 Deuterium Exposure - Set up at LP1	DEUTERIUM	COS/FUV, TIME-TAG, FCA	G160M 1600 A	CURRENT=MEDIUM; BUFFER-TIME=196; FP-POS=4; SEGMENT=BOTH; LIFETIME-POS=LPI			125 Secs (125 Secs) [==>]	[1]
<p><i>Comments: Short exposure to set aperture to LP1, which is near the center of the aperture range used in this program. It also sets the HV to the LP1 values.</i></p>									
2	Adjust HV to LP5 values	DARK	S/C, DATA, NONE			SAA CONTOUR 31; SPEC COM INSTR ELHVADJPROP; QASISTATES COS FUV HVNOM HVNOM; QESIPARM ENDC TSA 173; QESIPARM ENDC TSB 175; QESIPARM SEGMENT AB		39 Secs (39 Secs) [==>]	[1]
<p><i>Comments: Adjust the HV to LP5 values.</i></p> <p><i>Since the HV is not increasing, exposure time = 39 seconds</i></p>									
3	Aperture Adjustment 1 for Segment A	NONE	COS, ALIGN/APER		XAPER=-60			0.0 Secs (0 Secs) [==>]	[1]
<p><i>Comments: Put the aperture in the appropriate position to illuminate a portion of the LP5 region of the detector when illuminating Segment A with G130M/1309.</i></p> <p><i>FCA LAPXSTP value at LP1 is -153</i> <i>Desired LAPXSTP value for FCA to illuminate Segment A with G130M/1309 at Position 1 for LP5 is -213</i> <i>Therefore, XAPER is set to -213 - -153 = -60</i></p>									
4	G130M/130 9 Deuterium Exposure 1	DEUTERIUM	COS/FUV, TIME-TAG, FCA	G130M 1309 A	CURRENT=MEDIUM; BUFFER-TIME=165; FP-POS=1; SEGMENT=BOTH; LIFETIME-POS=LPI			440 Secs (440 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 2 for Segment A	NONE	COS, ALIGN/APER		XAPER=-114	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 LP5 region of the detector when illuminating Segment A with G130M/1309.</i></p> <p><i>FCA LAPXSTP value at LP1 is -153</i> <i>Desired LAPXSTP value for FCA to illuminate Segment A with G130M/1309 at Position 2 for LP5 is -267</i> <i>Therefore, XAPER is set to -267 - -153 = -114. *HOWEVER*, because of the TRANS rules, the "QESIPARM XSTEPS -54" [(-114 - -60) = -54] Special Requirement is necessary to move the aperture to the correct location.</i></p>									

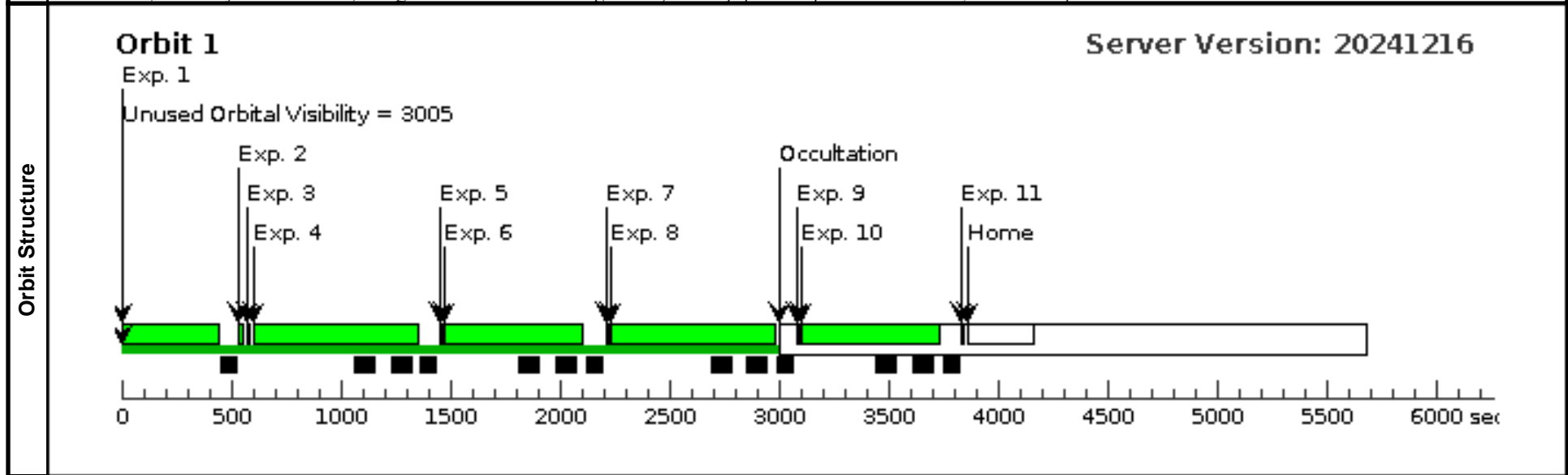
Proposal 17853 - LP5 gain map - after HV increase (5C) - Cycle 32 COS FUV Characterization of Modal Gain When Changing High V...

6	G130M/130 9 Deuterium Exposure 2	DEUTERIUM	COS/FUV, TIME-TAG, FCA	G130M 1309 A	CURRENT=MEDIUM; BUFFER-TIME=165; FP-POS=1; SEGMENT=BOTH; LIFETIME-POS=L PI	440 Secs (440 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>							
7	Aperture Adjustment 1 for Segment B	NONE	COS, ALIGN/APER		XAPER=-62 QESIPARM XSTEP S 52	0.0 Secs (0 Secs) [==>]	[1]
<p><i>Comments: Put the aperture in the appropriate position to illuminate a portion of the LP5 region of the detector when illuminating Segment B with G160M/1600.</i></p> <p><i>FCA LAPXSTP value at LP1 is -153</i>  <i>Desired LAPXSTP value for FCA to illuminate Segment B with G160M/1600 at Position 1 for LP5 is -215</i>  <i>Therefore, XAPER is set to -215 - -153 = -62. *HOWEVER*, because of the TRANS rules, the "QESIPARM XSTEPS 52" [(-62 - -114) = +52] Special Requirement is necessary to move the aperture to the correct location.</i></p>							
8	G160M/160 0 Deuterium Exposure 1	DEUTERIUM	COS/FUV, TIME-TAG, FCA	G160M 1600 A	CURRENT=MEDIUM; BUFFER-TIME=165; FP-POS=4; SEGMENT=BOTH; LIFETIME-POS=L PI	440 Secs (440 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>							
9	Aperture Adjustment 2 for Segment B	NONE	COS, ALIGN/APER		XAPER=-114 QESIPARM XSTEP S -52	0.0 Secs (0 Secs) [==>]	[1]
<p><i>Comments: Put the aperture in the appropriate position to illuminate a portion of the LP5 region of the detector when illuminating Segment B with G160M/1600.</i></p> <p><i>FCA LAPXSTP value at LP1 is -153</i>  <i>Desired LAPXSTP value for FCA to illuminate Segment B with G160M/1600 at Position 2 for LP5 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>  <i>Therefore, XAPER is set to -267 - -153 = -114. *HOWEVER*, because of the TRANS rules, the "QESIPARM XSTEPS -52" [(-114 - -62) = -52] Special Requirement is necessary to move the aperture to the correct location.</i></p>							
10	G160M/160 0 Deuterium Exposure 2	DEUTERIUM	COS/FUV, TIME-TAG, FCA	G160M 1600 A	CURRENT=MEDIUM; BUFFER-TIME=165; FP-POS=4; SEGMENT=BOTH; LIFETIME-POS=L PI	440 Secs (440 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>							

11	Return Aper ture to Nomi nal Position	NONE	COS, ALIGN/APER	XAPER=0	QESIPARM XSTEP S 114	0 Secs (0 Secs)	
						[==>]	[!]

Comments: Return aperture to nominal position by setting XAPER=0

*\*HOWEVER\*, because of the TRANS rules, the "QESIPARM XSTEPS +114" [(0 - -114) = +114] Special Requirement is necessary to move the aperture to its correct location.*



Proposal 17853 - LP6 gain map - before HV increase (6A) - Cycle 32 COS FUV Characterization of Modal Gain When Changing High ...

<b>Visit</b>	<p style="text-align: right;">Mon Feb 10 12:00:24 GMT 2025</p> <p><b>Proposal 17853, LP6 gain map - before HV increase (6A), implementation</b>  <b>Diagnostic Status: Warning</b>                  Scientific Instruments: S/C, COS, COS/FUV                  Special Requirements: ON HOLD ; PARALLEL  <i>Comments: This visit collects data at LP6. It uses the HV values appropriate for LP6 (173/175).</i>  <i>On Hold Comments: Only needed if HV changed during Cycle 32</i>  <i>HV Values will have to be updated before execution!</i></p>
<b>Diagnostics</b>	<p>(LP6 gain map - before HV increase (6A)) Warning (Orbit Planner): MAXIMUM DURATION EXCEEDED FOR INTERNAL OR EARTH CALIB VISIT</p>

Proposal 17853 - LP6 gain map - before HV increase (6A) - Cycle 32 COS FUV Characterization of Modal Gain When Changing High ...

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	G160M/1600 Deuterium Exposure - Set up at LP1	DEUTERIUM	COS/FUV, TIME-TAG, FCA	G160M 1600 A	CURRENT=MEDIUM; BUFFER-TIME=196; FP-POS=4; SEGMENT=BOTH; LIFETIME-POS=LPI			125 Secs (125 Secs) [==>]	[1]
<p><i>Comments: Short exposure to set aperture to LP1, which is near the center of the aperture range used in this program. It also sets the HV to the LP1 values.</i></p>									
2	Adjust HV to LP6 values	DARK	S/C, DATA, NONE			SAA CONTOUR 31; SPEC COM INSTR ELHVADJPROP; QASISTATES COS FUV HVNOM HVNOM; QESIPARM ENDC TSA 173; QESIPARM ENDC TSB 175; QESIPARM SEGMENT AB		39 Secs (39 Secs) [==>]	[1]
<p><i>Comments: Adjust the HV to LP6 values.</i></p> <p><i>Since the HV is not increasing, exposure time = 39 seconds</i></p>									
3	Aperture Adjustment 1 for Segment A	NONE	COS, ALIGN/APER		XAPER=-60			0.0 Secs (0 Secs) [==>]	[1]
<p><i>Comments: Put the aperture in the appropriate position to illuminate a portion of the LP6 region of the detector when illuminating Segment A with G130M/1309.</i></p> <p><i>FCA LAPXSTP value at LP1 is -153</i> <i>Desired LAPXSTP value for FCA to illuminate Segment A with G130M/1309 at Position 1 for LP6 is -213</i> <i>Therefore, XAPER is set to -213 - -153 = -60</i></p>									
4	G130M/1309 Deuterium Exposure 1	DEUTERIUM	COS/FUV, TIME-TAG, FCA	G130M 1309 A	CURRENT=MEDIUM; BUFFER-TIME=165; FP-POS=1; SEGMENT=BOTH; LIFETIME-POS=LPI			440 Secs (440 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 2 for Segment A	NONE	COS, ALIGN/APER		XAPER=-114	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 LP6 region of the detector when illuminating Segment A with G130M/1309.</i></p> <p><i>FCA LAPXSTP value at LP1 is -153</i> <i>Desired LAPXSTP value for FCA to illuminate Segment A with G130M/1309 at Position 2 for LP6 is -267</i> <i>Therefore, XAPER is set to -267 - -153 = -114. *HOWEVER*, because of the TRANS rules, the "QESIPARM XSTEPS -54" [(-114 - -60) = -54] Special Requirement is necessary to move the aperture to the correct location.</i></p>									

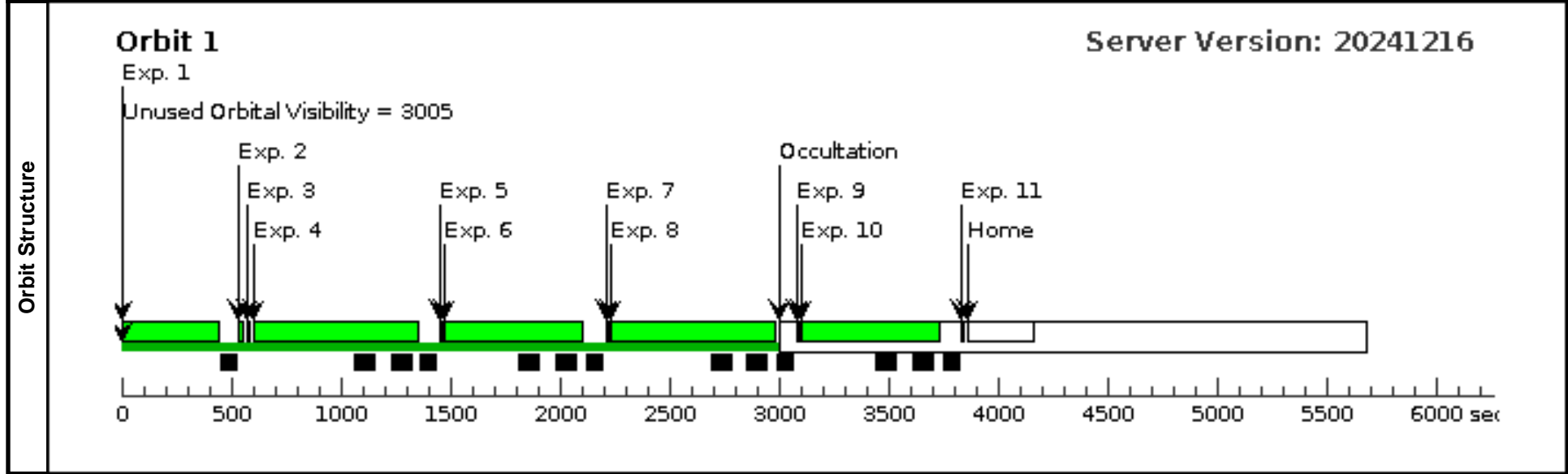
Proposal 17853 - LP6 gain map - before HV increase (6A) - Cycle 32 COS FUV Characterization of Modal Gain When Changing High ...

6	G130M/130 9 Deuterium Exposure 2	DEUTERIUM	COS/FUV, TIME-TAG, FCA	G130M 1309 A	CURRENT=MEDIUM; BUFFER-TIME=165; FP-POS=1; SEGMENT=BOTH; LIFETIME-POS=L PI	440 Secs (440 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>							
7	Aperture Adjustment 1 for Segment B	NONE	COS, ALIGN/APER		XAPER=-62 QESIPARM XSTEP S 52	0.0 Secs (0 Secs) [==>]	[1]
<p><i>Comments: Put the aperture in the appropriate position to illuminate a portion of the LP6 region of the detector when illuminating Segment B with G160M/1600.</i></p> <p><i>FCA LAPXSTP value at LP1 is -153</i>  <i>Desired LAPXSTP value for FCA to illuminate Segment B with G160M/1600 at Position 1 for LP6 is -215</i>  <i>Therefore, XAPER is set to -215 - -153 = -62. *HOWEVER*, because of the TRANS rules, the "QESIPARM XSTEPS 52" [(-62 - -114) = +52] Special Requirement is necessary to move the aperture to the correct location.</i></p>							
8	G160M/160 0 Deuterium Exposure 1	DEUTERIUM	COS/FUV, TIME-TAG, FCA	G160M 1600 A	CURRENT=MEDIUM; BUFFER-TIME=165; FP-POS=4; SEGMENT=BOTH; LIFETIME-POS=L PI	440 Secs (440 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>							
9	Aperture Adjustment 2 for Segment B	NONE	COS, ALIGN/APER		XAPER=-114 QESIPARM XSTEP S -52	0.0 Secs (0 Secs) [==>]	[1]
<p><i>Comments: Put the aperture in the appropriate position to illuminate a portion of the LP6 region of the detector when illuminating Segment B with G160M/1600.</i></p> <p><i>FCA LAPXSTP value at LP1 is -153</i>  <i>Desired LAPXSTP value for FCA to illuminate Segment B with G160M/1600 at Position 2 for LP6 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>  <i>Therefore, XAPER is set to -267 - -153 = -114. *HOWEVER*, because of the TRANS rules, the "QESIPARM XSTEPS -52" [(-114 - -62) = -52] Special Requirement is necessary to move the aperture to the correct location.</i></p>							
10	G160M/160 0 Deuterium Exposure 2	DEUTERIUM	COS/FUV, TIME-TAG, FCA	G160M 1600 A	CURRENT=MEDIUM; BUFFER-TIME=165; FP-POS=4; SEGMENT=BOTH; LIFETIME-POS=L PI	440 Secs (440 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>							

11	Return Aperture to Nominal Position	NONE	COS, ALIGN/APER	XAPER=0	QESIPARM XSTEP S 114	0 Secs (0 Secs)	
						[==>]	[!]

Comments: Return aperture to nominal position by setting XAPER=0

\*HOWEVER\*, because of the TRANS rules, the "QESIPARM XSTEPS +114" [(0 - -114) = +114] Special Requirement is necessary to move the aperture to its correct location.



Proposal 17853 - LP6 gain map - after HV increase (6C) - Cycle 32 COS FUV Characterization of Modal Gain When Changing High V...

<b>Visit</b>	<p style="text-align: right;">Mon Feb 10 12:00:24 GMT 2025</p> <p><b>Proposal 17853, LP6 gain map - after HV increase (6C), implementation</b>  <b>Diagnostic Status: Warning</b>                  Scientific Instruments: S/C, COS, COS/FUV                  Special Requirements: ON HOLD ; PARALLEL  <i>Comments: This visit collects data at LP6. It uses the HV values appropriate for LP6 (173/175).</i>  <i>On Hold Comments: Only needed if HV changed during Cycle 32</i>  <i>HV Values will have to be updated before execution!</i></p>
<b>Diagnostics</b>	<p>(LP6 gain map - after HV increase (6C)) Warning (Orbit Planner): MAXIMUM DURATION EXCEEDED FOR INTERNAL OR EARTH CALIB VISIT</p>

Proposal 17853 - LP6 gain map - after HV increase (6C) - Cycle 32 COS FUV Characterization of Modal Gain When Changing High V...

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	G160M/160 0 Deuterium Exposure - Set up at LP1	DEUTERIUM	COS/FUV, TIME-TAG, FCA	G160M 1600 A	CURRENT=MEDIUM; BUFFER-TIME=196; FP-POS=4; SEGMENT=BOTH; LIFETIME-POS=LPI			125 Secs (125 Secs) [==>]	[1]
<i>Comments: Short exposure to set aperture to LP1, which is near the center of the aperture range used in this program. It also sets the HV to the LP1 values.</i>									
2	Adjust HV to LP6 values	DARK	S/C, DATA, NONE			SAA CONTOUR 31; SPEC COM INSTR ELHVADJPROP; QASISTATES COS FUV HVNOM HVNOM; QESIPARM ENDC TSA 173; QESIPARM ENDC TSB 175; QESIPARM SEGMENT AB		39 Secs (39 Secs) [==>]	[1]
<i>Comments: Adjust the HV to LP6 values.</i>									
<i>Since the HV is not increasing, exposure time = 39 seconds</i>									
3	Aperture Adjustment 1 for Segment A	NONE	COS, ALIGN/APER		XAPER=-60			0.0 Secs (0 Secs) [==>]	[1]
<i>Comments: Put the aperture in the appropriate position to illuminate a portion of the LP6 region of the detector when illuminating Segment A with G130M/1309.</i>									
<i>FCA LAPXSTP value at LP1 is -153</i>									
<i>Desired LAPXSTP value for FCA to illuminate Segment A with G130M/1309 at Position 1 for LP6 is -213</i>									
<i>Therefore, XAPER is set to -213 - -153 = -60</i>									
4	G130M/130 9 Deuterium Exposure 1	DEUTERIUM	COS/FUV, TIME-TAG, FCA	G130M 1309 A	CURRENT=MEDIUM; BUFFER-TIME=165; FP-POS=1; SEGMENT=BOTH; LIFETIME-POS=LPI			440 Secs (440 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>									
5	Aperture Adjustment 2 for Segment A	NONE	COS, ALIGN/APER		XAPER=-114	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 LP6 region of the detector when illuminating Segment A with G130M/1309.</i>									
<i>FCA LAPXSTP value at LP1 is -153</i>									
<i>Desired LAPXSTP value for FCA to illuminate Segment A with G130M/1309 at Position 2 for LP6 is -267</i>									
<i>Therefore, XAPER is set to -267 - -153 = -114. *HOWEVER*, because of the TRANS rules, the "QESIPARM XSTEPS -54" [(-114 - -60) = -54] Special Requirement is necessary to move the aperture to the correct location.</i>									

Proposal 17853 - LP6 gain map - after HV increase (6C) - Cycle 32 COS FUV Characterization of Modal Gain When Changing High V...

6	G130M/130 9 Deuterium Exposure 2	DEUTERIUM	COS/FUV, TIME-TAG, FCA	G130M 1309 A	CURRENT=MEDIUM; BUFFER-TIME=165; FP-POS=1; SEGMENT=BOTH; LIFETIME-POS=L PI	440 Secs (440 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>							
7	Aperture Adjustment 1 for Segment B	NONE	COS, ALIGN/APER		XAPER=-62 QESIPARM XSTEP S 52	0.0 Secs (0 Secs) [==>]	[1]
<p><i>Comments: Put the aperture in the appropriate position to illuminate a portion of the LP6 region of the detector when illuminating Segment B with G160M/1600.</i></p> <p><i>FCA LAPXSTP value at LP1 is -153</i>  <i>Desired LAPXSTP value for FCA to illuminate Segment B with G160M/1600 at Position 1 for LP6 is -215</i>  <i>Therefore, XAPER is set to -215 - -153 = -62. *HOWEVER*, because of the TRANS rules, the "QESIPARM XSTEPS 52" [(-62 - -114) = +52] Special Requirement is necessary to move the aperture to the correct location.</i></p>							
8	G160M/160 0 Deuterium Exposure 1	DEUTERIUM	COS/FUV, TIME-TAG, FCA	G160M 1600 A	CURRENT=MEDIUM; BUFFER-TIME=165; FP-POS=4; SEGMENT=BOTH; LIFETIME-POS=L PI	440 Secs (440 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>							
9	Aperture Adjustment 2 for Segment B	NONE	COS, ALIGN/APER		XAPER=-114 QESIPARM XSTEP S -52	0.0 Secs (0 Secs) [==>]	[1]
<p><i>Comments: Put the aperture in the appropriate position to illuminate a portion of the LP6 region of the detector when illuminating Segment B with G160M/1600.</i></p> <p><i>FCA LAPXSTP value at LP1 is -153</i>  <i>Desired LAPXSTP value for FCA to illuminate Segment B with G160M/1600 at Position 2 for LP6 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>  <i>Therefore, XAPER is set to -267 - -153 = -114. *HOWEVER*, because of the TRANS rules, the "QESIPARM XSTEPS -52" [(-114 - -62) = -52] Special Requirement is necessary to move the aperture to the correct location.</i></p>							
10	G160M/160 0 Deuterium Exposure 2	DEUTERIUM	COS/FUV, TIME-TAG, FCA	G160M 1600 A	CURRENT=MEDIUM; BUFFER-TIME=165; FP-POS=4; SEGMENT=BOTH; LIFETIME-POS=L PI	440 Secs (440 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>							

11	Return Aper ture to Nomi nal Position	NONE	COS, ALIGN/APER	XAPER=0	QESIPARM XSTEP S 114	0 Secs (0 Secs)	
						[==>]	[!]

Comments: Return aperture to nominal position by setting XAPER=0

\*HOWEVER\*, because of the TRANS rules, the "QESIPARM XSTEPS +114" [(0 - -114) = +114] Special Requirement is necessary to move the aperture to its correct location.

