

17248 - Cycle 30 COS FUV Detector Gain Maps

Cycle: 30, Proposal Category: CAL/COS (Availability Mode: RESTRICTED)

INVESTIGATORS

Name	Institution
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VISITS

Visit	Targets used in Visit	Configurations used in Visit	Orbits Used	Last Orbit Planner Run	OP Current with Visit?
2A	DARK DEUTERIUM NONE	COS COS/FUV S/C	1	07-Sep-2023 07:00:29.0	yes
2C	DARK DEUTERIUM NONE	COS COS/FUV S/C	1	07-Sep-2023 07:00:31.0	yes
3A	DARK DEUTERIUM NONE	COS COS/FUV S/C	1	07-Sep-2023 07:00:32.0	yes
3C	DARK DEUTERIUM NONE	COS COS/FUV S/C	1	07-Sep-2023 07:00:33.0	yes

Proposal 17248 (STScI Edit Number: 0, Created: Thursday, September 7, 2023 at 6:00:39 AM Eastern Standard Time) - Overview

Visit	Targets used in Visit	Configurations used in Visit	Orbits Used	Last Orbit Planner Run	OP Current with Visit?
4A	DARK DEUTERIUM NONE	COS COS/FUV S/C	1	07-Sep-2023 07:00:34.0	yes
4C	DARK DEUTERIUM NONE	COS COS/FUV S/C	1	07-Sep-2023 07:00:35.0	yes
5A	DARK DEUTERIUM NONE	COS COS/FUV S/C	1	07-Sep-2023 07:00:36.0	yes
5C	DARK DEUTERIUM NONE	COS COS/FUV S/C	1	07-Sep-2023 07:00:38.0	yes

⁸ Total Orbits Used

ABSTRACT

This program uses the deuterium lamp to illuminate the regions of the detector being used to collect spectra during Cycle 30. 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 at ~6 month intervals for modes where the voltage is unchanged. 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.

Proposal 17248 (STScI Edit Number: 0, Created: Thursday, September 7, 2023 at 6:00:39 AM Eastern Standard Time) - Overview Gain maps should be taken at ~6 month and ~1 year intervals when the default HV does not change. They should be obtained at the appropriate HV levels and detector Lifetime Positions.

The plan for Cycle 30 includes 8 one-orbit visits:

*Visits 2A and 2C will be taken at LP2 after about 6 months and 1 year from the gain map taken at this position near the end of Cycle 29 at the nominal LP2 HV values (currently 173/175).

*Visits 3A and 3C will be taken at LP3 after about 6 months and 1 year from the gain map taken at this position near the end of Cycle 29 at the nominal LP3 HV values (currently 173/175).

*Visits 4A and 4C will be taken at LP4 after about 6 months and 1 year from the gain map taken at this position near the end of Cycle 29 at the nominal LP4 HV values (173/175).

*Visits 5A and 5C will be taken at LP5 after about 6 months and 1 year from the gain map taken at this position near the end of Cycle 29 at the nominal LP5 HV values (167/169).

Note that if the HV changes during Cycle 30, the values specified in this proposal will have to be adjusted.

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, and 5C.
- * 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

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G130M/1309.

* 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 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

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

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Proposal 17248 (STScI Edit Number: 0, Created: Thursday, September 7, 2023 at 6:00:39 AM Eastern Standard Time) - Overview HARD STOPS = -284 to 283

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	167/169
5A/5C	5	G130M/A	2	-267*	-114	167/169

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5A/5C	5	G160M/B	1	-215	-62	167/169
5A/5C	5	G160M/B	2	-267*	-114	167/169

The LP2 and LP5 aperture positions are identical, but the Y extent of the spectra on the detector is large enough to cover the detector region used for both LPs. The LP6 positions are also the same, and since the LP5 and LP6 HV values are identical, no separate LP6 visits have been created.

The LAPXSTP and XAPER positions for G160M Y Position 1 have been changed by 10 steps from the values in Cycle 29. This will ensure more complete coverage on the detector.

^{*} Limited to be within the soft stops

<u>P</u>	oposal 17248 - ~6 months after last Cycle 29 LP2 gain map (2A) - Cycle 30 COS FUV Detector Gain Maps					
Г	Proposal 17248, ~6 months after last Cycle 29 LP2 gain map (2A), completed	Thu Sep 07 11:00:39 GMT 2023				
١,	Diagnostic Status: Warning					
	Scientific Instruments: S/C, COS, COS/FUV					
Special Requirements: BETWEEN 01-APR-2023:00:00:00 AND 01-MAY-2023:00:00:00; PARALLEL						
L	Comments: This visit collects data at LP2. It uses the HV values appropriate for LP2 (173/175).					
13	(~6 months after last Cycle 29 LP2 gain map (2A)) Warning (Orbit Planner): MAXIMUM DURATION EXCEEDED FOR INTERNAL OR EARTH CALIB SU					
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Proposal 17248 - ~6 months after last Cycle 29 LP2 gain map (2A) - Cycle 30 COS FUV Detector Gain Maps

9 E	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
E		DEUTERIUM	COS/FUV, TIME-TAG, FCA	G130M	CURRENT=MEDIU			125 Secs (125 Secs)	
-	Deuterium Exposure - S			1309 A	M;			[==>]	
C	et up at LP1				BUFFER-TIME=19 6;				
					FP-POS=1;				
					SEGMENT=BOTH;				[1]
					LIFETIME-POS=L				
					P1				
<i>Comm</i>	ents: Short e	xposure to set apert	ture to LP1, which is near the center o	f the aperture range	used in this program. It a	lso sets the HV to the	LP1 values.		
	Adjust HV t	DARK	S/C, DATA, NONE			SAA CONTOUR 3	1;	39 Secs (39 Secs)	
o s	DEP2 value					SPEC COM INSTR ELHVADJPROP;		[==>]	
						OASISTATES COS	•		
						FUV HVNOM HV			
						OM; QESIPARM ENDC			[1]
						TSA 173;			
						QESIPARM ENDC TSB 175;			
						QESIPARM SEGM ENT AB			
Comm	ante Adiust	the HV to the LP2 v	alues			LIVI AD			
	,								
			re time = 39 seconds						
	Aperture Ad ustment 1 f	NONE	COS, ALIGN/APER		XAPER=-60			0.0 Secs (0 Secs)	
Ö	or Segment							[==>]	[1]
		anerture in the ann	propriate position to illuminate a porti	on of the LP2 region	of the detector when illus	minatina Seament A v	vith G130M/1309		
			repriene position to intiminate a porti	on of the 21 2 region	of the detector when the	manng segment 11 /	, G100.11, 100).		
		ue at LP1 is -153 value for FCA to ill	uminate Segment A with G130M/1309	at Position 1 for LP	2 is -213				
			v	,					
	-	is set to -213153 DEUTERIUM	= -00 COS/FUV, TIME-TAG, FCA	G130M	CURRENT=MEDIU			440 Secs (440 Secs)	1
9	9 Deuterium	DEUTERIUM	COS/FUV, TIME-TAG, FCA		M;			` ′	
F	Exposure 1			1309 A	BUFFER-TIME=16			[==>]	
					5;				
					FP-POS=1;				[1]
					SEGMENT=BOTH;				
					LIFETIME-POS=L				
					P1				
	_				ous observations show the	at it has slightly more	counts than the other	r FP-POS values.	
			ized for Segment A. FP-POS=1 was a	hosen because previ					
5 A	Aperture Ad		ized for Segment A. FP-POS=1 was a COS, ALIGN/APER	hosen because previ	XAPER=-114	QESIPARM XSTER	2	0.0 Secs (0 Secs)	
5 A ji	Aperture Ad ustment 2 f or Segment		<u> </u>	hosen because previ		QESIPARM XSTER S -54)	0.0 Secs (0 Secs) I = > J	[1]
5 A jı o	Aperture Ad ustment 2 f or Segment A	NONE	COS, ALIGN/APER	·	XAPER=-114	S -54			[1]
5 A ji 0 A Comm	Aperture Ad ustment 2 f or Segment A	NONE aperture in the app	<u> </u>	·	XAPER=-114	S -54			[1]
5 A ji 0 A Comm	Aperture Ad ustment 2 f or Segment A eents: Put the	NONE aperture in the app ue at LP1 is -153	COS, ALIGN/APER propriate position to illuminate a porti	on of the LP2 region	XAPER=-114 of the detector when illur	S -54			[1]
5 A ji 0 A Comm	Aperture Ad ustment 2 f or Segment A eents: Put the	NONE aperture in the app ue at LP1 is -153	COS, ALIGN/APER	on of the LP2 region	XAPER=-114 of the detector when illur	S -54			[1]

6 G130M/130 DEUTERIUM	ns after last Cycle 29 LF COS/FUV. TIME-TAG. FCA	G130M	CURRENT=MEDIU	COOT OV Detector C	•	
9 Deuterium	COS/FUV, TIME-TAG, FCA		M;		440 Secs (440 Secs)	
Exposure 2		1309 A	BUFFER-TIME=16 5;		[==>]	
			FP-POS=1;			[1]
			SEGMENT=BOTH;			[1]
			LIFETIME-POS=L			
Comments: Deuterium exposure optin	nized for Segment A. FP-POS=1 was c	chosen hecause pr	P1 evious observations show tha	t it has slightly more counts than i	the other FP-POS values	
7 Aperture Ad NONE	COS, ALIGN/APER	mosen occurse pro		QESIPARM XSTEP	0.0 Secs (0 Secs)	
justment 1 f or Segment B				S 52	[==>]	[1]
Comments: Put the aperture in the ap	ppropriate position to illuminate a porti	on of the LP2 regi	ion of the detector when illum	ninating Segment B with G160M/1	600.	
FCA LAPXSTP value at LP1 is -153 Desired LAPXSTP value for FCA to i.	illuminate Segment B with G160M/1600	at Position 1 for	LP2 is -215			
v		v		-62114) = +52] Special Requir	rement is necessary to move the aperture	to the correct locat
8 G160M/160 DEUTERIUM	COS/FUV, TIME-TAG, FCA	G160M	CURRENT=MEDIU		440 Secs (440 Secs)	
0 Deuterium Exposure 1		1600 A	M;		[==>]	
Exposure 1			BUFFER-TIME=16 5;			
			FP-POS=4;			[1]
			SEGMENT=BOTH;			[1]
			LIFETIME-POS=L			
Comments: Deuterium exposure optin	nmized for Segment B. FP-POS=4 was	chosen because p	P1 revious observations show th	at it has slightly more counts than	the other FP-POS values.	
9 Aperture Ad NONE	COS, ALIGN/APER	•	XAPER=-114	QESIPARM XSTEP	0.0 Secs (0 Secs)	
justment 2 f or Segment B				S -52	[==>]	[1]
Comments: Put the aperture in the ap	ppropriate position to illuminate a porti	on of the LP2 regi	ion of the detector when illum	ninating Segment B with G160M/1	600.	
FCA LAPXSTP value at LP1 is -153 Desired LAPXSTP value for FCA to i	lluminate Segment B with G160M/1600	at Position 2 for	LP2 is -280, but the aperture	soft stop is at -275 and we don't v	vant to exceed that value when including	the 5 step oversho
ot. To leave some pad, I will set it to n	natch the G130M exposure (-267).					
Therefore, XAPER is set to -26715. ation.	3 = -114. *HOWEVER*, because of the	e TRANS rules, the	e "QESIPARM XSTEPS -52"	[(-11462) = -52] Special Requ	irement is necessary to move the aperture	e to the correct loc
10 G160M/160 DEUTERIUM	COS/FUV, TIME-TAG, FCA	G160M	CURRENT=MEDIU		440 Secs (440 Secs)	
0 Deuterium Exposure 2		1600 A	M;		I==>J	
r			BUFFER-TIME=16 5;			
			FP-POS=4;			[1]
			SEGMENT=BOTH;			[[
			LIFETIME-POS=L P1			
Comments: Deuterium exposure optin	nmized for Segment B. FP-POS=4 was	chosen because p	revious observations show th	at it has slightly more counts than	the other FP-POS values.	•
	v	•				

Proposal 17248 - ~6 months after last Cycle 29 LP2 gain map (2A) - Cycle 30 COS FUV Detector Gain Maps QESIPARM XSTEP COS, ALIGN/APER Return Aper NONE XAPER=0 0 Secs (0 Secs) ture to Nomi nal Position S 114 [==>] [1] 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. Orbit 1 Server Version: 20230626 Unused Orbital Visibility = 3136 Exp. 2 Exp. 9 Ехр. 3 Exp. 10 Orbit Structure Exp. 7 Exp. 11 Exp. 5 Exp. 4 Exp. 6 Exp. 8 Occultation Home Exp. 1 500 5500 0 1000 1500 2000 2500 3000 3500 4000 4500 5000 6000 sec

<u>Pr</u>	oposal 17248 - ~12 months after last Cycle 29 LP2 gain map (2C) - Cycle 30 COS FUV Detector Gain Maps	
	Proposal 17248, ~12 months after last Cycle 29 LP2 gain map (2C), scheduling	Thu Sep 07 11:00:39 GMT 2023
±	Diagnostic Status: Warning	
/is	Scientific Instruments: S/C, COS, COS/FUV	
1	Special Requirements: BETWEEN 01-OCT-2023:00:00:00 AND 01-NOV-2023:00:00:00; PARALLEL	
L	Comments: This visit collects data at LP2. It uses the HV values appropriate for LP2 (173/175).	
၂ ဗ	(~12 months after last Cycle 29 LP2 gain map (2C)) Warning (Orbit Planner): MAXIMUM DURATION EXCEEDED FOR INTERNAL OR EARTH CALIB SU	
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Proposal 17248 - ~12 months after last Cycle 29 LP2 gain map (2C) - Cycle 30 COS FUV Detector Gain Maps

# Label Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Regs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1 G130M/130 DEUTERIUM	COS/FUV, TIME-TAG, FCA	G130M	CURRENT=MEDIU			125 Secs (125 Secs)	
9 Deuterium Exposure - S		1309 A	M;			[==>]	
et up at LP1			BUFFER-TIME=19 6;				
			FP-POS=1;				[11
			SEGMENT=BOTH;				[1]
			LIFETIME-POS=L				
			P1				
Comments: Short exposure to set ape	erture to LP1, which is near the center o	of the aperture range	used in this program. It a	lso sets the HV to the	LP1 values.		
2 Adjust HV t DARK	S/C, DATA, NONE			SAA CONTOUR 3	1;	39 Secs (39 Secs)	
o LP2 value s				SPEC COM INSTR ELHVADJPROP;		[==>]	
				QASISTATES COS FUV HVNOM HVI			
				OM; QESIPARM ENDC TSA 173;			[1]
				QESIPARM ENDO			
				QESIPARM SEGM ENT AB	I		
Comments: Adjust the HV to the LP2	values.			EIVITIB			
Since the HV is not increasing, expos	sure time = 39 seconds						
3 Aperture Ad NONE	COS, ALIGN/APER		XAPER=-60			0.0 Secs (0 Secs)	
justment 1 f or Segment A						[==>]	[1]
Comments: Put the aperture in the a	opropriate position to illuminate a port	ion of the LP2 region	of the detector when illur	ninating Segment A v	vith G130M/1309.		•
FCA LAPXSTP value at LP1 is -153							
Desired LAPXSTP value for FCA to	illuminate Segment A with G130M/1309	9 at Position 1 for LF	22 is -213				
Therefore, XAPER is set to -21313	53 = -60						
4 G130M/130 DEUTERIUM	COS/FUV, TIME-TAG, FCA	G130M	CURRENT=MEDIU			440 Secs (440 Secs)	
9 Deuterium Exposure 1		1309 A	M;			[==>]	
Emposure 1			BUFFER-TIME=16 5;				
			FP-POS=1;				[11
			SEGMENT=BOTH;				[1]
			LIFETIME-POS=L				
			P1				
Comments: Deuterium exposure opti	mized for Segment A. FP-POS=1 was	chosen because previ	ous observations show the	at it has slightly more	counts than the ot	her FP-POS values.	
5 Aperture Ad NONE	COS, ALIGN/APER		XAPER=-114	QESIPARM XSTE	P	0.0 Secs (0 Secs)	
justment 2 f or Segment A				S -54		[==>]	[1]
	opropriate position to illuminate a port	ion of the LP2 region	of the detector when illur	ninating Segment A v	vith G130M/1309.		-
FCA LAPXSTP value at LP1 is -153	illuminate Segment A with G130M/1309	•	·	0 10 11 11			
v		•					
Therefore, XAPER is set to -26713 ation.	53 = -114. *HOWEVER*, because of th	e TRANS rules, the "	QESIPARM XSTEPS -54'	" [(-11460) = -54]	Special Requireme	ent is necessary to move the aperture to the	correct
			12				

6 G130M/130 DEUTERIUM	os/fuv. time-tag. fca	G130M	CURRENT=MEDIU	23.2.200000	440 Secs (440 Secs)	
9 Deuterium	COS/TOV, TIME-TAG, FCA	1309 A	M;		[==>]	
Exposure 2		1307 A	BUFFER-TIME=16 5;		[>]	
			FP-POS=1;			[1]
			SEGMENT=BOTH;			[1]
			LIFETIME-POS=L			
Comments: Deuterium exposure onti	mized for Segment A. FP-POS=1 was a	chosen hecause pr	P1 evious observations show that it b	has slightly more counts than	the other FP-POS values	
7 Aperture Ad NONE	COS, ALIGN/APER	mosen occurse pro		SIPARM XSTEP	0.0 Secs (0 Secs)	
justment 1 f or Segment B			S 52	2	[==>]	[1]
Comments: Put the aperture in the ap	ppropriate position to illuminate a porti	on of the LP2 regi	on of the detector when illuminat	ting Segment B with G160M/1	600.	
FCA LAPXSTP value at LP1 is -153						
Desired LAPXSTP value for FCA to i	illuminate Segment B with G160M/1600	at Position 1 for	LP2 is -215			
Therefore, XAPER is set to -21515 ion.	53 = -62. *HOWEVER*, because of the	TRANS rules, the	"QESIPARM XSTEPS 52" [(-62	114) = +52] Special Requi	rement is necessary to move the aperture	to the correct locat
8 G160M/160 DEUTERIUM	COS/FUV, TIME-TAG, FCA	G160M	CURRENT=MEDIU		440 Secs (440 Secs)	
0 Deuterium Exposure 1		1600 A	M;		I = => J	
			BUFFER-TIME=16 5;			
			FP-POS=4;			[1]
			SEGMENT=BOTH;			1-7
			LIFETIME-POS=L P1			
Comments: Deuterium exposure opti	mmized for Segment B. FP-POS=4 was	chosen because p		has slightly more counts than	the other FP-POS values.	
9 Aperture Ad NONE	COS, ALIGN/APER	•	XAPER=-114 QES	SIPARM XSTEP	0.0 Secs (0 Secs)	
justment 2 f or Segment B			S -5	2	[==>]	[1]
Comments: Put the aperture in the ap	ppropriate position to illuminate a porti	on of the LP2 regi	on of the detector when illuminat	ting Segment B with G160M/1	600.	
FCA LAPXSTP value at LP1 is -153			·			
Desired LAPXSTP value for FCA to t	illuminate Segment B with G160M/1600	at Position 2 for	LP2 is -280, but the aperture soft	t stop is at -275 and we don't	want to exceed that value when including	the 5 step oversho
ot. To leave some pad, I will set it to	•					
Therefore, XAPER is set to -26715 ation.	53 = -114. *HOWEVER*, because of th	e TRANS rules, the	e "QESIPARM XSTEPS -52" [(-1	1462) = -52] Special Requ	irement is necessary to move the aperture	to the correct loc
10 G160M/160 DEUTERIUM	COS/FUV, TIME-TAG, FCA	G160M	CURRENT=MEDIU		440 Secs (440 Secs)	
0 Deuterium Exposure 2		1600 A	M;		I = = > J	
			BUFFER-TIME=16 5;			
			FP-POS=4;			[1]
			SEGMENT=BOTH;			[1]
			LIFETIME-POS=L P1			
Comments: Deuterium exposure optiv	mmized for Segment B. FP-POS=4 was	chosen because p	revious observations show that it	has slightly more counts than	the other FP-POS values.	•

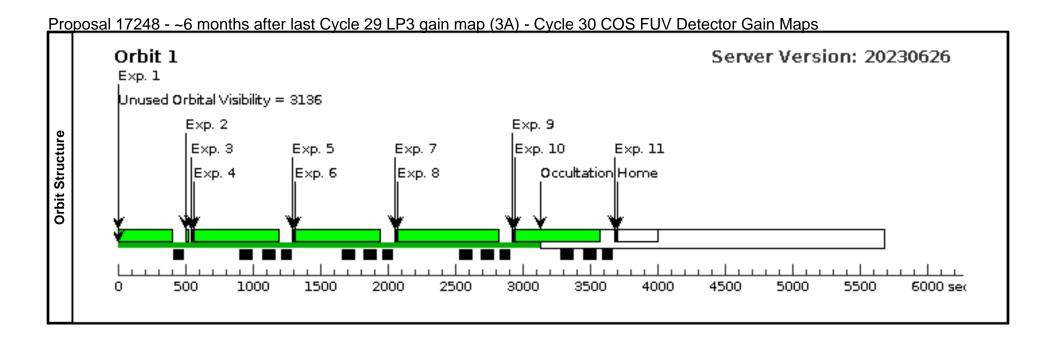
Proposal 17248 - ~12 months after last Cycle 29 LP2 gain map (2C) - Cycle 30 COS FUV Detector Gain Maps Return Aper NONE QESIPARM XSTEP COS, ALIGN/APER XAPER=0 0 Secs (0 Secs) ture to Nomi nal Position S 114 [==>] [1] Comments: Return aperture to nominal position by setting XAPER=0 *HOWEVER*, because of the TRANS rules, the "QESIPARM XSTEPS +114" [(0 - -114) = +114] Special Requirement is necessary to move the aperture to its correct location. Orbit 1 Server Version: 20230626 Exp. 1 Unused Orbital Visibility = 3136 Exp. 2 Exp. 9 **Orbit Structure** Exp. 3 Exp. 10 Exp. 11 Exp. 5 Exp. 7 Exp. 4 Exp. 6 Exp. 8 Occultation Home 500 1000 1500 2500 3000 3500 4000 4500 5000 5500 6000 sec 0 2000

<u>Pr</u>	oposal 17248 - ~6 months after last Cycle 29 LP3 gain map (3A) - Cycle 30 COS FUV Detector Gain Maps	
	Proposal 17248, ~6 months after last Cycle 29 LP3 gain map (3A), completed	Thu Sep 07 11:00:39 GMT 2023
±	Diagnostic Status: Warning	
/is	Scientific Instruments: S/C, COS, COS/FUV	
-	Special Requirements: BETWEEN 01-APR-2023:00:00:00 AND 01-MAY-2023:00:00:00; PARALLEL	
<u> </u>	Comments: This visit collects data at LP3. It uses the HV values appropriate for LP3 (173/175).	
S	(~6 months after last Cycle 29 LP3 gain map (3A)) Warning (Orbit Planner): MAXIMUM DURATION EXCEEDED FOR INTERNAL OR EARTH CALIB SU	
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Proposal 17248 - ~6 months after last Cycle 29 LP3 gain map (3A) - Cycle 30 COS FUV Detector Gain Maps

1	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	DEUTERIUM	COS/FUV, TIME-TAG, FCA	G130M	CURRENT=MEDIU			125 Secs (125 Secs)	
9 Deuterium Exposure - S			1309 A	M;			I = = > J	
et up at LP1				BUFFER-TIME=19 6;				
				FP-POS=1;				
				SEGMENT=BOTH;				[1]
				LIFETIME-POS=L				
				P1				
Comments: Short e	exposure to set apert	ture to LP1, which is near the center o	f the aperture range	used in this program. It a	lso sets the HV to the	LP1 values.		•
2 Adjust HV t	DARK	S/C, DATA, NONE			SAA CONTOUR 3	l;	39 Secs (39 Secs)	
o LP3 value					SPEC COM INSTR		f==>1	
S					ELHVADJPROP;			
					QASISTATES COS			
					FUV HVNOM HVI OM;	N .		
					QESIPARM ENDC			[1]
					TSA 173;			' '
					QESIPARM ENDC			
					TSB 175;			
					QESIPARM SEGM ENT AB			
Comments: Adjust	the HV to LP3 value	25						_ I
Since the HV is not		re time = 39 seconds		WARER 01			0.00	
Since the HV is not 3 Aperture Ad justment 1 f or Segment A	NONE	COS, ALIGN/APER		XAPER=81			0.0 Secs (0 Secs)	
or Segment							[==>]	[1]
Comments: Put the	aperture in the app	propriate position to illuminate a portion	on of the LP3 region	of the detector when illur	ninating Segment A v	nth G130M/1309.		
FCA LAPXSTP val								
Desirea LAPXSIP	value for FCA to till	iiminate seoment a with i tisliwi/i siic	D: (: 1 C 1 D	2:- 72				
Thoughow VADED	is set to -72153 =	mmme beginen 11 with G150M/1505	at Position 1 for LP	3 is -72				
1 nerejore, XAPER	15 501 10 72 100	Ÿ	at Position 1 for LP	3 is -72				,
4 G130M/130	DEUTERIUM	Ÿ	at Position 1 for LP G130M	CURRENT=MEDIU			440 Secs (440 Secs)	
4 G130M/130 9 Deuterium	DEUTERIUM	= +81		CURRENT=MEDIU M;			440 Secs (440 Secs) [==>]	
4 G130M/130	DEUTERIUM	= +81	G130M	CURRENT=MEDIU M; BUFFER-TIME=16			` ´	
4 G130M/130 9 Deuterium	DEUTERIUM	= +81	G130M	CURRENT=MEDIU M; BUFFER-TIME=16 5;			` ´	
4 G130M/130 9 Deuterium	DEUTERIUM	= +81	G130M	CURRENT=MEDIU M; BUFFER-TIME=16 5; FP-POS=1;			` ´	[1]
4 G130M/130 9 Deuterium	DEUTERIUM	= +81	G130M	CURRENT=MEDIU M; BUFFER-TIME=16 5; FP-POS=1; SEGMENT=BOTH;			` ´	[1]
4 G130M/130 9 Deuterium	DEUTERIUM	= +81	G130M	CURRENT=MEDIU M; BUFFER-TIME=16 5; FP-POS=1;			` ´	[1]
4 G130M/130 9 Deuterium Exposure 1	DEUTERIUM	= +81	G130M 1309 A	CURRENT=MEDIU M; BUFFER-TIME=16 5; FP-POS=1; SEGMENT=BOTH; LIFETIME-POS=L P1	at it has slightly more	counts than the othe	[==>]	[1]
4 G130M/130 9 Deuterium Exposure 1	DEUTERIUM	= +81 COS/FUV, TIME-TAG, FCA ized for Segment A. FP-POS=1 was c	G130M 1309 A	CURRENT=MEDIU M; BUFFER-TIME=16 5; FP-POS=1; SEGMENT=BOTH; LIFETIME-POS=L P1	at it has slightly more QESIPARM XSTEI		[==>]	[1]
4 G130M/130 9 Deuterium Exposure 1 Comments: Deuter 5 Aperture Ad justment 2 f	DEUTERIUM	= +81 COS/FUV, TIME-TAG, FCA	G130M 1309 A	CURRENT=MEDIU M; BUFFER-TIME=16 5; FP-POS=1; SEGMENT=BOTH; LIFETIME-POS=L P1			[==>] er FP-POS values.	
4 G130M/130 9 Deuterium Exposure 1 Comments: Deuterion 5 Aperture Ad	DEUTERIUM	= +81 COS/FUV, TIME-TAG, FCA ized for Segment A. FP-POS=1 was c	G130M 1309 A	CURRENT=MEDIU M; BUFFER-TIME=16 5; FP-POS=1; SEGMENT=BOTH; LIFETIME-POS=L P1	QESIPARM XSTE		[==>] er FP-POS values. 0.0 Secs (0 Secs)	[1]
4 G130M/130 9 Deuterium Exposure 1 Comments: Deuter 5 Aperture Ad justment 2 f or Segment A	DEUTERIUM ium exposure optimi NONE	= +81 COS/FUV, TIME-TAG, FCA ized for Segment A. FP-POS=1 was c COS, ALIGN/APER	G130M 1309 A hosen because previo	CURRENT=MEDIU M; BUFFER-TIME=16 5; FP-POS=1; SEGMENT=BOTH; LIFETIME-POS=L P1 Dus observations show the XAPER=25	QESIPARM XSTE S -56)	[==>] er FP-POS values. 0.0 Secs (0 Secs)	
4 G130M/130 9 Deuterium Exposure 1 Comments: Deuter 5 Aperture Ad justment 2 f or Segment A Comments: Put the	neuterium exposure optimi NONE	= +81 COS/FUV, TIME-TAG, FCA ized for Segment A. FP-POS=1 was c	G130M 1309 A hosen because previo	CURRENT=MEDIU M; BUFFER-TIME=16 5; FP-POS=1; SEGMENT=BOTH; LIFETIME-POS=L P1 Dus observations show the XAPER=25	QESIPARM XSTE S -56)	[==>] er FP-POS values. 0.0 Secs (0 Secs)	
4 G130M/130 9 Deuterium Exposure 1 Comments: Deuter 5 Aperture Ad justment 2 f or Segment A Comments: Put the FCA LAPXSTP val	ium exposure optimi NONE e aperture in the appa	= +81 COS/FUV, TIME-TAG, FCA ized for Segment A. FP-POS=1 was c COS, ALIGN/APER propriate position to illuminate a portion	G130M 1309 A hosen because previo	CURRENT=MEDIU M; BUFFER-TIME=16 5; FP-POS=1; SEGMENT=BOTH; LIFETIME-POS=L P1 Dus observations show the XAPER=25	QESIPARM XSTE S -56)	[==>] er FP-POS values. 0.0 Secs (0 Secs)	
4 G130M/130 9 Deuterium Exposure 1 Comments: Deuter 5 Aperture Ad justment 2 f or Segment A Comments: Put the FCA LAPXSTP val Desired LAPXSTP	neuterium exposure optimi NONE aperture in the applue at LP1 is -153 value for FCA to illi	= +81 COS/FUV, TIME-TAG, FCA ized for Segment A. FP-POS=1 was c COS, ALIGN/APER propriate position to illuminate a portion to illuminate Segment A with G130M/1309	G130M 1309 A hosen because previous on of the LP3 region at Position 2 for LP	CURRENT=MEDIU M; BUFFER-TIME=16 5; FP-POS=1; SEGMENT=BOTH; LIFETIME-POS=L P1 Dus observations show the XAPER=25 of the detector when illum 3 is -128	QESIPARM XSTEL S -56 ninating Segment A v	ovith G130M/1309.	[==>] er FP-POS values. 0.0 Secs (0 Secs) [==>]	[1]
4 G130M/130 9 Deuterium Exposure 1 Comments: Deuter 5 Aperture Ad justment 2 f or Segment A Comments: Put the FCA LAPXSTP val Desired LAPXSTP	neuterium exposure optimi NONE aperture in the applue at LP1 is -153 value for FCA to illi	= +81 COS/FUV, TIME-TAG, FCA ized for Segment A. FP-POS=1 was c COS, ALIGN/APER propriate position to illuminate a portion to illuminate Segment A with G130M/1309	G130M 1309 A hosen because previous on of the LP3 region at Position 2 for LP	CURRENT=MEDIU M; BUFFER-TIME=16 5; FP-POS=1; SEGMENT=BOTH; LIFETIME-POS=L P1 Dus observations show the XAPER=25 of the detector when illum 3 is -128	QESIPARM XSTEL S -56 ninating Segment A v	ovith G130M/1309.	[==>] er FP-POS values. 0.0 Secs (0 Secs)	[1]

6						Bain Maps	
	G130M/130 DEUTERIUM	COS/FUV, TIME-TAG, FCA	G130M	CURRENT=MEDIU		440 Secs (440 Secs)	
	9 Deuterium Exposure 2		1309 A	M;		[==>]	
	Ziiposaie Z			BUFFER-TIME=16 5;			
				FP-POS=1;			[1]
				SEGMENT=BOTH:	:		[1]
				LIFETIME-POS=L			
				P1			
Com.		ized for Segment A. FP-POS=1 was c	hosen because pre				
7	Aperture Ad NONE justment 1 f	COS, ALIGN/APER		XAPER=69	QESIPARM XSTEP S 44	0.0 Secs (0 Secs)	
	or Segment B					[==>]	[1]
Com	ments: Put the aperture in the app	ropriate position to illuminate a porti	on of the LP3 regio	on of the detector when illu	minating Segment B with G160M/1	600.	•
	LAPXSTP value at LP1 is -153	Duid CICOM/ICO	o Desiries 1 Con I	: D2 := 04			
	·	uminate Segment B with G160M/1600					
Ther ion.	efore, XAPER is set to -84153 =	= +69. *HOWEVER*, because of the 2	TRANS rules, the "	QESIPARM XSTEPS 44" [(+69 - +25) = +44] Special Requir	ement is necessary to move the aperture to	o the correct loca
8	G160M/160 DEUTERIUM	COS/FUV, TIME-TAG, FCA	G160M	CURRENT=MEDIU		440 Secs (440 Secs)	
	0 Deuterium Exposure 1		1600 A	M;		[==>]	
l	•			BUFFER-TIME=16 5;			
				FP-POS=4;			[1]
				SEGMENT=BOTH;	;		
				LIFETIME-POS=L			
Com	ments: Deuterium exposure optim	mized for Segment B. FP-POS=4 was	chosen because pr	P1 revious observations show i	that it has slightly more counts than	the other FP-POS values.	
	Aperture Ad NONE	COS, ALIGN/APER	enosen occumse p.	XAPER=13	QESIPARM XSTEP	0.0 Secs (0 Secs)	
9					S -56	[==>]	
9	justment 2 f or Segment B					[==>]	[1]
9 Com.	justment 2 f or Segment B	ropriate position to illuminate a porti	on of the LP3 regio	on of the detector when illu	minating Segment B with G160M/I		[1]
	justment 2 f or Segment B ments: Put the aperture in the app	ropriate position to illuminate a porti	on of the LP3 regio	on of the detector when illu	minating Segment B with G160M/I		[1]
FCA	justment 2 f or Segment B ments: Put the aperture in the app. LAPXSTP value at LP1 is -153	ropriate position to illuminate a portion numinate Segment B with G160M/1600			minating Segment B with G160M/I		[1]
FCA Desi	justment 2 f or Segment B ments: Put the aperture in the app. LAPXSTP value at LP1 is -153 red LAPXSTP value for FCA to illi efore, XAPER is set to -140153	uminate Segment B with G160M/1600	at Position 2 for I	LP3 is -140.	v v		
FCA Desi Ther	justment 2 f or Segment B ments: Put the aperture in the app. LAPXSTP value at LP1 is -153 red LAPXSTP value for FCA to illi efore, XAPER is set to -140153	uminate Segment B with G160M/1600 = +13. *HOWEVER*, because of the	at Position 2 for I	LP3 is -140.	" [(+13 - +69) = -56] Special Requ	irement is necessary to move the aperture	
FCA Desi Ther	justment 2 f or Segment B ments: Put the aperture in the app. LAPXSTP value at LP1 is -153 red LAPXSTP value for FCA to illustrate, XAPER is set to -140153 to 1600M/160 DEUTERIUM 0 Deuterium	uminate Segment B with G160M/1600	at Position 2 for I	.P3 is -140. "QESIPARM XSTEPS -56	" [(+13 - +69) = -56] Special Requ	irement is necessary to move the aperture 440 Secs (440 Secs)	
FCA Desi Ther	justment 2 f or Segment B ments: Put the aperture in the app. LAPXSTP value at LP1 is -153 red LAPXSTP value for FCA to illustrate fore, XAPER is set to -140153 c. G160M/160 DEUTERIUM	uminate Segment B with G160M/1600 = +13. *HOWEVER*, because of the	at Position 2 for I TRANS rules, the	CP3 is -140. "QESIPARM XSTEPS -56 CURRENT=MEDIU M; BUFFER-TIME=16	" [(+13 - +69) = -56] Special Requ	irement is necessary to move the aperture	
FCA Desi Ther	justment 2 f or Segment B ments: Put the aperture in the app. LAPXSTP value at LP1 is -153 red LAPXSTP value for FCA to illustrate, XAPER is set to -140153 to 1600M/160 DEUTERIUM 0 Deuterium	uminate Segment B with G160M/1600 = +13. *HOWEVER*, because of the	at Position 2 for I TRANS rules, the	CURRENT=MEDIU M; BUFFER-TIME=16 5;	" [(+13 - +69) = -56] Special Requ	irement is necessary to move the aperture 440 Secs (440 Secs)	to the correct loc
FCA Desi Ther	justment 2 f or Segment B ments: Put the aperture in the app. LAPXSTP value at LP1 is -153 red LAPXSTP value for FCA to illustrate, XAPER is set to -140153 to 1600M/160 DEUTERIUM 0 Deuterium	uminate Segment B with G160M/1600 = +13. *HOWEVER*, because of the	at Position 2 for I TRANS rules, the	CURRENT=MEDIU M; BUFFER-TIME=16 5; FP-POS=4;	" [(+13 - +69) = -56] Special Requ	irement is necessary to move the aperture 440 Secs (440 Secs)	
FCA Desi Ther	justment 2 f or Segment B ments: Put the aperture in the app. LAPXSTP value at LP1 is -153 red LAPXSTP value for FCA to illustrate, XAPER is set to -140153 to 1600M/160 DEUTERIUM 0 Deuterium	uminate Segment B with G160M/1600 = +13. *HOWEVER*, because of the	at Position 2 for I TRANS rules, the	CP3 is -140. "QESIPARM XSTEPS -56 CURRENT=MEDIU M; BUFFER-TIME=16 5; FP-POS=4; SEGMENT=BOTH;	" [(+13 - +69) = -56] Special Requ	irement is necessary to move the aperture 440 Secs (440 Secs)	to the correct loc
FCA Desi Ther	justment 2 f or Segment B ments: Put the aperture in the app. LAPXSTP value at LP1 is -153 red LAPXSTP value for FCA to illustrate, XAPER is set to -140153 to 1600M/160 DEUTERIUM 0 Deuterium	uminate Segment B with G160M/1600 = +13. *HOWEVER*, because of the	at Position 2 for I TRANS rules, the	CURRENT=MEDIU M; BUFFER-TIME=16 5; FP-POS=4;	" [(+13 - +69) = -56] Special Requ	irement is necessary to move the aperture 440 Secs (440 Secs)	to the correct loc
FCA Desir Ther ation 10	justment 2 f or Segment B ments: Put the aperture in the app. LAPXSTP value at LP1 is -153 red LAPXSTP value for FCA to illustrate fore, XAPER is set to -140153 to 100. G160M/160 DEUTERIUM 0 Deuterium Exposure 2	uminate Segment B with G160M/1600 = +13. *HOWEVER*, because of the COS/FUV, TIME-TAG, FCA	at Position 2 for I TRANS rules, the G160M 1600 A	CP3 is -140. "QESIPARM XSTEPS -56 CURRENT=MEDIU M; BUFFER-TIME=16 5; FP-POS=4; SEGMENT=BOTH; LIFETIME-POS=L P1	" [(+13 - +69) = -56] Special Requ that it has slightly more counts than	the other FP-POS values.	to the correct loc
FCA Desi Ther ation 10	justment 2 f or Segment B ments: Put the aperture in the app. LAPXSTP value at LP1 is -153 red LAPXSTP value for FCA to illustrate fore, XAPER is set to -140153 i. G160M/160 DEUTERIUM 0 Deuterium Exposure 2	uminate Segment B with G160M/1600 = +13. *HOWEVER*, because of the COS/FUV, TIME-TAG, FCA	at Position 2 for I TRANS rules, the G160M 1600 A	CP3 is -140. "QESIPARM XSTEPS -56 CURRENT=MEDIU M; BUFFER-TIME=16 5; FP-POS=4; SEGMENT=BOTH; LIFETIME-POS=L P1	" [(+13 - +69) = -56] Special Requ that it has slightly more counts than QESIPARM XSTEP	the other FP-POS values. 0 Secs (0 Secs)	to the correct loc
FCA Desi- Ther- ation 10	justment 2 f or Segment B ments: Put the aperture in the app. LAPXSTP value at LP1 is -153 red LAPXSTP value for FCA to illustrate fore, XAPER is set to -140153 to 100. G160M/160 DEUTERIUM 0 Deuterium Exposure 2	uminate Segment B with G160M/1600 = +13. *HOWEVER*, because of the COS/FUV, TIME-TAG, FCA	at Position 2 for I TRANS rules, the G160M 1600 A	CP3 is -140. "QESIPARM XSTEPS -56 CURRENT=MEDIU M; BUFFER-TIME=16 5; FP-POS=4; SEGMENT=BOTH; LIFETIME-POS=L P1	" [(+13 - +69) = -56] Special Requ that it has slightly more counts than	the other FP-POS values.	to the correct loc

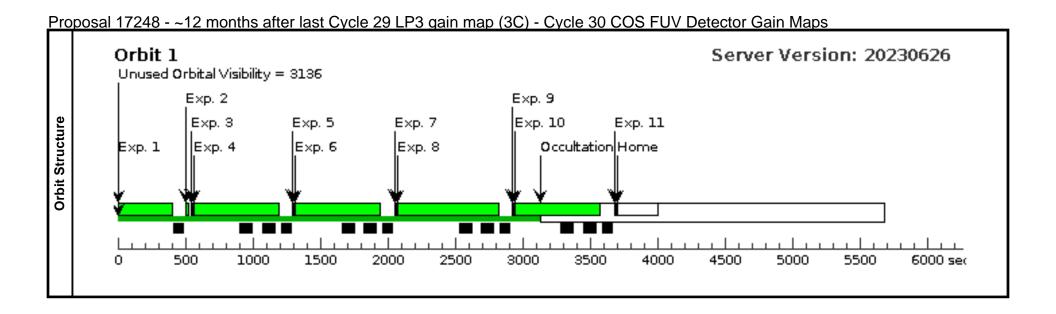


<u>Pr</u>	oposal 17248 - ~12 months after last Cycle 29 LP3 gain map (3C) - Cycle 30 COS FUV Detector Gain Maps	
	Proposal 17248, ~12 months after last Cycle 29 LP3 gain map (3C), scheduling	Thu Sep 07 11:00:39 GMT 2023
. <u>±</u>	Diagnostic Status: Warning	
į	Scientific Instruments: S/C, COS, COS/FUV	
1	Special Requirements: BETWEEN 01-OCT-2023:00:00:00 AND 01-NOV-2023:00:00:00; PARALLEL	
┖	Comments: This visit collects data at LP3. It uses the HV values appropriate for LP3 (173/175).	
l g	(~12 months after last Cycle 29 LP3 gain map (3C)) Warning (Orbit Planner): MAXIMUM DURATION EXCEEDED FOR INTERNAL OR EARTH CALIB SU	
. <u>.</u>		
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Proposal 17248 - ~12 months after last Cycle 29 LP3 gain map (3C) - Cycle 30 COS FUV Detector Gain Maps

1 G130M/130 T	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Regs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	DEUTERIUM	COS/FUV, TIME-TAG, FCA	G130M	CURRENT=MEDIU			125 Secs (125 Secs)	
9 Deuterium Exposure - S			1309 A	M;			[==>]	
et up at LP1				BUFFER-TIME=19 6;				
				FP-POS=1;				(11
				SEGMENT=BOTH;				[1]
				LIFETIME-POS=L				
				P1				
Comments: Short exp	posure to set apert	ure to LP1, which is near the center o	f the aperture range	used in this program. It a	lso sets the HV to the	LP1 values.		
2 Adjust HV t	DARK	S/C, DATA, NONE			SAA CONTOUR 31	l;	39 Secs (39 Secs)	
o LP3 value s					SPEC COM INSTR ELHVADJPROP;		[==>]	
					QASISTATES COS	.		
					FUV HVNOM HVN OM;	1		
					QESIPARM ENDC TSA 173;			[1]
					QESIPARM ENDC TSB 175;			
					QESIPARM SEGM ENT AB			
Comments: Adjust th	he HV to LP3 value	es.						
,								
Since the HV is not in	<u> </u>			WARED 01				_
3 Aperture Ad N justment 1 f	NONE	COS, ALIGN/APER		XAPER=81			0.0 Secs (0 Secs)	_
or Segment								
A A							[==>]	[1]
A	aperture in the app	ropriate position to illuminate a porti	on of the LP3 region	of the detector when illu	ninating Segment A w	vith G130M/1309.	[==>]	[1]
A Comments: Put the a		ropriate position to illuminate a porti	on of the LP3 region	of the detector when illur	ninating Segment A w	vith G130M/1309.	[==>]	[1]
A Comments: Put the a FCA LAPXSTP value	te at LP1 is -153	ropriate position to illuminate a porti uminate Segment A with G130M/1309	,		ninating Segment A w	vith G130M/1309.	[==>]	[1]
A Comments: Put the a FCA LAPXSTP value Desired LAPXSTP va	te at LP1 is -153 value for FCA to ill	uminate Segment A with G130M/1309	,		ninating Segment A w	vith G130M/1309.	[==>]	[1]
A Comments: Put the a FCA LAPXSTP value Desired LAPXSTP ve Therefore, XAPER is	te at LP1 is -153 value for FCA to illi s set to -72153 =	uminate Segment A with G130M/1309 = +81	at Position 1 for LP	3 is -72	ninating Segment A w	vith G130M/1309.		[1]
A Comments: Put the a FCA LAPXSTP value Desired LAPXSTP ve Therefore, XAPER is 4 G130M/130 I 9 Deuterium	te at LP1 is -153 value for FCA to illi s set to -72153 =	uminate Segment A with G130M/1309	O at Position 1 for LP		ninating Segment A w	vith G130M/1309.	440 Secs (440 Secs)	[1]
A Comments: Put the a FCA LAPXSTP value Desired LAPXSTP ve Therefore, XAPER is 4 G130M/130 I	te at LP1 is -153 value for FCA to illi s set to -72153 =	uminate Segment A with G130M/1309 = +81	at Position 1 for LP	3 is -72 CURRENT=MEDIU	ninating Segment A w	vith G130M/1309.		[1]
A Comments: Put the a FCA LAPXSTP value Desired LAPXSTP ve Therefore, XAPER is 4 G130M/130 I 9 Deuterium	te at LP1 is -153 value for FCA to illi s set to -72153 =	uminate Segment A with G130M/1309 = +81	O at Position 1 for LP	3 is -72 CURRENT=MEDIU M;	ninating Segment A w	vith G130M/1309.	440 Secs (440 Secs)	[1]
A Comments: Put the a FCA LAPXSTP value Desired LAPXSTP ve Therefore, XAPER is 4 G130M/130 I 9 Deuterium	te at LP1 is -153 value for FCA to illi s set to -72153 =	uminate Segment A with G130M/1309 = +81	O at Position 1 for LP	3 is -72 CURRENT=MEDIU M; BUFFER-TIME=16	ninating Segment A w	vith G130M/1309.	440 Secs (440 Secs)	
A Comments: Put the a FCA LAPXSTP value Desired LAPXSTP ve Therefore, XAPER is 4 G130M/130 I 9 Deuterium	te at LP1 is -153 value for FCA to illi s set to -72153 =	uminate Segment A with G130M/1309 = +81	O at Position 1 for LP	CURRENT=MEDIU M; BUFFER-TIME=16 5;	ninating Segment A w	vith G130M/1309.	440 Secs (440 Secs)	[1]
A Comments: Put the a FCA LAPXSTP value Desired LAPXSTP ve Therefore, XAPER is 4 G130M/130 I 9 Deuterium	te at LP1 is -153 value for FCA to illi s set to -72153 =	uminate Segment A with G130M/1309 = +81	O at Position 1 for LP	CURRENT=MEDIU M; BUFFER-TIME=16 5; FP-POS=1; SEGMENT=BOTH; LIFETIME-POS=L	ninating Segment A w	vith G130M/1309.	440 Secs (440 Secs)	
A Comments: Put the a FCA LAPXSTP value Desired LAPXSTP value Therefore, XAPER is 4 G130M/130 I 9 Deuterium Exposure 1	e at LP1 is -153 alue for FCA to illi s set to -72153 = DEUTERIUM	uminate Segment A with G130M/1309 = +81 COS/FUV, TIME-TAG, FCA	G130M 1309 A	CURRENT=MEDIU M; BUFFER-TIME=16 5; FP-POS=1; SEGMENT=BOTH; LIFETIME-POS=L P1			440 Secs (440 Secs) [==>]	
A Comments: Put the a FCA LAPXSTP valua Desired LAPXSTP va Therefore, XAPER is 4 G130M/130 I 9 Deuterium Exposure 1 Comments: Deuteriu	te at LP1 is -153 calue for FCA to illi s set to -72153 = DEUTERIUM	uminate Segment A with G130M/1309 = +81 COS/FUV, TIME-TAG, FCA	G130M 1309 A	CURRENT=MEDIU M; BUFFER-TIME=16 5; FP-POS=1; SEGMENT=BOTH; LIFETIME-POS=L P1 ous observations show the	at it has slightly more	counts than the othe	440 Secs (440 Secs) [==>] r FP-POS values.	
A Comments: Put the a FCA LAPXSTP value Desired LAPXSTP value Therefore, XAPER is 4 G130M/130 If 9 Deuterium Exposure 1 Comments: Deuteriu 5 Aperture Ad N	te at LP1 is -153 calue for FCA to illi s set to -72153 = DEUTERIUM	uminate Segment A with G130M/1309 = +81 COS/FUV, TIME-TAG, FCA	G130M 1309 A	CURRENT=MEDIU M; BUFFER-TIME=16 5; FP-POS=1; SEGMENT=BOTH; LIFETIME-POS=L P1	at it has slightly more QESIPARM XSTEI	counts than the othe	440 Secs (440 Secs) [==>] r FP-POS values. 0.0 Secs (0 Secs)	
A Comments: Put the a FCA LAPXSTP valua Desired LAPXSTP va Therefore, XAPER is 4 G130M/130 I 9 Deuterium Exposure 1 Comments: Deuteriu	te at LP1 is -153 calue for FCA to illi s set to -72153 = DEUTERIUM	uminate Segment A with G130M/1309 = +81 COS/FUV, TIME-TAG, FCA	G130M 1309 A	CURRENT=MEDIU M; BUFFER-TIME=16 5; FP-POS=1; SEGMENT=BOTH; LIFETIME-POS=L P1 ous observations show the	at it has slightly more	counts than the othe	440 Secs (440 Secs) [==>] r FP-POS values.	
A Comments: Put the a FCA LAPXSTP value Desired LAPXSTP ve Therefore, XAPER is 4 G130M/130 Is 9 Deuterium Exposure 1 Comments: Deuterium 5 Aperture Ad N justment 2 f or Segment A	e at LP1 is -153 value for FCA to illi s set to -72153 = DEUTERIUM um exposure optimi	uminate Segment A with G130M/1309 = +81 COS/FUV, TIME-TAG, FCA	G130M G1309 A 1309 A	CURRENT=MEDIU M; BUFFER-TIME=16 5; FP-POS=1; SEGMENT=BOTH; LIFETIME-POS=L P1 Ous observations show the	at it has slightly more QESIPARM XSTER S -56	counts than the othe	440 Secs (440 Secs) [==>] r FP-POS values. 0.0 Secs (0 Secs)	[1]
A Comments: Put the a FCA LAPXSTP value Desired LAPXSTP value Therefore, XAPER is G130M/130 If 9 Deuterium Exposure 1 Comments: Deuterium 5 Aperture Ad Nijustment 2 for Segment A Comments: Put the au FCA LAPXSTP value	e at LP1 is -153 ralue for FCA to illiss set to -72153 = DEUTERIUM um exposure optimination of the approperator of the ap	uminate Segment A with G130M/130S = +81 COS/FUV, TIME-TAG, FCA ized for Segment A. FP-POS=1 was a COS, ALIGN/APER ropriate position to illuminate a porti	G130M 1309 A 1309 Schosen because previous	CURRENT=MEDIU M; BUFFER-TIME=16 5; FP-POS=1; SEGMENT=BOTH; LIFETIME-POS=L P1 Ous observations show the XAPER=25 of the detector when illustrates as a second control of the detector when illustrates as a second control of the detector when illustrates as a second control of the detector when illustrates as a second control of the detector when illustrates as a second control of the detector when illustrates as a second control of the detector when illustrates as a second control of the detector when illustrates as a second control of the detector when illustrates as a second control of the detector when illustrates as a second control of the detector when illustrates are a second control	at it has slightly more QESIPARM XSTER S -56	counts than the othe	440 Secs (440 Secs) [==>] r FP-POS values. 0.0 Secs (0 Secs)	[1]
A Comments: Put the a FCA LAPXSTP value Desired LAPXSTP value Therefore, XAPER is G130M/130 If 9 Deuterium Exposure 1 Comments: Deuterium 5 Aperture Ad N justment 2 f or Segment A Comments: Put the a FCA LAPXSTP value Desired LAPXSTP value	the at LP1 is -153 calue for FCA to illiss set to -72153 = DEUTERIUM The exposure optimination of the approper of the app	uminate Segment A with G130M/1309 = +81 COS/FUV, TIME-TAG, FCA ized for Segment A. FP-POS=1 was a COS, ALIGN/APER ropriate position to illuminate a porti	G130M 1309 A 1309 on of the LP3 region Output Description 2 for LP	CURRENT=MEDIU M; BUFFER-TIME=16 5; FP-POS=1; SEGMENT=BOTH; LIFETIME-POS=L P1 Dus observations show the XAPER=25 of the detector when illum 3 is -128	at it has slightly more QESIPARM XSTEI S -56 ninating Segment A w	e counts than the othe	440 Secs (440 Secs) [==>] r FP-POS values. 0.0 Secs (0 Secs)	[1]

6							
	G130M/130 DEUTERIUM	COS/FUV, TIME-TAG, FCA	G130M	CURRENT=MEDIU	ſ	440 Secs (440 Secs)	
	9 Deuterium Exposure 2		1309 A	M; BUFFER-TIME=16		[==>]	
				5;			
l				FP-POS=1;			[1]
				SEGMENT=BOTH:	;		
1				LIFETIME-POS=L P1			
Com	ments: Deuterium exposure optim	nized for Segment A. FP-POS=1 was o	chosen because pre		nat it has slightly more counts than	the other FP-POS values	
7	Aperture Ad NONE	COS, ALIGN/APER		XAPER=69	QESIPARM XSTEP	0.0 Secs (0 Secs)	
	justment 1 f or Segment B				S 44	[==>]	[1]
Com	ments: Put the aperture in the app	propriate position to illuminate a porti	on of the LP3 regi	on of the detector when illu	minating Segment B with G160M/	1600.	•
	LAPXSTP value at LP1 is -153 red LAPXSTP value for FCA to il	luminate Segment B with G160M/1600	at Position 1 for I	LP3 is -84			
Ther ion.	refore, XAPER is set to -84153	= +69. *HOWEVER*, because of the	TRANS rules, the	"QESIPARM XSTEPS 44" [T(+69 - +25) = +44] Special Requ	irement is necessary to move the aperture to	o the correct loca
8	G160M/160 DEUTERIUM	COS/FUV, TIME-TAG, FCA	G160M	CURRENT=MEDIU	ſ	440 Secs (440 Secs)	
	0 Deuterium Exposure 1		1600 A	M; BUFFER-TIME=16		[==>]	
				5;			
				FP-POS=4;			[1]
				SEGMENT=BOTH:	;		
				LIFETIME-POS=L P1			
			.h		that it has slightly more counts tha	n the other FP-POS values	
Com	ments: Deuterium exposure optim	ımized for Segment B. FP-POS=4 was	cnosen because pi			n me omer rr -r os vames.	
Com	Aperture Ad NONE	mized for Segment B. FP-POS=4 was COS, ALIGN/APER	cnosen because pi	XAPER=13	QESIPARM XSTEP	0.0 Secs (0 Secs)	
<i>Com</i> 9			cnosen vecause pi				[1]
9	Aperture Ad NONE justment 2 f or Segment B			XAPER=13	QESIPARM XSTEP S -56	0.0 Secs (0 Secs) [==>]	[1]
9 Com	Aperture Ad NONE justment 2 f or Segment B ments: Put the aperture in the app	COS, ALIGN/APER		XAPER=13	QESIPARM XSTEP S -56	0.0 Secs (0 Secs) [==>]	[1]
9 Com FCA	Aperture Ad NONE justment 2 f or Segment B ments: Put the aperture in the apple LAPXSTP value at LP1 is -153	COS, ALIGN/APER	on of the LP3 regi	XAPER=13 on of the detector when illu	QESIPARM XSTEP S -56	0.0 Secs (0 Secs) [==>]	[1]
9 Com FCA Desi Ther	Aperture Ad NONE justment 2 f or Segment B ments: Put the aperture in the app LAPXSTP value at LP1 is -153 red LAPXSTP value for FCA to il efore, XAPER is set to -140155	COS, ALIGN/APER propriate position to illuminate a porti luminate Segment B with G160M/1600	on of the LP3 region	XAPER=13 on of the detector when illu LP3 is -140.	QESIPARM XSTEP S-56 minating Segment B with G160M/	0.0 Secs (0 Secs) [==>]	
9 Com FCA Desi Ther ation	Aperture Ad NONE justment 2 f or Segment B ments: Put the aperture in the app LAPXSTP value at LP1 is -153 red LAPXSTP value for FCA to il efore, XAPER is set to -140155	COS, ALIGN/APER propriate position to illuminate a portiluminate Segment B with G160M/1600 $B = +13$. *HOWEVER*, because of the	on of the LP3 region at Position 2 for a TRANS rules, the	XAPER=13 on of the detector when illu LP3 is -140. "QESIPARM XSTEPS -56	QESIPARM XSTEP S - 56 minating Segment B with G160M/ " $[(+13 - +69) = -56]$ Special Req	0.0 Secs (0 Secs) [==>] 1600. uirement is necessary to move the aperture	
9 Com FCA Desi Ther	Aperture Ad NONE justment 2 f or Segment B ments: Put the aperture in the app LAPXSTP value at LP1 is -153 red LAPXSTP value for FCA to il efore, XAPER is set to -140153 t. G160M/160 DEUTERIUM 0 Deuterium	COS, ALIGN/APER propriate position to illuminate a porti luminate Segment B with G160M/1600	on of the LP3 region of the LP3 region of the LP3 region of the TRANS rules, the	XAPER=13 on of the detector when illu LP3 is -140.	QESIPARM XSTEP S - 56 minating Segment B with G160M/ " $[(+13 - +69) = -56]$ Special Req	[l] 0.0 Secs (0 Secs) $[l] = > J$ $life 00.$ $life ment is necessary to move the aperture$ $440 Secs (440 Secs)$	
9 Com FCA Desi Ther ation	Aperture Ad NONE justment 2 f or Segment B ments: Put the aperture in the app LAPXSTP value at LP1 is -153 red LAPXSTP value for FCA to il efore, XAPER is set to -140153 . G160M/160 DEUTERIUM	COS, ALIGN/APER propriate position to illuminate a portiluminate Segment B with G160M/1600 $B = +13$. *HOWEVER*, because of the	on of the LP3 region at Position 2 for a TRANS rules, the	XAPER=13 on of the detector when illu LP3 is -140. "QESIPARM XSTEPS -56 CURRENT=MEDIU M; BUFFER-TIME=16	QESIPARM XSTEP S -56 minating Segment B with G160M/ " $[(+13 - +69) = -56]$ Special Req	0.0 Secs (0 Secs) [==>] 1600. uirement is necessary to move the aperture	
9 Com FCA Desi Ther ation	Aperture Ad NONE justment 2 f or Segment B ments: Put the aperture in the app LAPXSTP value at LP1 is -153 red LAPXSTP value for FCA to il efore, XAPER is set to -140153 t. G160M/160 DEUTERIUM 0 Deuterium	COS, ALIGN/APER propriate position to illuminate a portiluminate Segment B with G160M/1600 $B = +13$. *HOWEVER*, because of the	on of the LP3 region of the LP3 region of the LP3 region of the TRANS rules, the	XAPER=13 on of the detector when illu LP3 is -140. "QESIPARM XSTEPS -56 CURRENT=MEDIU M; BUFFER-TIME=16 5;	QESIPARM XSTEP S -56 minating Segment B with G160M/ " $[(+13 - +69) = -56]$ Special Req	[l] 0.0 Secs (0 Secs) $[l] = > J$ $life 00.$ $life ment is necessary to move the aperture$ $440 Secs (440 Secs)$	to the correct loc
9 Com FCA Desi Ther	Aperture Ad NONE justment 2 f or Segment B ments: Put the aperture in the app LAPXSTP value at LP1 is -153 red LAPXSTP value for FCA to il efore, XAPER is set to -140153 t. G160M/160 DEUTERIUM 0 Deuterium	COS, ALIGN/APER propriate position to illuminate a portiluminate Segment B with G160M/1600 $B = +13$. *HOWEVER*, because of the	on of the LP3 region of the LP3 region of the LP3 region of the TRANS rules, the	XAPER=13 on of the detector when illu LP3 is -140. "QESIPARM XSTEPS -56 CURRENT=MEDIU M; BUFFER-TIME=16 5; FP-POS=4;	QESIPARM XSTEP S - 56 minating Segment B with G160M/ " $[(+13 - +69) = -56]$ Special Req	[l] 0.0 Secs (0 Secs) $[l] = > J$ $life 00.$ $life ment is necessary to move the aperture$ $440 Secs (440 Secs)$	
9 Com FCA Desi Ther	Aperture Ad NONE justment 2 f or Segment B ments: Put the aperture in the app LAPXSTP value at LP1 is -153 red LAPXSTP value for FCA to il efore, XAPER is set to -140153 t. G160M/160 DEUTERIUM 0 Deuterium	COS, ALIGN/APER propriate position to illuminate a portiluminate Segment B with G160M/1600 $B = +13$. *HOWEVER*, because of the	on of the LP3 region of the LP3 region of the LP3 region of the TRANS rules, the	XAPER=13 on of the detector when illu LP3 is -140. "QESIPARM XSTEPS -56 CURRENT=MEDIU M; BUFFER-TIME=16 5; FP-POS=4; SEGMENT=BOTH;	QESIPARM XSTEP S - 56 minating Segment B with G160M/ " $[(+13 - +69) = -56]$ Special Req	[l] 0.0 Secs (0 Secs) $[l] = > J$ $life 00.$ $life ment is necessary to move the aperture$ $440 Secs (440 Secs)$	to the correct loc
9 Com FCA Desi Ther ation	Aperture Ad NONE justment 2 f or Segment B ments: Put the aperture in the app LAPXSTP value at LP1 is -153 red LAPXSTP value for FCA to il efore, XAPER is set to -140153 t. G160M/160 DEUTERIUM 0 Deuterium	COS, ALIGN/APER propriate position to illuminate a portiluminate Segment B with G160M/1600 $B = +13$. *HOWEVER*, because of the	on of the LP3 region of the LP3 region of the LP3 region of the TRANS rules, the	XAPER=13 on of the detector when illu LP3 is -140. "QESIPARM XSTEPS -56 CURRENT=MEDIU M; BUFFER-TIME=16 5; FP-POS=4;	QESIPARM XSTEP S - 56 minating Segment B with G160M/ " $[(+13 - +69) = -56]$ Special Req	[l] 0.0 Secs (0 Secs) $[l] = > J$ $life 00.$ $life ment is necessary to move the aperture$ $440 Secs (440 Secs)$	to the correct loc
9 Com FCA Desi Ther ation 10	Aperture Ad NONE justment 2 f or Segment B ments: Put the aperture in the apple LAPXSTP value at LP1 is -153 red LAPXSTP value for FCA to il efore, XAPER is set to -140153 t. G160M/160 DEUTERIUM 0 Deuterium Exposure 2	COS, ALIGN/APER propriate position to illuminate a porticuluminate Segment B with G160M/1600 B = +13. *HOWEVER*, because of the COS/FUV, TIME-TAG, FCA	on of the LP3 region of the LP3 region of the LP3 region of the Position 2 for a TRANS rules, the G160M 1600 A	XAPER=13 on of the detector when illu LP3 is -140. "QESIPARM XSTEPS -56 CURRENT=MEDIU M; BUFFER-TIME=16 5; FP-POS=4; SEGMENT=BOTH; LIFETIME-POS=L P1 revious observations show in	QESIPARM XSTEP S - 56 minating Segment B with G160M/ " $[(+13 - +69) = -56]$ Special Req	[==>] 1600. uirement is necessary to move the aperture $[==>]$ $[==>]$	to the correct loc
9 Com FCA Desi Ther ation 10	Aperture Ad NONE justment 2 f or Segment B ments: Put the aperture in the apple LAPXSTP value at LP1 is -153 red LAPXSTP value for FCA to il efore, XAPER is set to -140153 t. G160M/160 DEUTERIUM 0 Deuterium Exposure 2	COS, ALIGN/APER propriate position to illuminate a porticuluminate Segment B with G160M/1600 B = +13. *HOWEVER*, because of the COS/FUV, TIME-TAG, FCA	on of the LP3 region of the LP3 region of the LP3 region of the Position 2 for a TRANS rules, the G160M 1600 A	XAPER=13 on of the detector when illu LP3 is -140. "QESIPARM XSTEPS -56 CURRENT=MEDIU M; BUFFER-TIME=16 5; FP-POS=4; SEGMENT=BOTH; LIFETIME-POS=L P1	QESIPARM XSTEP S - 56 minating Segment B with G160M/ " $[(+13 - +69) = -56]$ Special Req	[==>] 1600. uirement is necessary to move the aperture $[==>]$ $[==>]$	to the correct loc

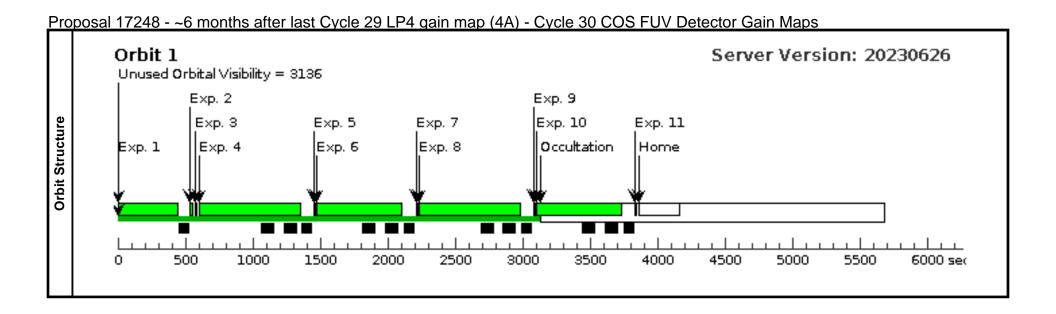


<u>Pr</u>	oposal 17248 - ~6 months after last Cycle 29 LP4 gain map (4A) - Cycle 30 COS FUV Detector Gain Maps	
	Proposal 17248, ~6 months after last Cycle 29 LP4 gain map (4A), completed	Thu Sep 07 11:00:39 GMT 2023
<u>.</u> ±	Diagnostic Status: Warning	
į.	Scientific Instruments: S/C, COS, COS/FUV	
1	Special Requirements: BETWEEN 01-APR-2023:00:00:00 AND 01-MAY-2023:00:00:00; PARALLEL	
┕	Comments: This visit collects data at LP4. It uses the HV values appropriate for LP4 (173/175).	
ျွ	(~6 months after last Cycle 29 LP4 gain map (4A)) Warning (Orbit Planner): MAXIMUM DURATION EXCEEDED FOR INTERNAL OR EARTH CALIB SU	
sti		
2		
ag		
قا		

Proposal 17248 - ~6 months after last Cycle 29 LP4 gain map (4A) - Cycle 30 COS FUV Detector Gain Maps

1 016034/160 7	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	DEUTERIUM	COS/FUV, TIME-TAG, FCA	G160M	CURRENT=MEDIU			125 Secs (125 Secs)	
0 Deuterium Exposure - S			1600 A	M;			I==>I	
et up at LP1				BUFFER-TIME=19 6;				
				FP-POS=1;				(11
				SEGMENT=BOTH;				[1]
				LIFETIME-POS=L				
				P1				
Comments: Short ex	posure to set aperti	ure to LP1, which is near the center o	f the aperture range	used in this program. It a	lso sets the HV to the	LP1 values.		
2 Adjust HV t I	DARK	S/C, DATA, NONE			SAA CONTOUR 3	1;	39 Secs (39 Secs)	
o LP4 value s					SPEC COM INSTR		[==>]	
3					ELHVADJPROP;			
					QASISTATES COS FUV HVNOM HVI			
					OM;	.•		
					QESIPARM ENDO			[1]
					TSA 173;			
					QESIPARM ENDO			
					QESIPARM SEGM	ſ		
					ENT AB	<u>.</u>		
Comments: Adjust th	he HV to LP4 value	s.						
Since the HV is not it	increasino exposui	$ce\ time = 39\ seconds$						
3 Aperture Ad N	* *	COS, ALIGN/APER		XAPER=121			0.0 Secs (0 Secs)	
justment 1 f				Dit 121			[==>]	
Since the HV is not it. 3 Aperture Ad M justment 1 f or Segment A							1>1	[1]
	anerture in the app	ropriate position to illuminate a porti	on of the LP3 region	of the detector when illu	minating Segment A v	vith G130M/1309.		ļ
		of the Fermi Permit	, ==	-y				
FCA LAPXSTP value Desired LAPXSTP value								
	· mue ioi i CA io illi	uminate Segment A with G130M/1309	at Position 1 for LP	4 is -32				
TI C WAREN		uminate Segment A with G130M/1309	at Position 1 for LP	4 is -32				
Therefore, XAPER is	is set to -32153 =	= +121						
4 G130M/130 I	is set to -32153 =	<u> </u>	G130M	4 is -32 CURRENT=MEDIU M:			440 Secs (440 Secs)	
	is set to -32153 =	= +121		CURRENT=MEDIU M;			440 Secs (440 Secs) [==>]	
4 G130M/130 I 9 Deuterium	is set to -32153 =	= +121	G130M	CURRENT=MEDIU			` ´	
4 G130M/130 I 9 Deuterium	is set to -32153 =	= +121	G130M	CURRENT=MEDIU M; BUFFER-TIME=16			` ´	[1]
4 G130M/130 I 9 Deuterium	is set to -32153 =	= +121	G130M	CURRENT=MEDIU M; BUFFER-TIME=16 5;			` ´	[1]
4 G130M/130 I 9 Deuterium	is set to -32153 =	= +121	G130M	CURRENT=MEDIU M; BUFFER-TIME=16 5; FP-POS=1; SEGMENT=BOTH; LIFETIME-POS=L			` ´	[1]
4 G130M/130 I 9 Deuterium Exposure 1	<u>is set to -32153 =</u> DEUTERIUM	= +121 COS/FUV, TIME-TAG, FCA	G130M 1309 A	CURRENT=MEDIU M; BUFFER-TIME=16 5; FP-POS=1; SEGMENT=BOTH; LIFETIME-POS=L P1			[==>]	[1]
4 G130M/130 I 9 Deuterium Exposure 1 Comments: Deuteriu	is set to -32153 = DEUTERIUM um exposure optimi	= +121 COS/FUV, TIME-TAG, FCA Example 1	G130M 1309 A	CURRENT=MEDIU M; BUFFER-TIME=16 5; FP-POS=1; SEGMENT=BOTH; LIFETIME-POS=L P1	at it has slightly more		[==>] r FP-POS values.	[1]
4 G130M/130 I 9 Deuterium Exposure 1 Comments: Deuteriu 5 Aperture Ad N	is set to -32153 = DEUTERIUM um exposure optimi	= +121 COS/FUV, TIME-TAG, FCA	G130M 1309 A	CURRENT=MEDIU M; BUFFER-TIME=16 5; FP-POS=1; SEGMENT=BOTH; LIFETIME-POS=L P1	at it has slightly more QESIPARM XSTE		[==>]	[1]
4 G130M/130 I 9 Deuterium Exposure 1 Comments: Deuteriu	is set to -32153 = DEUTERIUM um exposure optimi	= +121 COS/FUV, TIME-TAG, FCA Example 1	G130M 1309 A	CURRENT=MEDIU M; BUFFER-TIME=16 5; FP-POS=1; SEGMENT=BOTH; LIFETIME-POS=L P1	at it has slightly more		[==>] r FP-POS values.	
4 G130M/130 I 9 Deuterium Exposure 1 Comments: Deuterium 5 Aperture Ad N justment 2 f	is set to -32153 = DEUTERIUM um exposure optimi	= +121 COS/FUV, TIME-TAG, FCA Example 1	G130M 1309 A	CURRENT=MEDIU M; BUFFER-TIME=16 5; FP-POS=1; SEGMENT=BOTH; LIFETIME-POS=L P1	at it has slightly more QESIPARM XSTE		[==>] r FP-POS values. 0.0 Secs (0 Secs)	[1]
4 G130M/130 I 9 Deuterium Exposure 1 Comments: Deuterium 5 Aperture Ad N justment 2 f or Segment A	is set to -32153 = DEUTERIUM um exposure optimi. NONE	= +121 COS/FUV, TIME-TAG, FCA Example 1	G130M 1309 A hosen because previo	CURRENT=MEDIU M; BUFFER-TIME=16 5; FP-POS=1; SEGMENT=BOTH; LIFETIME-POS=L P1 ous observations show the XAPER=67	at it has slightly more QESIPARM XSTE S -54	P	[==>] r FP-POS values. 0.0 Secs (0 Secs)	
4 G130M/130 I 9 Deuterium Exposure 1 Comments: Deuterium Exposure 1 Aperture Ad 1 justment 2 f or Segment A Comments: Put the action of the segment A	is set to -32153 = DEUTERIUM um exposure optimi. NONE aperture in the apprice at LP1 is -153	zed for Segment A. FP-POS=1 was a COS, ALIGN/APER ropriate position to illuminate a porti	G130M 1309 A hosen because previo	CURRENT=MEDIU M; BUFFER-TIME=16 5; FP-POS=1; SEGMENT=BOTH; LIFETIME-POS=L P1 ous observations show the XAPER=67	at it has slightly more QESIPARM XSTE S -54	P	[==>] r FP-POS values. 0.0 Secs (0 Secs)	
4 G130M/130 I 9 Deuterium Exposure 1 Comments: Deuterium Exposure 1 Aperture Ad 1 justment 2 f or Segment A Comments: Put the action of the segment A FCA LAPXSTP value Desired LAPXSTP value	is set to -32153 = DEUTERIUM um exposure optimi. NONE aperture in the apprixe at LP1 is -153 value for FCA to illi	cos/Fuv, Time-Tag, Fca Exact for Segment A. FP-POS=1 was a Cos, ALIGN/APER Copriate position to illuminate a porti	G130M 1309 A hosen because previous on of the LP3 region at Position 2 for LP	CURRENT=MEDIU M; BUFFER-TIME=16 5; FP-POS=1; SEGMENT=BOTH; LIFETIME-POS=L P1 Ous observations show th XAPER=67 of the detector when illusted 4 is -86	at it has slightly more QESIPARM XSTE S -54 minating Segment A v	P with G130M/1309.	[==>] r FP-POS values. 0.0 Secs (0 Secs)	[1]

6							
	G130M/130 DEUTERIUM	COS/FUV, TIME-TAG, FCA	G130M	CURRENT=MEDIU		440 Secs (440 Secs)	
	9 Deuterium Exposure 2		1309 A	M; BUFFER-TIME=16		[==>]	
				5;			
				FP-POS=1;			[1]
				SEGMENT=BOTH;			
				LIFETIME-POS=L P1			
Com	ments: Deuterium exposure optim	nized for Segment A. FP-POS=1 was c	chosen because pre	vious observations show th	at it has slightly more counts than	the other FP-POS values.	
7	Aperture Ad NONE	COS, ALIGN/APER		XAPER=112	QESIPARM XSTEP	0.0 Secs (0 Secs)	
	justment 1 f or Segment B				S 45	[==>]	[1]
Com	ments: Put the aperture in the app	propriate position to illuminate a porti	on of the LP3 regio	on of the detector when illu	minating Segment B with G160M/	71600.	
	LAPXSTP value at LP1 is -153 red LAPXSTP value for FCA to il.	luminate Segment B with G160M/1600	at Position 1 for 1	LP4 is -41			
Ther catio		= +112. *HOWEVER*, because of the	e TRANS rules, the	"QESIPARM XSTEPS 45"	[(+112 - +67) = +45] Special Re	quirement is necessary to move the aperture	e to the correct lo
8	G160M/160 DEUTERIUM	COS/FUV, TIME-TAG, FCA	G160M	CURRENT=MEDIU		440 Secs (440 Secs)	
	0 Deuterium Exposure 1		1600 A	M;		[==>J	
	•			BUFFER-TIME=16 5;			
				FP-POS=4;			[1]
				SEGMENT=BOTH;			
				LIFETIME-POS=L P1			
<i>C</i>	mants: Dautarium avnosura ontim	mized for Segment R FP-POS=4 was	chosen because pr		hat it has slightly more counts tha	n the other FP-POS values.	
Com					8		
9	Aperture Ad NONE	COS, ALIGN/APER	enasen beetinse pr	XAPER=58	QESIPARM XSTEP	0.0 Secs (0 Secs)	
9			enosen occume pr		QESIPARM XSTEP S -54	0.0 Secs (0 Secs) [==>]	[1]
9	Aperture Ad NONE justment 2 f or Segment B			XAPER=58	S -54	[==>]	[1]
9 Com	Aperture Ad NONE justment 2 f or Segment B ments: Put the aperture in the app	COS, ALIGN/APER		XAPER=58	S -54	[==>]	[1]
9 Com FCA	Aperture Ad NONE justment 2 f or Segment B ments: Put the aperture in the app LAPXSTP value at LP1 is -153	COS, ALIGN/APER	on of the LP3 regio	XAPER=58 on of the detector when illu	S -54	[==>]	[1]
9 Com FCA Desi Ther	Aperture Ad NONE justment 2 f or Segment B ments: Put the aperture in the app LAPXSTP value at LP1 is -153 red LAPXSTP value for FCA to illustrate of the second se	COS, ALIGN/APER oropriate position to illuminate a porti luminate Segment B with G160M/1600	on of the LP3 region	XAPER=58 on of the detector when illu LP3 is -95.	S -54 minating Segment B with G160M/	[==>]	
9 Com FCA Desi Ther ation	Aperture Ad NONE justment 2 f or Segment B ments: Put the aperture in the app LAPXSTP value at LP1 is -153 red LAPXSTP value for FCA to ill refore, XAPER is set to -95153 1.	COS, ALIGN/APER propriate position to illuminate a portion to the properties of the segment B with $G160M/1600$ $= +58$. * $HOWEVER$ *, because of the	on of the LP3 region of at Position 2 for I TRANS rules, the "	XAPER=58 on of the detector when illu LP3 is -95. QESIPARM XSTEPS -54"	S -54 minating Segment B with G160M/ $[(+58 - +112) = -54]$ Special Req	[==>] Identification [==>] Universely a server of the second of the se	
9 Com FCA Desi Ther	Aperture Ad NONE justment 2 f or Segment B ments: Put the aperture in the app LAPXSTP value at LP1 is -153 red LAPXSTP value for FCA to ill refore, XAPER is set to -95153 t. G160M/160 DEUTERIUM 0 Deuterium	COS, ALIGN/APER oropriate position to illuminate a porti luminate Segment B with G160M/1600	on of the LP3 region on at Position 2 for I TRANS rules, the " G160M	XAPER=58 on of the detector when illu LP3 is -95.	S -54 minating Segment B with G160M/ $[(+58 - +112) = -54]$ Special Req	[==>] [1600. uirement is necessary to move the aperture 440 Secs (440 Secs)	
9 Com FCA Desi Ther ation	Aperture Ad NONE justment 2 f or Segment B ments: Put the aperture in the app LAPXSTP value at LP1 is -153 red LAPXSTP value for FCA to ill refore, XAPER is set to -95153 i. G160M/160 DEUTERIUM	COS, ALIGN/APER propriate position to illuminate a portion to the properties of the segment B with $G160M/1600$ $= +58$. * $HOWEVER$ *, because of the	on of the LP3 region of at Position 2 for I TRANS rules, the "	XAPER=58 on of the detector when illu LP3 is -95. QESIPARM XSTEPS -54" CURRENT=MEDIU M; BUFFER-TIME=16	S -54 minating Segment B with G160M/ $[(+58 - +112) = -54]$ Special Req	[==>] Identification [==>] Universely a server of the second of the se	
9 Com FCA Desi Ther ation	Aperture Ad NONE justment 2 f or Segment B ments: Put the aperture in the app LAPXSTP value at LP1 is -153 red LAPXSTP value for FCA to ill refore, XAPER is set to -95153 t. G160M/160 DEUTERIUM 0 Deuterium	COS, ALIGN/APER propriate position to illuminate a portion to the properties of the segment B with $G160M/1600$ $= +58$. * $HOWEVER$ *, because of the	on of the LP3 region on at Position 2 for I TRANS rules, the " G160M	XAPER=58 on of the detector when illu LP3 is -95. QESIPARM XSTEPS -54" CURRENT=MEDIU M; BUFFER-TIME=16 5;	S -54 minating Segment B with G160M/ $[(+58 - +112) = -54]$ Special Req	[==>] [1600. uirement is necessary to move the aperture 440 Secs (440 Secs)	to the correct loc
9 Com FCA Desi Ther ation	Aperture Ad NONE justment 2 f or Segment B ments: Put the aperture in the app LAPXSTP value at LP1 is -153 red LAPXSTP value for FCA to ill refore, XAPER is set to -95153 t. G160M/160 DEUTERIUM 0 Deuterium	COS, ALIGN/APER propriate position to illuminate a portion to the properties of the segment B with $G160M/1600$ $= +58$. * $HOWEVER$ *, because of the	on of the LP3 region on at Position 2 for I TRANS rules, the " G160M	XAPER=58 on of the detector when illustrates as -95. QESIPARM XSTEPS -54" CURRENT=MEDIUM; BUFFER-TIME=16 5; FP-POS=4;	S -54 minating Segment B with G160M/ $[(+58 - +112) = -54]$ Special Req	[==>] [1600. uirement is necessary to move the aperture 440 Secs (440 Secs)	
9 Com FCA Desi Ther ation	Aperture Ad NONE justment 2 f or Segment B ments: Put the aperture in the app LAPXSTP value at LP1 is -153 red LAPXSTP value for FCA to ill refore, XAPER is set to -95153 t. G160M/160 DEUTERIUM 0 Deuterium	COS, ALIGN/APER propriate position to illuminate a portion to the properties of the segment B with $G160M/1600$ $= +58$. * $HOWEVER$ *, because of the	on of the LP3 region on at Position 2 for I TRANS rules, the " G160M	XAPER=58 on of the detector when illustrates as -95. QESIPARM XSTEPS -54" CURRENT=MEDIUM; BUFFER-TIME=16 5; FP-POS=4; SEGMENT=BOTH;	S -54 minating Segment B with G160M/ $[(+58 - +112) = -54]$ Special Req	[==>] [1600. uirement is necessary to move the aperture 440 Secs (440 Secs)	to the correct loc
9 Com FCA Desi Ther ation	Aperture Ad NONE justment 2 f or Segment B ments: Put the aperture in the app LAPXSTP value at LP1 is -153 red LAPXSTP value for FCA to ill refore, XAPER is set to -95153 t. G160M/160 DEUTERIUM 0 Deuterium	COS, ALIGN/APER propriate position to illuminate a portion to the properties of the segment B with $G160M/1600$ $= +58$. * $HOWEVER$ *, because of the	on of the LP3 region on at Position 2 for I TRANS rules, the " G160M	XAPER=58 on of the detector when illustrates as -95. QESIPARM XSTEPS -54" CURRENT=MEDIUM; BUFFER-TIME=16 5; FP-POS=4;	S -54 minating Segment B with G160M/ $[(+58 - +112) = -54]$ Special Req	[==>] [1600. uirement is necessary to move the aperture 440 Secs (440 Secs)	to the correct loc
9 Com FCA Desi Ther ation 10	Aperture Ad NONE justment 2 f or Segment B ments: Put the aperture in the app LAPXSTP value at LP1 is -153 red LAPXSTP value for FCA to ill refore, XAPER is set to -95153 t. G160M/160 DEUTERIUM 0 Deuterium Exposure 2	COS, ALIGN/APER propriate position to illuminate a portion to the properties of the segment B with $G160M/1600$ $= +58$. * $HOWEVER$ *, because of the	on of the LP3 region of at Position 2 for I TRANS rules, the " G160M 1600 A	XAPER=58 on of the detector when illustrates as a second of the d	S -54 minating Segment B with G160M/ [(+58 - +112) = -54] Special Req	[==>] [1600. [autirement is necessary to move the aperture of the second sec	to the correct loc
9 Com FCA Desi Ther ation	Aperture Ad NONE justment 2 f or Segment B ments: Put the aperture in the app LAPXSTP value at LP1 is -153 red LAPXSTP value for FCA to ill refore, XAPER is set to -95153 t. G160M/160 DEUTERIUM 0 Deuterium Exposure 2	COS, ALIGN/APER propriate position to illuminate a porticuluminate Segment B with G160M/1600 = +58. *HOWEVER*, because of the COS/FUV, TIME-TAG, FCA	on of the LP3 region of at Position 2 for I TRANS rules, the " G160M 1600 A	XAPER=58 on of the detector when illustrates as a second of the d	S -54 minating Segment B with G160M/ [(+58 - +112) = -54] Special Req	[==>] [1600. [autirement is necessary to move the aperture of the second sec	to the correct loc

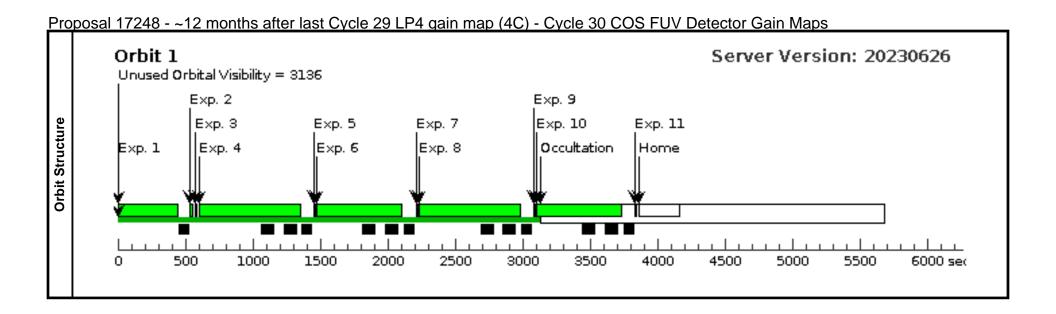


<u>Pr</u>	oposal 17248 - ~12 months after last Cycle 29 LP4 gain map (4C) - Cycle 30 COS FUV Detector Gain Maps	
	Proposal 17248, ~12 months after last Cycle 29 LP4 gain map (4C), scheduling	Thu Sep 07 11:00:39 GMT 2023
±	Diagnostic Status: Warning	
/is	Scientific Instruments: S/C, COS, COS/FUV	
-	Special Requirements: BETWEEN 01-OCT-2023:00:00:00 AND 01-NOV-2023:00:00:00; PARALLEL	
<u> </u>	Comments: This visit collects data at LP4. It uses the HV values appropriate for LP4 (173/175).	
၂ ဗ	(~12 months after last Cycle 29 LP4 gain map (4C)) Warning (Orbit Planner): MAXIMUM DURATION EXCEEDED FOR INTERNAL OR EARTH CALIB SU	
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Proposal 17248 - ~12 months after last Cycle 29 LP4 gain map (4C) - Cycle 30 COS FUV Detector Gain Maps

# Label Target	Config,Mode,Ape	erture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1 G160M/160 DEUTER	IUM COS/FUV, TIME-	TAG, FCA	G160M	CURRENT=MEDIU			125 Secs (125 Secs)	
0 Deuterium Exposure - S			1600 A	M;			[==>]	
et up at LP1				BUFFER-TIME=19 6;				
				FP-POS=4;				[1]
				SEGMENT=BOTH;				[1]
				LIFETIME-POS=L				
				P1				
Comments: Short exposure to	set aperture to LP1, which is n		e aperture range u	sed in this program. It a	lso sets the HV to the	LP1 values.		
2 Adjust HV t DARK o LP4 value	S/C, DATA, NON	E			SAA CONTOUR 31	;	39 Secs (39 Secs)	
S S					SPEC COM INSTR ELHVADJPROP;		[==>]	
					QASISTATES COS FUV HVNOM HVN OM;			
					QESIPARM ENDC TSA 173;			[1]
					QESIPARM ENDC TSB 175;			
					QESIPARM SEGM ENT AB			
Comments: Adjust the HV to I	P4 values				ENT AD			
,								
Since the HV is not increasing	•			**************************************				T
3 Aperture Ad NONE justment 1 f	COS, ALIGN/API	ER		XAPER=121			0.0 Secs (0 Secs)	+
or Segment A							[==>]	[1]
	n the appropriate position to ill	uminata a nortion a	of the IPA region (of the detector when illur	ninatina Soomont A u	ith G130M/1300		
*		aminaic a portion c	sj ine Li 4 region e	y the detector when titus	anaing segment 11 w	un G150m/150).		
FCA LAPXSTP value at LP1 in Desired LAPXSTP value for F	s -153 CA to illuminate Segment A wi	th G130M/1309 at	Position 1 for LP4	is -32				
	_							
Therefore, XAPER is set to -3.		TAC ECA	C120M	CUDDENT MEDILI			440 8 (440 8)	T
4 G130M/130 DEUTER 9 Deuterium	IUM COS/FUV, TIME-	TAG, FCA	G130M	CURRENT=MEDIU M;			440 Secs (440 Secs)	+
Exposure 1			1309 A	BUFFER-TIME=16			[==>]	
				5;				
				FP-POS=1;				[1]
				SEGMENT=BOTH;				
				LIFETIME-POS=L				
		n nos 1		P1			En nog 1	
•	re optimized for Segment A. F.		sen because previo	us observations show the				
5 Aperture Ad NONE	re optimized for Segment A. F. COS, ALIGN/API		sen because previo	* *	QESIPARM XSTER		0.0 Secs (0 Secs)	
•	· · · · · · · · · · · · · · · · · · ·		sen because previo	us observations show the				[1]
5 Aperture Ad NONE justment 2 f or Segment A	· · · · · · · · · · · · · · · · · · ·	ER		us observations show the XAPER=67	QESIPARM XSTER S -54	•	0.0 Secs (0 Secs)	[1]
5 Aperture Ad NONE justment 2 f or Segment A Comments: Put the aperture i	COS, ALIGN/APF α the appropriate position to ill α -153	ER uminate a portion o	of the LP4 region o	us observations show the XAPER=67 of the detector when illum	QESIPARM XSTER S -54	•	0.0 Secs (0 Secs)	[1]
5 Aperture Ad NONE justment 2 f or Segment A Comments: Put the aperture i FCA LAPXSTP value at LP1 to Desired LAPXSTP value for F	COS, ALIGN/APP n the appropriate position to ill s -153 CA to illuminate Segment A wi	ER uminate a portion o th G130M/1309 at	of the LP4 region of Position 2 for LP4	us observations show the XAPER=67 of the detector when illuments.	QESIPARM XSTER S -54 ninating Segment A w	ith G130M/1309.	0.0 Secs (0 Secs)	

	COS/FUV, TIME-TAG, FCA	G130M	CURRENT=MEDIU		440 Secs (440 Secs)	
9 Deuterium Exposure 2		1309 A	M;		[==>]	
Emposare 2			BUFFER-TIME=16 5;			
			FP-POS=1;			[1]
			SEGMENT=BOTH;			
			LIFETIME-POS=L P1			
Comments: Deuterium exposure on	timized for Segment A. FP-POS=1 was o	chosen hecause pre		at it has slightly more counts than	the other FP-POS values	
7 Aperture Ad NONE	COS, ALIGN/APER	mosen occurse pre	XAPER=112	QESIPARM XSTEP	0.0 Secs (0 Secs)	
justment 1 f or Segment B				S 45	[==>]	[1]
Comments: Put the aperture in the	appropriate position to illuminate a porti	on of the LP4 regi	on of the detector when illur	ninating Segment B with G160M/.	1600.	<u>.</u>
FCA LAPXSTP value at LP1 is -15.	3					
	o illuminate Segment B with G160M/1600	at Position 1 for .	LP4 is -41			
	53 = +112. *HOWEVER*, because of the	e TRANS rules, the	"QESIPARM XSTEPS 45"	T(+112 - +67) = +45] Special Red	quirement is necessary to move the apertur	re to the correct lo
cation. 8 G160M/160 DEUTERIUM	COS/FUV, TIME-TAG, FCA	G160M	CURRENT=MEDIU		440 Secs (440 Secs)	
0 Deuterium	COS/FOV, THVIE-TAG, FCA	1600 A	M;		[==>]	
Exposure 1		100011	BUFFER-TIME=16			
			5; FP-POS=4;			(1)
			SEGMENT=BOTH;			[1]
			LIFETIME-POS=L			
			P1			
		, ,			1 1 ED DOG 1	
	timmized for Segment B. FP-POS=4 was	chosen because p	revious observations show th			
Comments: Deuterium exposure op 9 Aperture Ad NONE justment 2 f or Segment B	timmized for Segment B. FP-POS=4 was COS, ALIGN/APER	chosen because p		nat it has slightly more counts that QESIPARM XSTEP S -54	n the other FP-POS values. 0.0 Secs (0 Secs) [==>]	[1]
9 Aperture Ad NONE justment 2 f or Segment B			revious observations show th XAPER=58	QESIPARM XSTEP S -54	0.0 Secs (0 Secs) [==>]	[1]
9 Aperture Ad NONE justment 2 f or Segment B Comments: Put the aperture in the	COS, ALIGN/APER appropriate position to illuminate a porti		revious observations show th XAPER=58	QESIPARM XSTEP S -54	0.0 Secs (0 Secs) [==>]	[1]
9 Aperture Ad NONE justment 2 f or Segment B Comments: Put the aperture in the of	COS, ALIGN/APER appropriate position to illuminate a porti	on of the LP4 regi	xAPER=58 on of the detector when illum	QESIPARM XSTEP S -54	0.0 Secs (0 Secs) [==>]	[1]
9 Aperture Ad NONE justment 2 f or Segment B Comments: Put the aperture in the a FCA LAPXSTP value at LP1 is -15. Desired LAPXSTP value for FCA to	COS, ALIGN/APER appropriate position to illuminate a porti 3 o illuminate Segment B with G160M/1600	on of the LP4 regi at Position 2 for	XAPER=58 on of the detector when illur	QESIPARM XSTEP S -54 ninating Segment B with G160M/.	0.0 Secs (0 Secs) [==>]	<u> </u>
9 Aperture Ad NONE justment 2 f or Segment B Comments: Put the aperture in the after the Application of the	COS, ALIGN/APER appropriate position to illuminate a portion to illuminate a portion illuminate Segment B with G160M/1600 $53 = +58. *HOWEVER*, because of the$	on of the LP4 region at Position 2 for TRANS rules, the	revious observations show the XAPER=58 Son of the detector when illuming the second state of the second s	QESIPARM XSTEP S -54 ninating Segment B with G160M/.	0.0 Secs (0 Secs) [==>] 1600. uirement is necessary to move the aperture	<u> </u>
9 Aperture Ad NONE justment 2 f or Segment B Comments: Put the aperture in the a FCA LAPXSTP value at LP1 is -15. Desired LAPXSTP value for FCA to Therefore, XAPER is set to -951: ation. 10 G160M/160 DEUTERIUM 0 Deuterium	COS, ALIGN/APER appropriate position to illuminate a porti 3 o illuminate Segment B with G160M/1600	on of the LP4 region of the LP4 region of the LP4 region of the CTRANS rules, the G160M	XAPER=58 on of the detector when illur	QESIPARM XSTEP S -54 ninating Segment B with G160M/.	[l] 0.0 Secs (0 Secs) $[l] = >]$ $line boundaries a line boundaries and the second of t$	<u> </u>
9 Aperture Ad NONE justment 2 f or Segment B Comments: Put the aperture in the a FCA LAPXSTP value at LP1 is -15. Desired LAPXSTP value for FCA to Therefore, XAPER is set to -951: ation. 10 G160M/160 DEUTERIUM	COS, ALIGN/APER appropriate position to illuminate a portion to illuminate a portion illuminate Segment B with G160M/1600 $53 = +58. *HOWEVER*, because of the$	on of the LP4 region at Position 2 for TRANS rules, the	xAPER=58 XAPER=58 Son of the detector when illum LP4 is -95. "QESIPARM XSTEPS -54" [CURRENT=MEDIU M; BUFFER-TIME=16	QESIPARM XSTEP S -54 ninating Segment B with G160M/.	0.0 Secs (0 Secs) [==>] 1600. uirement is necessary to move the aperture	<u> </u>
9 Aperture Ad NONE justment 2 f or Segment B Comments: Put the aperture in the a FCA LAPXSTP value at LP1 is -15. Desired LAPXSTP value for FCA to Therefore, XAPER is set to -951: ation. 10 G160M/160 DEUTERIUM 0 Deuterium	COS, ALIGN/APER appropriate position to illuminate a portion to illuminate a portion illuminate Segment B with G160M/1600 $53 = +58. *HOWEVER*, because of the$	on of the LP4 region of the LP4 region of the LP4 region of the CTRANS rules, the G160M	xAPER=58 XAPER=58 Son of the detector when illum LP4 is -95. "QESIPARM XSTEPS -54" [CURRENT=MEDIU M; BUFFER-TIME=16 5;	QESIPARM XSTEP S -54 ninating Segment B with G160M/.	[l] 0.0 Secs (0 Secs) $[l] = >]$ $line boundaries a line boundaries and the second of t$	to the correct loc
9 Aperture Ad NONE justment 2 f or Segment B Comments: Put the aperture in the a FCA LAPXSTP value at LP1 is -15. Desired LAPXSTP value for FCA to Therefore, XAPER is set to -951: ation. 10 G160M/160 DEUTERIUM 0 Deuterium	COS, ALIGN/APER appropriate position to illuminate a portion to illuminate a portion illuminate Segment B with G160M/1600 $53 = +58. *HOWEVER*, because of the$	on of the LP4 region of the LP4 region of the LP4 region of the CTRANS rules, the G160M	xAPER=58 XAPER=58 on of the detector when illum LP4 is -95. "QESIPARM XSTEPS -54" [CURRENT=MEDIU M; BUFFER-TIME=16 5; FP-POS=4;	QESIPARM XSTEP S -54 ninating Segment B with G160M/.	[l] 0.0 Secs (0 Secs) $[l] = >]$ $line boundaries a line boundaries and the second of t$	<u> </u>
9 Aperture Ad NONE justment 2 f or Segment B Comments: Put the aperture in the a FCA LAPXSTP value at LP1 is -15. Desired LAPXSTP value for FCA to Therefore, XAPER is set to -951: ation. 10 G160M/160 DEUTERIUM 0 Deuterium	COS, ALIGN/APER appropriate position to illuminate a portion to illuminate a portion illuminate Segment B with G160M/1600 $53 = +58. *HOWEVER*, because of the$	on of the LP4 region of the LP4 region of the LP4 region of the CTRANS rules, the G160M	xAPER=58 XAPER=58 on of the detector when illum LP4 is -95. "QESIPARM XSTEPS -54" [CURRENT=MEDIU M; BUFFER-TIME=16 5; FP-POS=4; SEGMENT=BOTH;	QESIPARM XSTEP S -54 ninating Segment B with G160M/.	[l] 0.0 Secs (0 Secs) $[l] = >]$ $line boundaries a line boundaries and the second of t$	to the correct loc
9 Aperture Ad NONE justment 2 f or Segment B Comments: Put the aperture in the a FCA LAPXSTP value at LP1 is -15. Desired LAPXSTP value for FCA to Therefore, XAPER is set to -951: ation. 10 G160M/160 DEUTERIUM 0 Deuterium	COS, ALIGN/APER appropriate position to illuminate a portion to illuminate a portion illuminate Segment B with G160M/1600 $53 = +58. *HOWEVER*, because of the$	on of the LP4 region of the LP4 region of the LP4 region of the CTRANS rules, the G160M	xAPER=58 XAPER=58 on of the detector when illum LP4 is -95. "QESIPARM XSTEPS -54" [CURRENT=MEDIU M; BUFFER-TIME=16 5; FP-POS=4;	QESIPARM XSTEP S -54 ninating Segment B with G160M/.	[l] 0.0 Secs (0 Secs) $[l] = >]$ $line boundaries a line boundaries and the second of t$	to the correct loc
9 Aperture Ad NONE justment 2 f or Segment B Comments: Put the aperture in the a FCA LAPXSTP value at LP1 is -15. Desired LAPXSTP value for FCA to Therefore, XAPER is set to -951: ation. 10 G160M/160 DEUTERIUM 0 Deuterium Exposure 2	COS, ALIGN/APER appropriate position to illuminate a porti 3 o illuminate Segment B with G160M/1600 53 = +58. *HOWEVER*, because of the COS/FUV, TIME-TAG, FCA	on of the LP4 regi at Position 2 for t TRANS rules, the G G160M 1600 A	xAPER=58 XAPER=58 on of the detector when illum LP4 is -95. "QESIPARM XSTEPS -54" [CURRENT=MEDIU M; BUFFER-TIME=16 5; FP-POS=4; SEGMENT=BOTH; LIFETIME-POS=L P1 revious observations show the service of the	QESIPARM XSTEP S -54 minating Segment B with G160M/. $(+58 - +112) = -54$] Special Requation in the stightly more counts that	[e] 0.0 Secs (0 Secs) $[e] = >]$ $[e] 1600.$ $[e] 440 Secs (440 Secs)$ $[e] = >]$ $[e] n the other FP-POS values.$	to the correct loc
9 Aperture Ad NONE justment 2 f or Segment B Comments: Put the aperture in the a FCA LAPXSTP value at LP1 is -15. Desired LAPXSTP value for FCA to Therefore, XAPER is set to -951: ation. 10 G160M/160 DEUTERIUM 0 Deuterium Exposure 2	COS, ALIGN/APER appropriate position to illuminate a porti 3 5 illuminate Segment B with G160M/1600 53 = +58. *HOWEVER*, because of the COS/FUV, TIME-TAG, FCA	on of the LP4 regi at Position 2 for t TRANS rules, the G G160M 1600 A	CURRENT=MEDIU M; BUFFER-TIME=16 5; FP-POS=4; SEGMENT=BOTH; LIFETIME-POS=L P1	QESIPARM XSTEP S -54 $S = -54$	[e] 0.0 Secs (0 Secs) $[e] = >]$ $[e] 1600.$ $[e] 440 Secs (440 Secs)$ $[e] = >]$	to the correct loc



<u>Pr</u>	oposal 17248 - ~6 months after last Cycle 29 LP5 gain map (5A) - Cycle 30 COS FUV Detector Gain Maps	
	Proposal 17248, ~6 months after last Cycle 29 LP5 gain map (5A), completed	Thu Sep 07 11:00:39 GMT 2023
±	Diagnostic Status: Warning	
]is	Scientific Instruments: S/C, COS, COS/FUV	
1	Special Requirements: BETWEEN 01-APR-2023:00:00:00 AND 01-MAY-2023:00:00:00; PARALLEL	
L	Comments: This visit collects data at LP5. It uses the HV values appropriate for LP5 (167/169).	
၂ ပ္	(~6 months after last Cycle 29 LP5 gain map (5A)) Warning (Orbit Planner): MAXIMUM DURATION EXCEEDED FOR INTERNAL OR EARTH CALIB SU	
sti		
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Proposal 17248 - ~6 months after last Cycle 29 LP5 gain map (5A) - Cycle 30 COS FUV Detector Gain Maps

# Label Tar	get	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Regs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1 G160M/160 DEU	JTERIUM	COS/FUV, TIME-TAG, FCA	G160M	CURRENT=MEDIU			125 Secs (125 Secs)	
0 Deuterium Exposure - S			1600 A	M;			[==>]	
et up at LP1				BUFFER-TIME=19 6;				
				FP-POS=1;				
				SEGMENT=BOTH;				[1]
				LIFETIME-POS=L				
				P1				
Comments: Short exposi	ure to set aperture	e to LP1, which is near the center of	the aperture range i	used in this program. It a	lso sets the HV to the	LP1 values.		,
2 Adjust HV t DAI	RK	S/C, DATA, NONE			SAA CONTOUR 3	Į;	39 Secs (39 Secs)	
o LP5 value					SPEC COM INSTR		[==>]	
S					ELHVADJPROP;			
					QASISTATES COS FUV HVNOM HVN			
					OM;	•		
					QESIPARM ENDC			[1]
					TSA 167;			
					QESIPARM ENDC			
					TSB 169;			
					QESIPARM SEGM ENT AB			
Comments: Adjust the H	IV to LP5 values.							
•		iima = 20 aaaaa da						
Since the HV is not increase 3 Aperture Ad NOI		COS, ALIGN/APER		XAPER=-60			0.0 Secs (0 Secs)	
justment 1 f	NE	COS, ALIGIVAFER		AAFEK00				
or Segment							[==>]	[1]
		priate position to illuminate a portic		-64-1-44111		::L C120M/1200		
Comments: Fut the aper	rure in ine approp	oriale position to tituminate a portio	m of the LF3 region	oj ine aeiecior wnen iiiun	ninating Segment A v	/IIII G130M/1309.		
FCA LAPXSTP value at		inate Segment A with G130M/1309	at Donition 1 for I D	5:, 212				
Desirea LAPASIP value	e jor FCA to titum	inaie Segmeni A wiin G150M/1509	at Position 1 for LP.	3 ls -213				
Therefore, XAPER is see		-60						
4 G130M/130 DEU 9 Deuterium	JTERIUM	COS/FUV, TIME-TAG, FCA	G130M	CURRENT=MEDIU			440 Secs (440 Secs)	
Exposure 1			1309 A	M;			[==>]	
r				BUFFER-TIME=16 5;				
				FP-POS=1				[11
				FP-POS=1; SEGMENT=BOTH:				[1]
				SEGMENT=BOTH;				[1]
				· · · · · · · · · · · · · · · · · · ·				[1]
Comments: Deuterium e	exposure optimizec	d for Segment A. FP-POS=1 was c	hosen because previo	SEGMENT=BOTH; LIFETIME-POS=L P1	at it has slightly more	counts than the oth	er FP-POS values.	[1]
Comments: Deuterium e 5 Aperture Ad NOI		d for Segment A. FP-POS=1 was co COS, ALIGN/APER	hosen because previo	SEGMENT=BOTH; LIFETIME-POS=L P1	QESIPARM XSTEI		er FP-POS values. 0.0 Secs (0 Secs)	[1]
5 Aperture Ad NOI justment 2 f			hosen because previo	SEGMENT=BOTH; LIFETIME-POS=L P1 ous observations show the				
5 Aperture Ad NO!			hosen because previo	SEGMENT=BOTH; LIFETIME-POS=L P1 ous observations show the	QESIPARM XSTEI		0.0 Secs (0 Secs)	[1]
5 Aperture Ad NOI justment 2 f or Segment A	NE	COS, ALIGN/APER		SEGMENT=BOTH; LIFETIME-POS=L P1 ous observations show the XAPER=-114	QESIPARM XSTEI S -54)	0.0 Secs (0 Secs)	
5 Aperture Ad NOI justment 2 f or Segment A Comments: Put the aper	NE ture in the approp			SEGMENT=BOTH; LIFETIME-POS=L P1 ous observations show the XAPER=-114	QESIPARM XSTEI S -54)	0.0 Secs (0 Secs)	
5 Aperture Ad NOI justment 2 f or Segment A Comments: Put the aper	NE rture in the approp	COS, ALIGN/APER priate position to illuminate a portion	on of the LP5 region	SEGMENT=BOTH; LIFETIME-POS=L P1 ous observations show the XAPER=-114 of the detector when illur	QESIPARM XSTEI S -54)	0.0 Secs (0 Secs)	
5 Aperture Ad NOI justment 2 f or Segment A Comments: Put the aper FCA LAPXSTP value at Desired LAPXSTP value	NE rture in the approp LP1 is -153 e for FCA to illum	COS, ALIGN/APER oriate position to illuminate a portion in the segment A with G130M/1309	on of the LP5 region at Position 2 for LP.	SEGMENT=BOTH; LIFETIME-POS=L P1 Dus observations show the XAPER=-114 of the detector when illum 5 is -267	QESIPARM XSTEI S -54 ninating Segment A w	ovith G130M/1309.	0.0 Secs (0 Secs) [==>]	[1]
5 Aperture Ad NOI justment 2 f or Segment A Comments: Put the aper FCA LAPXSTP value at Desired LAPXSTP value	NE rture in the approp LP1 is -153 e for FCA to illum	COS, ALIGN/APER oriate position to illuminate a portion in the segment A with G130M/1309	on of the LP5 region at Position 2 for LP.	SEGMENT=BOTH; LIFETIME-POS=L P1 Dus observations show the XAPER=-114 of the detector when illum 5 is -267	QESIPARM XSTEI S -54 ninating Segment A w	ovith G130M/1309.	0.0 Secs (0 Secs)	[1]

6 G130M/130 DEUTERIUM	ns after last Cycle 29 LF COS/FUV. TIME-TAG. FCA	G130M	CURRENT=MEDIU	CCC C V Detector C	440 Secs (440 Secs)	
9 Deuterium	COS/FUV, TIME-TAG, FCA	1309 A	M;		[==>]	
Exposure 2		1509 A	BUFFER-TIME=16 5;		[==>]	
			FP-POS=1;			[1]
			SEGMENT=BOTH;			[1]
			LIFETIME-POS=L P1			
Comments: Deuterium exposure optim	nized for Segment A. FP-POS=1 was c	chosen because pre		at it has slightly more counts than t	he other FP-POS values.	
7 Aperture Ad NONE	COS, ALIGN/APER		XAPER=-62	QESIPARM XSTEP	0.0 Secs (0 Secs)	
justment 1 f or Segment B				S 52	[==>]	[1]
Comments: Put the aperture in the app	propriate position to illuminate a porti	on of the LP5 regi	on of the detector when illur	ninating Segment B with G160M/10	600.	·
FCA LAPXSTP value at LP1 is -153 Desired LAPXSTP value for FCA to il	lluminate Segment B with G160M/1600	at Position 1 for	I.P5 is -215			
Therefore, XAPER is set to -215153	ŭ	•		(-62114) = +52] Special Requir	rement is necessary to move the aperture	to the correct locat
ion. 8 G160M/160 DEUTERIUM	COS/FUV, TIME-TAG, FCA	G160M	CURRENT=MEDIU		440 Secs (440 Secs)	
0 Deuterium Exposure 1		1600 A	M;		[==>]	
Exposure 1			BUFFER-TIME=16 5;			
			FP-POS=4;			[1]
			SEGMENT=BOTH;			[1]
			LIFETIME-POS=L			
Comments: Deuterium exposure optim	nmized for Segment B. FP-POS=4 was	chosen because p	P1 revious observations show th	nat it has slightly more counts than	the other FP-POS values.	
9 Aperture Ad NONE	COS, ALIGN/APER		XAPER=-114	QESIPARM XSTEP	0.0 Secs (0 Secs)	
justment 2 f or Segment B				S -52	[==>]	[1]
Comments: Put the aperture in the app	propriate position to illuminate a porti	on of the LP5 regi	on of the detector when illur	ninating Segment B with G160M/10	600.	
FCA LAPXSTP value at LP1 is -153 Desired LAPXSTP value for FCA to il	Tuminate Seament R with G160M/1600	at Position 2 for	IP5 is 280 but the apertur	e soft stop is at -275 and we don't w	vant to exceed that value when including	the 5 sten oversho
ot. To leave some pad, I will set it to m	natch the G130M exposure (-267).	an I osmon 2 jor i	21 5 to 200, out the aperture	soft stop is at 273 and we don't h	ran to exceed that value when thereading	ine 5 step oversno
Therefore, XAPER is set to -267153 ation.	3 = -114. *HOWEVER*, because of the	e TRANS rules, the	e "QESIPARM XSTEPS -52"	[(-11462) = -52] Special Requi	irement is necessary to move the aperture	to the correct loc
10 G160M/160 DEUTERIUM	COS/FUV, TIME-TAG, FCA	G160M	CURRENT=MEDIU		440 Secs (440 Secs)	
0 Deuterium Exposure 2		1600 A	M;		[==>]	
Exposure 2			BUFFER-TIME=16 5;			
			FP-POS=4;			[1]
			SEGMENT=BOTH;			[11]
			LIFETIME-POS=L P1			
Comments: Deuterium exposure optim	nmized for Segment B. FP-POS=4 was	chosen because p	revious observations show th	nat it has slightly more counts than	the other FP-POS values.	•
7						

Proposal 17248 - ~6 months after last Cycle 29 LP5 gain map (5A) - Cycle 30 COS FUV Detector Gain Maps QESIPARM XSTEP COS, ALIGN/APER Return Aper NONE XAPER=0 0 Secs (0 Secs) ture to Nomi nal Position S 114 [==>] [1] 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. Orbit 1 Server Version: 20230626 Exp. 1 Unused Orbital Visibility = 3136 Exp. 2 Exp. 9 **Orbit Structure** Exp. 10 Ехр. 3 Exp. 7 Exp. 11 Exp. 5 Exp. 4 Exp. 6 Exp. 8 Occultation Home 500 1000 1500 2000 2500 3000 3500 4000 4500 5000 5500 6000 sec 0

<u>Pr</u>	oposal 17248 - ~12 months after last Cycle 29 LP5 gain map (5C) - Cycle 30 COS FUV Detector Gain Maps	
	Proposal 17248, ~12 months after last Cycle 29 LP5 gain map (5C), scheduling	Thu Sep 07 11:00:39 GMT 2023
±	Diagnostic Status: Warning	
/is	Scientific Instruments: S/C, COS, COS/FUV	
-	Special Requirements: BETWEEN 01-OCT-2023:00:00:00 AND 01-NOV-2023:00:00:00; PARALLEL	
<u> </u>	Comments: This visit collects data at LP5. It uses the HV values appropriate for LP5 (167/169).	
၂ ဗ	(~12 months after last Cycle 29 LP5 gain map (5C)) Warning (Orbit Planner): MAXIMUM DURATION EXCEEDED FOR INTERNAL OR EARTH CALIB SU	
Sti		
2		
ad		
ق		

Proposal 17248 - ~12 months after last Cycle 29 LP5 gain map (5C) - Cycle 30 COS FUV Detector Gain Maps

1 G160M/160 I	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Regs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	DEUTERIUM	COS/FUV, TIME-TAG, FCA	G160M	CURRENT=MEDIU			125 Secs (125 Secs)	
0 Deuterium Exposure - S			1600 A	M;			[==>]	
et up at LP1				BUFFER-TIME=19 6;				
				FP-POS=4;				[1]
				SEGMENT=BOTH;				[1]
				LIFETIME-POS=L				
				P1				
Comments: Short ex	xposure to set aperti	are to LP1, which is near the center o	f the aperture range	used in this program. It a	lso sets the HV to the	LP1 values.		
2 Adjust HV t	DARK	S/C, DATA, NONE			SAA CONTOUR 3	1;	39 Secs (39 Secs)	
o LP5 value s					SPEC COM INSTR ELHVADJPROP;		[==>]	
					QASISTATES COS FUV HVNOM HVN			
					OM;			
					QESIPARM ENDC TSA 167;			[1]
					QESIPARM ENDC TSB 169;			
					QESIPARM SEGM ENT AB			
Comments: Adjust th	he HV to LP5 value	s.						
Since the HV is not i	increasing exposur	re time = 39 seconds						
3 Aperture Ad 1	V- 1	COS, ALIGN/APER		XAPER=-60			0.0 Secs (0 Secs)	
justment 1 f	1,01,2			111 211 00			[==>]	
or Segment A								
								[1]
	aperture in the app	ropriate position to illuminate a porti	on of the LP5 region	of the detector when illu	ninating Segment A w	vith G130M/1309.	,	[1]
Comments: Put the c		ropriate position to illuminate a porti	on of the LP5 region	of the detector when illu	ninating Segment A w	vith G130M/1309.		[1]
Comments: Put the o	ue at LP1 is -153		,		ninating Segment A w	vith G130M/1309.		[1]
Comments: Put the c FCA LAPXSTP valu Desired LAPXSTP v	ue at LP1 is -153 value for FCA to illi	uminate Segment A with G130M/1309	,		ninating Segment A w	vith G130M/1309.		[1]
Comments: Put the of FCA LAPXSTP valu Desired LAPXSTP v Therefore, XAPER is	ue at LP1 is -153 value for FCA to illi is set to -213153	uminate Segment A with G130M/1309 = -60	at Position 1 for LP	5 is -213	ninating Segment A w	vith G130M/1309.		[1]
Comments: Put the of FCA LAPXSTP value Desired LAPXSTP value Therefore, XAPER is 4 G130M/130 I	ue at LP1 is -153 value for FCA to illi is set to -213153	uminate Segment A with G130M/1309	O at Position 1 for LP		ninating Segment A w	vith G130M/1309.	440 Secs (440 Secs)	[1]
Comments: Put the of FCA LAPXSTP valu Desired LAPXSTP v Therefore, XAPER is	ue at LP1 is -153 value for FCA to illi is set to -213153	uminate Segment A with G130M/1309 = -60	at Position 1 for LP	5 is -213 CURRENT=MEDIU M;	ninating Segment A w	vith G130M/1309.		[1]
Comments: Put the conference of the Comments o	ue at LP1 is -153 value for FCA to illi is set to -213153	uminate Segment A with G130M/1309 = -60	O at Position 1 for LP	5 is -213 CURRENT=MEDIU	ninating Segment A w	vith G130M/1309.	440 Secs (440 Secs)	
Comments: Put the conference of the Comments o	ue at LP1 is -153 value for FCA to illi is set to -213153	uminate Segment A with G130M/1309 = -60	O at Position 1 for LP	5 is -213 CURRENT=MEDIU M; BUFFER-TIME=16	ninating Segment A v	vith G130M/1309.	440 Secs (440 Secs)	[1]
Comments: Put the conference of the Comments o	ue at LP1 is -153 value for FCA to illi is set to -213153	uminate Segment A with G130M/1309 = -60	O at Position 1 for LP	5 is -213 CURRENT=MEDIU M; BUFFER-TIME=16 5;	ninating Segment A w	vith G130M/1309.	440 Secs (440 Secs)	
Comments: Put the conference of the Comments o	ue at LP1 is -153 value for FCA to illi is set to -213153	uminate Segment A with G130M/1309 = -60	O at Position 1 for LP	CURRENT=MEDIU M; BUFFER-TIME=16 5; FP-POS=1; SEGMENT=BOTH; LIFETIME-POS=L	ninating Segment A w	vith G130M/1309.	440 Secs (440 Secs)	
Comments: Put the control of the Comments of t	te at LP1 is -153 value for FCA to illi is set to -213153 DEUTERIUM	uminate Segment A with G130M/1309 = -60 COS/FUV, TIME-TAG, FCA	G130M 1309 A	CURRENT=MEDIU M; BUFFER-TIME=16 5; FP-POS=1; SEGMENT=BOTH; LIFETIME-POS=L P1			440 Secs (440 Secs) [==>]	
Comments: Put the control of the Comments: Put the control of the Comments: Put the control of the Comments: Put the comments in the comme	ue at LP1 is -153 value for FCA to illi is set to -213153 DEUTERIUM	uminate Segment A with G130M/1309 = -60 COS/FUV, TIME-TAG, FCA zed for Segment A. FP-POS=1 was a	G130M 1309 A	CURRENT=MEDIU M; BUFFER-TIME=16 5; FP-POS=1; SEGMENT=BOTH; LIFETIME-POS=L P1 ous observations show the	at it has slightly more	e counts than the othe	440 Secs (440 Secs) [==>] FP-POS values.	
Comments: Put the control of the Comments: Put the control of the Comments: Put the control of the Comments: Put the comments in the comments	ue at LP1 is -153 value for FCA to illi is set to -213153 DEUTERIUM	uminate Segment A with G130M/1309 = -60 COS/FUV, TIME-TAG, FCA	G130M 1309 A	CURRENT=MEDIU M; BUFFER-TIME=16 5; FP-POS=1; SEGMENT=BOTH; LIFETIME-POS=L P1	at it has slightly more QESIPARM XSTEI	e counts than the othe	440 Secs (440 Secs) [==>]	
Comments: Put the control of the Comments: Put the control of the Comments: Put the control of the Comments: Put the comments in the comme	ue at LP1 is -153 value for FCA to illi is set to -213153 DEUTERIUM	uminate Segment A with G130M/1309 = -60 COS/FUV, TIME-TAG, FCA zed for Segment A. FP-POS=1 was a	G130M 1309 A	CURRENT=MEDIU M; BUFFER-TIME=16 5; FP-POS=1; SEGMENT=BOTH; LIFETIME-POS=L P1 ous observations show the	at it has slightly more	e counts than the othe	440 Secs (440 Secs) [==>] FP-POS values.	
Comments: Put the of FCA LAPXSTP valuation Desired LAPXSTP valuation of Therefore, XAPER is 4 G130M/130 In 9 Deuterium Exposure 1 Comments: Deuterium Exposure 1 Comments: Deuterium 1	ue at LP1 is -153 value for FCA to illu is set to -213153 DEUTERIUM um exposure optimi NONE	uminate Segment A with G130M/1309 = -60 COS/FUV, TIME-TAG, FCA zed for Segment A. FP-POS=1 was a	G130M G1309 A 1309 A	CURRENT=MEDIU M; BUFFER-TIME=16 5; FP-POS=1; SEGMENT=BOTH; LIFETIME-POS=L P1 Ous observations show the	at it has slightly more QESIPARM XSTEI S -54	e counts than the othe	440 Secs (440 Secs) [==>] FP-POS values. 0.0 Secs (0 Secs)	[1]
Comments: Put the control of the Comments: Put the control of the Comments: Put the control of the Comments: Put the com	we at LP1 is -153 walue for FCA to illustics set to -213153 DEUTERIUM um exposure optimi NONE aperture in the appure at LP1 is -153	uminate Segment A with G130M/130S = -60 COS/FUV, TIME-TAG, FCA zed for Segment A. FP-POS=1 was a COS, ALIGN/APER	G130M 1309 A 1309 ehosen because previo	CURRENT=MEDIU M; BUFFER-TIME=16 5; FP-POS=1; SEGMENT=BOTH; LIFETIME-POS=L P1 Ous observations show the XAPER=-114	at it has slightly more QESIPARM XSTEI S -54	e counts than the othe	440 Secs (440 Secs) [==>] FP-POS values. 0.0 Secs (0 Secs)	[1]
Comments: Put the of FCA LAPXSTP valu Desired LAPXSTP v Therefore, XAPER is: 4 G130M/130 1 9 Deuterium Exposure 1 Comments: Deuterium 5 Aperture Ad 1 justment 2 f or Segment A Comments: Put the of FCA LAPXSTP valu Desired LAPXSTP v	we at LP1 is -153 value for FCA to illuis set to -213153 DEUTERIUM um exposure optimi NONE aperture in the appure at LP1 is -153 value for FCA to illui	uminate Segment A with G130M/1309 = -60 COS/FUV, TIME-TAG, FCA zed for Segment A. FP-POS=1 was of COS, ALIGN/APER ropriate position to illuminate a portiuminate Segment A with G130M/1309	G130M 1309 A 1309 on of the LP5 region Output Description 2 for LP	CURRENT=MEDIU M; BUFFER-TIME=16 5; FP-POS=1; SEGMENT=BOTH; LIFETIME-POS=L P1 Ous observations show the XAPER=-114 of the detector when illure 5 is -267	at it has slightly more QESIPARM XSTEI S -54 ninating Segment A w	e counts than the other	440 Secs (440 Secs) [==>] FP-POS values. 0.0 Secs (0 Secs)	(1)

6 G130M/130 DEUTERIUM	oths after last Cycle 29 L	G130M	CURRENT=MEDIU	CTOV DOLOGICI	440 Secs (440 Secs)	
9 Deuterium	COS/TOV, TIME-TAG, TCA	1309 A	M;		[==>]	
Exposure 2		1309 A	BUFFER-TIME=16 5;		[>]	
			FP-POS=1;			[1]
			SEGMENT=BOTH;			[1]
			LIFETIME-POS=L			
			P1			
	imized for Segment A. FP-POS=1 was o	chosen because pre				
7 Aperture Ad NONE justment 1 f or Segment B	COS, ALIGN/APER			QESIPARM XSTEP S 52	0.0 Secs (0 Secs)	
			502		[==>]	[1]
Comments: Put the aperture in the ap	ppropriate position to illuminate a porti	on of the LP5 regi	on of the detector when illuminating	Segment B with G160M/1	600.	'
FCA LAPXSTP value at LP1 is -153	illuminate Segment B with G160M/1600	at Position 1 for	IP5 is -215			
v		v		14) = +52] Special Requir	rement is necessary to move the aperture	to the correct locat
ion. 8 G160M/160 DEUTERIUM	COS/FUV, TIME-TAG, FCA	G160M	CURRENT=MEDIU		440 Secs (440 Secs)	
0 Deuterium Exposure 1		1600 A	M;		[==>]	
Exposure 1			BUFFER-TIME=16 5;			
			FP-POS=4;			(11
			SEGMENT=BOTH;			[1]
			LIFETIME-POS=L			
			P1			
	immized for Segment B. FP-POS=4 was	chosen because p				
9 Aperture Ad NONE justment 2 f	COS, ALIGN/APER		XAPER=-114 QESIP. S -52	QESIPARM XSTEP S -52	0.0 Secs (0 Secs)	
or Segment B			5-52		[==>]	[1]
Comments: Put the aperture in the ap	ppropriate position to illuminate a porti	on of the LP5 regi	on of the detector when illuminating	Segment B with G160M/1	600.	,
FCA LAPXSTP value at LP1 is -153						
Desired LAPXSTP value for FCA to of to. To leave some pad, I will set it to	illuminate Segment B with G160M/1600 match the G130M exposure (-267)	at Position 2 for .	LP5 is -280, but the aperture soft sto	pp is at -275 and we don't w	want to exceed that value when including	the 5 step oversho
•	•	mp.i.va i i	#0EGIP P14 YGEEPG 50 # 1 / 1 / 1	(2) 5215 115		
Therefore, XAPER is set to -26/15 ation.	53 = -114. *HOWEVER*, because of th	e TRANS rules, the	e "QESIPARM XSTEPS -52" [(-114	62) = -52] Special Requ	irement is necessary to move the aperture	e to the correct loc
10 G160M/160 DEUTERIUM	COS/FUV, TIME-TAG, FCA	G160M	CURRENT=MEDIU		440 Secs (440 Secs)	
0 Deuterium Exposure 2		1600 A	M;		[==>]	
Exposure 2			BUFFER-TIME=16 5;			
			FP-POS=4;			[1]
			SEGMENT=BOTH;			[1]
			LIFETIME-POS=L			
Commants: Dautarium avnosura onti	immized for Segment B. FP-POS=4 was	chasan bacausa n		e cliabtly more counte than	the other FP POS values	
Соттеніз. Бешенит ехрозите орн	mmizea joi Segmeni B. F1 -1 OS=4 was	chosen because p	revious observations snow that it has	s sugnity more counts than	the other F1 -1 OS values.	

Proposal 17248 - ~12 months after last Cycle 29 LP5 gain map (5C) - Cycle 30 COS FUV Detector Gain Maps COS, ALIGN/APER Return Aper NONE XAPER=0 QESIPARM XSTEP 0 Secs (0 Secs) ture to Nomi nal Position S 114 [==>] [1] 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. Orbit 1 Server Version: 20230626 Exp. 1 Unused Orbital Visibility = 3136 Exp. 2 Exp. 9 **Orbit Structure** Exp. 10 Ехр. 3 Exp. 11 Exp. 5 Exp. 7 Exp. 4 Exp. 6 Exp. 8 Occultation Home 500 1000 1500 2000 2500 3000 3500 4000 4500 5000 5500 6000 sec 0