

15534 - Cycle 26 COS FUV Detector Gain Maps

Cycle: 26, Proposal Category: CAL/COS (Availability Mode: RESTRICTED)

INVESTIGATORS

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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	13-May-2019 15:00:41.0	yes
2C	DARK DEUTERIUM NONE	COS COS/FUV S/C	1	13-May-2019 15:00:43.0	yes
3A	DARK DEUTERIUM NONE	COS COS/FUV S/C	1	13-May-2019 15:00:45.0	yes
3C	DARK DEUTERIUM NONE	COS COS/FUV S/C	1	13-May-2019 15:00:46.0	yes

Proposal 15534 (STScI Edit Number: 3, Created: Monday, May 13, 2019 at 2:00:53 PM 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	13-May-2019 15:00:48.0	yes
4B	DARK DEUTERIUM NONE	COS COS/FUV S/C	1	13-May-2019 15:00:49.0	yes
4C	DARK DEUTERIUM NONE	COS COS/FUV S/C	1	13-May-2019 15:00:51.0	yes
4D	DARK DEUTERIUM NONE	COS COS/FUV S/C	1	13-May-2019 15:00:52.0	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 26. The data obtained will be used to create gain maps of the detector. Because of the strongly varying intensity of the lamp as a function of wavelength, G130M/1309 data will be obtained for Segment A, and G160M/1600 will be used for Segment B.

Gain map data will be obtained both before and after any change is made to any nominal high voltage value on either segment, before and after any lifetime move, and at semi-regular intervals for modes which have remained at the same voltage for a long time. 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.

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Gain maps should be taken before and after any high voltage change, before and after any change in Lifetime Position, and 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 locations.

The initial plan for Cycle 26 includes 8 one-orbit visits, and two one-orbit contingency visits:

*Visits 2A and 2C will be taken at LIFE_ADJ=2 after about 6 months and 1 year from the gain map taken at this position near the end of Cycle 25 at the nominal Blue Mode HV values (currently 173/175).

*Visits 3A and 3C will be taken at LIFE_ADJ=3 after about 6 months and 1 year from the gain map taken at this position near the end of Cycle 25 at the nominal LP3 HV values (currently 167/175).

*Visits 4A and 4C will be taken at LIFE_ADJ=4 after about 6 months and 1 year from the gain map taken at this position near the end of Cycle 25 at the HV values for the Standard Modes at LP4 (163/163).

*Visits 4B and 4D will be taken at LIFE_ADJ=4 after about 6 months and 1 year from the gain map taken at this position near the end of Cycle 25 at the HV values for G130M/1222 at LP4 (163/167).

*Two contingency visits will be used if a HV change is made for Segment A at either LP2 or LP3 during Cycle 26. One will be taken immediately before the change using the current HV values, and one will be taken after at the new values.

The procedure for collecting this data in each visit is:

- * Adjust the HV values if necessary.
- * Adjust the aperture in the cross dispersion direction so that the deuterium lamp will illuminate the appropriate region on Segment A when using G130M/1309.

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

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

exposure.

* Adjust the aperture in the cross dispersion direction so that the deuterium lamp will illuminate the appropriate region on Segment B when using

G160M/1600.

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

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

exposure.

*Return the aperture to the nominal LP4 location.

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

Note that because TRANS resets its aperture zero point when FCA exposures are taken, the aperture is explicitly moved using "QESIPARM

XSTEPS", as was done in Program 13970, 14439, 14519, 14941, etc.

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

MEB1:

SOFT STOPS = -275 to 275

HARD STOPS = -282 to 285

MEB2:

SOFT STOPS = -275 to 275

HARD STOPS = -284 to 283

Summary table:

Visit	LP	Grating/Segment	Y Position		XAPER
2A/2C	2	G130M/A	1	-213	-448
2A/2C	2	G130M/A	2	-267*	-502
2A/2C	2	G160M/B	1	-225	-460
2A/2C	2	G160M/B	2	-267*	-502
3A/3C	3	G130M/A	1	-72	-307
3A/3C	3	G130M/A	2	-128	-363
3A/3C	3	G160M/B	1	-84	-319
3A/3C	3	G160M/B	2	-140	-375
4A/4B/4C/4D	4	G130M/A	1	-32	-267
4A/4B/4C/4D	4	G130M/A	2	-86	-321
4A/4B/4C/4D	4	G160M/B	1	-41	-276
4A/4B/4C/4D	4	G160M/B	2	-95	-330

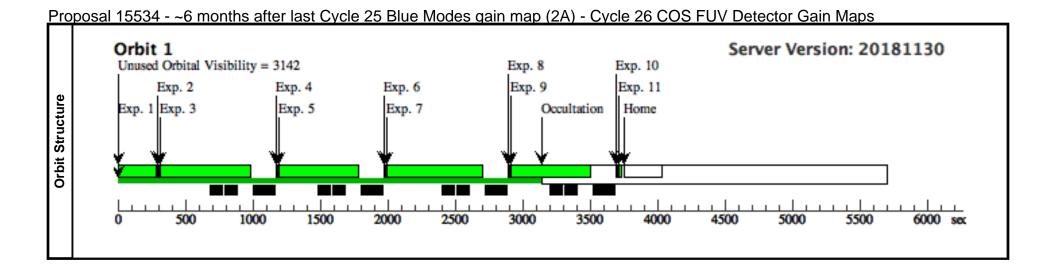
^{*} Limited to be within the soft stops

<u>Pr</u>	<u>oposal 15534 - ~6 months after last Cycle 25 Blue Modes gain map (2A) - Cycle 26 COS FUV Detector Gain Ma</u>	ıps
	Proposal 15534, ~6 months after last Cycle 25 Blue Modes gain map (2A), completed	Mon May 13 19:00:53 GMT 2019
.±	Diagnostic Status: Warning	
]is	Scientific Instruments: S/C, COS, COS/FUV	
1	Special Requirements: BETWEEN 01-APR-2019:00:00:00 AND 01-MAY-2019:00:00:00; PARALLEL	
<u> </u>	Comments: This visit collects data at LP2. It uses the HV values appropriate for the Blue Modes (173/175).	
၂ တ	(~6 months after last Cycle 25 Blue Modes gain map (2A)) Warning (Orbit Planner): MAXIMUM DURATION EXCEEDED FOR INTERNAL OR EARTH CALIB SU	
sti	(Aperture Adjustment 1 for Segment A (2A.002)) Warning (Form): This ALIGN/APER exposure should be preceded by a science exposure to define the starting position for the scan.	
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Proposal 15534 - ~6 months after last Cycle 25 Blue Modes gain map (2A) - Cycle 26 COS FUV Detector Gain Maps

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Regs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	Adjust HV t	DARK	S/C, DATA, NONE			SAA CONTOUR 31;		295 Secs (295 Secs)	
	o Blue Mod e values					SPEC COM INSTR ELHLTHVF;		[==>]	
						QASISTATES COS FUV HVLOW HVN OM;			
						QESIPARM ENDC TSA 173;			[1]
						QESIPARM ENDC TSB 175;			
						QESIPARM SEGM ENT AB			
Con		the HV to the Blue			WADED 440			0.00 (0.00	
2	Aperture Ad justment 1 f or Segment A	NONE	COS, ALIGN/APER		XAPER=-448			0.0 Secs (0 Secs) [==>]	[1]
Con		e aperture in the ap	propriate position to illuminate a porti	on of the LP2/Blue M	lodes region of the detec	tor when illuminating S	egment A with G130N	<i>1</i> /1309.	
Des	sired LAPXSTF	lue at LP4 is 235.1 P value for FCA to i R is set to -213 - 235	lluminate Segment A with G130M/1309	at Position 1 for LP.	2 is -213				
3	*	DEUTERIUM	COS/FUV, TIME-TAG, FCA	G130M	CURRENT=MEDIU	J		400 Secs (400 Secs)	
	9 Deuterium Exposure 1			1309 A	M;			[==>]	
	Exposure 1				BUFFER-TIME=11 1;				
					FP-POS=1;				[1]
					SEGMENT=BOTH;	;			[1]
					LIFETIME-POS=L P4				
Con	mments: Deute	rium exposure optin	nized for Segment A. FP-POS=1 was c	hosen because previ	ous observations show th	nat it has slightly more o	counts than the other	FP-POS values.	-1
4	Aperture Ad	NONE	COS, ALIGN/APER		XAPER=-502	QESIPARM XSTEP		0.0 Secs (0 Secs)	
	justment 2 f or Segment A					S -54		[==>]	[1]
Con	mments: Put the	e aperture in the ap	propriate position to illuminate a porti	on of the LP2/Blue M	odes region of the detec	tor when illuminating S	egment A with G130N	1/1309.	•
Des	sired LAPXSTF		lluminate Segment A with G130M/1309						
	erefore, XAPER ution.	R is set to -267 - 235	5.1 = -502. *HOWEVER*, because of the	ne TRANS rules, the '	"QESIPARM XSTEPS -5	4" [(-502448) = -54]	Special Requirement	t is necessary to move the aperture to th	he correct l
5		DEUTERIUM	COS/FUV, TIME-TAG, FCA	G130M	CURRENT=MEDIU	Ţ		400 Secs (400 Secs)	
	9 Deuterium Exposure 2			1309 A	M; BUFFER-TIME=11 1;			[==>]	
					FP-POS=1;				[1]
					SEGMENT=BOTH;	;			
					LIFETIME-POS=L P4				
Con	mments: Deute	rium exposure optin	nized for Segment A. FP-POS=1 was c	hosen because previo	ous observations show th	nat it has slightly more o	counts than the other	FP-POS values.	

6 Aperture Ad NONE	COS, ALIGN/APER		XAPER=-460	QESIPARM XSTEP	0.0 Secs (0 Secs)	
justment 1 f or Segment B				S 42	[==>]	[1]
Comments: Put the aperture i	n the appropriate position to illuminate a po	rtion of the LP2/Blue	e Modes region of the de	tector when illuminating Segment E	with G160M/1600.	,
v	CA to illuminate Segment B with G160M/16	v				
Therefore, XAPER is set to -2 ocation.	25 - 235.1 = -460. *HOWEVER*, because of	f the TRANS rules, th	he "QESIPARM XSTEPS	42" [(-460502) = +42] Special	Requirement is necessary to move the apertu	ure to the correc
7 G160M/160 DEUTER	UM COS/FUV, TIME-TAG, FCA	G160M	CURRENT=MED	DIU	400 Secs (400 Secs)	
0 Deuterium Exposure 1		1600 A	M; BUFFER-TIME= 1;	:11	[==>]	
			FP-POS=4;			[1]
			SEGMENT=BOT	TH;		
			LIFETIME-POS= P4	=L		
Comments: Deuterium exposi	re optimmized for Segment B. FP-POS=4 w	as chosen because p	revious observations sho	w that it has slightly more counts th	nan the other FP-POS values.	
8 Aperture Ad NONE justment 2 f	COS, ALIGN/APER		XAPER=-502	QESIPARM XSTEP S -42	0.0 Secs (0 Secs)	
or Segment				3 -42	[==>]	[1]
Comments: Put the anerture i	the appropriate position to illuminate a po	rtion of the LP2/Rlu	14 1			l
PSA LAPXSTP value at LP4 i Desired LAPXSTP value for I	235.1	•		, , , , , , , , , , , , , , , , , , ,	't want to exceed that value when including	the 5 step overs
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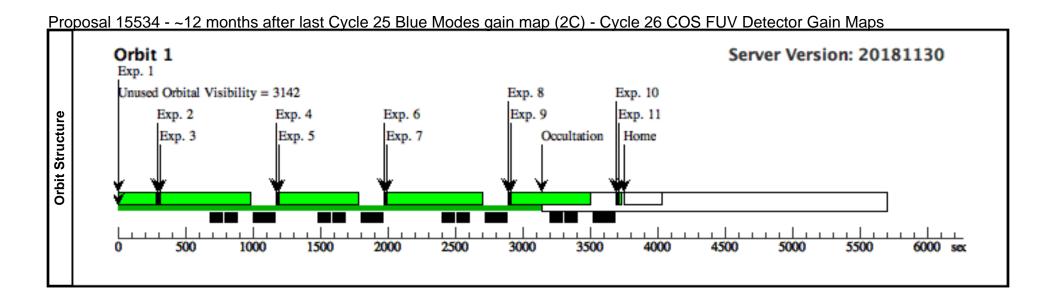


<u>Pr</u>	oposal 15534 - ~12 months after last Cycle 25 Blue Modes gain map (2C) - Cycle 26 COS FUV Detector Gain M	laps
	Proposal 15534, ~12 months after last Cycle 25 Blue Modes gain map (2C), scheduling	Mon May 13 19:00:53 GMT 2019
<u>.</u> <u>.</u> ±	Diagnostic Status: Warning	
J:S	Scientific Instruments: S/C, COS, COS/FUV	
1	Special Requirements: BETWEEN 01-OCT-2019:00:00:00 AND 01-NOV-2019:00:00:00; PARALLEL	
	Comments: This visit collects data at LP2. It uses the HV values appropriate for the Blue Modes (173/175).	
၂ ဗ	(~12 months after last Cycle 25 Blue Modes gain map (2C)) Warning (Orbit Planner): MAXIMUM DURATION EXCEEDED FOR INTERNAL OR EARTH CALIB SU	
SĘ: I	(Aperture Adjustment 1 for Segment A (2C.002)) Warning (Form): This ALIGN/APER exposure should be preceded by a science exposure to define the starting position for the scan.	
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Proposal 15534 - ~12 months after last Cycle 25 Blue Modes gain map (2C) - Cycle 26 COS FUV Detector Gain Maps Opt. Params. Spectral Els. Exp. Time (Total)/[Actual Dur.] Label Target Config,Mode,Aperture Orbit Special Reqs. Groups Adjust HV t DARK o Blue Mod e values 295 Secs (295 Secs) S/C, DATA, NONE SAA CONTOUR 31; SPEC COM INSTR ELHLTHVF; [==>] QASISTATES COS FUV HVLOW HVN OM;

justment 1 f or Segment	IGN/APER			QESIPARM SEGM ENT AB		
2 Aperture Ad NONE COS, ALI justment 1 f or Segment	IGN/APER					
justment 1 f or Segment	IGN/APER					
or Segment			XAPER=-448		0.0 Secs (0 Secs)	
A					[==>]	[1]
Comments: Put the aperture in the appropriate posit	tion to illuminate a portion of	f the LP2/Blue M	odes region of the detect	or when illuminating Segment A with G130	<i>0M/1309</i> .	
PSA LAPXSTP value at LP4 is 235.1 Desired LAPXSTP value for FCA to illuminate Segm Therefore, XAPER is set to -213 - 235.1 = -448	nent A with G130M/1309 at F	Position 1 for LP2	2 is -213			
	/, TIME-TAG, FCA	G130M	CURRENT=MEDIU		400 Secs (400 Secs)	
		1309 A	M;		[==>1	
9 Deuterium Exposure 1			BUFFER-TIME=11			
			1;			
			FP-POS=1;			[1]
			SEGMENT=BOTH;			
			LIFETIME-POS=L P4			
Comments: Deuterium exposure optimized for Segma	ent A. FP-POS=1 was chose	en because previo	ous observations show th	at it has slightly more counts than the other	r FP-POS values.	
	IGN/APER		XAPER=-502	QESIPARM XSTEP	0.0 Secs (0 Secs)	
justment 2 f or Segment A				S -54	[==>]	[1]
Comments: Put the aperture in the appropriate posit	tion to illuminate a portion of	f the LP2/Blue M	odes region of the detect	or when illuminating Segment A with G130	DM/1309.	
PSA LAPXSTP value at LP4 is 235.1 Desired LAPXSTP value for FCA to illuminate Segm. Therefore, XAPER is set to -267 - 235.1 = -502. *HG	nent A with G130M/1309 at F	Position 2 for LP2	2 is -267			e to the correct
ocation. 5 G130M/130 DEUTERIUM COS/FUV	A TIME TAC ECA	C120M	CURRENT=MEDIU		400 G (400 G)	
9 Deuterium COS/FUV	, -, -	G130M	M;		400 Secs (400 Secs)	
Exposure 2		1309 A	BUFFER-TIME=11 1;		[==>]	
			FP-POS=1;			[1]
			SEGMENT=BOTH;			
			LIFETIME-POS=L P4			

	perture Ad NONE	COS, ALIGN/APER		XAPER=-460	QESIPARM XSTEP	0.0 Secs (0 Secs)	
	stment 1 f Segment				S 42	[==>]	[1]
Commer	nts: Put the aperture in the ap	propriate position to illuminate a porti	on of the LP2/Blue	e Modes region of the dete	ector when illuminating Segment B	with G160M/1600.	
	PXSTP value at LP4 is 235.1 LAPXSTP value for FCA to it	lluminate Segment B with G160M/1600	at Position 1 for I	LP2 is -225			
Therefor ocation.		5.1 = -460. *HOWEVER*, because of the	he TRANS rules, th	ne "QESIPARM XSTEPS 4	42" [(-460502) = +42] Special	Requirement is necessary to move the aperti	ure to the correct
	160M/160 DEUTERIUM	COS/FUV, TIME-TAG, FCA	G160M	CURRENT=MEDI	U	400 Secs (400 Secs)	
	Deuterium aposure 1		1600 A	M; BUFFER-TIME=1 1;	1	[==>]	
				FP-POS=4;			[1]
				SEGMENT=BOTE	Н;		129
				LIFETIME-POS=I	L		
Commer	nts: Deuterium exposure optin	nmized for Segment B. FP-POS=4 was	chosen because p	revious observations show	v that it has slightly more counts th	an the other FP-POS values.	
	perture Ad NONE	COS, ALIGN/APER		XAPER=-502	QESIPARM XSTEP	0.0 Secs (0 Secs)	
	stment 2 f Segment				S -42	[==>]	[1]
Commer	nts: Put the aperture in the ap	propriate position to illuminate a porti	on of the LP2/Blue	e Modes region of the dete	ector when illuminating Segment B	with G160M/1600.	
Desired	PXSTP value at LP4 is 235.1 LAPXSTP value for FCA to it	lluminate Segment B with G160M/1600 match the G130M exposure (-267)	at Position 2 for I			't want to exceed that value when including	the 5 step oversh
Desired ot To le Therefor ocation.	LAPXSTP value for FCA to it eave some pad, I will set it to re, XAPER is set to -267 - 235	match the GĬ30M exposure (-267). 5.1 = -502. *HOWEVER*, because of the	he TRANS rules, th	LP2 is -280, but the apertance "QESIPARM XSTEPS -	ure soft stop is at -275 and we don -42" [(-502460) = -42] Special	't want to exceed that value when including a	·
Desired ot To le Therefor ocation. 9 G1 0 I	LAPXSTP value for FCA to it eave some pad, I will set it to a re, XAPER is set to -267 - 235 160M/160 DEUTERIUM Deuterium	match the GI30M exposure (-267).	the TRANS rules, th	LP2 is -280, but the apert	ure soft stop is at -275 and we don -42" [(-502460) = -42] Special	't want to exceed that value when including the Requirement is necessary to move the apertude 400 Secs (400 Secs)	·
Desired ot To le Therefor ocation. 9 G1 0 I	LAPXSTP value for FCA to it eave some pad, I will set it to re, XAPER is set to -267 - 235	match the GĬ30M exposure (-267). 5.1 = -502. *HOWEVER*, because of the	he TRANS rules, th	LP2 is -280, but the apertance "QESIPARM XSTEPS - CURRENT=MEDI M; BUFFER-TIME=1	ure soft stop is at -275 and we don -42" [(-502460) = -42] Special U	't want to exceed that value when including a	·
Desired ot To le Therefor ocation. 9 G1 0 I	LAPXSTP value for FCA to it eave some pad, I will set it to a re, XAPER is set to -267 - 235 160M/160 DEUTERIUM Deuterium	match the GĬ30M exposure (-267). 5.1 = -502. *HOWEVER*, because of the	the TRANS rules, th	LP2 is -280, but the apertance "QESIPARM XSTEPS - CURRENT=MEDI M; BUFFER-TIME=1 1;	ure soft stop is at -275 and we don -42" [(-502460) = -42] Special U	't want to exceed that value when including the Requirement is necessary to move the apertude 400 Secs (400 Secs)	ure to the correct
Desired ot To le Therefor ocation. 9 G1 0 I	LAPXSTP value for FCA to it eave some pad, I will set it to a re, XAPER is set to -267 - 235 160M/160 DEUTERIUM Deuterium	match the GĬ30M exposure (-267). 5.1 = -502. *HOWEVER*, because of the	the TRANS rules, th	LP2 is -280, but the apertance "QESIPARM XSTEPS - CURRENT=MEDI M; BUFFER-TIME=1	ure soft stop is at -275 and we don -42" [(-502460) = -42] Special U	't want to exceed that value when including the Requirement is necessary to move the apertude 400 Secs (400 Secs)	·
Desired ot To le Therefor ocation. 9 G1 0 I	LAPXSTP value for FCA to it eave some pad, I will set it to a re, XAPER is set to -267 - 235 160M/160 DEUTERIUM Deuterium	match the GĬ30M exposure (-267). 5.1 = -502. *HOWEVER*, because of the	the TRANS rules, th	LP2 is -280, but the apertance "QESIPARM XSTEPS - CURRENT=MEDI M; BUFFER-TIME=1 1; FP-POS=4;	ure soft stop is at -275 and we don -42" [(-502460) = -42] Special U 1	't want to exceed that value when including the Requirement is necessary to move the apertude 400 Secs (400 Secs)	ure to the correct
Desired ot To le Therefor ocation. 9 G1 61 Ex	LAPXSTP value for FCA to it eave some pad, I will set it to re, XAPER is set to -267 - 235 160M/160 DEUTERIUM Deuterium sposure 2	match the GĬ30M exposure (-267). 5.1 = -502. *HOWEVER*, because of the	ne TRANS rules, th G160M 1600 A	LP2 is -280, but the apertance "QESIPARM XSTEPS - CURRENT=MEDI M; BUFFER-TIME=1 1; FP-POS=4; SEGMENT=BOTI LIFETIME-POS=1 P4	ure soft stop is at -275 and we don -42" [(-502460) = -42] Special U 1 H;	t want to exceed that value when including a Requirement is necessary to move the apertude 400 Secs (400 Secs) [==>]	ure to the correct
Desired ot To let Therefor ocation. 9 G1 G1 Ex	LAPXSTP value for FCA to it eave some pad, I will set it to re, XAPER is set to -267 - 235 160M/160 DEUTERIUM Deuterium exposure 2	match the GĬ30M exposure (-267). 5.1 = -502. *HOWEVER*, because of the COS/FUV, TIME-TAG, FCA	ne TRANS rules, th G160M 1600 A	LP2 is -280, but the apertance "QESIPARM XSTEPS - CURRENT=MEDI M; BUFFER-TIME=1 1; FP-POS=4; SEGMENT=BOTI LIFETIME-POS=1 P4	ure soft stop is at -275 and we don 42" [(-502460) = -42] Special U 1 H; L v that it has slightly more counts the QESIPARM XSTEP	An the other FP-POS values. O Secs (0 Secs)	ure to the correct
Desired ot To let Therefor ocation. 9 G1 0 I Ex	LAPXSTP value for FCA to it eave some pad, I will set it to a re, XAPER is set to -267 - 235 160M/160 DEUTERIUM Deuterium exposure 2	match the G130M exposure (-267). 5.1 = -502. *HOWEVER*, because of the COS/FUV, TIME-TAG, FCA munized for Segment B. FP-POS=4 was	ne TRANS rules, th G160M 1600 A	LP2 is -280, but the apertance "QESIPARM XSTEPS - CURRENT=MEDI M; BUFFER-TIME=1 1; FP-POS=4; SEGMENT=BOTI LIFETIME-POS=1 P4	ure soft stop is at -275 and we don 42" [(-502460) = -42] Special of the state	t want to exceed that value when including a Requirement is necessary to move the apertual 400 Secs (400 Secs) [==>] an the other FP-POS values.	ure to the correct
Desired ot To le Therefor ocation. 9 G1 Ex Comment 10 Re turn nal	LAPXSTP value for FCA to it eave some pad, I will set it to a re, XAPER is set to -267 - 235 160M/160 DEUTERIUM Deuterium exposure 2 htts: Deuterium exposure optimate to Nomi I Position htts: Return the aperture to its	match the G130M exposure (-267). 5.1 = -502. *HOWEVER*, because of the COS/FUV, TIME-TAG, FCA mixed for Segment B. FP-POS=4 was COS, ALIGN/APER nominal position, i.e. XAPER=0.	ne TRANS rules, th G160M 1600 A	LP2 is -280, but the apertance "QESIPARM XSTEPS - CURRENT=MEDI M; BUFFER-TIME=1 1; FP-POS=4; SEGMENT=BOTH LIFETIME-POS=1 P4 revious observations show XAPER=0	ure soft stop is at -275 and we don 42" [(-502460) = -42] Special U 1 H; L w that it has slightly more counts the QESIPARM XSTEP S 502	Requirement is necessary to move the apertudo $[l]$ 400 Secs (400 Secs) $[l]$ $[l]$ $[l]$ an the other FP-POS values. $[l]$	[1]
Desired ot To le ot. To le ot. To le ot. Therefor ocation. 9 G1 Ex Comment of the there of the	LAPXSTP value for FCA to it eave some pad, I will set it to a re, XAPER is set to -267 - 235 160M/160 DEUTERIUM Deuterium exposure 2 160M/160 DEUTERIUM Deuterium exposure optimeturn Aper NONE re to Nomi 1 Position Ints: Return the aperture to its EVER*, because of the TRANSE DEUTERIUM DEUTERIUM exposure optimeturn to no DARK	match the G130M exposure (-267). 5.1 = -502. *HOWEVER*, because of the COS/FUV, TIME-TAG, FCA minized for Segment B. FP-POS=4 was COS, ALIGN/APER	ne TRANS rules, th G160M 1600 A	LP2 is -280, but the apertance "QESIPARM XSTEPS - CURRENT=MEDI M; BUFFER-TIME=1 1; FP-POS=4; SEGMENT=BOTH LIFETIME-POS=1 P4 revious observations show XAPER=0	ure soft stop is at -275 and we don 42" [(-502460) = -42] Special of the state	Requirement is necessary to move the apertudo $[l]$ 400 Secs (400 Secs) $[l]$ $[l]$ $[l]$ an the other FP-POS values. $[l]$	[1]
Desired ot To le ot. To le ot. To le ot. To le ot. Therefor ocation. 9 G1 OI Ex Comment of the comment of t	LAPXSTP value for FCA to it eave some pad, I will set it to a re, XAPER is set to -267 - 235 160M/160 DEUTERIUM Deuterium exposure 2 160M/160 DEUTERIUM Deuterium exposure 2 160M/160 DEUTERIUM Deuterium exposure optimeturn Aper NONE re to Nomi 1 Position 161mts: Return the aperture to its EVER*, because of the TRANS	match the G130M exposure (-267). 5.1 = -502. *HOWEVER*, because of the COS/FUV, TIME-TAG, FCA maintain for Segment B. FP-POS=4 was COS, ALIGN/APER nominal position, i.e. XAPER=0. rules, the "QESIPARM XSTEPS +502	ne TRANS rules, th G160M 1600 A	LP2 is -280, but the apertance "QESIPARM XSTEPS - CURRENT=MEDI M; BUFFER-TIME=1 1; FP-POS=4; SEGMENT=BOTH LIFETIME-POS=1 P4 revious observations show XAPER=0	ure soft stop is at -275 and we don 42" [(-502460) = -42] Special of the state	the want to exceed that value when including the Requirement is necessary to move the apertude of the second secon	[1]
Desired ot To le ot. To le ot. To le ot. To le ot. Therefor ocation. 9 G1 OI Ex Comment of the comment of t	LAPXSTP value for FCA to it eave some pad, I will set it to a re, XAPER is set to -267 - 235 160M/160 DEUTERIUM Deuterium exposure 2 110 Deuterium exposure optimistrum Aper NONE re to Nomi 1 Position Ints: Return the aperture to its EVER*, because of the TRANSE Deutent on DARK intal HV for tandard m	match the G130M exposure (-267). 5.1 = -502. *HOWEVER*, because of the COS/FUV, TIME-TAG, FCA maintain for Segment B. FP-POS=4 was COS, ALIGN/APER nominal position, i.e. XAPER=0. rules, the "QESIPARM XSTEPS +502	ne TRANS rules, th G160M 1600 A	LP2 is -280, but the apertance "QESIPARM XSTEPS - CURRENT=MEDI M; BUFFER-TIME=1 1; FP-POS=4; SEGMENT=BOTH LIFETIME-POS=1 P4 revious observations show XAPER=0	ure soft stop is at -275 and we don 42" [(-502460) = -42] Special of the state	An the other FP-POS values. O Secs (0 Secs) [==>] o its correct location. 39 Secs (39 Secs)	[1]
Desired ot To le ot. Therefor ocation. 9 G1 OI Ex Commen 10 Re turnal Commen*HOWE 11 Re mi	LAPXSTP value for FCA to it eave some pad, I will set it to a re, XAPER is set to -267 - 235 160M/160 DEUTERIUM Deuterium exposure 2 110 Deuterium exposure optimistrum Aper NONE re to Nomi 1 Position Ints: Return the aperture to its EVER*, because of the TRANSE Deutent on DARK intal HV for tandard m	match the G130M exposure (-267). 5.1 = -502. *HOWEVER*, because of the COS/FUV, TIME-TAG, FCA maintain for Segment B. FP-POS=4 was COS, ALIGN/APER nominal position, i.e. XAPER=0. rules, the "QESIPARM XSTEPS +502	ne TRANS rules, th G160M 1600 A	LP2 is -280, but the apertance "QESIPARM XSTEPS - CURRENT=MEDI M; BUFFER-TIME=1 1; FP-POS=4; SEGMENT=BOTH LIFETIME-POS=1 P4 revious observations show XAPER=0	ure soft stop is at -275 and we don 42" [(-502460) = -42] Special of the state	An the other FP-POS values. O Secs (0 Secs) [==>] o its correct location. 39 Secs (39 Secs)	[1]

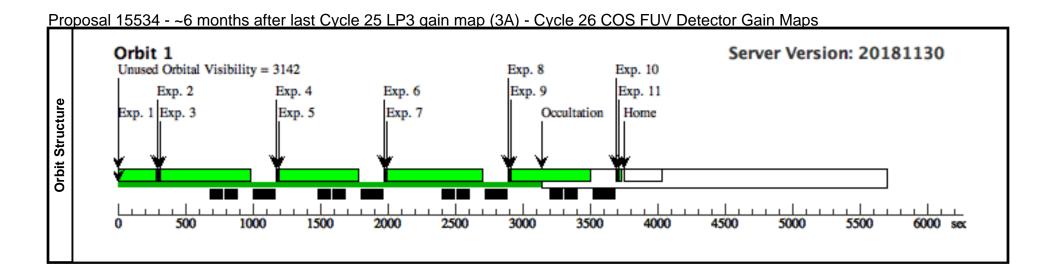


<u>Pr</u>	oposal 15534 - ~6 months after last Cycle 25 LP3 gain map (3A) - Cycle 26 COS FUV Detector Gain Maps	
	Proposal 15534, ~6 months after last Cycle 25 LP3 gain map (3A), completed	Mon May 13 19:00:53 GMT 2019
.±	Diagnostic Status: Warning	
į.	Scientific Instruments: S/C, COS, COS/FUV	
1	Special Requirements: BETWEEN 01-APR-2019:00:00:00 AND 01-MAY-2019:00:00:00; PARALLEL	
	Comments: This visit collects data at LP3. It uses the HV values appropriate for LP3 (167/175).	
S	(~6 months after last Cycle 25 LP3 gain map (3A)) Warning (Orbit Planner): MAXIMUM DURATION EXCEEDED FOR INTERNAL OR EARTH CALIB SU	
Sţ.	(Aperture Adjustment 1 for Segment A (3A.002)) Warning (Form): This ALIGN/APER exposure should be preceded by a science exposure to define the starting position for the scan.	
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Proposal 15534 - ~6 months after last Cycle 25 LP3 gain map (3A) - Cycle 26 COS FUV Detector Gain Maps

# Label Target	Config, Mode, Aperture	Spectral Els.	Opt. Params.	Special Regs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1 Adjust HV t DARK	S/C, DATA, NONE			SAA CONTOUR 31;		295 Secs (295 Secs)	
o ĽP3 value s				SPEC COM INSTR ELHLTHVF;		[==>]	
				QASISTATES COS FUV HVLOW HVN OM;			
				QESIPARM ENDC TSA 167;			[1]
				QESIPARM ENDC TSB 175;			
				QESIPARM SEGM ENT AB			
Comments: Adjust the HV to the LP.			WARER 207			0.0.0 (0.0)	
2 Aperture Ad NONE justment 1 f	COS, ALIGN/APER		XAPER=-307			0.0 Secs (0 Secs)	
or Segment A						[==>]	[1]
Comments: Put the aperture in the a	ppropriate position to illuminate a porti	ion of the LP3 region	of the detector when illu	minating Segment A wi	th G130M/1309.		
PSA LAPXSTP value at LP4 is 235.		o a Basidan I fan I I	22:- 72				
,	illuminate Segment A with G130M/1309	9 at Position 1 for LF	'3 IS -/2				
Therefore, XAPER is set to -72 - 235 G130M/130 DEUTERIUM	COS/FUV, TIME-TAG, FCA	G130M	CURRENT=MEDIU	Т		400 Secs (400 Secs)	
9 Deuterium	COS/FUV, TIME-TAG, FCA	1309 A	M;	1		[==>]	
Exposure 1		1309 A	BUFFER-TIME=11			[>]	
			1;				
			FP-POS=1;				[1]
			SEGMENT=BOTH:	;			
			LIFETIME-POS=L P4				
	imized for Segment A. FP-POS=1 was o	chosen because previ			counts than the other		
4 Aperture Ad NONE justment 2 f	COS, ALIGN/APER		XAPER=-363	QESIPARM XSTEP S -56		0.0 Secs (0 Secs)	
or Segment A				5 50		[==>]	[1]
Comments: Put the aperture in the a	ppropriate position to illuminate a porti	ion of the LP3 region	of the detector when illu	minating Segment A wi	th G130M/1309.		
PSA LAPXSTP value at LP4 is 235 Desired LAPXSTP value for FCA to	1 illuminate Segment A with G130M/1309	9 at Position 2 for LF	P3 is -128				
Therefore, XAPER is set to -128 - 23 ocation.	35.1 = -363. *HOWEVER*, because of t	he TRANS rules, the	"QESIPARM XSTEPS -5	6" [(-363307) = -56] Special Requireme	nt is necessary to move the aperture to ti	he correct l
5 G130M/130 DEUTERIUM 9 Deuterium	COS/FUV, TIME-TAG, FCA	G130M	CURRENT=MEDIU	1		400 Secs (400 Secs)	
Exposure 2		1309 A	M; BUFFER-TIME=11 1;			[==>]	
			FP-POS=1;				[1]
			SEGMENT=BOTH;	;			
			LIFETIME-POS=L P4				
Comments: Deuterium exposure opt	imized for Segment A. FP-POS=1 was o	chosen because previ	ious observations show th	nat it has slightly more	counts than the other	· FP-POS values.	

6	Aperture Ad NONE	COS, ALIGN/APER		XAPER=-319	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 LP4 is 235.1 red LAPXSTP value for FCA to il	luminate Segment B with G160M/1600	at Position 1 for I	LP3 is -84			
Ther catio		= -319. *HOWEVER*, because of the	e TRANS rules, the	"QESIPARM XSTEPS 44"	[(-319363) = +44] Special Re	quirement is necessary to move the aperture	e to the correct l
7	G160M/160 DEUTERIUM	COS/FUV, TIME-TAG, FCA	G160M	CURRENT=MEDIU		400 Secs (400 Secs)	
	0 Deuterium Exposure 1		1600 A	M; BUFFER-TIME=11 1;		[==>]	
				FP-POS=4;			[1]
				SEGMENT=BOTH;			[1]
				LIFETIME-POS=L P4			
Com	ments: Deuterium exposure optim	mized for Segment B. FP-POS=4 was	chosen because pr	revious observations show t		un the other FP-POS values.	1
8	Aperture Ad NONE justment 2 f	COS, ALIGN/APER		XAPER=-375	QESIPARM XSTEP S -56	0.0 Secs (0 Secs)	
	or Segment B				3-30	[==>]	[1]
PSA	LAPXSTP value at LP4 is 235.1	propriate position to illuminate a porti luminate Segment B with G160M/1600			minating Segment B with G160M	/1600.	
PSA Desi	LAPXSTP value at LP4 is 235.1 red LAPXSTP value for FCA to il efore, XAPER is set to -140 - 235.	luminate Segment B with $G160M/1600$ I = -375. *HOWEVER*, because of the	at Position 2 for I	LP3 is -140.	5" [(-375319) = -56] Special R	dequirement is necessary to move the apertu	ere to the correct
PSA Desi Ther ocati	LAPXSTP value at LP4 is 235.1 red LAPXSTP value for FCA to il. efore, XAPER is set to -140 - 235. on. G160M/160 DEUTERIUM 0 Deuterium	luminate Segment B with G160M/1600	at Position 2 for I	LP3 is -140. De "QESIPARM XSTEPS -50 CURRENT=MEDIU M;	5" [(-375319) = -56] Special R		re to the correct
PSA Desi Ther ocati	LAPXSTP value at LP4 is 235.1 red LAPXSTP value for FCA to il. efore, XAPER is set to -140 - 235. on. G160M/160 DEUTERIUM	luminate Segment B with $G160M/1600$ I = -375. *HOWEVER*, because of the	at Position 2 for the TRANS rules, the G160M	LP3 is -140. The "QESIPARM XSTEPS -50 CURRENT=MEDIU M; BUFFER-TIME=11	5" [(-375319) = -56] Special R	dequirement is necessary to move the apertute 400 Secs (400 Secs)	re to the correct
PSA Desi Ther ocati	LAPXSTP value at LP4 is 235.1 red LAPXSTP value for FCA to il. efore, XAPER is set to -140 - 235. on. G160M/160 DEUTERIUM 0 Deuterium	luminate Segment B with $G160M/1600$ I = -375. *HOWEVER*, because of the	at Position 2 for the TRANS rules, the G160M	LP3 is -140. De "QESIPARM XSTEPS -50 CURRENT=MEDIU M;	5" [(-375319) = -56] Special R	dequirement is necessary to move the apertute 400 Secs (400 Secs)	
PSA Desi Ther ocati	LAPXSTP value at LP4 is 235.1 red LAPXSTP value for FCA to il. efore, XAPER is set to -140 - 235. on. G160M/160 DEUTERIUM 0 Deuterium	luminate Segment B with $G160M/1600$ I = -375. *HOWEVER*, because of the	at Position 2 for the TRANS rules, the G160M	CURRENT=MEDIU M; BUFFER-TIME=11 1;	5" [(-375319) = -56] Special R	dequirement is necessary to move the apertute 400 Secs (400 Secs)	ere to the correct
PSA Desi Ther ocati	LAPXSTP value at LP4 is 235.1 red LAPXSTP value for FCA to il. efore, XAPER is set to -140 - 235. on. G160M/160 DEUTERIUM 0 Deuterium	luminate Segment B with $G160M/1600$ I = -375. *HOWEVER*, because of the	at Position 2 for the TRANS rules, the G160M	CURRENT=MEDIU M; BUFFER-TIME=11 1; FP-POS=4;	5" [(-375319) = -56] Special R	dequirement is necessary to move the apertute 400 Secs (400 Secs)	
PSA Desi Ther ocati 9	LAPXSTP value at LP4 is 235.1 red LAPXSTP value for FCA to il. efore, XAPER is set to -140 - 235.00. G160M/160 DEUTERIUM 0 Deuterium Exposure 2	luminate Segment B with $G160M/1600$ I = -375. *HOWEVER*, because of the	O at Position 2 for the TRANS rules, the G160M 1600 A	CURRENT=MEDIU M; BUFFER-TIME=11 1; FP-POS=4; SEGMENT=BOTH; LIFETIME-POS=L P4	6" [(-375319) = -56] Special R	Requirement is necessary to move the aperture $\frac{400 \text{ Secs } (400 \text{ Secs})}{[==>]}$	
PSA Desi Ther ocati 9	LAPXSTP value at LP4 is 235.1 red LAPXSTP value for FCA to il. efore, XAPER is set to -140 - 235. on. G160M/160 DEUTERIUM 0 Deuterium Exposure 2	luminate Segment B with G160M/1600 1 = -375. *HOWEVER*, because of the COS/FUV, TIME-TAG, FCA	O at Position 2 for the TRANS rules, the G160M 1600 A	CURRENT=MEDIU M; BUFFER-TIME=11 1; FP-POS=4; SEGMENT=BOTH; LIFETIME-POS=L P4	6" [(-375319) = -56] Special R hat it has slightly more counts the QESIPARM XSTEP	Requirement is necessary to move the aperture $\frac{400 \text{ Secs } (400 \text{ Secs})}{[==>]}$	
PSA Desi Ther ocati 9	LAPXSTP value at LP4 is 235.1 red LAPXSTP value for FCA to il. efore, XAPER is set to -140 - 235. on. G160M/160 DEUTERIUM 0 Deuterium Exposure 2	luminate Segment B with G160M/1600 1 = -375. *HOWEVER*, because of the COS/FUV, TIME-TAG, FCA mized for Segment B. FP-POS=4 was	O at Position 2 for the TRANS rules, the G160M 1600 A	LP3 is -140. The "QESIPARM XSTEPS -50 CURRENT=MEDIUM; BUFFER-TIME=111; FP-POS=4; SEGMENT=BOTH; LIFETIME-POS=L P4 Tevious observations show to	6" [(-375319) = -56] Special R	Requirement is necessary to move the aperturbed $400 \mathrm{Secs} (400 \mathrm{Secs})$ $I = = > J$ an the other FP-POS values.	
PSA Desir Therrocati 9	LAPXSTP value at LP4 is 235.1 red LAPXSTP value for FCA to il efore, XAPER is set to -140 - 235. con. G160M/160 DEUTERIUM 0 Deuterium Exposure 2 ments: Deuterium exposure optimal Return Aper NONE ture to Nominal Position ments: Return the aperture to its improved to the set of the se	duminate Segment B with G160M/1600 1 = -375. *HOWEVER*, because of the COS/FUV, TIME-TAG, FCA COS/FUV, TIME-TAG, FCA mized for Segment B. FP-POS=4 was COS, ALIGN/APER nominal position, i.e. XAPER=0.	at Position 2 for the TRANS rules, the G160M 1600 A	CURRENT=MEDIU M; BUFFER-TIME=11 1; FP-POS=4; SEGMENT=BOTH; LIFETIME-POS=L P4 **revious observations show to the s	hat it has slightly more counts the QESIPARM XSTEP S 375	Requirement is necessary to move the aperturbed $400 \mathrm{Secs} (400 \mathrm{Secs})$ $[==>]$ In the other FP-POS values. $0 \mathrm{Secs} (0 \mathrm{Secs})$ $[==>]$	[1]
PSA Desi: There ocati 9 Com 10 Com *HO	LAPXSTP value at LP4 is 235.1 red LAPXSTP value for FCA to il efore, XAPER is set to -140 - 235. on. G160M/160 DEUTERIUM 0 Deuterium Exposure 2 ments: Deuterium exposure optim Return Aper NONE ture to Nomi nal Position ments: Return the aperture to its is WEVER*, because of the TRANS Return to no DARK	duminate Segment B with G160M/1600 1 = -375. *HOWEVER*, because of the COS/FUV, TIME-TAG, FCA mized for Segment B. FP-POS=4 was COS, ALIGN/APER	at Position 2 for the TRANS rules, the G160M 1600 A	CURRENT=MEDIU M; BUFFER-TIME=11 1; FP-POS=4; SEGMENT=BOTH; LIFETIME-POS=L P4 **revious observations show to the state of	hat it has slightly more counts the QESIPARM XSTEP S 375 necessary to move the aperture to SPEC COM INSTR	Requirement is necessary to move the aperturbed $400 \mathrm{Secs} (400 \mathrm{Secs})$ $[==>]$ In the other FP-POS values. $0 \mathrm{Secs} (0 \mathrm{Secs})$ $[==>]$	[1]
PSA Desi: There ocati 9 Com 10 Com *HO	LAPXSTP value at LP4 is 235.1 red LAPXSTP value for FCA to illefore, XAPER is set to -140 - 235.0 n. G160M/160 DEUTERIUM 0 Deuterium Exposure 2 ments: Deuterium exposure optimal Return Aper NONE ture to Nominal Position ments: Return the aperture to its in WEVER*, because of the TRANS	duminate Segment B with G160M/1600 1 = -375. *HOWEVER*, because of the COS/FUV, TIME-TAG, FCA mized for Segment B. FP-POS=4 was COS, ALIGN/APER cominal position, i.e. XAPER=0. rules, the "QESIPARM XSTEPS +375"	at Position 2 for the TRANS rules, the G160M 1600 A	CURRENT=MEDIU M; BUFFER-TIME=11 1; FP-POS=4; SEGMENT=BOTH; LIFETIME-POS=L P4 **revious observations show to the state of	hat it has slightly more counts the QESIPARM XSTEP S 375 necessary to move the aperture to SPEC COM INSTR ELHVADJPROP;	dequirement is necessary to move the aperture $400 \mathrm{Secs} (400 \mathrm{Secs})$ $[==>]$	[1]
PSA Desi: There ocati 9 Com 10 Com *HO	LAPXSTP value at LP4 is 235.1 red LAPXSTP value for FCA to il. efore, XAPER is set to -140 - 235. fon. G160M/160 DEUTERIUM 0 Deuterium Exposure 2 ments: Deuterium exposure optime Return Aper NONE ture to Nominal Position ments: Return the aperture to its in WEVER*, because of the TRANS Return to no DARK minal HV fo	duminate Segment B with G160M/1600 1 = -375. *HOWEVER*, because of the COS/FUV, TIME-TAG, FCA mized for Segment B. FP-POS=4 was COS, ALIGN/APER cominal position, i.e. XAPER=0. rules, the "QESIPARM XSTEPS +375"	at Position 2 for the TRANS rules, the G160M 1600 A	CURRENT=MEDIU M; BUFFER-TIME=11 1; FP-POS=4; SEGMENT=BOTH; LIFETIME-POS=L P4 **revious observations show to the state of	hat it has slightly more counts the QESIPARM XSTEP S 375 necessary to move the aperture to SPEC COM INSTR	dequirement is necessary to move the aperture $400 \mathrm{Secs} (400 \mathrm{Secs})$ $[==>]$ $[===>]$ $[===>]$ $[===>]$ $[===>]$ $[===>]$ $[===>]$ $[====]$ $[=====]$ $[====]$ $[====]$ $[====]$ $[====]$ $[=====]$ $[=====]$ $[=====]$ $[======]$ $[======]$ $[=======]$ $[========]$ $[====================================$	[1]
PSA Desi: There ocati 9 Com 10 Com *HO	LAPXSTP value at LP4 is 235.1 red LAPXSTP value for FCA to il. efore, XAPER is set to -140 - 235. on. G160M/160 DEUTERIUM 0 Deuterium Exposure 2 ments: Deuterium exposure optim Return Aper NONE ture to Nomi nal Position ments: Return the aperture to its is WEVER*, because of the TRANS Return to no DARK minal HV fo r standard m	duminate Segment B with G160M/1600 1 = -375. *HOWEVER*, because of the COS/FUV, TIME-TAG, FCA mized for Segment B. FP-POS=4 was COS, ALIGN/APER cominal position, i.e. XAPER=0. rules, the "QESIPARM XSTEPS +375"	at Position 2 for the TRANS rules, the G160M 1600 A	CURRENT=MEDIU M; BUFFER-TIME=11 1; FP-POS=4; SEGMENT=BOTH; LIFETIME-POS=L P4 **revious observations show to the state of	hat it has slightly more counts the QESIPARM XSTEP S 375 necessary to move the aperture to SPEC COM INSTR ELHVADJPROP; QESIPARM ENDC	dequirement is necessary to move the aperture $400 \mathrm{Secs} (400 \mathrm{Secs})$ $[==>]$ $[===>]$ $[===>]$ $[===>]$ $[===>]$ $[===>]$ $[===>]$ $[====]$ $[=====]$ $[====]$ $[====]$ $[====]$ $[====]$ $[=====]$ $[=====]$ $[=====]$ $[======]$ $[======]$ $[=======]$ $[========]$ $[====================================$	[1]

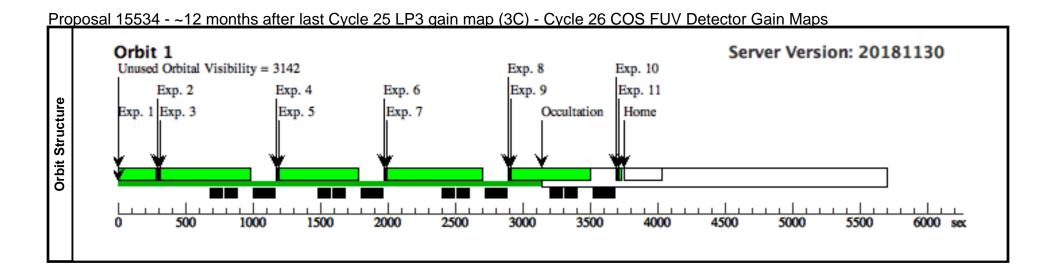


<u>Pr</u>	oposal 15534 - ~12 months after last Cycle 25 LP3 gain map (3C) - Cycle 26 COS FUV Detector Gain Maps	
	Proposal 15534, ~12 months after last Cycle 25 LP3 gain map (3C), scheduling	Mon May 13 19:00:53 GMT 2019
بر ا	Diagnostic Status: Warning	
/is	Scientific Instruments: S/C, COS, COS/FUV	
1-	Special Requirements: BETWEEN 01-OCT-2019:00:00:00 AND 01-NOV-2019:00:00:00; PARALLEL	
	Comments: This visit collects data at LP3. It uses the HV values appropriate for LP3 (167/175).	
၂ ပ္	(~12 months after last Cycle 25 LP3 gain map (3C)) Warning (Orbit Planner): MAXIMUM DURATION EXCEEDED FOR INTERNAL OR EARTH CALIB SU	
Sţ.	(Aperture Adjustment 1 for Segment A (3C.002)) Warning (Form): This ALIGN/APER exposure should be preceded by a science exposure to define the starting position for the scan.	
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Proposal 15534 - ~12 months after last Cycle 25 LP3 gain map (3C) - Cycle 26 COS FUV Detector Gain Maps

# L	abel Targ	et	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Regs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	Adjust HV t DAR	K	S/C, DATA, NONE			SAA CONTOUR 31	;	295 Secs (295 Secs)	
o s	LP3 value					SPEC COM INSTR ELHLTHVF;		[==>]	
						QASISTATES COS FUV HVLOW HVN OM;			
						QESIPARM ENDC TSA 167;			[1]
						QESIPARM ENDC TSB 175;			
						QESIPARM SEGM ENT AB			
	ents: Adjust the HV				VADED 207			0.0 \$ (0.5)	<u> </u>
	Aperture Ad NON ustment 1 f	E	COS, ALIGN/APER		XAPER=-307			$0.0 \operatorname{Secs} (0 \operatorname{Secs})$ $[==>]$	
OI A	r Segment A							[>]	[1]
Comme	ents: Put the aperti	are in the app	propriate position to illuminate a port	ion of the LP3 region	of the detector when illu	uminating Segment A w	ith G130M/1309.		
	APXSTP value at L			0 . D	22: 72				
			luminate Segment A with G130M/130	9 at Position 1 for LP	'3 is -/2				
	<i>ore, XAPER is set i</i> G130M/130 DEU		COS/FUV, TIME-TAG, FCA	G130M	CURRENT=MEDIU	Ţ		400 Secs (400 Secs)	
-	Deuterium	IEKIUWI	COS/FUV, HME-TAG, FCA	1309 A	M;)		1==>1	
9 E	Exposure 1			1309 A	BUFFER-TIME=11			[>]	
					1;				
					FP-POS=1;				[1]
					SEGMENT=BOTH	;			
					LIFETIME-POS=L P4				
Comme	ents: Deuterium ex	posure optin	nized for Segment A. FP-POS=1 was	chosen because previ	ous observations show th	hat it has slightly more	counts than the othe	r FP-POS values.	
	Aperture Ad NON	Е	COS, ALIGN/APER		XAPER=-363	QESIPARM XSTEP		0.0 Secs (0 Secs)	
	ustment 2 f or Segment					S -56		[==>]	[1]
Comme	ents: Put the aperti	ire in the app	propriate position to illuminate a port	ion of the LP3 region	of the detector when illu	minating Segment A w	ith G130M/1309.		
PSA LA Desired	APXSTP value at L d LAPXSTP value j	P4 is 235.1 for FCA to il	luminate Segment A with G130M/130	9 at Position 2 for LP	23 is -128				
Therefo		o -128 - 235.	A = -363. *HOWEVER*, because of t	he TRANS rules, the	"QESIPARM XSTEPS -5	i6" [(-363307) = -56] Special Requireme	nt is necessary to move the aperture to the	he correct
	G130M/130 DEU	ΓERIUM	COS/FUV, TIME-TAG, FCA	G130M	CURRENT=MEDIU	J		400 Secs (400 Secs)	
	Deuterium Exposure 2			1309 A	M; BUFFER-TIME=11 1;			[==>]	
					FP-POS=1;				[1]
					SEGMENT=BOTH	;			
					LIFETIME-POS=L P4				
Comme	ents: Deuterium ex	posure optim	nized for Segment A. FP-POS=1 was	chosen because previ	ous observations show th	hat it has slightly more	counts than the othe	r FP-POS values.	-

6	Aperture Ad NONE	COS, ALIGN/APER		XAPER=-319	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 region	on of the detector when illu	minating Segment B with G160M/	/1600.	
	LAPXSTP value at LP4 is 235.1 red LAPXSTP value for FCA to il	luminate Segment B with G160M/1600	at Position 1 for I	LP3 is -84			
Ther catio		= -319. *HOWEVER*, because of the	e TRANS rules, the	"QESIPARM XSTEPS 44"	[(-319363) = +44] Special Re	equirement is necessary to move the aperture	e to the correct l
7	G160M/160 DEUTERIUM	COS/FUV, TIME-TAG, FCA	G160M	CURRENT=MEDIU		400 Secs (400 Secs)	
	0 Deuterium Exposure 1		1600 A	M; BUFFER-TIME=11		[==>]	
				1;			
				FP-POS=4; SEGMENT=BOTH:			[1]
				LIFETIME-POS=L			
Com	ments: Deuterium exposure optim	mized for Segment B. FP-POS=4 was	chosen because pi	1 1	hat it has slightly more counts tha	ın the other FP-POS values.	
8	Aperture Ad NONE	COS, ALIGN/APER		XAPER=-375	QESIPARM XSTEP	0.0 Secs (0 Secs)	
	justment 2 f or Segment B				S -56	[==>]	[1]
	В						
PSA	ments: Put the aperture in the app LAPXSTP value at LP4 is 235.1	propriate position to illuminate a porti			minating Segment B with G160M/	/1600.	
PSA Desi	ments: Put the aperture in the app LAPXSTP value at LP4 is 235.1 red LAPXSTP value for FCA to il efore, XAPER is set to -140 - 235.	luminate Segment B with $G160M/1600$. $I = -375$. *HOWEVER*, because of the	at Position 2 for I	LP3 is -140.	5" [(-375319) = -56] Special R	Requirement is necessary to move the apertu	ure to the correct
PSA Desi Ther ocati	ments: Put the aperture in the app LAPXSTP value at LP4 is 235.1 red LAPXSTP value for FCA to il refore, XAPER is set to -140 - 235. ion. G160M/160 DEUTERIUM 0 Deuterium	luminate Segment B with G160M/1600	at Position 2 for I	LP3 is -140. ne "QESIPARM XSTEPS -5	5" [(-375319) = -56] Special R		ire to the correct
PSA Desi Ther ocati	ments: Put the aperture in the app LAPXSTP value at LP4 is 235.1 red LAPXSTP value for FCA to il refore, XAPER is set to -140 - 235. ion. G160M/160 DEUTERIUM	luminate Segment B with $G160M/1600$. $I = -375$. *HOWEVER*, because of the	at Position 2 for the TRANS rules, the G160M	LP3 is -140. The "QESIPARM XSTEPS -5. CURRENT=MEDIUM; BUFFER-TIME=11	5" [(-375319) = -56] Special R	Requirement is necessary to move the apertu. 400 Secs (400 Secs)	ure to the correct
PSA Desi Ther ocati	ments: Put the aperture in the app LAPXSTP value at LP4 is 235.1 red LAPXSTP value for FCA to il refore, XAPER is set to -140 - 235. ion. G160M/160 DEUTERIUM 0 Deuterium	luminate Segment B with $G160M/1600$. $I = -375$. *HOWEVER*, because of the	at Position 2 for the TRANS rules, the G160M	LP3 is -140. The "QESIPARM XSTEPS -5. CURRENT=MEDIUM; BUFFER-TIME=111;	5" [(-375319) = -56] Special R	Requirement is necessary to move the apertu. 400 Secs (400 Secs)	
PSA Desi Ther ocati	ments: Put the aperture in the app LAPXSTP value at LP4 is 235.1 red LAPXSTP value for FCA to il refore, XAPER is set to -140 - 235. ion. G160M/160 DEUTERIUM 0 Deuterium	luminate Segment B with $G160M/1600$. $I = -375$. *HOWEVER*, because of the	at Position 2 for the TRANS rules, the G160M	LP3 is -140. The "QESIPARM XSTEPS -5. CURRENT=MEDIUM; BUFFER-TIME=11	5" [(-375319) = -56] Special R	Requirement is necessary to move the apertu. 400 Secs (400 Secs)	ure to the correct
PSA Desi Ther ocati	ments: Put the aperture in the app LAPXSTP value at LP4 is 235.1 red LAPXSTP value for FCA to il refore, XAPER is set to -140 - 235. ion. G160M/160 DEUTERIUM 0 Deuterium	luminate Segment B with $G160M/1600$. $I = -375$. *HOWEVER*, because of the	at Position 2 for the TRANS rules, the G160M	CURRENT=MEDIU M; BUFFER-TIME=11 1; FP-POS=4;	5" [(-375319) = -56] Special R	Requirement is necessary to move the apertu. 400 Secs (400 Secs)	
PSA Desi Ther ocati 9	ments: Put the aperture in the apple LAPXSTP value at LP4 is 235.1 red LAPXSTP value for FCA to il refore, XAPER is set to -140 - 235. ion. G160M/160 DEUTERIUM 0 Deuterium Exposure 2	luminate Segment B with $G160M/1600$. $I = -375$. *HOWEVER*, because of the	O at Position 2 for I the TRANS rules, th G160M 1600 A	CURRENT=MEDIU M; BUFFER-TIME=11 1; FP-POS=4; SEGMENT=BOTH; LIFETIME-POS=L P4	5" [(-375319) = -56] Special R	Requirement is necessary to move the aperturbation $I = -3I$	
PSA Desi Ther ocati 9	ments: Put the aperture in the apple LAPXSTP value at LP4 is 235.1 red LAPXSTP value for FCA to il refore, XAPER is set to -140 - 235. ion. G160M/160 DEUTERIUM 0 Deuterium Exposure 2	luminate Segment B with G160M/1600. 1 = -375. *HOWEVER*, because of the COS/FUV, TIME-TAG, FCA	O at Position 2 for I the TRANS rules, th G160M 1600 A	CURRENT=MEDIU M; BUFFER-TIME=11 1; FP-POS=4; SEGMENT=BOTH; LIFETIME-POS=L P4	6" [(-375319) = -56] Special R hat it has slightly more counts the QESIPARM XSTEP	Requirement is necessary to move the aperturbation $I = -3I$	
PSA Desi Ther ocati 9	ments: Put the aperture in the apple LAPXSTP value at LP4 is 235.1 red LAPXSTP value for FCA to il refore, XAPER is set to -140 - 235. ion. G160M/160 DEUTERIUM O Deuterium Exposure 2	luminate Segment B with G160M/1600 1 = -375. *HOWEVER*, because of the COS/FUV, TIME-TAG, FCA	O at Position 2 for I the TRANS rules, th G160M 1600 A	LP3 is -140. The "QESIPARM XSTEPS -5" CURRENT=MEDIUM; BUFFER-TIME=111; FP-POS=4; SEGMENT=BOTH; LIFETIME-POS=L P4 revious observations show in	6" [(-375319) = -56] Special R	Requirement is necessary to move the apertu- $ \frac{400 \text{ Secs } (400 \text{ Secs})}{[==>]} $ un the other FP-POS values.	
PSA Desir Therrocati 9	ments: Put the aperture in the apple LAPXSTP value at LP4 is 235.1 red LAPXSTP value for FCA to il refore, XAPER is set to -140 - 235.1 rown. G160M/160 DEUTERIUM 0 DEUTERIUM 0 Deuterium Exposure 2 ments: Deuterium exposure optiments: Deuterium exposure optiments: Return Aper NONE ture to Nomi nal Position ments: Return the aperture to its is in the second of the aperture to its in the	luminate Segment B with G160M/1600 1 = -375. *HOWEVER*, because of the COS/FUV, TIME-TAG, FCA COS/FUV, TIME-TAG, FCA mized for Segment B. FP-POS=4 was COS, ALIGN/APER nominal position, i.e. XAPER=0.	o at Position 2 for the TRANS rules, the G160M 1600 A	CURRENT=MEDIU M; BUFFER-TIME=11 1; FP-POS=4; SEGMENT=BOTH; LIFETIME-POS=L P4 **revious observations show is a series of the ser	hat it has slightly more counts the QESIPARM XSTEP S 375	Requirement is necessary to move the aperture $400 \mathrm{Secs} (400 \mathrm{Secs})$ $[==>]$ an the other FP-POS values. $0 \mathrm{Secs} (0 \mathrm{Secs})$ $[==>]$	[1]
PSA Desi: There ocati 9 Com 10 Com *HO	ments: Put the aperture in the apple LAPXSTP value at LP4 is 235.1 red LAPXSTP value for FCA to il efore, XAPER is set to -140 - 235.1 on. G160M/160 DEUTERIUM 0 Deuterium Exposure 2 ments: Deuterium exposure optime Return Aper NONE ture to Nominal Position ments: Return the aperture to its in the WEVER*, because of the TRANS Return to no DARK	luminate Segment B with G160M/1600 1 = -375. *HOWEVER*, because of the COS/FUV, TIME-TAG, FCA COS/FUV, TIME-TAG, FCA mized for Segment B. FP-POS=4 was COS, ALIGN/APER	o at Position 2 for the TRANS rules, the G160M 1600 A	CURRENT=MEDIU M; BUFFER-TIME=11 1; FP-POS=4; SEGMENT=BOTH; LIFETIME-POS=L P4 **revious observations show is a series of the ser	hat it has slightly more counts the QESIPARM XSTEP S 375 necessary to move the aperture to SPEC COM INSTR	Requirement is necessary to move the aperture $400 \mathrm{Secs} (400 \mathrm{Secs})$ $[==>]$ an the other FP-POS values. $0 \mathrm{Secs} (0 \mathrm{Secs})$ $[==>]$	[1]
PSA Desi: There ocati 9 Com 10 Com *HO	ments: Put the aperture in the apple LAPXSTP value at LP4 is 235.1 red LAPXSTP value for FCA to il efore, XAPER is set to -140 - 235. ion. G160M/160 DEUTERIUM ODEUTERIUM DEUTERIUM Exposure 2 ments: Deuterium exposure optime Return Aper NONE ture to Nominal Position ments: Return the aperture to its in the WEVER*, because of the TRANS	luminate Segment B with G160M/1600 1 = -375. *HOWEVER*, because of the COS/FUV, TIME-TAG, FCA mized for Segment B. FP-POS=4 was COS, ALIGN/APER cominal position, i.e. XAPER=0. rules, the "QESIPARM XSTEPS +375"	o at Position 2 for the TRANS rules, the G160M 1600 A	CURRENT=MEDIU M; BUFFER-TIME=11 1; FP-POS=4; SEGMENT=BOTH; LIFETIME-POS=L P4 **revious observations show is a series of the ser	hat it has slightly more counts the QESIPARM XSTEP S 375 necessary to move the aperture to SPEC COM INSTR ELHVADJPROP;	Requirement is necessary to move the aperture $400 \mathrm{Secs} (400 \mathrm{Secs})$ $[==>]$ and the other FP-POS values. $0 \mathrm{Secs} (0 \mathrm{Secs})$ $[==>]$ $0 \mathrm{its} \mathrm{correct} \mathrm{location}.$	[1]
PSA Desi: There ocati 9 Com 10 Com *HO	ments: Put the aperture in the apple LAPXSTP value at LP4 is 235.1 red LAPXSTP value for FCA to il refore, XAPER is set to -140 - 235.1 red. G160M/160 DEUTERIUM 0 DEUTERIUM 0 Deuterium Exposure 2 ments: Deuterium exposure optim. Return Aper NONE ture to Nominal Position ments: Return the aperture to its in the company of the TRANS Return to no DARK minal HV fo	luminate Segment B with G160M/1600 1 = -375. *HOWEVER*, because of the COS/FUV, TIME-TAG, FCA mized for Segment B. FP-POS=4 was COS, ALIGN/APER cominal position, i.e. XAPER=0. rules, the "QESIPARM XSTEPS +375"	o at Position 2 for the TRANS rules, the G160M 1600 A	CURRENT=MEDIU M; BUFFER-TIME=11 1; FP-POS=4; SEGMENT=BOTH; LIFETIME-POS=L P4 **revious observations show is a series of the ser	hat it has slightly more counts the QESIPARM XSTEP S 375 necessary to move the aperture to SPEC COM INSTR	Requirement is necessary to move the aperture $400 \mathrm{Secs} (400 \mathrm{Secs})$ $[==>]$ $an the other FP-POS values.$ $0 \mathrm{Secs} (0 \mathrm{Secs})$ $[==>]$ $0 \mathrm{its} \mathrm{correct} \mathrm{location}.$ $39 \mathrm{Secs} (39 \mathrm{Secs})$	[1]
PSA Desi: There ocati 9 Com 10 Com *HO	ments: Put the aperture in the apple LAPXSTP value at LP4 is 235.1 red LAPXSTP value for FCA to il refore, XAPER is set to -140 - 235.1 red. G160M/160 DEUTERIUM 0 DEUTERIUM 0 Deuterium Exposure 2 ments: Deuterium exposure optim. Return Aper NONE ture to Nominal Position ments: Return the aperture to its in the interval of the TRANS Return to no DARK minal HV for standard m	luminate Segment B with G160M/1600 1 = -375. *HOWEVER*, because of the COS/FUV, TIME-TAG, FCA mized for Segment B. FP-POS=4 was COS, ALIGN/APER cominal position, i.e. XAPER=0. rules, the "QESIPARM XSTEPS +375"	o at Position 2 for the TRANS rules, the G160M 1600 A	CURRENT=MEDIU M; BUFFER-TIME=11 1; FP-POS=4; SEGMENT=BOTH; LIFETIME-POS=L P4 **revious observations show is a series of the ser	hat it has slightly more counts the QESIPARM XSTEP S 375 necessary to move the aperture to SPEC COM INSTR ELHVADJPROP; QESIPARM ENDC	Requirement is necessary to move the aperture $400 \mathrm{Secs} (400 \mathrm{Secs})$ $[==>]$ $an the other FP-POS values.$ $0 \mathrm{Secs} (0 \mathrm{Secs})$ $[==>]$ $0 \mathrm{its} \mathrm{correct} \mathrm{location}.$ $39 \mathrm{Secs} (39 \mathrm{Secs})$	[1]



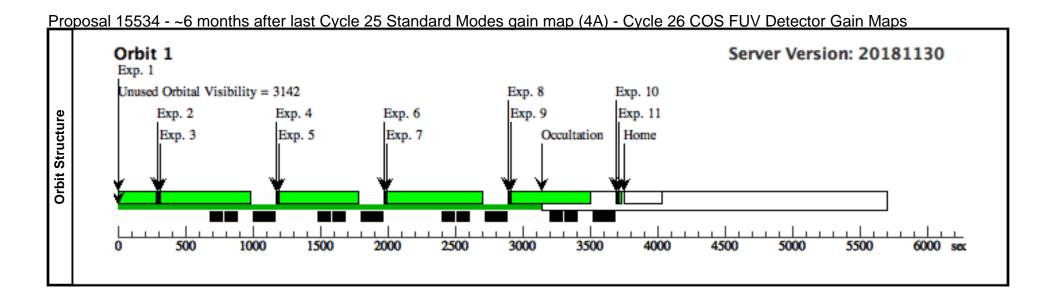
<u>Pro</u>	<u>oposal 15534 - ~6 months after last Cycle 25 Standard Modes gain map (4A) - Cycle 26 COS FUV Detector Ga</u>	in Maps
	Proposal 15534, ~6 months after last Cycle 25 Standard Modes gain map (4A), completed	Mon May 13 19:00:54 GMT 2019
±	Diagnostic Status: Warning	
/is	Scientific Instruments: S/C, COS, COS/FUV	
1	Special Requirements: BETWEEN 01-APR-2019:00:00:00 AND 01-MAY-2019:00:00:00; PARALLEL	
	Comments: This visit collects data at LP4. It uses the HV values appropriate for the Standard Modes (163/163).	
ပ္သ	(~6 months after last Cycle 25 Standard Modes gain map (4A)) Warning (Orbit Planner): MAXIMUM DURATION EXCEEDED FOR INTERNAL OR EARTH CALIB SU	
sti	(Aperture Adjustment 1 for Segment A (4A.002)) Warning (Form): This ALIGN/APER exposure should be preceded by a science exposure to define the starting position for the scar	n.
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Proposal 15534 - ~6 months after last Cycle 25 Standard Modes gain map (4A) - Cycle 26 COS FUV Detector Gain Maps Label **Target** Config, Mode, Aperture Spectral Els. Opt. Params. Special Regs. Groups Exp. Time (Total)/[Actual Dur.] Orbit Adjust HV t DARK S/C, DATA, NONE SAA CONTOUR 31; 295 Secs (295 Secs) o LP4 value SPEC COM INSTR *[==>1* ELHLTHVF: **QASISTATES COS FUV HVLOW HVN** OM; **QESIPARM ENDC** [1] TSA 163; OESIPARM ENDC TSB 163; **OESIPARM SEGM** ENT AB Comments: Adjust the HV to the LP4 Standard Modes values. COS, ALIGN/APER XAPER=-267 0.0 Secs (0 Secs) Aperture Ad NONE justment 1 f *[==>1* or Segment [1] Comments: Put the aperture in the appropriate position to illuminate a portion of the LP4 region of the detector when illuminating Segment A with G130M/1309. PSA LAPXSTP value at LP4 is 235.1 Desired LAPXSTP value for FCA to illuminate Segment A with G130M/1309 at Position 1 for LP4 is -32 *Therefore, XAPER is set to -32 - 235.1 = -267* G130M/130 DEUTERIUM COS/FUV, TIME-TAG, FCA G130M CURRENT=MEDIU 400 Secs (400 Secs) 9 Deuterium Exposures 1309 A I = = > 1Exposure 1 BUFFER-TIME=11 FP-POS=1: [1] SEGMENT=BOTH; LIFETIME-POS=L Comments: Deuterium exposure optimized for Segment A. FP-POS=1 was chosen because previous observations show that it has slightly more counts than the other FP-POS values. Aperture Ad NONE COS, ALIGN/APER XAPER=-321 **OESIPARM XSTEP** 0.0 Secs (0 Secs) justment 2 f S -54 I==>Jor Segment [1] Comments: Put the aperture in the appropriate position to illuminate a portion of the LP4 region of the detector when illuminating Segment A with G130M/1309. PSA LAPXSTP value at LP4 is 235.1 Desired LAPXSTP value for FCA to illuminate Segment A with G130M/1309 at Position 2 for LP4 is -86 Therefore, XAPER is set to -86 - 235.1 = -321. *HOWEVER*, because of the TRANS rules, the "QESIPARM XSTEPS -54" [(-321 - -267) = -54] Special Requirement is necessary to move the aperture to the correct lo cation. G130M/130 DEUTERIUM COS/FUV, TIME-TAG, FCA G130M CURRENT=MEDIU 400 Secs (400 Secs) 9 Deuterium M; 1309 A [==>1 Exposure 2 BUFFER-TIME=11 FP-POS=1; [1] SEGMENT=BOTH;

Comments: Deuterium exposure optimized for Segment A. FP-POS=1 was chosen because previous observations show that it has slightly more counts than the other FP-POS values.

LIFETIME-POS=L

Aperture Ad NONE	COS, ALIGN/APER		XAPER=-276	QESIPARM XSTEP	0.0 Secs (0 Secs)	
justment 1 f or Segment B				S 45	[==>]	[1]
omments: Put the aperture in the a	appropriate position to illuminate a porti	ion of the LP4 regi	on of the detector when illu	uminating Segment B with G160M	V/1600.	
SA LAPXSTP value at LP4 is 235. esired LAPXSTP value for FCA to	1 illuminate Segment B with G160M/1600	at Position 1 for I	LP4 is -41			
herefore, XAPER is set to -41 - 23. ation.	5.1 = -276. *HOWEVER*, because of the	e TRANS rules, the	"QESIPARM XSTEPS 45"	" [(-276321) = +45] Special Re	equirement is necessary to move the apertur	re to the correct
G160M/160 DEUTERIUM	COS/FUV, TIME-TAG, FCA	G160M	CURRENT=MEDIU	J	400 Secs (400 Secs)	
0 Deuterium Exposure 1		1600 A	M; BUFFER-TIME=11 1;		[==>]	
			FP-POS=4;			[1]
			SEGMENT=BOTH	•		[1]
			LIFETIME-POS=L P4			
omments: Deuterium exposure op	immized for Segment B. FP-POS=4 was	chosen because pr		that it has slightly more counts th	an the other FP-POS values.	
Aperture Ad NONE	COS, ALIGN/APER		XAPER=-330	QESIPARM XSTEP S -54	0.0 Secs (0 Secs)	
justment 2 f or Segment B				S -34	[==>]	[1]
D						
SA LAPXSTP value at LP4 is 235.	uppropriate position to illuminate a porti l illuminate Segment B with G160M/1600			uminating Segment B with G160M	t/1600.	
SA LAPXSTP value at LP4 is 235. esired LAPXSTP value for FCA to	l illuminate Segment B with G160M/1600	at Position 2 for I	LP4 is -95.	!" [(-330276) = -54] Special Re	equirement is necessary to move the aperture 400 Secs (400 Secs)	re to the correct
SA LAPXSTP value at LP4 is 235. tesired LAPXSTP value for FCA to therefore, XAPER is set to -95 - 23. ttion.	1 illuminate Segment B with G160M/1600 5.1 = -330. *HOWEVER*, because of the	at Position 2 for I	LP4 is -95. "QESIPARM XSTEPS -54 CURRENT=MEDIUM; BUFFER-TIME=11	!" [(-330276) = -54] Special Re	equirement is necessary to move the apertur	re to the correct
SA LAPXSTP value at LP4 is 235. tesired LAPXSTP value for FCA to therefore, XAPER is set to -95 - 23. tion. G160M/160 DEUTERIUM 0 Deuterium	1 illuminate Segment B with G160M/1600 5.1 = -330. *HOWEVER*, because of the	at Position 2 for i e TRANS rules, the G160M	LP4 is -95. "QESIPARM XSTEPS -54 CURRENT=MEDIUM;	!" [(-330276) = -54] Special Re	equirement is necessary to move the aperture 400 Secs (400 Secs)	
SA LAPXSTP value at LP4 is 235. tesired LAPXSTP value for FCA to therefore, XAPER is set to -95 - 23. tion. G160M/160 DEUTERIUM 0 Deuterium	1 illuminate Segment B with G160M/1600 5.1 = -330. *HOWEVER*, because of the	at Position 2 for i e TRANS rules, the G160M	CURRENT=MEDIUM; BUFFER-TIME=111;	!" [(-330276) = -54] Special Re	equirement is necessary to move the aperture 400 Secs (400 Secs)	re to the correct
SA LAPXSTP value at LP4 is 235. tesired LAPXSTP value for FCA to therefore, XAPER is set to -95 - 23. tion. G160M/160 DEUTERIUM 0 Deuterium	1 illuminate Segment B with G160M/1600 5.1 = -330. *HOWEVER*, because of the	at Position 2 for i e TRANS rules, the G160M	CURRENT=MEDIU M; BUFFER-TIME=11 1; FP-POS=4;	!" [(-330276) = -54] Special Re	equirement is necessary to move the aperture 400 Secs (400 Secs)	
SA LAPXSTP value at LP4 is 235. tesired LAPXSTP value for FCA to therefore, XAPER is set to -95 - 23. ttion. G160M/160 DEUTERIUM 0 Deuterium Exposure 2	1 illuminate Segment B with G160M/1600 5.1 = -330. *HOWEVER*, because of the	O at Position 2 for 1 e TRANS rules, the G160M 1600 A	CURRENT=MEDIUM; BUFFER-TIME=111; FP-POS=4; SEGMENT=BOTH LIFETIME-POS=L P4	!" [(-330276) = -54] Special Re	equirement is necessary to move the aperture 400 Secs (400 Secs) [==>]	
SA LAPXSTP value at LP4 is 235. tesired LAPXSTP value for FCA to therefore, XAPER is set to -95 - 23. ttion. G160M/160 DEUTERIUM 0 Deuterium Exposure 2 comments: Deuterium exposure op. 0 Return Aper NONE	1 illuminate Segment B with G160M/1600 5.1 = -330. *HOWEVER*, because of the COS/FUV, TIME-TAG, FCA	O at Position 2 for 1 e TRANS rules, the G160M 1600 A	CURRENT=MEDIUM; BUFFER-TIME=111; FP-POS=4; SEGMENT=BOTH LIFETIME-POS=L P4	" [(-330276) = -54] Special Ro ; ; that it has slightly more counts the QESIPARM XSTEP	equirement is necessary to move the aperture 400 Secs (400 Secs) [==>]	
SA LAPXSTP value at LP4 is 235. tesired LAPXSTP value for FCA to therefore, XAPER is set to -95 - 23. ttion. G160M/160 DEUTERIUM 0 Deuterium Exposure 2	1 illuminate Segment B with G160M/1600 5.1 = -330. *HOWEVER*, because of the COS/FUV, TIME-TAG, FCA	O at Position 2 for 1 e TRANS rules, the G160M 1600 A	CURRENT=MEDIUM; BUFFER-TIME=111; FP-POS=4; SEGMENT=BOTH LIFETIME-POS=L P4	t" [(-330276) = -54] Special Re ; ; that it has slightly more counts th	equirement is necessary to move the aperture $400 \mathrm{Secs} (400 \mathrm{Secs})$ $[==>]$ an the other FP-POS values.	
SA LAPXSTP value at LP4 is 235. tesired LAPXSTP value for FCA to therefore, XAPER is set to -95 - 23. tion. G160M/160 DEUTERIUM 0 Deuterium Exposure 2 comments: Deuterium exposure op. 0 Return Aper NONE ture to Nomi nal Position comments: Return the aperture to i	1 illuminate Segment B with G160M/1600 5.1 = -330. *HOWEVER*, because of the COS/FUV, TIME-TAG, FCA immized for Segment B. FP-POS=4 was COS, ALIGN/APER is nominal position, i.e. XAPER=0.	O at Position 2 for the TRANS rules, the G160M 1600 A	CURRENT=MEDIUM; BUFFER-TIME=111; FP-POS=4; SEGMENT=BOTH LIFETIME-POS=L P4 revious observations show XAPER=0	t" [(-330276) = -54] Special Ross that it has slightly more counts the QESIPARM XSTEP S 330	equirement is necessary to move the aperture $\frac{400 \text{ Secs } (400 \text{ Secs})}{[==>]}$ $an the other FP-POS values.$ $0 \text{ Secs } (0 \text{ Secs})$ $[==>]$	[1]
SA LAPXSTP value at LP4 is 235. tesired LAPXSTP value for FCA to therefore, XAPER is set to -95 - 23. tition. G160M/160 DEUTERIUM 0 Deuterium Exposure 2 Comments: Deuterium exposure op. 10 Return Aper NONE ture to Nomi nal Position comments: Return the aperture to it HOWEVER*, because of the TRAI	1 cilluminate Segment B with G160M/1600 5.1 = -330. *HOWEVER*, because of the COS/FUV, TIME-TAG, FCA cimmized for Segment B. FP-POS=4 was COS, ALIGN/APER	O at Position 2 for the TRANS rules, the G160M 1600 A	CURRENT=MEDIUM; BUFFER-TIME=111; FP-POS=4; SEGMENT=BOTH LIFETIME-POS=L P4 revious observations show XAPER=0	that it has slightly more counts the QESIPARM XSTEP S 330 Senecessary to move the aperture to SPEC COM INSTR	equirement is necessary to move the aperture $\frac{400 \text{ Secs } (400 \text{ Secs})}{[==>]}$ $an the other FP-POS values.$ $0 \text{ Secs } (0 \text{ Secs})$ $[==>]$	[1]
SA LAPXSTP value at LP4 is 235. tesired LAPXSTP value for FCA to therefore, XAPER is set to -95 - 23. tition. G160M/160 DEUTERIUM 0 Deuterium Exposure 2 Comments: Deuterium exposure op. D Return Aper NONE ture to Nomi nal Position comments: Return the aperture to it HOWEVER*, because of the TRAI	1 illuminate Segment B with G160M/1600 5.1 = -330. *HOWEVER*, because of the COS/FUV, TIME-TAG, FCA cimmized for Segment B. FP-POS=4 was COS, ALIGN/APER ts nominal position, i.e. XAPER=0. IS rules, the "QESIPARM XSTEPS +330"	O at Position 2 for the TRANS rules, the G160M 1600 A	CURRENT=MEDIUM; BUFFER-TIME=111; FP-POS=4; SEGMENT=BOTH LIFETIME-POS=L P4 revious observations show XAPER=0	that it has slightly more counts the QESIPARM XSTEP S 330 Spec COM INSTR ELHVADJPROP;	equirement is necessary to move the aperture $400 \mathrm{Secs} (400 \mathrm{Secs})$ $[==>]$ an the other FP-POS values. $0 \mathrm{Secs} (0 \mathrm{Secs})$ $[==>]$ o its correct location.	[1]
SA LAPXSTP value at LP4 is 235. lesired LAPXSTP value for FCA to therefore, XAPER is set to -95 - 23. lition. G160M/160 DEUTERIUM 0 Deuterium Exposure 2 comments: Deuterium exposure op. D Return Aper NONE ture to Nominal Position comments: Return the aperture to it HOWEVER*, because of the TRAN 11 Return to no DARK minal HV fo	1 illuminate Segment B with G160M/1600 5.1 = -330. *HOWEVER*, because of the COS/FUV, TIME-TAG, FCA cimmized for Segment B. FP-POS=4 was COS, ALIGN/APER ts nominal position, i.e. XAPER=0. IS rules, the "QESIPARM XSTEPS +330"	O at Position 2 for the TRANS rules, the G160M 1600 A	CURRENT=MEDIUM; BUFFER-TIME=111; FP-POS=4; SEGMENT=BOTH LIFETIME-POS=L P4 revious observations show XAPER=0	that it has slightly more counts the QESIPARM XSTEP S 330 Senecessary to move the aperture to SPEC COM INSTR	equirement is necessary to move the aperture $400 \mathrm{Secs} (400 \mathrm{Secs})$ $[==>]$ an the other FP-POS values. $0 \mathrm{Secs} (0 \mathrm{Secs})$ $[==>]$ o its correct location. $39 \mathrm{Secs} (39 \mathrm{Secs})$	[1]
SA LAPXSTP value at LP4 is 235. lesired LAPXSTP value for FCA to therefore, XAPER is set to -95 - 23. lition. G160M/160 DEUTERIUM 0 Deuterium Exposure 2 omments: Deuterium exposure op. O Return Aper NONE ture to Nominal Position omments: Return the aperture to it HOWEVER*, because of the TRAI I Return to no DARK minal HV for standard m	1 illuminate Segment B with G160M/1600 5.1 = -330. *HOWEVER*, because of the COS/FUV, TIME-TAG, FCA cimmized for Segment B. FP-POS=4 was COS, ALIGN/APER ts nominal position, i.e. XAPER=0. IS rules, the "QESIPARM XSTEPS +330"	O at Position 2 for the TRANS rules, the G160M 1600 A	CURRENT=MEDIUM; BUFFER-TIME=111; FP-POS=4; SEGMENT=BOTH LIFETIME-POS=L P4 revious observations show XAPER=0	that it has slightly more counts the QESIPARM XSTEP S 330 Senecessary to move the aperture to SPEC COM INSTR ELHVADJPROP; QESIPARM ENDC	equirement is necessary to move the aperture $400 \mathrm{Secs} (400 \mathrm{Secs})$ $[==>]$ an the other FP-POS values. $0 \mathrm{Secs} (0 \mathrm{Secs})$ $[==>]$ o its correct location. $39 \mathrm{Secs} (39 \mathrm{Secs})$	[1]

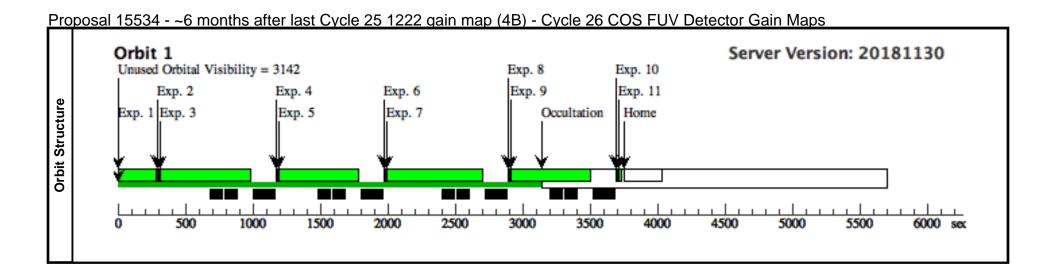


<u>Pr</u>	oposal 15534 - ~6 months after last Cycle 25 1222 gain map (4B) - Cycle 26 COS FUV Detector Gain Maps	
	Proposal 15534, ~6 months after last Cycle 25 1222 gain map (4B), completed	Mon May 13 19:00:54 GMT 2019
<u> .</u> =	Diagnostic Status: Warning	
JiS	Scientific Instruments: S/C, COS, COS/FUV	
1-	Special Requirements: BETWEEN 01-APR-2019:00:00:00 AND 01-MAY-2019:00:00:00; PARALLEL	
	Comments: This visit collects data at LP4. It uses the HV values appropriate for G130M/1222 (163/167).	
SS	(~6 months after last Cycle 25 1222 gain map (4B)) Warning (Orbit Planner): MAXIMUM DURATION EXCEEDED FOR INTERNAL OR EARTH CALIB SU	
Sţ.	(Aperture Adjustment 1 for Segment A (4B.002)) Warning (Form): This ALIGN/APER exposure should be preceded by a science exposure to define the starting position for the scan.	
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Proposal 15534 - ~6 months after last Cycle 25 1222 gain map (4B) - Cycle 26 COS FUV Detector Gain Maps

10		Carget	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Regs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1 Adjust HV t E	V	S/C, DATA, NONE	Spectral Elis.	Opt. 1 arams.	SAA CONTOUR 31;	•	295 Secs (295 Secs)	Orbit
	o LP4 1222 values		,			SPEC COM INSTR ELHLTHVF;		[==>]	
						QASISTATES COS FUV HVLOW HVN OM;			
						QESIPARM ENDC TSA 163;			[1]
						QESIPARM ENDC TSB 167;			
						QESIPARM SEGM ENT AB			
-	Comments: Adjust th				WARED ACT			0.0.0 (0.0	
	2 Aperture Ad N justment 1 f	NONE	COS, ALIGN/APER		XAPER=-267			0.0 Secs (0 Secs)	
	or Segment A							[==>]	[1]
	Comments: Put the a	perture in the appro	opriate position to illuminate a porti	on of the LP4 region o	of the detector when illu	minating Segment A wi	th G130M/1309.		
	PSA LAPXSTP value Desired LAPXSTP vo		minate Segment A with G130M/1309	at Position 1 for LP4	4 is -32				
	Therefore, XAPER is	set to -32 - 235.1 =	- 267						I
	3 G130M/130 E 9 Deuterium	DEUTERIUM	COS/FUV, TIME-TAG, FCA	G130M	CURRENT=MEDIU	J		400 Secs (400 Secs)	
Exposures	Exposure 1			1309 A	M; BUFFER-TIME=11			[==>]	
ns					1;				
g					FP-POS=1;				[1]
ш					SEGMENT=BOTH	;			
					LIFETIME-POS=L P4				
	Comments: Deuterius	m exposure optimiz	ed for Segment A. FP-POS=1 was c	hosen because previo	ous observations show th	nat it has slightly more o	counts than the other	FP-POS values.	_
Ī	4 Aperture Ad N		COS, ALIGN/APER		XAPER=-321	QESIPARM XSTEP		0.0 Secs (0 Secs)	
	justment 2 f or Segment A					S -54		[==>]	[1]
	Comments: Put the a	perture in the appro	opriate position to illuminate a porti	on of the LP4 region o	of the detector when illu	minating Segment A wi	th G130M/1309.		
	PSA LAPXSTP value Desired LAPXSTP vo	e at LP4 is 235.1 alue for FCA to illu	minate Segment A with G130M/1309	at Position 2 for LP4	4 is -86				
	Therefore, XAPER is cation.	set to -86 - 235.1 =	321. *HOWEVER*, because of the	TRANS rules, the "Q	QESIPARM XSTEPS -54	" [(-321267) = -54]	Special Requirement	is necessary to move the aperture to the	e correct lo
	5 G130M/130 E	DEUTERIUM	COS/FUV, TIME-TAG, FCA	G130M	CURRENT=MEDIU	Ī		400 Secs (400 Secs)	
	9 Deuterium Exposure 2			1309 A	M; BUFFER-TIME=11 1;			[==>]	
					FP-POS=1;				[1]
					SEGMENT=BOTH	•			[2]
					LIFETIME-POS=L				
					P4				
	Comments: Deuteriu	m exposure optimiz	ed for Segment A. FP-POS=1 was c	hosen because previo		nat it has slightly more o	counts than the other	FP-POS values.	

6	Aperture Ad NONE	COS, ALIGN/APER		XAPER=-276	QESIPARM XSTEP	0.0 Secs (0 Secs)	
	justment 1 f or Segment B				S 45	[==>]	[1]
Сот	ments: Put the aperture in the app	propriate position to illuminate a porti	on of the LP4 regi	on of the detector when illu	minating Segment B with G160M	/1600.	<u>'</u>
	LAPXSTP value at LP4 is 235.1 red LAPXSTP value for FCA to il	luminate Segment B with G160M/1600	at Position 1 for I	LP4 is -41			
Ther catio		= -276. *HOWEVER*, because of the	e TRANS rules, the	"QESIPARM XSTEPS 45"	[(-276321) = +45] Special Re	quirement is necessary to move the aperture	e to the correct l
7	G160M/160 DEUTERIUM	COS/FUV, TIME-TAG, FCA	G160M	CURRENT=MEDIU		400 Secs (400 Secs)	
	0 Deuterium Exposure 1		1600 A	M; BUFFER-TIME=11		[==>]	
				1; FP-POS=4;			
				SEGMENT=BOTH;			[1]
				LIFETIME-POS=L			
Com	ments: Deuterium exposure optim	mized for Segment B. FP-POS=4 was	chosen because pr	1 1		un the other FP-POS values.	
8	Aperture Ad NONE	COS, ALIGN/APER		XAPER=-330	QESIPARM XSTEP	0.0 Secs (0 Secs)	
	justment 2 f or Segment B				S -54	[==>]	[1]
PSA	LAPXSTP value at LP4 is 235.1	propriate position to illuminate a porti luminate Segment B with G160M/1600			minating Segment B with G160M	/1600.	
PSA Desi	LAPXSTP value at LP4 is 235.1 red LAPXSTP value for FCA to il efore, XAPER is set to -95 - 235.1	luminate Segment B with G160M/1600 = -330. *HOWEVER*, because of the	at Position 2 for I	LP4 is -95.	" [(-330276) = -54] Special Re	quirement is necessary to move the aperture	e to the correct l
PSA Desi Ther catio	LAPXSTP value at LP4 is 235.1 red LAPXSTP value for FCA to il. efore, XAPER is set to -95 - 235.1 n. G160M/160 DEUTERIUM 0 Deuterium	luminate Segment B with G160M/1600	at Position 2 for I	LP4 is -95. "QESIPARM XSTEPS -54	" [(-330276) = -54] Special Re		e to the correct l
PSA Desi Ther catio	LAPXSTP value at LP4 is 235.1 red LAPXSTP value for FCA to il. efore, XAPER is set to -95 - 235.1 n. G160M/160 DEUTERIUM	luminate Segment B with G160M/1600 = -330. *HOWEVER*, because of the	at Position 2 for a TRANS rules, the	LP4 is -95. "QESIPARM XSTEPS -54 CURRENT=MEDIU M; BUFFER-TIME=11	" [(-330276) = -54] Special Re	quirement is necessary to move the aperture 400 Secs (400 Secs)	e to the correct l
PSA Desi Ther catio	LAPXSTP value at LP4 is 235.1 red LAPXSTP value for FCA to il. efore, XAPER is set to -95 - 235.1 n. G160M/160 DEUTERIUM 0 Deuterium	luminate Segment B with G160M/1600 = -330. *HOWEVER*, because of the	at Position 2 for a TRANS rules, the	CURRENT=MEDIU M; BUFFER-TIME=11 1;	" [(-330276) = -54] Special Re	quirement is necessary to move the aperture 400 Secs (400 Secs)	
PSA Desi Ther catio	LAPXSTP value at LP4 is 235.1 red LAPXSTP value for FCA to il. efore, XAPER is set to -95 - 235.1 n. G160M/160 DEUTERIUM 0 Deuterium	luminate Segment B with G160M/1600 = -330. *HOWEVER*, because of the	at Position 2 for a TRANS rules, the	LP4 is -95. "QESIPARM XSTEPS -54 CURRENT=MEDIU M; BUFFER-TIME=11	" [(-330276) = -54] Special Re	quirement is necessary to move the aperture 400 Secs (400 Secs)	e to the correct l
PSA Desi Ther catio	LAPXSTP value at LP4 is 235.1 red LAPXSTP value for FCA to il. efore, XAPER is set to -95 - 235.1 n. G160M/160 DEUTERIUM 0 Deuterium	luminate Segment B with G160M/1600 = -330. *HOWEVER*, because of the	at Position 2 for a TRANS rules, the	CURRENT=MEDIU M; BUFFER-TIME=11 1; FP-POS=4;	" [(-330276) = -54] Special Re	quirement is necessary to move the aperture 400 Secs (400 Secs)	
PSA Desi Ther catio 9	LAPXSTP value at LP4 is 235.1 red LAPXSTP value for FCA to il. efore, XAPER is set to -95 - 235.1 n. G160M/160 DEUTERIUM 0 Deuterium Exposure 2	luminate Segment B with G160M/1600 = -330. *HOWEVER*, because of the	O at Position 2 for 1 e TRANS rules, the G160M 1600 A	CURRENT=MEDIU M; BUFFER-TIME=11 1; FP-POS=4; SEGMENT=BOTH; LIFETIME-POS=L P4	" [(-330276) = -54] Special Re	quirement is necessary to move the aperture $\frac{400 \text{ Secs } (400 \text{ Secs})}{[==>]}$	
PSA Desi Ther catio 9	LAPXSTP value at LP4 is 235.1 red LAPXSTP value for FCA to il. efore, XAPER is set to -95 - 235.1 n. G160M/160 DEUTERIUM 0 Deuterium Exposure 2	luminate Segment B with G160M/1600 = -330. *HOWEVER*, because of the COS/FUV, TIME-TAG, FCA	O at Position 2 for 1 e TRANS rules, the G160M 1600 A	CURRENT=MEDIU M; BUFFER-TIME=11 1; FP-POS=4; SEGMENT=BOTH; LIFETIME-POS=L P4	" [(-330276) = -54] Special Re hat it has slightly more counts the QESIPARM XSTEP	quirement is necessary to move the aperture $\frac{400 \text{ Secs } (400 \text{ Secs})}{[==>]}$	
PSA Desi Ther catio 9	LAPXSTP value at LP4 is 235.1 red LAPXSTP value for FCA to il. efore, XAPER is set to -95 - 235.1 n. G160M/160 DEUTERIUM 0 Deuterium Exposure 2	luminate Segment B with G160M/1600 = -330. *HOWEVER*, because of the COS/FUV, TIME-TAG, FCA mized for Segment B. FP-POS=4 was	O at Position 2 for 1 e TRANS rules, the G160M 1600 A	CURRENT=MEDIU M; BUFFER-TIME=11 1; FP-POS=4; SEGMENT=BOTH; LIFETIME-POS=L P4	" [(-330276) = -54] Special Re	quirement is necessary to move the aperture $400 \mathrm{Secs} (400 \mathrm{Secs})$ $[==>]$	
PSA Desi Ther catio 9 Com 10	LAPXSTP value at LP4 is 235.1 red LAPXSTP value for FCA to ill efore, XAPER is set to -95 - 235.1 n. G160M/160 DEUTERIUM 0 Deuterium Exposure 2 ments: Deuterium exposure optimal Return Aper NONE ture to Nominal Position ments: Return the aperture to its interests.	duminate Segment B with G160M/1600 = -330. *HOWEVER*, because of the COS/FUV, TIME-TAG, FCA mized for Segment B. FP-POS=4 was COS, ALIGN/APER	at Position 2 for the TRANS rules, the G160M 1600 A	CURRENT=MEDIU M; BUFFER-TIME=11 1; FP-POS=4; SEGMENT=BOTH; LIFETIME-POS=L P4 **revious observations show to the state of	hat it has slightly more counts the QESIPARM XSTEP S 330	quirement is necessary to move the aperture $\frac{400 \text{ Secs } (400 \text{ Secs})}{[==>]}$ In the other FP-POS values. $\frac{0 \text{ Secs } (0 \text{ Secs})}{[==>]}$	[1]
PSA Desi There cation 9 Com 10 Com *HO	LAPXSTP value at LP4 is 235.1 red LAPXSTP value for FCA to ill efore, XAPER is set to -95 - 235.1 n. G160M/160 DEUTERIUM 0 Deuterium Exposure 2 ments: Deuterium exposure optime Return Aper NONE ture to Nominal Position ments: Return the aperture to its is the WEVER*, because of the TRANS Return to no DARK	duminate Segment B with G160M/1600 = -330. *HOWEVER*, because of the COS/FUV, TIME-TAG, FCA mized for Segment B. FP-POS=4 was COS, ALIGN/APER nominal position, i.e. XAPER=0.	at Position 2 for the TRANS rules, the G160M 1600 A	CURRENT=MEDIU M; BUFFER-TIME=11 1; FP-POS=4; SEGMENT=BOTH; LIFETIME-POS=L P4 **revious observations show to the state of	hat it has slightly more counts the QESIPARM XSTEP S 330 necessary to move the aperture to SPEC COM INSTR	quirement is necessary to move the aperture $\frac{400 \text{ Secs } (400 \text{ Secs})}{[==>]}$ In the other FP-POS values. $\frac{0 \text{ Secs } (0 \text{ Secs})}{[==>]}$	[1]
PSA Desi There cation 9 Com 10 Com *HO	LAPXSTP value at LP4 is 235.1 red LAPXSTP value for FCA to ill efore, XAPER is set to -95 - 235.1 n. G160M/160 DEUTERIUM 0 Deuterium Exposure 2 ments: Deuterium exposure optimal Return Aper NONE ture to Nominal Position ments: Return the aperture to its in WEVER*, because of the TRANS	duminate Segment B with G160M/1600 = -330. *HOWEVER*, because of the COS/FUV, TIME-TAG, FCA mized for Segment B. FP-POS=4 was COS, ALIGN/APER nominal position, i.e. XAPER=0. rules, the "QESIPARM XSTEPS +330"	at Position 2 for the TRANS rules, the G160M 1600 A	CURRENT=MEDIU M; BUFFER-TIME=11 1; FP-POS=4; SEGMENT=BOTH; LIFETIME-POS=L P4 **revious observations show to the state of	hat it has slightly more counts the QESIPARM XSTEP S 330 necessary to move the aperture to SPEC COM INSTR ELHVADJPROP;	quirement is necessary to move the aperture $400 \mathrm{Secs} (400 \mathrm{Secs})$ $[==>]$ an the other FP-POS values. $0 \mathrm{Secs} (0 \mathrm{Secs})$ $[==>]$ wits correct location.	[1]
PSA Desi There cation 9 Com 10 Com *HO	LAPXSTP value at LP4 is 235.1 red LAPXSTP value for FCA to ill efore, XAPER is set to -95 - 235.1 n. G160M/160 DEUTERIUM 0 Deuterium Exposure 2 ments: Deuterium exposure optime Return Aper NONE ture to Nominal Position ments: Return the aperture to its if WEVER*, because of the TRANS Return to no DARK minal HV fo	duminate Segment B with G160M/1600 = -330. *HOWEVER*, because of the COS/FUV, TIME-TAG, FCA mized for Segment B. FP-POS=4 was COS, ALIGN/APER nominal position, i.e. XAPER=0. rules, the "QESIPARM XSTEPS +330"	at Position 2 for the TRANS rules, the G160M 1600 A	CURRENT=MEDIU M; BUFFER-TIME=11 1; FP-POS=4; SEGMENT=BOTH; LIFETIME-POS=L P4 **revious observations show to the state of	hat it has slightly more counts the QESIPARM XSTEP S 330 necessary to move the aperture to SPEC COM INSTR	quirement is necessary to move the aperture	[1]
PSA Desi There cation 9 Com 10 Com *HO	LAPXSTP value at LP4 is 235.1 red LAPXSTP value for FCA to il. refore, XAPER is set to -95 - 235.1 n. G160M/160 DEUTERIUM 0 Deuterium Exposure 2 ments: Deuterium exposure optim Return Aper NONE ture to Nomi nal Position ments: Return the aperture to its is WEVER*, because of the TRANS Return to no DARK minal HV fo r standard m	duminate Segment B with G160M/1600 = -330. *HOWEVER*, because of the COS/FUV, TIME-TAG, FCA mized for Segment B. FP-POS=4 was COS, ALIGN/APER nominal position, i.e. XAPER=0. rules, the "QESIPARM XSTEPS +330"	at Position 2 for the TRANS rules, the G160M 1600 A	CURRENT=MEDIU M; BUFFER-TIME=11 1; FP-POS=4; SEGMENT=BOTH; LIFETIME-POS=L P4 **revious observations show to the state of	hat it has slightly more counts the QESIPARM XSTEP S 330 necessary to move the aperture to SPEC COM INSTR ELHVADJPROP; QESIPARM ENDC	quirement is necessary to move the aperture	[1]



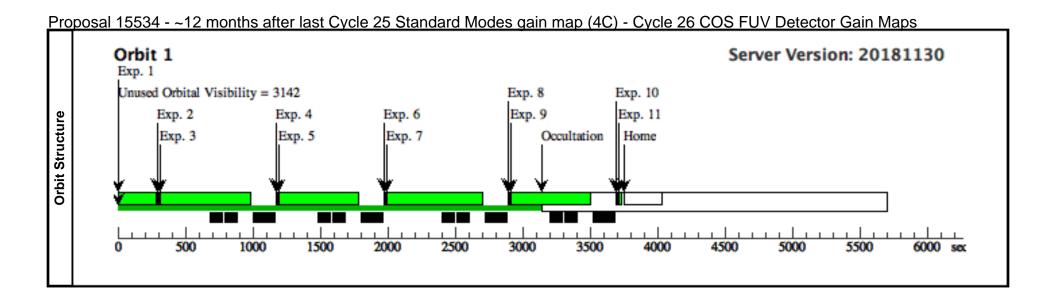
Pro	oposal 15534 - ~12 months after last Cycle 25 Standard Modes gain map (4C) - Cycle 26 COS FUV Detector G	ain Maps
	Proposal 15534, ~12 months after last Cycle 25 Standard Modes gain map (4C), scheduling	Mon May 13 19:00:54 GMT 2019
±	Diagnostic Status: Warning	
/is	Scientific Instruments: S/C, COS, COS/FUV	
1	Special Requirements: BETWEEN 01-OCT-2019:00:00:00 AND 01-NOV-2019:00:00:00; PARALLEL	
	Comments: This visit collects data at LP4. It uses the HV values appropriate for the Standard Modes (163/163).	
SS	(~12 months after last Cycle 25 Standard Modes gain map (4C)) Warning (Orbit Planner): MAXIMUM DURATION EXCEEDED FOR INTERNAL OR EARTH CALIB SU	
Sti	(Aperture Adjustment 1 for Segment A (4C.002)) Warning (Form): This ALIGN/APER exposure should be preceded by a science exposure to define the starting position for the scan	
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Proposal 15534 - ~12 months after last Cycle 25 Standard Modes gain map (4C) - Cycle 26 COS FUV Detector Gain Maps Label **Target** Config, Mode, Aperture Spectral Els. Opt. Params. Special Regs. Groups Exp. Time (Total)/[Actual Dur.] Orbit Adjust HV t DARK S/C, DATA, NONE SAA CONTOUR 31; 295 Secs (295 Secs) o LP4 value SPEC COM INSTR *[==>1* ELHLTHVF: **QASISTATES COS FUV HVLOW HVN** OM; **QESIPARM ENDC** [1] TSA 163; OESIPARM ENDC TSB 163; **OESIPARM SEGM** ENT AB Comments: Adjust the HV to the LP4 Standard Modes values. COS, ALIGN/APER XAPER=-267 0.0 Secs (0 Secs) Aperture Ad NONE justment 1 f *[==>1* or Segment [1] Comments: Put the aperture in the appropriate position to illuminate a portion of the LP4 region of the detector when illuminating Segment A with G130M/1309. PSA LAPXSTP value at LP4 is 235.1 Desired LAPXSTP value for FCA to illuminate Segment A with G130M/1309 at Position 1 for LP4 is -32 *Therefore, XAPER is set to -32 - 235.1 = -267* G130M/130 DEUTERIUM COS/FUV, TIME-TAG, FCA G130M CURRENT=MEDIU 400 Secs (400 Secs) 9 Deuterium Exposures 1309 A I = = > 1Exposure 1 BUFFER-TIME=11 FP-POS=1: [1] SEGMENT=BOTH; LIFETIME-POS=L Comments: Deuterium exposure optimized for Segment A. FP-POS=1 was chosen because previous observations show that it has slightly more counts than the other FP-POS values. Aperture Ad NONE COS, ALIGN/APER XAPER=-321 **OESIPARM XSTEP** 0.0 Secs (0 Secs) justment 2 f S -54 I==>Jor Segment [1] Comments: Put the aperture in the appropriate position to illuminate a portion of the LP4 region of the detector when illuminating Segment A with G130M/1309. PSA LAPXSTP value at LP4 is 235.1 Desired LAPXSTP value for FCA to illuminate Segment A with G130M/1309 at Position 2 for LP4 is -86 Therefore, XAPER is set to -86 - 235.1 = -321. *HOWEVER*, because of the TRANS rules, the "QESIPARM XSTEPS -54" [(-321 - -267) = -54] Special Requirement is necessary to move the aperture to the correct lo cation. G130M/130 DEUTERIUM COS/FUV, TIME-TAG, FCA G130M CURRENT=MEDIU 400 Secs (400 Secs) 9 Deuterium M; 1309 A [==>1 Exposure 2 BUFFER-TIME=11 FP-POS=1; [1] SEGMENT=BOTH;

Comments: Deuterium exposure optimized for Segment A. FP-POS=1 was chosen because previous observations show that it has slightly more counts than the other FP-POS values.

LIFETIME-POS=L

Aperture Ad NONE	COS, ALIGN/APER		XAPER=-276	QESIPARM XSTEP	0.0 Secs (0 Secs)	
justment 1 f or Segment B				S 45	[==>]	[1]
omments: Put the aperture in the	appropriate position to illuminate a porti	on of the LP4 regi	on of the detector when illu	ıminating Segment B with G160M	1/1600.	
SA LAPXSTP value at LP4 is 235. esired LAPXSTP value for FCA to	1 o illuminate Segment B with G160M/1600	at Position 1 for I	LP4 is -41			
herefore, XAPER is set to -41 - 23 ation.	5.1 = -276. *HOWEVER*, because of the	e TRANS rules, the	"QESIPARM XSTEPS 45"	" [(-276321) = +45] Special R	equirement is necessary to move the apertur	re to the correct
G160M/160 DEUTERIUM	COS/FUV, TIME-TAG, FCA	G160M	CURRENT=MEDIU	J	400 Secs (400 Secs)	
0 Deuterium Exposure 1		1600 A	M; BUFFER-TIME=11 1;		[==>]	
			FP-POS=4;			[1]
			SEGMENT=BOTH	·,		,-,
			LIFETIME-POS=L P4			
omments: Deuterium exposure op	timmized for Segment B. FP-POS=4 was	chosen because pi		that it has slightly more counts th	nan the other FP-POS values.	
Aperture Ad NONE	COS, ALIGN/APER		XAPER=-330	QESIPARM XSTEP	0.0 Secs (0 Secs)	
justment 2 f or Segment				S -54	[==>]	[1]
В		Cd ID4			L/1600	
SA LAPXSTP value at LP4 is 235.				uminating Segment B with G160M	1/1000.	
SA LAPXSTP value at LP4 is 235. Desired LAPXSTP value for FCA to	1 o illuminate Segment B with G160M/1600	at Position 2 for I	LP4 is -95.	!" [(-330276) = -54] Special R	dequirement is necessary to move the apertur 400 Secs (400 Secs)	re to the correct
SA LAPXSTP value at LP4 is 235. Desired LAPXSTP value for FCA to therefore, XAPER is set to -95 - 23 ation.	1 o illuminate Segment B with $G160M/1600$ $5.1 = -330$. *HOWEVER*, because of the	at Position 2 for I	LP4 is -95. "QESIPARM XSTEPS -54 CURRENT=MEDIUM; BUFFER-TIME=11	!" [(-330276) = -54] Special R	equirement is necessary to move the apertur	re to the correct
SSA LAPXSTP value at LP4 is 235. Desired LAPXSTP value for FCA to Therefore, XAPER is set to -95 - 23 ation. G160M/160 DEUTERIUM 0 Deuterium	1 o illuminate Segment B with $G160M/1600$ $5.1 = -330$. *HOWEVER*, because of the	at Position 2 for a TRANS rules, the	LP4 is -95. "QESIPARM XSTEPS -54 CURRENT=MEDIUM;	!" [(-330276) = -54] Special R	dequirement is necessary to move the apertur	
SSA LAPXSTP value at LP4 is 235. Desired LAPXSTP value for FCA to Therefore, XAPER is set to -95 - 23 ation. G160M/160 DEUTERIUM 0 Deuterium	1 o illuminate Segment B with $G160M/1600$ $5.1 = -330$. *HOWEVER*, because of the	at Position 2 for a TRANS rules, the	CURRENT=MEDIUM; BUFFER-TIME=111;	!" [(-330276) = -54] Special R	dequirement is necessary to move the apertur	re to the correct
SSA LAPXSTP value at LP4 is 235. Desired LAPXSTP value for FCA to Therefore, XAPER is set to -95 - 23 ation. G160M/160 DEUTERIUM 0 Deuterium	1 o illuminate Segment B with $G160M/1600$ $5.1 = -330$. *HOWEVER*, because of the	at Position 2 for a TRANS rules, the	CURRENT=MEDIU M; BUFFER-TIME=11 1; FP-POS=4;	!" [(-330276) = -54] Special R	dequirement is necessary to move the apertur	
SSA LAPXSTP value at LP4 is 235. Desired LAPXSTP value for FCA to therefore, XAPER is set to -95 - 23 ation. G160M/160 DEUTERIUM 0 Deuterium Exposure 2	1 o illuminate Segment B with $G160M/1600$ $5.1 = -330$. *HOWEVER*, because of the	O at Position 2 for 1 TRANS rules, the G160M 1600 A	CURRENT=MEDIUM; BUFFER-TIME=111; FP-POS=4; SEGMENT=BOTH LIFETIME-POS=L P4	!" [(-330276) = -54] Special R	400 Secs (400 Secs) [==>]	
SA LAPXSTP value at LP4 is 235. Desired LAPXSTP value for FCA to therefore, XAPER is set to -95 - 23 ation. G160M/160 DEUTERIUM 0 Deuterium Exposure 2	1 o illuminate Segment B with G160M/1600 5.1 = -330. *HOWEVER*, because of the COS/FUV, TIME-TAG, FCA	O at Position 2 for 1 TRANS rules, the G160M 1600 A	CURRENT=MEDIUM; BUFFER-TIME=111; FP-POS=4; SEGMENT=BOTH LIFETIME-POS=L P4	t" [(-330276) = -54] Special R T that it has slightly more counts the QESIPARM XSTEP	400 Secs (400 Secs) [==>]	
SA LAPXSTP value at LP4 is 235. Desired LAPXSTP value for FCA to therefore, XAPER is set to -95 - 23 ation. G160M/160 DEUTERIUM 0 Deuterium Exposure 2	1 o illuminate Segment B with G160M/1600 5.1 = -330. *HOWEVER*, because of the COS/FUV, TIME-TAG, FCA	O at Position 2 for 1 TRANS rules, the G160M 1600 A	CURRENT=MEDIUM; BUFFER-TIME=111; FP-POS=4; SEGMENT=BOTH LIFETIME-POS=L P4	t" [(-330276) = -54] Special R J ; ; that it has slightly more counts th	Requirement is necessary to move the apertur	
SA LAPXSTP value at LP4 is 235. Desired LAPXSTP value for FCA to therefore, XAPER is set to -95 - 23 ation. G160M/160 DEUTERIUM 0 Deuterium Exposure 2 Comments: Deuterium exposure op 0 Return Aper NONE ture to Nomi nal Position Comments: Return the aperture to to comments: Return the aperture to to comments: Return the aperture to to comments: Return the aperture to the comments and the comments are the comments and the comments are the comments and the comments are the comments are the comments and the comments are the commen	1 2 illuminate Segment B with G160M/1600 5.1 = -330. *HOWEVER*, because of the COS/FUV, TIME-TAG, FCA timmized for Segment B. FP-POS=4 was COS, ALIGN/APER ts nominal position, i.e. XAPER=0.	at Position 2 for the TRANS rules, the G160M 1600 A	CURRENT=MEDIUM; BUFFER-TIME=111; FP-POS=4; SEGMENT=BOTH LIFETIME-POS=L P4 revious observations show XAPER=0	t" [(-330276) = -54] Special R I that it has slightly more counts the QESIPARM XSTEP S 330	dequirement is necessary to move the aperture $400 \mathrm{Secs} (400 \mathrm{Secs})$ $[==>]$ $\frac{\mathrm{dan the other FP-POS values.}}{0 \mathrm{Secs} (0 \mathrm{Secs})}$ $[==>]$	[1]
SA LAPXSTP value at LP4 is 235. Desired LAPXSTP value for FCA to therefore, XAPER is set to -95 - 23 ation. G160M/160 DEUTERIUM 0 Deuterium Exposure 2 Comments: Deuterium exposure op ture to Nominal Position Comments: Return the aperture to the HOWEVER*, because of the TRAM	1 o illuminate Segment B with G160M/1600 5.1 = -330. *HOWEVER*, because of the COS/FUV, TIME-TAG, FCA timmized for Segment B. FP-POS=4 was COS, ALIGN/APER	at Position 2 for the TRANS rules, the G160M 1600 A	CURRENT=MEDIUM; BUFFER-TIME=111; FP-POS=4; SEGMENT=BOTH LIFETIME-POS=L P4 revious observations show XAPER=0	t" [(-330276) = -54] Special R that it has slightly more counts the QESIPARM XSTEP S 330 snecessary to move the aperture of SPEC COM INSTR	dequirement is necessary to move the aperture $400 \mathrm{Secs} (400 \mathrm{Secs})$ $[==>]$ $\frac{\mathrm{dan the other FP-POS values.}}{0 \mathrm{Secs} (0 \mathrm{Secs})}$ $[==>]$	[1]
SA LAPXSTP value at LP4 is 235. Desired LAPXSTP value for FCA to therefore, XAPER is set to -95 - 23 ation. G160M/160 DEUTERIUM 0 Deuterium Exposure 2 Comments: Deuterium exposure op ture to Nominal Position Comments: Return the aperture to the HOWEVER*, because of the TRA.	1 2 illuminate Segment B with G160M/1600 5.1 = -330. *HOWEVER*, because of the COS/FUV, TIME-TAG, FCA timmized for Segment B. FP-POS=4 was COS, ALIGN/APER ts nominal position, i.e. XAPER=0. NS rules, the "QESIPARM XSTEPS +330"	at Position 2 for the TRANS rules, the G160M 1600 A	CURRENT=MEDIUM; BUFFER-TIME=111; FP-POS=4; SEGMENT=BOTH LIFETIME-POS=L P4 revious observations show XAPER=0	t" [(-330276) = -54] Special R that it has slightly more counts the QESIPARM XSTEP S 330 snecessary to move the aperture is SPEC COM INSTR ELHVADJPROP;	dequirement is necessary to move the aperture $400 \mathrm{Secs} (400 \mathrm{Secs})$ $[==>]$ $[==>]$ $[==>]$ $[==>]$ $[==>]$ $[==>]$ $[==>]$	[1]
SA LAPXSTP value at LP4 is 235. Desired LAPXSTP value for FCA to therefore, XAPER is set to -95 - 23 ation. G160M/160 DEUTERIUM 0 Deuterium Exposure 2 Comments: Deuterium exposure op 0 Return Aper NONE ture to Nomi nal Position Comments: Return the aperture to the HOWEVER*, because of the TRAMI 1 Return to no DARK minal HV fo	1 2 illuminate Segment B with G160M/1600 5.1 = -330. *HOWEVER*, because of the COS/FUV, TIME-TAG, FCA timmized for Segment B. FP-POS=4 was COS, ALIGN/APER ts nominal position, i.e. XAPER=0. NS rules, the "QESIPARM XSTEPS +330"	at Position 2 for the TRANS rules, the G160M 1600 A	CURRENT=MEDIUM; BUFFER-TIME=111; FP-POS=4; SEGMENT=BOTH LIFETIME-POS=L P4 revious observations show XAPER=0	t" [(-330276) = -54] Special R that it has slightly more counts the QESIPARM XSTEP S 330 snecessary to move the aperture of SPEC COM INSTR	dequirement is necessary to move the aperture $400 \mathrm{Secs} (400 \mathrm{Secs})$ $[==>]$ $[===>]$ $[===>]$ $[===>]$ $[====]$ $[====]$ $[====]$ $[====]$ $[=====]$ $[=====]$ $[=====]$ $[======]$ $[======]$ $[=======]$ $[=======]$ $[====================================$	[1]
SA LAPXSTP value at LP4 is 235. Desired LAPXSTP value for FCA to therefore, XAPER is set to -95 - 23 ation. G160M/160 DEUTERIUM 0 Deuterium Exposure 2 Comments: Deuterium exposure op ture to Nominal Position Comments: Return the aperture to the HOWEVER*, because of the TRAMINAL TRANSPORTED TO THE TRANSPORTED TO T	1 2 illuminate Segment B with G160M/1600 5.1 = -330. *HOWEVER*, because of the COS/FUV, TIME-TAG, FCA timmized for Segment B. FP-POS=4 was COS, ALIGN/APER ts nominal position, i.e. XAPER=0. NS rules, the "QESIPARM XSTEPS +330"	at Position 2 for the TRANS rules, the G160M 1600 A	CURRENT=MEDIUM; BUFFER-TIME=111; FP-POS=4; SEGMENT=BOTH LIFETIME-POS=L P4 revious observations show XAPER=0	t" [(-330276) = -54] Special R that it has slightly more counts the QESIPARM XSTEP S 330 snecessary to move the aperture of SPEC COM INSTR ELHVADJPROP; QESIPARM ENDC	dequirement is necessary to move the aperture $400 \mathrm{Secs} (400 \mathrm{Secs})$ $[==>]$ $[===>]$ $[===>]$ $[===>]$ $[====]$ $[====]$ $[====]$ $[====]$ $[=====]$ $[=====]$ $[=====]$ $[======]$ $[======]$ $[=======]$ $[=======]$ $[====================================$	[1]



<u>Pr</u>	oposal 15534 - ~12 months after last Cycle 25 1222 gain map (4D) - Cycle 26 COS FUV Detector Gain Maps	
	Proposal 15534, ~12 months after last Cycle 25 1222 gain map (4D), scheduling	Mon May 13 19:00:54 GMT 2019
<u>.</u>	Diagnostic Status: Warning	
J:S	Scientific Instruments: S/C, COS, COS/FUV	
1	Special Requirements: BETWEEN 01-OCT-2019:00:00:00 AND 01-NOV-2019:00:00; PARALLEL	
	Comments: This visit collects data at LP4. It uses the HV values appropriate for G130M/1222 (163/167).	
၂ ဗ	(~12 months after last Cycle 25 1222 gain map (4D)) Warning (Orbit Planner): MAXIMUM DURATION EXCEEDED FOR INTERNAL OR EARTH CALIB SU	
Į.į	(Aperture Adjustment 1 for Segment A (4D.002)) Warning (Form): This ALIGN/APER exposure should be preceded by a science exposure to define the starting position for the scan.	
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Proposal 15534 - ~12 months after last Cycle 25 1222 gain map (4D) - Cycle 26 COS FUV Detector Gain Maps

	# Label	Target	Config, Mode, Aperture	Spectral Els.	Opt. Params.	Special Regs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit		
	1 Adjust HV	· · · · · · · · · · · · · · · · · · ·	S/C, DATA, NONE	Spectral Lis.	Opt. 1 arams.	SAA CONTOUR 31;	*	295 Secs (295 Secs)	Olbit		
	o LP4 122 values	2	2/2,21223,1/2			SPEC COM INSTR ELHLTHVF;	,	[==>]			
						QASISTATES COS FUV HVLOW HVN OM;					
						QESIPARM ENDC TSA 163;			[1]		
						QESIPARM ENDC TSB 167;					
						QESIPARM SEGM ENT AB					
	2 Aperture A	st the HV to the LP4 12	222 values. COS, ALIGN/APER		XAPER=-267			0.0 Secs (0 Secs)	1		
	justment 1	f	COS, ALIGIVAPER		AAPER=-207			[==>]			
	or Segment							11	[1]		
	Comments: Put t	he aperture in the appi	ropriate position to illuminate a porti	on of the LP4 region	of the detector when illu	ıminating Segment A wi	ith G130M/1309.				
	PSA LAPXSTP value at LP4 is 235.1 Desired LAPXSTP value for FCA to illuminate Segment A with G130M/1309 at Position 1 for LP4 is -32										
	Therefore, XAPE	R is set to -32 - 235.1									
"	3 G130M/13 9 Deuterium) DEUTERIUM	COS/FUV, TIME-TAG, FCA	G130M	CURRENT=MEDIU M;	J		400 Secs (400 Secs)			
ĕ	Exposure 1			1309 A	BUFFER-TIME=11			[==>]			
nsc					1;						
Exposures					FP-POS=1;				[1]		
					SEGMENT=BOTH	•					
					LIFETIME-POS=L P4						
	Comments: Deut	erium exposure optimi.	zed for Segment A. FP-POS=1 was c	hosen because previ		hat it has slightly more	counts than the other	FP-POS values.			
	4 Aperture A		COS, ALIGN/APER		XAPER=-321	QESIPARM XSTEP		0.0 Secs (0 Secs)			
	justment 2 or Segment A					S -54		[==>]	[1]		
	Comments: Put t	he aperture in the appi	ropriate position to illuminate a porti	on of the LP4 region	of the detector when illu	ıminating Segment A wi	ith G130M/1309.		<u> </u>		
	PSA LAPXSTP value at LP4 is 235.1 Desired LAPXSTP value for FCA to illuminate Segment A with G130M/1309 at Position 2 for LP4 is -86										
	Therefore, XAPER is set to -86 - 235.1 = -321. *HOWEVER*, because of the TRANS rules, the "QESIPARM XSTEPS -54" [(-321267) = -54] Special Requirement is necessary to move the aperture to the correct lo cation.										
) DEUTERIUM	COS/FUV, TIME-TAG, FCA	G130M	CURRENT=MEDIU	J		400 Secs (400 Secs)			
	9 Deuterius Exposure 2			1309 A	M; BUFFER-TIME=11 1;			[==>]			
					FP-POS=1;				[1]		
					SEGMENT=BOTH	;			[1]		
					LIFETIME-POS=L P4						
	Comments: Deut	erium exposure optimi	zed for Segment A. FP-POS=1 was c	hosen because previo	ous observations show th	hat it has slightly more	counts than the other	FP-POS values.			

_	4 4 4 3 7 6 3 7 7						
6	Aperture Ad NONE justment 1 f or Segment B	COS, ALIGN/APER		XAPER=-276	QESIPARM XSTEP S 45	0.0 Secs (0 Secs) [==>]	[1]
Con	ments: Put the aperture in the ap	propriate position to illuminate a porti	on of the LP4 region	on of the detector when illu	minating Segment B with G160M	4/1600.	·
	LAPXSTP value at LP4 is 235.1 red LAPXSTP value for FCA to i	lluminate Segment B with G160M/1600	at Position 1 for I	LP4 is -41			
The		l = -276. *HOWEVER*, because of the	e TRANS rules, the	e "QESIPARM XSTEPS 45"	'[(-276321) = +45] Special R	Requirement is necessary to move the aperture	e to the correct le
7	G160M/160 DEUTERIUM	COS/FUV, TIME-TAG, FCA	G160M	CURRENT=MEDIU	J	400 Secs (400 Secs)	
	0 Deuterium Exposure 1		1600 A	M; BUFFER-TIME=1	!	[==>]	
				1; FP-POS=4;			(1)
				SEGMENT=BOTH:			[1]
				LIFETIME-POS=L			
Con		nmized for Segment B. FP-POS=4 was	chosen because pr	revious observations show t	that it has slightly more counts th	nan the other FP-POS values.	
8	Aperture Ad NONE justment 2 f	COS, ALIGN/APER		XAPER=-330	QESIPARM XSTEP S -54	0.0 Secs (0 Secs)	
	or Segment B				5 51	[==>]	[1]
PSA	LAPXSTP value at LP4 is 235.1	propriate position to illuminate a porti	,	v	minating Segment B with G160M	<u></u>	
PSA Desi	LAPXSTP value at LP4 is 235.1 red LAPXSTP value for FCA to iversefore, XAPER is set to -95 - 235	lluminate Segment B with G160M/1600	at Position 2 for I	LP4 is -95.		A/1600. Requirement is necessary to move the aperture	e to the correct le
PSA Desi Thei catio	LAPXSTP value at LP4 is 235.1 red LAPXSTP value for FCA to integer, XAPER is set to -95 - 235 G160M/160 DEUTERIUM	lluminate Segment B with G160M/1600	at Position 2 for 1 e TRANS rules, the	LP4 is -95. 2 "QESIPARM XSTEPS -54 CURRENT=MEDIU	" [(-330276) = -54] Special R	Requirement is necessary to move the aperture 400 Secs (400 Secs)	e to the correct le
PSA Desi Thei	LAPXSTP value at LP4 is 235.1 red LAPXSTP value for FCA to it refore, XAPER is set to -95 - 235	lluminate Segment B with G160M/1600 1 = -330. *HOWEVER*, because of the	at Position 2 for I	LP4 is -95. e "QESIPARM XSTEPS -54	" [(-330276) = -54] Special R	Requirement is necessary to move the aperture	re to the correct la
PSA Desi Thei	LAPXSTP value at LP4 is 235.1 red LAPXSTP value for FCA to integer to the second secon	lluminate Segment B with G160M/1600 1 = -330. *HOWEVER*, because of the	at Position 2 for 1 e TRANS rules, the	LP4 is -95. 2 "QESIPARM XSTEPS -54 CURRENT=MEDIU M; BUFFER-TIME=11	" [(-330276) = -54] Special R	Requirement is necessary to move the aperture 400 Secs (400 Secs)	
PSA Desi Thei catio	LAPXSTP value at LP4 is 235.1 red LAPXSTP value for FCA to integer to the second secon	lluminate Segment B with G160M/1600 1 = -330. *HOWEVER*, because of the	at Position 2 for 1 e TRANS rules, the	CURRENT=MEDIU M; BUFFER-TIME=11 1; FP-POS=4; SEGMENT=BOTH;	" [(-330276) = -54] Special R	Requirement is necessary to move the aperture 400 Secs (400 Secs)	re to the correct le
PSA Desi Thei	LAPXSTP value at LP4 is 235.1 red LAPXSTP value for FCA to integer to the second secon	lluminate Segment B with G160M/1600 1 = -330. *HOWEVER*, because of the	at Position 2 for 1 e TRANS rules, the	CURRENT=MEDIU M; BUFFER-TIME=11 1; FP-POS=4;	" [(-330276) = -54] Special R	Requirement is necessary to move the aperture 400 Secs (400 Secs)	
PSA Dessi Ther cation	LAPXSTP value at LP4 is 235.1 red LAPXSTP value for FCA to it refore, XAPER is set to -95 - 235 G160M/160 DEUTERIUM 0 Deuterium Exposure 2	lluminate Segment B with G160M/1600 1 = -330. *HOWEVER*, because of the	at Position 2 for I TRANS rules, the G160M 1600 A	CURRENT=MEDIU M; BUFFER-TIME=11 1; FP-POS=4; SEGMENT=BOTH; LIFETIME-POS=L P4	" [(-330276) = -54] Special R	Requirement is necessary to move the aperture $\frac{400 \text{ Secs } (400 \text{ Secs})}{[==>]}$	
PSA Dess Ther cation 9	LAPXSTP value at LP4 is 235.1 red LAPXSTP value for FCA to it refore, XAPER is set to -95 - 235 G160M/160 DEUTERIUM 0 Deuterium Exposure 2	lluminate Segment B with G160M/1600 1 = -330. *HOWEVER*, because of the COS/FUV, TIME-TAG, FCA	at Position 2 for I TRANS rules, the G160M 1600 A	CURRENT=MEDIU M; BUFFER-TIME=11 1; FP-POS=4; SEGMENT=BOTH; LIFETIME-POS=L P4	" [(-330276) = -54] Special R that it has slightly more counts the QESIPARM XSTEP	Requirement is necessary to move the aperture $\frac{400 \text{ Secs } (400 \text{ Secs})}{[==>]}$	
PSA Desi Ther catio 9	LAPXSTP value at LP4 is 235.1 red LAPXSTP value for FCA to it refore, XAPER is set to -95 - 235 G160M/160 DEUTERIUM 0 Deuterium Exposure 2	lluminate Segment B with G160M/1600 1 = -330. *HOWEVER*, because of the COS/FUV, TIME-TAG, FCA mmized for Segment B. FP-POS=4 was COS, ALIGN/APER	at Position 2 for I TRANS rules, the G160M 1600 A	CURRENT=MEDIU M; BUFFER-TIME=11 1; FP-POS=4; SEGMENT=BOTH; LIFETIME-POS=L P4	" [(-330276) = -54] Special R	Requirement is necessary to move the aperture $\frac{400 \mathrm{Secs} (400 \mathrm{Secs})}{[==>]}$ than the other FP-POS values.	
PSA Desi Ther catio 9	LAPXSTP value at LP4 is 235.1 red LAPXSTP value for FCA to it refore, XAPER is set to -95 - 235. m. G160M/160 DEUTERIUM 0 Deuterium Exposure 2 ments: Deuterium exposure optim Return Aper NONE ture to Nomi nal Position ments: Return the aperture to its	lluminate Segment B with G160M/1600 1 = -330. *HOWEVER*, because of the COS/FUV, TIME-TAG, FCA mmized for Segment B. FP-POS=4 was COS, ALIGN/APER	at Position 2 for the TRANS rules, the G160M 1600 A	CURRENT=MEDIU M; BUFFER-TIME=11 1; FP-POS=4; SEGMENT=BOTH; LIFETIME-POS=L P4 revious observations show if	"[(-330276) = -54] Special R that it has slightly more counts the QESIPARM XSTEP S 330	Requirement is necessary to move the aperture $\frac{400 \text{ Secs } (400 \text{ Secs})}{[==>]}$ than the other FP-POS values. $\frac{0 \text{ Secs } (0 \text{ Secs})}{[==>]}$	[1]
PSA Dess Ther cation 9	LAPXSTP value at LP4 is 235.1 red LAPXSTP value for FCA to it refore, XAPER is set to -95 - 235. m. G160M/160 DEUTERIUM 0 Deuterium Exposure 2 Ments: Deuterium exposure optimal Position rements: Return the aperture to its owever*, because of the TRANS Return to no DARK	lluminate Segment B with G160M/1600 1 = -330. *HOWEVER*, because of the COS/FUV, TIME-TAG, FCA munized for Segment B. FP-POS=4 was COS, ALIGN/APER nominal position, i.e. XAPER=0.	at Position 2 for the TRANS rules, the G160M 1600 A	CURRENT=MEDIU M; BUFFER-TIME=11 1; FP-POS=4; SEGMENT=BOTH; LIFETIME-POS=L P4 revious observations show if	" [(-330276) = -54] Special R that it has slightly more counts the QESIPARM XSTEP S 330 necessary to move the aperture SPEC COM INSTR	Requirement is necessary to move the aperture $\frac{400 \text{ Secs } (400 \text{ Secs})}{[==>]}$ than the other FP-POS values. $\frac{0 \text{ Secs } (0 \text{ Secs})}{[==>]}$	[1]
PSA Dess Ther cation 9	LAPXSTP value at LP4 is 235.1 red LAPXSTP value for FCA to it refore, XAPER is set to -95 - 235 G160M/160 DEUTERIUM 0 Deuterium Exposure 2 Ments: Deuterium exposure optimal Position opens: Return Aper NONE ture to Nominal Position opens: Return the aperture to its NOWEVER*, because of the TRANS Return to no DARK minal HV for standard m	lluminate Segment B with G160M/1600 1 = -330. *HOWEVER*, because of the COS/FUV, TIME-TAG, FCA mnized for Segment B. FP-POS=4 was COS, ALIGN/APER nominal position, i.e. XAPER=0. Tules, the "QESIPARM XSTEPS +330"	at Position 2 for the TRANS rules, the G160M 1600 A	CURRENT=MEDIU M; BUFFER-TIME=11 1; FP-POS=4; SEGMENT=BOTH; LIFETIME-POS=L P4 revious observations show if	" [(-330276) = -54] Special R that it has slightly more counts th QESIPARM XSTEP S 330 necessary to move the aperture SPEC COM INSTR ELHVADJPROP;	Requirement is necessary to move the aperture $\frac{400 \text{ Secs } (400 \text{ Secs})}{[==>]}$ to its correct location.	[1]
PSA Desi Ther catio 9	LAPXSTP value at LP4 is 235.1 red LAPXSTP value for FCA to it refore, XAPER is set to -95 - 235. m. G160M/160 DEUTERIUM 0 Deuterium Exposure 2 ments: Deuterium exposure optimes ture to Nominal Position ments: Return the aperture to its exercise weeks, because of the TRANS Return to no DARK minal HV fo	lluminate Segment B with G160M/1600 1 = -330. *HOWEVER*, because of the COS/FUV, TIME-TAG, FCA mnized for Segment B. FP-POS=4 was COS, ALIGN/APER nominal position, i.e. XAPER=0. Tules, the "QESIPARM XSTEPS +330"	at Position 2 for the TRANS rules, the G160M 1600 A	CURRENT=MEDIU M; BUFFER-TIME=11 1; FP-POS=4; SEGMENT=BOTH; LIFETIME-POS=L P4 revious observations show if	" [(-330276) = -54] Special R that it has slightly more counts the QESIPARM XSTEP S 330 necessary to move the aperture SPEC COM INSTR	Requirement is necessary to move the aperture $\frac{400 \text{ Secs } (400 \text{ Secs})}{[==>]}$ to its correct location. $\frac{600 \text{ Secs } (00 \text{ Secs})}{[==>]}$ to its correct location. $\frac{6000 \text{ Secs } (00 \text{ Secs})}{[00000000000000000000000000000000000$	[1]
PSA Desi Ther catio 9	LAPXSTP value at LP4 is 235.1 red LAPXSTP value for FCA to it refore, XAPER is set to -95 - 235 G160M/160 DEUTERIUM 0 Deuterium Exposure 2 Ments: Deuterium exposure optimal Position opens: Return Aper NONE ture to Nominal Position opens: Return the aperture to its NOWEVER*, because of the TRANS Return to no DARK minal HV for standard m	lluminate Segment B with G160M/1600 1 = -330. *HOWEVER*, because of the COS/FUV, TIME-TAG, FCA mnized for Segment B. FP-POS=4 was COS, ALIGN/APER nominal position, i.e. XAPER=0. Tules, the "QESIPARM XSTEPS +330"	at Position 2 for the TRANS rules, the G160M 1600 A	CURRENT=MEDIU M; BUFFER-TIME=11 1; FP-POS=4; SEGMENT=BOTH; LIFETIME-POS=L P4 revious observations show if	"[(-330276) = -54] Special R that it has slightly more counts the QESIPARM XSTEP S 330 necessary to move the aperture of SPEC COM INSTR ELHVADJPROP; QESIPARM ENDC	Requirement is necessary to move the aperture $\frac{400 \text{ Secs } (400 \text{ Secs})}{[==>]}$ to its correct location. $\frac{600 \text{ Secs } (00 \text{ Secs})}{[==>]}$ to its correct location. $\frac{6000 \text{ Secs } (00 \text{ Secs})}{[00000000000000000000000000000000000$	[1]
PSA Dessi Therecation 9 Com 10 Com *HC	LAPXSTP value at LP4 is 235.1 red LAPXSTP value for FCA to it refore, XAPER is set to -95 - 235 G160M/160 DEUTERIUM 0 Deuterium Exposure 2 Ments: Deuterium exposure optimal Position opens: Return Aper NONE ture to Nominal Position opens: Return the aperture to its NOWEVER*, because of the TRANS Return to no DARK minal HV for standard m	lluminate Segment B with G160M/1600 1 = -330. *HOWEVER*, because of the COS/FUV, TIME-TAG, FCA mmized for Segment B. FP-POS=4 was COS, ALIGN/APER nominal position, i.e. XAPER=0. rules, the "QESIPARM XSTEPS +330" S/C, DATA, NONE	at Position 2 for the TRANS rules, the G160M 1600 A	CURRENT=MEDIU M; BUFFER-TIME=11 1; FP-POS=4; SEGMENT=BOTH; LIFETIME-POS=L P4 revious observations show if	"[(-330276) = -54] Special R that it has slightly more counts the QESIPARM XSTEP S 330 necessary to move the aperture of SPEC COM INSTR ELHVADJPROP; QESIPARM ENDC TSA 163; QESIPARM ENDC	Requirement is necessary to move the aperture $\frac{400 \text{ Secs } (400 \text{ Secs})}{[==>]}$ to its correct location. $\frac{600 \text{ Secs } (00 \text{ Secs})}{[==>]}$ to its correct location. $\frac{6000 \text{ Secs } (00 \text{ Secs})}{[00000000000000000000000000000000000$	[1]

