Proposal 14941 (STScI Edit Number: 2, Created: Monday, May 13, 2019 at 2:00:26 PM Eastern Standard Time) - Overview



# 14941 - COS FUV Detector Gain Maps

Cycle: 25, Proposal Category: CAL/COS (Availability Mode: RESTRICTED)

#### INVESTIGATORS

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Dr. David J. Sahnow (PI) (Contact)	Space Telescope Science Institute	sahnow@stsci.edu
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#### VISITS

Visit	Targets used in Visit	Configurations used in Visit	Orbits Used	Last Orbit Planner Run	<b>OP</b> Current with Visit?
2A	DARK DEUTERIUM NONE	COS COS/FUV S/C	1	13-May-2019 15:00:14.0	yes
2C	DARK DEUTERIUM NONE	COS COS/FUV S/C	1	13-May-2019 15:00:16.0	yes
3A	DARK DEUTERIUM NONE	COS COS/FUV S/C	1	13-May-2019 15:00:18.0	yes
3C	DARK DEUTERIUM NONE	COS COS/FUV S/C	1	13-May-2019 15:00:19.0	yes
4A	DARK DEUTERIUM NONE	COS COS/FUV S/C	1	13-May-2019 15:00:21.0	yes

Visit	Targets used in Visit	Configurations used in Visit	Orbits Used	Last Orbit Planner Run	OP Current with Visit?
4B	DARK DEUTERIUM NONE	COS COS/FUV S/C	1	13-May-2019 15:00:22.0	yes
4C	DARK DEUTERIUM NONE	COS COS/FUV S/C	1	13-May-2019 15:00:24.0	yes
4D	DARK DEUTERIUM NONE	COS COS/FUV S/C	1	13-May-2019 15:00:25.0	yes

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#### 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 25. 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.

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.

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The initial plan for Cycle 25 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 at the start of Cycle 25 (10/1/17) 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 at the start of Cycle 25 (10/1/17) 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 at the start of Cycle 25 (10/2/17) 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 at the start of Cycle 25 (10/2/17) 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 25. 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.

\* 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

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\* 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, 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:

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Visit	LP	Grating/Segment			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

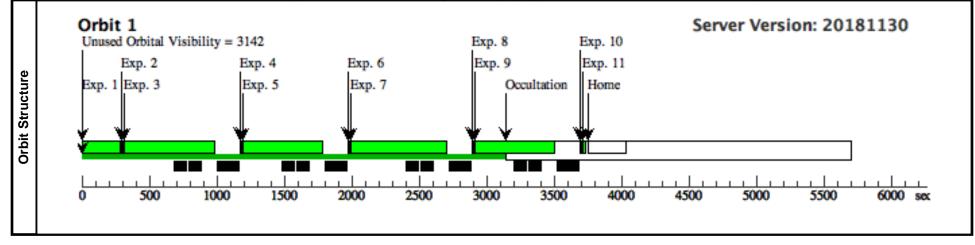
# Proposal 14941 - ~6 months after last Cycle 24 Blue Modes gain map (2A) - COS FUV Detector Gain Maps

	Proposal 14941, ~6 months after last Cycle 24 Blue Modes gain map (2A), completed	Mon May 13 19:00:26 GMT 2019
l.±	Diagnostic Status: Warning	
i,	Scientific Instruments: S/C, COS, COS/FUV	
[	Special Requirements: BETWEEN 01-APR-2018:00:00:00 AND 01-MAY-2018:00:00:00; PARALLEL	
	Comments: This visit collects data at LP2. It uses the HV values appropriate for the Blue Modes (173/175).	
U U	(~6 months after last Cycle 24 Blue Modes gain map (2A)) Warning (Orbit Planner): MAXIMUM DURATION EXCEEDED FOR INTERNAL OR EARTH CALIB SU	
i,	(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 scat	n.
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	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1	Adjust HV t	DARK	S/C, DATA, NONE			SAA CONTOUR 31;		295 Secs (295 Secs)	
	ł	o Blue Mod e values					SPEC COM INSTR ELHLTHVF;		[==>]	
							QASISTATES COS FUV HVLOW HVN OM;			
	ł						QESIPARM ENDC TSA 173;			[1]
	ł						QESIPARM ENDC TSB 175;			
							QESIPARM SEGM ENT AB			
	Com			Blue Mode values.		VADED 440				1
	2	Aperture Ad justment 1 f		COS, ALIGN/APER		XAPER=-448			0.0  Secs  (0  Secs)	
	ł	or Segment A							[==>]	[1]
	Com	iments: Put the	e aperture in th	he appropriate position to illuminate a portio	m of the LP2/Blue N	Modes region of the detec	tor when illuminating S	egment A with G130M	I/1309.	ļ
			lue at LP4 is 23 P value for FCA	35.1 A to illuminate Segment A with G130M/1309	at Position 1 for L1	P7 is _213				
			0	0		2 15 -215				
		*	R is set to -213 - DEUTERIUN		G130M	CURRENT=MEDIU	т		400 Secs (400 Secs)	Т
ŝ	3	9 Deuterium		M = COS/FUV, Hwie-HAO, FCA	1309 A	M;	)		400  Secs (400  Secs) [==>]	-
Exposures	i	Exposure 1			1307 A	BUFFER-TIME=11			[==>]	
osi	i					1;				
x	i					FP-POS=1;				[1]
ш	i					SEGMENT=BOTH				
	i					LIFETIME-POS=L P4				
	Com	ıments: Deuter	rium exposure	optimized for Segment A. FP-POS=1 was cl	hosen because previ	ious observations show th	hat it has slightly more c	counts than the other F	<sup>7</sup> P-POS values.	
	4	Aperture Ad	NONE	COS, ALIGN/APER		XAPER=-502	QESIPARM XSTEP		0.0 Secs (0 Secs)	
	ł	justment 2 f or Segment A					S -54		[==>]	[1]
	Com	aments: Put the	e aperture in th	he appropriate position to illuminate a portio	on of the LP2/Blue N	Modes region of the detec	tor when illuminating S	egment A with G130M	1/1309.	
			lue at LP4 is 23 P value for FCA	35.1 A to illuminate Segment A with G130M/1309	at Position 2 for Ll	P2 is -267				
	Ther ocati		is set to -267 ·	- 235.1 = -502. *HOWEVER*, because of the	e TRANS rules, the	"QESIPARM XSTEPS -5	<sup>6</sup> 4" [(-502448) = -54]	] Special Requirement	is necessary to move the aperture to th	e correct l
	5		DEUTERIUN	M COS/FUV, TIME-TAG, FCA	G130M	CURRENT=MEDIU	l		400 Secs (400 Secs)	<u> </u>
	i	9 Deuterium Exposure 2			1309 A	M; DUEEED TIME_11			[==>]	
	i	•				BUFFER-TIME=11 1;				
ļ	i					FP-POS=1;				[1]
ļ	i					SEGMENT=BOTH;	;			
	i					LIFETIME-POS=L P4				
	Con	nmonts. Deute	rium ornosure	optimized for Segment A. FP-POS=1 was cl	hosen hecause prev		hat it has slightly more (	counts than the other F	FP_POS values	<u> </u>
		<i>mems.</i> 2 cm.:.	un exposure :		iosen beetase press	1043 00501 Failons 5110	<i>un n nuo ong,</i>	ound man me one	1 1 00 vancs.	

Aperture Ad NONE	COS, ALIGN/APER		XAPER=-460	QESIPARM XSTEP	0.0 Secs (0 Secs)	
justment 1 f or Segment B				S 42	[==>]	l
Comments: Put the aperture in th	appropriate position to illuminate a porti	ion of the LP2/Blue	e Modes region of the det	ector when illuminating Segment B	with G160M/1600.	
0	to illuminate Segment B with G160M/1600	0				
Therefore, XAPER is set to -225 - ocation.	235.1 = -460. *HOWEVER*, because of t	he TRANS rules, th	he "QESIPARM XSTEPS	42'' [(-460502) = +42] Special I	Requirement is necessary to move the aper	ture to the cor
G160M/160 DEUTERIUM	COS/FUV, TIME-TAG, FCA	G160M	CURRENT=MED	IU	400 Secs (400 Secs)	
0 Deuterium Exposure 1		1600 A	M; BUFFER-TIME=	11	[==>]	
			1;	11		
			FP-POS=4;			
			SEGMENT=BOT	Ή;		
			LIFETIME-POS= P4	L		
Comments: Deuterium exposure o	ptimmized for Segment B. FP-POS=4 was	chosen because p		w that it has slightly more counts th	an the other FP-POS values.	
Aperture Ad NONE	COS, ALIGN/APER		XAPER=-502	QESIPARM XSTEP	0.0 Secs (0 Secs)	
justment 2 f or Segment B				S -42	[==>]	
D						
Comments: Put the aperture in th PSA LAPXSTP value at LP4 is 23 Desired LAPXSTP value for FCA t To leave some pad, I will set i	to illuminate Segment B with G160M/1600 to match the G130M exposure (-267).	) at Position 2 for .	LP2 is -280, but the aper	ture soft stop is at -275 and we don	t want to exceed that value when including	
Comments: Put the aperture in th PSA LAPXSTP value at LP4 is 23 Desired LAPXSTP value for FCA ot To leave some pad, I will set i Cherefore, XAPER is set to -267 - ccation.	5.1 to illuminate Segment B with G160M/1600 to match the G130M exposure (-267). 235.1 = -502. *HOWEVER*, because of t	0 at Position 2 for . he TRANS rules, th	LP2 is -280, but the aper he "QESIPARM XSTEPS	ture soft stop is at -275 and we don -42" [(-502460) = -42] Special I	t want to exceed that value when including Requirement is necessary to move the aper	_
Comments: Put the aperture in th PSA LAPXSTP value at LP4 is 23 Desired LAPXSTP value for FCA t To leave some pad, I will set i Therefore, XAPER is set to -267 - ccation. G160M/160 DEUTERIUN 0 Deuterium	5.1 to illuminate Segment B with G160M/1600 to match the G130M exposure (-267). 235.1 = -502. *HOWEVER*, because of t	0 at Position 2 for . he TRANS rules, th G160M	LP2 is -280, but the aper	ture soft stop is at -275 and we don -42" [(-502460) = -42] Special I	t want to exceed that value when including Requirement is necessary to move the aper 400 Secs (400 Secs)	_
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Comments: Put the aperture in th PSA LAPXSTP value at LP4 is 23 Desired LAPXSTP value for FCA t To leave some pad, I will set i Therefore, XAPER is set to -267 - ccation. 0 G160M/160 DEUTERIUN 0 Deuterium Exposure 2	5.1 to illuminate Segment B with G160M/1600 to match the G130M exposure (-267). 235.1 = -502. *HOWEVER*, because of t	0 at Position 2 for he TRANS rules, th G160M 1600 A	LP2 is -280, but the aper he "QESIPARM XSTEPS CURRENT=MED M; BUFFER-TIME= 1; FP-POS=4; SEGMENT=BOT LIFETIME-POS= P4	ture soft stop is at -275 and we don -42" [(-502460) = -42] Special 1 IU 11 'H; EL	t want to exceed that value when including Requirement is necessary to move the aper 400 Secs (400 Secs) [==>]	ture to the co
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Comments: Put the aperture in th PSA LAPXSTP value at LP4 is 23 Desired LAPXSTP value for FCA st. To leave some pad, I will set if Therefore, XAPER is set to -267 - to cation. O G160M/160 DEUTERIUN 0 Deuterium Exposure 2 Comments: Deuterium exposure of ture to Nomi nal Position Comments: Return the aperture to HOWEVER*, because of the TR. 1 Return to no DARK minal HV fo	to illuminate Segment B with G160M/1600 to match the G130M exposure (-267). 235.1 = -502. *HOWEVER*, because of t COS/FUV, TIME-TAG, FCA COS/FUV, TIME-TAG, FCA to some the segment B. FP-POS=4 was COS, ALIGN/APER its nominal position, i.e. XAPER=0. NS rules, the "QESIPARM XSTEPS +502	0 at Position 2 for he TRANS rules, th G160M 1600 A	LP2 is -280, but the aper the "QESIPARM XSTEPS CURRENT=MED M; BUFFER-TIME= 1; FP-POS=4; SEGMENT=BOT LIFETIME-POS= P4 revious observations sho XAPER=0	ture soft stop is at -275 and we don -42" [(-502460) = -42] Special i IU 11 'H; -L <u>w that it has slightly more counts th</u> QESIPARM XSTEP S 502 <u>is necessary to move the aperture t</u> SPEC COM INSTR ELHVADJPROP;	t want to exceed that value when including Requirement is necessary to move the aper $ \frac{400 \operatorname{Secs} (400 \operatorname{Secs})}{[==>]} $ an the other FP-POS values. $ 0 \operatorname{Secs} (0 \operatorname{Secs}) \\ [==>] $ o its correct location. $ 39 \operatorname{Secs} (39 \operatorname{Secs}) $	ture to the co
Comments: Put the aperture in th PSA LAPXSTP value at LP4 is 23 Desired LAPXSTP value for FCA st. To leave some pad, I will set if Cherefore, XAPER is set to -267 - scation. Gl60M/160 DEUTERIUN 0 Deuterium Exposure 2 Comments: Deuterium exposure of ture to Nomi nal Position Comments: Return the aperture to HOWEVER*, because of the TR. 1 Return to no DARK	to illuminate Segment B with G160M/1600 to match the G130M exposure (-267). 235.1 = -502. *HOWEVER*, because of t COS/FUV, TIME-TAG, FCA COS/FUV, TIME-TAG, FCA to some the segment B. FP-POS=4 was COS, ALIGN/APER its nominal position, i.e. XAPER=0. NS rules, the "QESIPARM XSTEPS +502	0 at Position 2 for he TRANS rules, th G160M 1600 A	LP2 is -280, but the aper the "QESIPARM XSTEPS CURRENT=MED M; BUFFER-TIME= 1; FP-POS=4; SEGMENT=BOT LIFETIME-POS= P4 revious observations sho XAPER=0	ture soft stop is at -275 and we don -42" [(-502460) = -42] Special i IU 11 'H; -L <u>w that it has slightly more counts th</u> QESIPARM XSTEP S 502 <u>is necessary to move the aperture t</u> SPEC COM INSTR	t want to exceed that value when including Requirement is necessary to move the aper $ \frac{400 \operatorname{Secs} (400 \operatorname{Secs})}{[==>]} $ an the other FP-POS values. $ 0 \operatorname{Secs} (0 \operatorname{Secs}) \\ [==>] $ b its correct location.	
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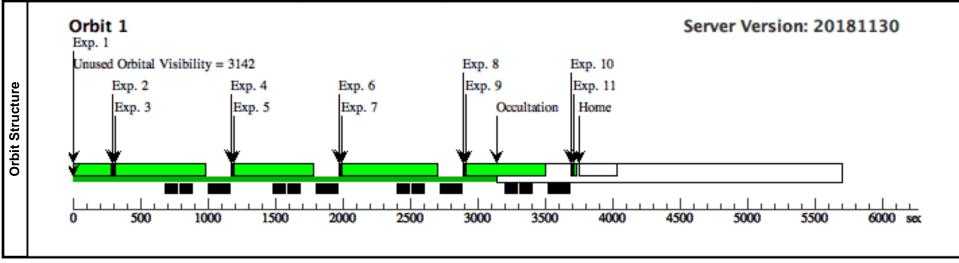


# Proposal 14941 - ~12 months after last Cycle 24 Blue Modes gain map (2C) - COS FUV Detector Gain Maps

	Proposal 14941, ~12 months after last Cycle 24 Blue Modes gain map (2C), completed	Mon May 13 19:00:26 GMT 2019
l.±	Diagnostic Status: Warning	
/is	Scientific Instruments: S/C, COS, COS/FUV	
1	Special Requirements: BETWEEN 01-OCT-2018:00:00:00 AND 01-NOV-2018:00:00; PARALLEL	
	Comments: This visit collects data at LP2. It uses the HV values appropriate for the Blue Modes (173/175).	
S.S.	(~12 months after last Cycle 24 Blue Modes gain map (2C)) Warning (Orbit Planner): MAXIMUM DURATION EXCEEDED FOR INTERNAL OR EARTH CALIB SU	
st 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	1.
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a d		
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	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
		Adjust HV t	DARK	S/C, DATA, NONE			SAA CONTOUR 31;		295 Secs (295 Secs)	<b></b>
		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			
	Com		the HV to the Blu			VADED 440				1
	2	Aperture Ad justment 1 f	NONE	COS, ALIGN/APER		XAPER=-448			$\frac{0.0 \text{ Secs } (0 \text{ Secs})}{[==>]}$	'
		or Segment A							[==>]	[1]
	Com	ments: Put the	e aperture in the a	ppropriate position to illuminate a portion	on of the LP2/Blue N	Modes region of the detec	tor when illuminating S	egment A with G130M	/1309.	
			ue at LP4 is 235.							
			·	illuminate Segment A with G130M/1309	at Position 1 for LI	P2 is -213				
			is set to -213 - 23						1	1
s	3	G130M/130 9 Deuterium	DEUTERIUM	COS/FUV, TIME-TAG, FCA	G130M	CURRENT=MEDIU M:	J		400 Secs (400 Secs)	-
Ire	1	Exposure 1			1309 A	BUFFER-TIME=11			[==>]	
Exposures	1					1;				
х р	l					FP-POS=1;				[1]
ш	l					SEGMENT=BOTH				
	l					LIFETIME-POS=L P4				
	Com	ments: <u>Deuter</u>	ium expo <u>sure opt</u>	imized for Segment A. FP-POS=1 was c.	hosen bec <u>ause prev</u> i		hat it has slightly more o	counts than <u>the</u> other F	P-POS values.	
		Aperture Ad	NONE	COS, ALIGN/APER		XAPER=-502	QESIPARM XSTEP		0.0 Secs (0 Secs)	
		justment 2 f or Segment A					S -54		[==>]	[1]
	Com		e aperture in the a	appropriate position to illuminate a portion	on of the LP2/Blue N	Modes region of the detec	tor when illuminating S	egment A with G130M	//1309.	1
	PSA	LAPXSTP valı	ue at LP4 is 235		·					
	Ther ocati		is set to -267 - 23	35.1 = -502. *HOWEVER*, because of th	e TRANS rules, the	"QESIPARM XSTEPS -5	54" [(-502448) = -54]	Special Requirement	is necessary to move the aperture to the	e correct l
	5		DEUTERIUM	COS/FUV, TIME-TAG, FCA	G130M	CURRENT=MEDIU	J		400 Secs (400 Secs)	
	1	9 Deuterium Exposure 2			1309 A	M; BUFFER-TIME=11			[==>]	
	l	•				1;				
	l					FP-POS=1;				[1]
	l					SEGMENT=BOTH	;			
	l					LIFETIME-POS=L P4				
	Com	monts. Doutor	ium ernosure ont	imized for Segment A. FP-POS=1 was c	hosen hecause previ		hat it has slightly more of	counts than the other F	$P_P \rho s$ values	
	Com	menus. Deuteri	ium exposure opi	inizeu joi Segmeni II. II IOS-I was e.	nosen beeduse previ		iai ii nas sugnity more e	ounts than the other 1	1 1 05 vulues.	

6 Aperture Ad NONE	COS, ALIGN/APER		XAPER=-460	QESIPARM XSTEP	0.0 Secs (0 Secs)	
justment 1 f or Segment B				S 42	[==>]	[
Comments: Put the aperture in th	e appropriate position to illuminate a porti	ion of the LP2/Blue	e Modes region of the det	ector when illuminating Segment B	with G160M/1600.	
PSA LAPXSTP value at LP4 is 23 Desired LAPXSTP value for FCA	5.1 to illuminate Segment B with G160M/1600	0 at Position 1 for .	LP2 is -225			
Therefore, XAPER is set to -225 - ocation.	235.1 = -460. *HOWEVER*, because of the	he TRANS rules, th	he "QESIPARM XSTEPS	42" [(-460502) = +42] Special I	Requirement is necessary to move the aper	ture to the corr
7 G160M/160 DEUTERIUM	I COS/FUV, TIME-TAG, FCA	G160M	CURRENT=MED	IU	400 Secs (400 Secs)	
0 Deuterium Exposure 1		1600 A	M; BUFFER-TIME= 1:	11	[==>]	
			FP-POS=4;			
			SEGMENT=BOT	н		
			LIFETIME-POS= P4	·		
	ptimmized for Segment B. FP-POS=4 was	s chosen because p				
8 Aperture Ad NONE justment 2 f	COS, ALIGN/APER		XAPER=-502	QESIPARM XSTEP S -42	0.0 Secs (0 Secs)	
or Segment B				5 72	[==>]	
Comments: Put the aperture in th PSA LAPXSTP value at LP4 is 23 Desired LAPXSTP value for FCA	to illuminate Segment B with G160M/1600	0	0			the 5 step ov
Comments: Put the aperture in th PSA LAPXSTP value at LP4 is 23 Desired LAPXSTP value for FCA ot To leave some pad, I will set i Therefore, XAPER is set to -267 -	5.1 to illuminate Segment B with G160M/1600 t to match the G130M exposure (-267).	0 at Position 2 for .	LP2 is -280, but the aper	ture soft stop is at -275 and we don	with G160M/1600. t want to exceed that value when including Requirement is necessary to move the apera	
Comments: Put the aperture in th PSA LAPXSTP value at LP4 is 23 Desired LAPXSTP value for FCA ot To leave some pad, I will set i Therefore, XAPER is set to -267 - ocation.	5.1 to illuminate Segment B with G160M/1600 t to match the G130M exposure (-267). 235.1 = -502. *HOWEVER*, because of t	0 at Position 2 for . he TRANS rules, th	LP2 is -280, but the aperative of the second s	ture soft stop is at -275 and we don -42" [(-502460) = -42] Special I	t want to exceed that value when including Requirement is necessary to move the aper	
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Proposal 14941 - ~12 months after last Cycle 24 Blue Modes gain map (2C) - COS FUV Detector Gain Maps

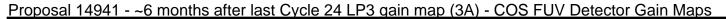
#### Proposal 14941 - ~6 months after last Cycle 24 LP3 gain map (3A) - COS FUV Detector Gain Maps

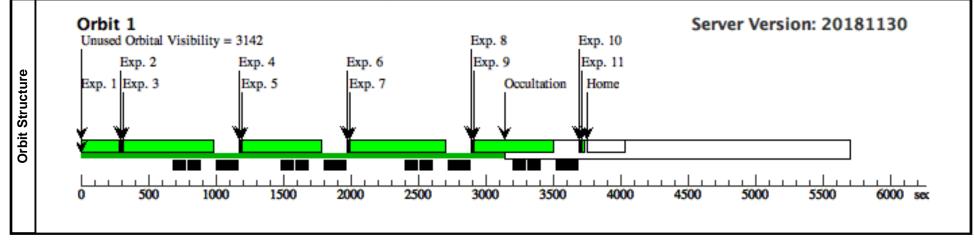
	Proposal 14941, ~6 months after last Cycle 24 LP3 gain map (3A), completed	Mon May 13 19:00:26 GMT 2019
<u></u>	Diagnostic Status: Warning	
/is	Scientific Instruments: S/C, COS, COS/FUV	
[_	Special Requirements: BETWEEN 01-APR-2018:00:00:00 AND 01-MAY-2018:00:00:00; PARALLEL	
	Comments: This visit collects data at LP3. It uses the HV values appropriate for LP3 (167/175).	
S	(~6 months after last Cycle 24 LP3 gain map (3A)) Warning (Orbit Planner): MAXIMUM DURATION EXCEEDED FOR INTERNAL OR EARTH CALIB SU	
sti I	(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 scar	1.
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## Proposal 14941 - ~6 months after last Cycle 24 LP3 gain map (3A) - COS FUV Detector Gain Maps

	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1	Adjust HV t		S/C, DATA, NONE			SAA CONTOUR 31;		295 Secs (295 Secs)	
		o LP3 value s					SPEC COM INSTR		[==>]	
							ELHLTHVF; QASISTATES COS			
							FUV HVLOW HVN			
							OM;			[1]
							QESIPARM ENDC TSA 167;			[1]
							QESIPARM ENDC TSB 175;			
							QESIPARM SEGM ENT AB			
	Com	ments: Adjust	the HV to the LP3 vo	alues.						<del>,                                    </del>
	2	Aperture Ad justment 1 f	NONE	COS, ALIGN/APER		XAPER=-307			0.0 Secs (0 Secs)	
		or Segment A							[==>]	[1]
	Com	ments: Put the	e aperture in the app	ropriate position to illuminate a portio	n of the LP3 region	of the detector when illu	minating Segment A wi	th G130M/1309.		-
	PSA	LAPXSTP val	ue at LP4 is 235.1							
	Desi	red LAPXSTP	value for FCA to illi	uminate Segment A with G130M/1309	at Position 1 for LP3	3 is -72				
	Ther	efore, XAPER	is set to -72 - 235.1	= -307						1
~	3	G130M/130 9 Deuterium	DEUTERIUM	COS/FUV, TIME-TAG, FCA	G130M	CURRENT=MEDIU			400 Secs (400 Secs)	
Exposures		Exposure 1			1309 A	M; BUFFER-TIME=11			[==>]	
nso						1;				
xpo						FP-POS=1;				[1]
Û						SEGMENT=BOTH;				
						LIFETIME-POS=L P4				
	Com	ments: Deuter	ium exposure optimi	ized for Segment A. FP-POS=1 was ch	osen because previo	ous observations show th	at it has slightly more o	counts than the other H	P-POS values.	
	4	Aperture Ad	NONE	COS, ALIGN/APER		XAPER=-363	QESIPARM XSTEP		0.0 Secs (0 Secs)	
		justment 2 f or Segment A					S -56		[==>]	[1]
	Com	ments: Put the	e aperture in the app	ropriate position to illuminate a portio	n of the LP3 region	of the detector when illu	minating Segment A wi	th G130M/1309.		
	PSA Desi	LAPXSTP vali red LAPXSTP	ue at LP4 is 235.1 value for FCA to illi	uminate Segment A with G130M/1309	at Position 2 for LP3	3 is -128				
		efore, XAPER					6" [(-363307) = -56]	] Special Requirement	is necessary to move the aperture to the	e correct l
	5		DEUTERIUM	COS/FUV, TIME-TAG, FCA	G130M	CURRENT=MEDIU			400 Secs (400 Secs)	
		9 Deuterium Exposure 2			1309 A	М;			[==>]	
		Exposure 2				BUFFER-TIME=11 1;				
						FP-POS=1;				[1]
						SEGMENT=BOTH;				[1]
						LIFETIME-POS=L				
	C		. ,			P4				
	Com	ments: Deuter	ium exposure optimi	ized for Segment A. FP-POS=1 was ch	iosen because previo	ous observations show th	at it has slightly more o	counts than the other F	P-POS values.	

or S B	erture Ad NONE	COS, ALIGN/APER		XAPER=-319	QESIPARM XSTEP	0.0 Secs (0 Secs)	
2	tment 1 f Segment				S 44	[==>]	[]
Comment							
20111110111	ts: Put the aperture in the app	propriate position to illuminate a portion	on of the LP3 regi	on of the detector when illu	uminating Segment B with G160M/	/1600.	
PSA LAP. Desired L	PXSTP value at LP4 is 235.1 LAPXSTP value for FCA to ill	uminate Segment B with G160M/1600	at Position 1 for 1	LP3 is -84			
Therefore cation.	e, XAPER is set to -84 - 235.1	= -319. *HOWEVER*, because of the	e TRANS rules, the	"QESIPARM XSTEPS 44"	' [(-319363) = +44] Special Re	quirement is necessary to move the apertur	e to the corre
	60M/160 DEUTERIUM	COS/FUV, TIME-TAG, FCA	G160M	CURRENT=MEDIU	J	400 Secs (400 Secs)	
Exp	Deuterium posure 1		1600 A	M; DUEEED TIME-11		[==>]	
1				BUFFER-TIME=11 1;			
				FP-POS=4;			[
				SEGMENT=BOTH	;		
				LIFETIME-POS=L			
				P4			
		mized for Segment B. FP-POS=4 was	chosen because pr				
	erture Ad NONE tment 2 f	COS, ALIGN/APER		XAPER=-375	QESIPARM XSTEP S -56	0.0 Secs (0 Secs)	
or S	Segment				5-50	[==>]	
В							
	U U	uminate Segment B with G160M/1600 1 = -375 *HOWEVER* because of th	0		6" [(-375319) = -561 Special R	equirement is necessary to move the anertu	ure to the co
	U U	0	0		6" [(-375319) = -56] Special R	equirement is necessary to move the apertu	re to the cor
Therefore ocation. 9 G16	e, XAPER is set to -140 - 235. 60M/160 DEUTERIUM	0	0	e "QESIPARM XSTEPS -5 CURRENT=MEDIU	_	equirement is necessary to move the apertu 400 Secs (400 Secs)	tre to the con
Therefore ocation. 9 G16 0 De	e, XAPER is set to -140 - 235.	1 = -375. *HOWEVER*, because of th	e TRANS rules, th	e "QESIPARM XSTEPS -5 CURRENT=MEDIU M;	l		re to the cor
Therefore ocation. 9 G16 0 De	e, XAPER is set to -140 - 235. 60M/160 DEUTERIUM Deuterium	1 = -375. *HOWEVER*, because of th	ne TRANS rules, th G160M	e "QESIPARM XSTEPS -5 CURRENT=MEDIU	l	400 Secs (400 Secs)	tere to the cor
Therefore ocation. 9 G16 0 De	e, XAPER is set to -140 - 235. 60M/160 DEUTERIUM Deuterium	1 = -375. *HOWEVER*, because of th	ne TRANS rules, th G160M	e "QESIPARM XSTEPS -5 CURRENT=MEDIU M; BUFFER-TIME=11	l	400 Secs (400 Secs)	
Therefore ocation. 9 G16 0 De	e, XAPER is set to -140 - 235. 60M/160 DEUTERIUM Deuterium	1 = -375. *HOWEVER*, because of th	ne TRANS rules, th G160M	e "QESIPARM XSTEPS -5 CURRENT=MEDIU M; BUFFER-TIME=11 1;	J	400 Secs (400 Secs)	
Therefore ocation. 9 G16 0 De	e, XAPER is set to -140 - 235. 60M/160 DEUTERIUM Deuterium	1 = -375. *HOWEVER*, because of th	ne TRANS rules, th G160M	CURRENT=MEDIU M; BUFFER-TIME=11 1; FP-POS=4; SEGMENT=BOTH; LIFETIME-POS=L	;	400 Secs (400 Secs)	
Therefore <u>ocation.</u> 9 G16 0 Do Exp	e, XAPER is set to -140 - 235. 60M/160 DEUTERIUM Deuterium posure 2	1 = -375. *HOWEVER*, because of th COS/FUV, TIME-TAG, FCA	ne TRANS rules, th G160M 1600 A	current=mediu M; BUFFER-TIME=11 1; FP-POS=4; SEGMENT=BOTH; LIFETIME-POS=L P4	;	400 Secs (400 Secs) [==>]	
Therefore ocation. 9 G16 0 Do Exp Exp	e, XAPER is set to -140 - 235. 60M/160 DEUTERIUM Deuterium posure 2 ts: Deuterium exposure optime	1 = -375. *HOWEVER*, because of th COS/FUV, TIME-TAG, FCA mized for Segment B. FP-POS=4 was	ne TRANS rules, th G160M 1600 A	e "QESIPARM XSTEPS -5 CURRENT=MEDIU M; BUFFER-TIME=11 1; FP-POS=4; SEGMENT=BOTH; LIFETIME-POS=L P4	; that it has slightly more counts that	$\frac{400 \text{ Secs } (400 \text{ Secs})}{[==>]}$ In the other FP-POS values.	
Therefore ocation. 9 G16 0 Do Exp Comment. 10 Retu	e, XAPER is set to -140 - 235. 60M/160 DEUTERIUM Deuterium posure 2 ts: Deuterium exposure optime turn Aper NONE e to Nomi	1 = -375. *HOWEVER*, because of th COS/FUV, TIME-TAG, FCA	ne TRANS rules, th G160M 1600 A	current=mediu M; BUFFER-TIME=11 1; FP-POS=4; SEGMENT=BOTH; LIFETIME-POS=L P4	;	$\frac{400 \text{ Secs } (400 \text{ Secs})}{[==>]}$ In the other FP-POS values. $0 \text{ Secs } (0 \text{ Secs})$	
Therefore ocation. 9 G16 0 Do Exp Comment. 10 Reture ture nal 1	e, XAPER is set to -140 - 235. 60M/160 DEUTERIUM Deuterium posure 2 ts: Deuterium exposure optim. turn Aper NONE e to Nomi Position	1 = -375. *HOWEVER*, because of th COS/FUV, TIME-TAG, FCA <u>mized for Segment B. FP-POS=4 was</u> COS, ALIGN/APER	ne TRANS rules, th G160M 1600 A	e "QESIPARM XSTEPS -5 CURRENT=MEDIU M; BUFFER-TIME=11 1; FP-POS=4; SEGMENT=BOTH; LIFETIME-POS=L P4	; that it has slightly more counts that QESIPARM XSTEP	$\frac{400 \text{ Secs } (400 \text{ Secs})}{[==>]}$ In the other FP-POS values.	
Therefore ocation. 9 G16 0 Do Exp Comment. 10 Retu ture nal 1 Comment.	e, XAPER is set to -140 - 235. 60M/160 DEUTERIUM Deuterium posure 2 <u>ts: Deuterium exposure optim.</u> turn Aper NONE e to Nomi Position ts: Return the aperture to its n	1 = -375. *HOWEVER*, because of th COS/FUV, TIME-TAG, FCA <u>mized for Segment B. FP-POS=4 was</u> COS, ALIGN/APER cominal position, i.e. XAPER=0.	e TRANS rules, th G160M 1600 A	e "QESIPARM XSTEPS -5 CURRENT=MEDIU M; BUFFER-TIME=11 1; FP-POS=4; SEGMENT=BOTH; LIFETIME-POS=L P4 revious observations show to XAPER=0	; that it has slightly more counts that QESIPARM XSTEP S 375	$\frac{400 \text{ Secs } (400 \text{ Secs})}{[==>]}$ in the other FP-POS values. $0 \text{ Secs } (0 \text{ Secs})$ $[==>]$	
Therefore ocation. 9 G16 0 Do Exp Comment. 10 Rett ture nal Comment. *HOWEV	e, XAPER is set to -140 - 235. 60M/160 DEUTERIUM Deuterium posure 2 ts: Deuterium exposure optim. turn Aper NONE e to Nomi Position ts: Return the aperture to its n VER*, because of the TRANS	1 = -375. *HOWEVER*, because of th COS/FUV, TIME-TAG, FCA <u>mized for Segment B. FP-POS=4 was</u> COS, ALIGN/APER nominal position, i.e. XAPER=0. rules, the "QESIPARM XSTEPS +375	e TRANS rules, th G160M 1600 A	e "QESIPARM XSTEPS -5 CURRENT=MEDIU M; BUFFER-TIME=11 1; FP-POS=4; SEGMENT=BOTH; LIFETIME-POS=L P4 revious observations show to XAPER=0	; that it has slightly more counts the QESIPARM XSTEP S 375 necessary to move the aperture to	$\frac{400 \text{ Secs } (400 \text{ Secs})}{[==>]}$ $\frac{1}{1}$ $1$	
Therefore ocation. 9 G16 0 Do Exp Comment. 10 Returnent. *HOWEV 11 Returning	e, XAPER is set to -140 - 235. 60M/160 DEUTERIUM Deuterium posure 2 ts: Deuterium exposure optimum turn Aper NONE e to Nomi Position ts: Return the aperture to its no VER*, because of the TRANS in turn to no DARK nal HV fo	1 = -375. *HOWEVER*, because of th COS/FUV, TIME-TAG, FCA <u>mized for Segment B. FP-POS=4 was</u> COS, ALIGN/APER cominal position, i.e. XAPER=0.	e TRANS rules, th G160M 1600 A	e "QESIPARM XSTEPS -5 CURRENT=MEDIU M; BUFFER-TIME=11 1; FP-POS=4; SEGMENT=BOTH; LIFETIME-POS=L P4 revious observations show to XAPER=0	; that it has slightly more counts that QESIPARM XSTEP S 375	$\frac{400 \text{ Secs } (400 \text{ Secs})}{[==>]}$ $\frac{un \text{ the other FP-POS values.}}{[==>]}$ $\frac{0 \text{ Secs } (0 \text{ Secs})}{[==>]}$ $\frac{1}{2} \text{ Secs } (39 \text{ Secs})}$	
Therefore ocation. 9 G16 0 Do Exp Comment. 10 Returnent. *HOWEV 11 Returning	e, XAPER is set to -140 - 235. 60M/160 DEUTERIUM Deuterium posure 2 ts: Deuterium exposure optim. turn Aper NONE e to Nomi Position ts: Return the aperture to its n VER*, because of the TRANS I turn to no DARK and HV fo andard m	1 = -375. *HOWEVER*, because of th COS/FUV, TIME-TAG, FCA <u>mized for Segment B. FP-POS=4 was</u> COS, ALIGN/APER cominal position, i.e. XAPER=0. rules, the "QESIPARM XSTEPS +375	e TRANS rules, th G160M 1600 A	e "QESIPARM XSTEPS -5 CURRENT=MEDIU M; BUFFER-TIME=11 1; FP-POS=4; SEGMENT=BOTH; LIFETIME-POS=L P4 revious observations show to XAPER=0	; that it has slightly more counts that QESIPARM XSTEP S 375 necessary to move the aperture to SPEC COM INSTR ELHVADJPROP; QESIPARM ENDC	$\frac{400 \text{ Secs } (400 \text{ Secs})}{[==>]}$ $\frac{1}{1}$ $1$	
Therefore ocation. 9 G16 0 Do Exp Comment. 10 Returnent. *HOWEV 11 Returning r sta	e, XAPER is set to -140 - 235. 60M/160 DEUTERIUM Deuterium posure 2 ts: Deuterium exposure optim. turn Aper NONE e to Nomi Position ts: Return the aperture to its n VER*, because of the TRANS I turn to no DARK and HV fo andard m	1 = -375. *HOWEVER*, because of th COS/FUV, TIME-TAG, FCA <u>mized for Segment B. FP-POS=4 was</u> COS, ALIGN/APER cominal position, i.e. XAPER=0. rules, the "QESIPARM XSTEPS +375	e TRANS rules, th G160M 1600 A	e "QESIPARM XSTEPS -5 CURRENT=MEDIU M; BUFFER-TIME=11 1; FP-POS=4; SEGMENT=BOTH; LIFETIME-POS=L P4 revious observations show to XAPER=0	; that it has slightly more counts that QESIPARM XSTEP S 375 necessary to move the aperture to SPEC COM INSTR ELHVADJPROP; QESIPARM ENDC TSA 163;	$\frac{400 \text{ Secs } (400 \text{ Secs})}{[==>]}$ $\frac{un \text{ the other FP-POS values.}}{[==>]}$ $\frac{0 \text{ Secs } (0 \text{ Secs})}{[==>]}$ $\frac{1}{2} \text{ Secs } (39 \text{ Secs})}$	
Therefore ocation. 9 G16 0 Do Exp Comment. 10 Returnent. *HOWEV 11 Returning r sta	e, XAPER is set to -140 - 235. 60M/160 DEUTERIUM Deuterium posure 2 ts: Deuterium exposure optim. turn Aper NONE e to Nomi Position ts: Return the aperture to its n VER*, because of the TRANS I turn to no DARK and HV fo andard m	1 = -375. *HOWEVER*, because of th COS/FUV, TIME-TAG, FCA <u>mized for Segment B. FP-POS=4 was</u> COS, ALIGN/APER cominal position, i.e. XAPER=0. rules, the "QESIPARM XSTEPS +375	e TRANS rules, th G160M 1600 A	e "QESIPARM XSTEPS -5 CURRENT=MEDIU M; BUFFER-TIME=11 1; FP-POS=4; SEGMENT=BOTH; LIFETIME-POS=L P4 revious observations show to XAPER=0	; that it has slightly more counts that QESIPARM XSTEP S 375 necessary to move the aperture to SPEC COM INSTR ELHVADJPROP; QESIPARM ENDC	$\frac{400 \text{ Secs } (400 \text{ Secs})}{[==>]}$ $\frac{un \text{ the other FP-POS values.}}{[==>]}$ $\frac{0 \text{ Secs } (0 \text{ Secs})}{[==>]}$ $\frac{1}{2} \text{ Secs } (39 \text{ Secs})}$	





#### Proposal 14941 - ~12 months after last Cycle 24 LP3 gain map (3C) - COS FUV Detector Gain Maps

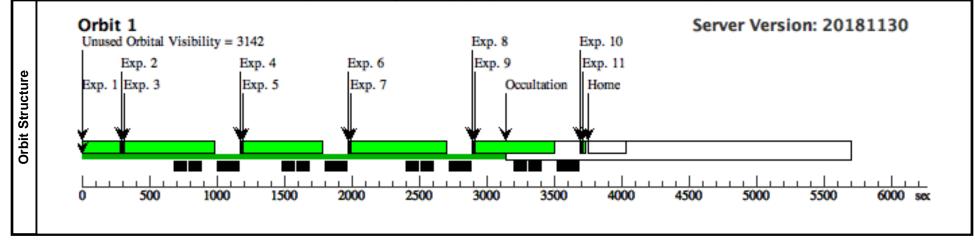
	Proposal 14941, ~12 months after last Cycle 24 LP3 gain map (3C), completed	Mon May 13 19:00:27 GMT 2019
±.	Diagnostic Status: Warning	
/is	Scientific Instruments: S/C, COS, COS/FUV	
1	Special Requirements: BETWEEN 01-OCT-2018:00:00:00 AND 01-NOV-2018:00:00; PARALLEL	
	Comments: This visit collects data at LP3. It uses the HV values appropriate for LP3 (167/175).	
cs	(~12 months after last Cycle 24 LP3 gain map (3C)) Warning (Orbit Planner): MAXIMUM DURATION EXCEEDED FOR INTERNAL OR EARTH CALIB SU	
sti	(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 scar	1.
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# Proposal 14941 - ~12 months after last Cycle 24 LP3 gain map (3C) - COS FUV Detector Gain Maps

	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1	Adjust HV t		S/C, DATA, NONE			SAA CONTOUR 31;		295 Secs (295 Secs)	
		o LP3 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			
	Com	ments: Adjust	the HV to the LP3 v	values.						
	2	Aperture Ad justment 1 f	NONE	COS, ALIGN/APER		XAPER=-307			0.0 Secs (0 Secs)	
		or Segment A							[==>]	[1]
	Com	ments: Put the	e aperture in the app	propriate position to illuminate a portio	on of the LP3 region	of the detector when illu	minating Segment A wi	th G130M/1309.		
			ue at LP4 is 235.1	11	Desident for the					
			0	lluminate Segment A with G130M/1309	at Position 1 for Lr	'3 IS -/2				
	Ther	<i>v</i>	tis set to -72 - 235.1							<u> </u>
s	3	G130M/130 9 Deuterium	DEUTERIUM	COS/FUV, TIME-TAG, FCA	G130M	CURRENT=MEDIU M;	Î		$\frac{400 \text{ Secs } (400 \text{ Secs})}{1 - 2}$	+
Exposures	1	Exposure 1			1309 A	BUFFER-TIME=11			[==>]	
osi	1					1;				
d X	1					FP-POS=1;				[1]
"	1					SEGMENT=BOTH; LIFETIME-POS=L	;			
						P4				
	Com			nized for Segment A. FP-POS=1 was c.	hosen because previ			counts than the other i		1
	4	Aperture Ad justment 2 f	NONE	COS, ALIGN/APER		XAPER=-363	QESIPARM XSTEP S -56		0.0 Secs (0 Secs)	
		or Segment A					3-50		[==>]	[1]
	Com	ments: Put the	e aperture in the app	propriate position to illuminate a portio	on of the LP3 region	of the detector when illu	minating Segment A wi	th G130M/1309.		
			ue at LP4 is 235.1 value for FCA to il	lluminate Segment A with G130M/1309	at Position 2 for LF	23 is -128				
	Ther ocati		is set to -128 - 235.	1.1 = -363. *HOWEVER*, because of the	ie TRANS rules, the	"QESIPARM XSTEPS -5	6" [(-363307) = -56]	] Special Requirement	t is necessary to move the aperture to the	e correct l
	5	G130M/130	DEUTERIUM	COS/FUV, TIME-TAG, FCA	G130M	CURRENT=MEDIU	1		400 Secs (400 Secs)	
		9 Deuterium Exposure 2			1309 A	M;			[==>]	
	1	Lapoon -				BUFFER-TIME=11 1;				
	1					FP-POS=1;				[1]
	1					SEGMENT=BOTH;	;			1-3
						LIFETIME-POS=L P4				
	Com	ments: Deuter	ium exposure optin	nized for Segment A. FP-POS=1 was c.	hosen because previ		at it has slightly more o	counts than the other I	FP-POS values.	1
	l		· ·		•		• •			

	Aperture Ad NONE	COS, ALIGN/APER		XAPER=-319	QESIPARM XSTEP	0.0 Secs (0 Secs)	
	justment 1 f or Segment B				S 44	[==>]	[1
Comn	ments: Put the aperture in the app	propriate position to illuminate a porti	on of the LP3 regi	on of the detector when illu	ninating 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 .	LP3 is -84			
There cation		! = -319. *HOWEVER*, because of the	e TRANS rules, the	"QESIPARM XSTEPS 44"	[(-319363) = +44] Special Red	quirement is necessary to move the aperture	e to the corre
	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;			
				LIFETIME-POS=L P4			
Comn	ments: Deuterium exposure optin	nmized for Segment B. FP-POS=4 was	chosen because p	• •	hat it has slightly more counts tha	n the other FP-POS values.	
	Aperture Ad NONE	COS, ALIGN/APER		XAPER=-375	QESIPARM XSTEP	0.0 Secs (0 Secs)	
	justment 2 f or Segment B				S -56	[==>]	
PSA I Desir	LAPXSTP value at LP4 is 235.1 red LAPXSTP value for FCA to il	propriate position to illuminate a porti- luminate Segment B with G160M/1600 1 = -375 *HOWEVER* because of th	) at Position 2 for	LP3 is -140.			re to the cor
PSA I Desir There ocatio	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 .1 = -375. *HOWEVER*, because of th	) at Position 2 for . he TRANS rules, th	LP3 is -140. ne "QESIPARM XSTEPS -50		equirement is necessary to move the apertu	re to the cor
PSA I Desir There <u>ocatio</u> 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	luminate Segment B with G160M/1600	) at Position 2 for	LP3 is -140. ne "QESIPARM XSTEPS -50 CURRENT=MEDIU M;			re to the con
PSA I Desir There <u>ocatio</u> 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	luminate Segment B with G160M/1600 .1 = -375. *HOWEVER*, because of th	) at Position 2 for . he TRANS rules, th G160M	LP3 is -140. we "QESIPARM XSTEPS -50 CURRENT=MEDIU M; BUFFER-TIME=11		equirement is necessary to move the apertu 400 Secs (400 Secs)	re to the con
PSA I Desir There <u>ocatio</u> 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	luminate Segment B with G160M/1600 .1 = -375. *HOWEVER*, because of th	) at Position 2 for . he TRANS rules, th G160M	LP3 is -140. ne "QESIPARM XSTEPS -50 CURRENT=MEDIU M;		equirement is necessary to move the apertu 400 Secs (400 Secs)	
PSA I Desir There <u>ocatio</u> 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	luminate Segment B with G160M/1600 .1 = -375. *HOWEVER*, because of th	) at Position 2 for . he TRANS rules, th G160M	LP3 is -140. he "QESIPARM XSTEPS -50 CURRENT=MEDIU M; BUFFER-TIME=11 1;		equirement is necessary to move the apertu 400 Secs (400 Secs)	
PSA I Desir There <u>ocatio</u> 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	luminate Segment B with G160M/1600 .1 = -375. *HOWEVER*, because of th	) at Position 2 for . he TRANS rules, th G160M	LP3 is -140. e "QESIPARM XSTEPS -56 CURRENT=MEDIU M; BUFFER-TIME=11 1; FP-POS=4; SEGMENT=BOTH; LIFETIME-POS=L		equirement is necessary to move the apertu 400 Secs (400 Secs)	
PSA I Desir There <u>ocatic</u> 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 th	) at Position 2 for . he TRANS rules, th G160M 1600 A	LP3 is -140. The "QESIPARM XSTEPS -50 CURRENT=MEDIU M; BUFFER-TIME=11 1; FP-POS=4; SEGMENT=BOTH; LIFETIME-POS=L P4	5" [(-375319) = -56] Special R	equirement is necessary to move the apertu 400 Secs (400 Secs) [==>]	
PSA 1 Desir There <u>ocatio</u> 9 <u>Comm</u> 10	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 optin Return Aper NONE	luminate Segment B with G160M/1600 .1 = -375. *HOWEVER*, because of th COS/FUV, TIME-TAG, FCA	) at Position 2 for . he TRANS rules, th G160M 1600 A	LP3 is -140. The "QESIPARM XSTEPS -50 CURRENT=MEDIU M; BUFFER-TIME=11 1; FP-POS=4; SEGMENT=BOTH; LIFETIME-POS=L P4	5" [(-375319) = -56] Special R hat it has slightly more counts tha QESIPARM XSTEP	equirement is necessary to move the apertu 400 Secs (400 Secs) [==>]	
PSA 1 Desir There ocation 9 <u>Comm</u> 10	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 th COS/FUV, TIME-TAG, FCA umized for Segment B. FP-POS=4 was	) at Position 2 for . he TRANS rules, th G160M 1600 A	LP3 is -140. the "QESIPARM XSTEPS -50 CURRENT=MEDIU M; BUFFER-TIME=11 1; FP-POS=4; SEGMENT=BOTH; LIFETIME-POS=L P4 revious observations show t	5" [(-375319) = -56] Special R hat it has slightly more counts tha	equirement is necessary to move the apertu 400 Secs (400 Secs) [==>] n the other FP-POS values.	
PSA 1 Desir There <u>ocatio</u> 9 <u>Comm</u> 10	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 <u>ments: Deuterium exposure optim</u> Return Aper NONE ture to Nomi nal Position ments: Return the aperture to its i	luminate Segment B with G160M/1600 .1 = -375. *HOWEVER*, because of th 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 . he TRANS rules, th G160M 1600 A	LP3 is -140. The "QESIPARM XSTEPS -50 CURRENT=MEDIU M; BUFFER-TIME=11 1; FP-POS=4; SEGMENT=BOTH; LIFETIME-POS=L P4 revious observations show t XAPER=0	5" [(-375319) = -56] Special R hat it has slightly more counts that QESIPARM XSTEP \$ 375	equirement is necessary to move the apertu $ \frac{400 \operatorname{Secs} (400 \operatorname{Secs})}{[==>]} $ $ \underline{n \text{ the other FP-POS values.}} $ $ \frac{0 \operatorname{Secs} (0 \operatorname{Secs})}{[==>]} $	
PSA 1 Desir There ocation 9 9 Comm 10 Comm	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	luminate Segment B with G160M/1600 .1 = -375. *HOWEVER*, because of th COS/FUV, TIME-TAG, FCA <u>unized for Segment B. FP-POS=4 was</u> COS, ALIGN/APER	) at Position 2 for . he TRANS rules, th G160M 1600 A	LP3 is -140. The "QESIPARM XSTEPS -50 CURRENT=MEDIU M; BUFFER-TIME=11 1; FP-POS=4; SEGMENT=BOTH; LIFETIME-POS=L P4 revious observations show t XAPER=0	5" [(-375319) = -56] Special R hat it has slightly more counts that QESIPARM XSTEP \$ 375	equirement is necessary to move the apertu $ \frac{400 \operatorname{Secs} (400 \operatorname{Secs})}{[==>]} $ $ \underline{n \text{ the other FP-POS values.}}{[==>]} $ $ \underline{0 \operatorname{Secs} (0 \operatorname{Secs})}{[==>]} $ $ \underline{1 \text{ its correct location.}} $	
PSA 1 Desir There <u>ocatio</u> 9 <u>Comm</u> 10 <u>Comm</u> * <u>HOV</u> 11	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 optin 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	luminate Segment B with G160M/1600 .1 = -375. *HOWEVER*, because of th 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 +375	) at Position 2 for . he TRANS rules, th G160M 1600 A	LP3 is -140. The "QESIPARM XSTEPS -50 CURRENT=MEDIU M; BUFFER-TIME=11 1; FP-POS=4; SEGMENT=BOTH; LIFETIME-POS=L P4 revious observations show t XAPER=0	5" [(-375319) = -56] Special R <u>hat it has slightly more counts that</u> QESIPARM XSTEP S 375 <u>necessary to move the aperture to</u> SPEC COM INSTR ELHVADJPROP;	equirement is necessary to move the apertu $ \frac{400 \operatorname{Secs} (400 \operatorname{Secs})}{[==>]} $ $ \underline{n \text{ the other FP-POS values.}} $ $ \frac{0 \operatorname{Secs} (0 \operatorname{Secs})}{[==>]} $	
PSA 1 Desir There <u>ocatio</u> 9 <u>Comm</u> 10 <u>Comm</u> * <u>HOV</u> 11	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	luminate Segment B with G160M/1600 .1 = -375. *HOWEVER*, because of th 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 +375	) at Position 2 for . he TRANS rules, th G160M 1600 A	LP3 is -140. The "QESIPARM XSTEPS -50 CURRENT=MEDIU M; BUFFER-TIME=11 1; FP-POS=4; SEGMENT=BOTH; LIFETIME-POS=L P4 revious observations show t XAPER=0	5" [(-375319) = -56] Special R hat it has slightly more counts that QESIPARM XSTEP S 375 necessary to move the aperture to SPEC COM INSTR ELHVADJPROP; QESIPARM ENDC TSA 163;	equirement is necessary to move the apertu $ \frac{400 \operatorname{Secs} (400 \operatorname{Secs})}{[==>]} $ n the other FP-POS values. 0 Secs (0 Secs) [==>] its correct location. 39 Secs (39 Secs)	
PSA 1 Desir There <u>ocatio</u> 9 <u>Comm</u> 10 <u>Comm</u> * <u>HOV</u> 11	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 optin Return Aper NONE ture to Nomi nal Position ments: Return the aperture to its. WEVER*, because of the TRANS Return to no DARK minal HV fo r standard m	luminate Segment B with G160M/1600 .1 = -375. *HOWEVER*, because of th 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 +375	) at Position 2 for . he TRANS rules, th G160M 1600 A	LP3 is -140. The "QESIPARM XSTEPS -50 CURRENT=MEDIU M; BUFFER-TIME=11 1; FP-POS=4; SEGMENT=BOTH; LIFETIME-POS=L P4 revious observations show t XAPER=0	5" [(-375319) = -56] Special R <u>hat it has slightly more counts that</u> QESIPARM XSTEP S 375 <u>necessary to move the aperture to</u> SPEC COM INSTR ELHVADJPROP; QESIPARM ENDC	equirement is necessary to move the apertu $ \frac{400 \operatorname{Secs} (400 \operatorname{Secs})}{[==>]} $ n the other FP-POS values. 0 Secs (0 Secs) [==>] its correct location. 39 Secs (39 Secs)	





#### Proposal 14941 - ~6 months after LP4 move - Standard Modes (4A) - COS FUV Detector Gain Maps

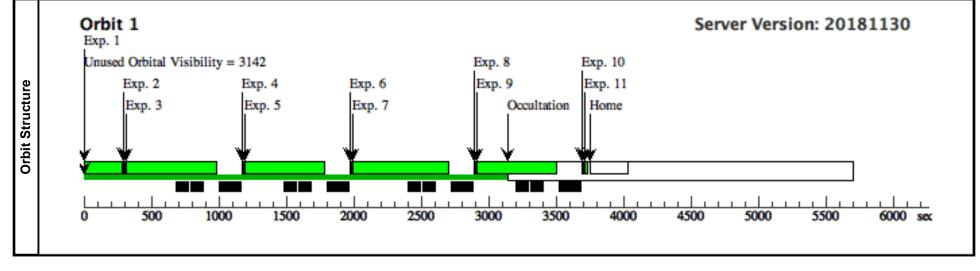
	Proposal 14941, ~6 months after LP4 move - Standard Modes (4A), completed	Mon May 13 19:00:27 GMT 2019
	Diagnostic Status: Warning	
/is	Scientific Instruments: S/C, COS, COS/FUV	
1-	Special Requirements: BETWEEN 01-APR-2018:00:00:00 AND 01-MAY-2018:00:00:00; PARALLEL	
	Comments: This visit collects data at LP4. It uses the HV values appropriate for the Standard Modes at LP4 (163/163).	
cs	(~6 months after LP4 move - Standard Modes (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	1.
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# Proposal 14941 - ~6 months after LP4 move - Standard Modes (4A) - COS FUV Detector Gain Maps

	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1	Adjust HV t		S/C, DATA, NONE			SAA CONTOUR 31;		295 Secs (295 Secs)	
		o LP4 value s					SPEC COM INSTR ELHLTHVF;		[==>]	
							QASISTATES COS FUV HVLOW HVN			
							OM;			
							QESIPARM ENDC TSA 163;			[1]
							QESIPARM ENDC TSB 163;			
							QESIPARM SEGM ENT AB			
	Com	ments: Adjust	the HV to the	LP4 Standard Modes values.						
	2	Aperture Ad	NONE	COS, ALIGN/APER		XAPER=-267			0.0 Secs (0 Secs)	
		justment 1 f or Segment A							[==>]	[1]
	Com	ments: Put the	e aperture in t	the appropriate position to illuminate a portion	n of the LP4 region	n of the detector when illu	minating Segment A wi	th G130M/1309.		
	PSA	LAPXSTP val	ue at LP4 is 2	235.1						
	Desi	red LAPXSTP	value for FC	A to illuminate Segment A with G130M/1309	at Position 1 for L	P4 is -32				
	Ther	efore, XAPER	is set to -32	- 235.1 = -267					1	1
	3	G130M/130 9 Deuterium	DEUTERIU	M COS/FUV, TIME-TAG, FCA	G130M	CURRENT=MEDIU			400 Secs (400 Secs)	
Exposures		Exposure 1			1309 A	M; BUFFER-TIME=11			[==>]	
nsc						1;				
xpc						FP-POS=1;				[1]
ш						SEGMENT=BOTH;				
						LIFETIME-POS=L P4				
	Com	ments: Deuter	ium exposure	e optimized for Segment A. FP-POS=1 was ch	osen because prev	vious observations show th	at it has slightly more o	counts than the other F	P-POS values.	
	4	Aperture Ad	NONE	COS, ALIGN/APER		XAPER=-321	QESIPARM XSTEP		0.0 Secs (0 Secs)	
		justment 2 f or Segment A					S -54		[==>]	[1]
	Com		e aperture in 1	the appropriate position to illuminate a portio	n of the LP4 region	n of the detector when illu	minating Segment A wi	th G130M/1309.		
		LAPXSTP val red LAPXSTP		235.1 A to illuminate Segment A with G130M/1309	at Position 2 for L	P4 is -86				
		efore, XAPER	0	-235.1 = -321. *HOWEVER*, because of the	0		" [(-321267) = -54]	Special Requirement is	s necessary to move the aperture to the	correct lo
	5	G130M/130	DEUTERIU	M COS/FUV, TIME-TAG, FCA	G130M	CURRENT=MEDIU			400 Secs (400 Secs)	
		9 Deuterium Exposure 2			1309 A	М;			[==>]	
		Exposure 2				BUFFER-TIME=11 1;				
						FP-POS=1;				[1]
						SEGMENT=BOTH;				[1]
						LIFETIME-POS=L				
	C	Dentes		antimized for Secure 4 ED DOS 1	har the second second	P4	at it has alight to the second	anna dhan dha ada T		
	Com	ments: Deuter	ium exposure	e optimized for Segment A. FP-POS=1 was ch	osen because prev	nous observations show th	ai it nas slightly more c	counts than the other F	r-r OS values.	

6 A	Aperture Ad NONE	COS, ALIGN/APER		XAPER=-276	QESIPARM XSTEP	0.0 Secs (0 Secs)	
	ustment 1 f or Segment B				S 45	[==>]	
Comm	ents: Put the aperture in the a	ppropriate position to illuminate a portio	on of the LP4 regi	on of the detector when illu	minating Segment B with G160M	/1600.	
Desire	Ū	illuminate Segment B with G160M/1600	0				
Theref cation.		1 = -276. *HOWEVER*, because of the	e TRANS rules, the	"QESIPARM XSTEPS 45"	r [(-276321) = +45] Special Re	equirement is necessary to move the apertur	e to the cor
	G160M/160 DEUTERIUM	COS/FUV, TIME-TAG, FCA	G160M	CURRENT=MEDIU	ſ	400 Secs (400 Secs)	
	) Deuterium Exposure 1		1600 A	M;		[==>]	
				BUFFER-TIME=11 1;			
				FP-POS=4;			
				SEGMENT=BOTH;	;		
				LIFETIME-POS=L			
				P4			
		mmized for Segment B. FP-POS=4 was	chosen because pr				
	Aperture Ad NONE ustment 2 f	COS, ALIGN/APER		XAPER=-330	QESIPARM XSTEP S -54	0.0 Secs (0 Secs)	
	or Segment				5.51	[==>]	
E Comm PSA L Desire	ents: Put the aperture in the a APXSTP value at LP4 is 235.1 d LAPXSTP value for FCA to	illuminate Segment B with G160M/1600	at Position 2 for 1	LP4 is -95.			ce to the con
E Comm PSA L Desire Theref ation.	ents: Put the aperture in the a APXSTP value at LP4 is 235.1 ed LAPXSTP value for FCA to fore, XAPER is set to -95 - 235	illuminate Segment B with G160M/1600 .1 = -330. *HOWEVER*, because of the	at Position 2 for 1	LP4 is -95. "QESIPARM XSTEPS -54	" [(-330276) = -54] Special Re	equirement is necessary to move the apertur	re to the con
E Comm SA L Desire Cheref ation.	ents: Put the aperture in the a APXSTP value at LP4 is 235.1 ed LAPXSTP value for FCA to fore, XAPER is set to -95 - 235 G160M/160 DEUTERIUM	illuminate Segment B with G160M/1600	at Position 2 for 1 TRANS rules, the G160M	LP4 is -95. "QESIPARM XSTEPS -54 CURRENT=MEDIU	" [(-330276) = -54] Special Re	equirement is necessary to move the apertur 400 Secs (400 Secs)	re to the co
E Comm SA L Desire Cheref ation. C	ents: Put the aperture in the a APXSTP value at LP4 is 235.1 ed LAPXSTP value for FCA to fore, XAPER is set to -95 - 235	illuminate Segment B with G160M/1600 .1 = -330. *HOWEVER*, because of the	at Position 2 for 1	LP4 is -95. "QESIPARM XSTEPS -54 CURRENT=MEDIU M; BUFFER-TIME=11	" [(-330276) = -54] Special Re	equirement is necessary to move the apertur	re to the con
E Comm SA L Desire Cheref ation. C	Approx Put the aperture in the a APXSTP value at LP4 is 235. I ad LAPXSTP value for FCA to fore, XAPER is set to -95 - 235 G160M/160 DEUTERIUM Deuterium	illuminate Segment B with G160M/1600 .1 = -330. *HOWEVER*, because of the	at Position 2 for 1 TRANS rules, the G160M	LP4 is -95. "QESIPARM XSTEPS -54 CURRENT=MEDIU M; BUFFER-TIME=11 1;	" [(-330276) = -54] Special Re	equirement is necessary to move the apertur 400 Secs (400 Secs)	re to the con
E Comm SA L Desire Cheref ation. C	Approx Put the aperture in the a APXSTP value at LP4 is 235. I ad LAPXSTP value for FCA to fore, XAPER is set to -95 - 235 G160M/160 DEUTERIUM Deuterium	illuminate Segment B with G160M/1600 .1 = -330. *HOWEVER*, because of the	at Position 2 for 1 TRANS rules, the G160M	LP4 is -95. "QESIPARM XSTEPS -54 CURRENT=MEDIU M; BUFFER-TIME=11	" [(-330276) = -54] Special Re	equirement is necessary to move the apertur 400 Secs (400 Secs)	re to the con
E Comm SA L Desire Cheref ation. C	Approx Put the aperture in the a APXSTP value at LP4 is 235. I ad LAPXSTP value for FCA to fore, XAPER is set to -95 - 235 G160M/160 DEUTERIUM Deuterium	illuminate Segment B with G160M/1600 .1 = -330. *HOWEVER*, because of the	at Position 2 for 1 TRANS rules, the G160M	LP4 is -95. "QESIPARM XSTEPS -54 CURRENT=MEDIU M; BUFFER-TIME=11 1; FP-POS=4;	" [(-330276) = -54] Special Re	equirement is necessary to move the apertur 400 Secs (400 Secs)	re to the con
E SA L SA L SA L Sesire heref heref t ation.	Approximate Part of the aperture in the approximate provide the approx	illuminate Segment B with G160M/1600 .1 = -330. *HOWEVER*, because of the COS/FUV, TIME-TAG, FCA	at Position 2 for 1 e TRANS rules, the G160M 1600 A	LP4 is -95. "QESIPARM XSTEPS -54 CURRENT=MEDIU M; BUFFER-TIME=11 1; FP-POS=4; SEGMENT=BOTH; LIFETIME-POS=L P4	" [(-330276) = -54] Special Re	equirement is necessary to move the apertur 400 Secs (400 Secs) [==>]	re to the con
E Somm SA L Sesire heref tation. C E E	eents: Put the aperture in the a APXSTP value at LP4 is 235. i ed LAPXSTP value for FCA to fore, XAPER is set to -95 - 235 	illuminate Segment B with G160M/1600 .1 = -330. *HOWEVER*, because of the COS/FUV, TIME-TAG, FCA mmized for Segment B. FP-POS=4 was	at Position 2 for 1 e TRANS rules, the G160M 1600 A	LP4 is -95. "QESIPARM XSTEPS -54 CURRENT=MEDIU M; BUFFER-TIME=11 1; FP-POS=4; SEGMENT=BOTH; LIFETIME-POS=L P4 revious observations show t	" [(-330276) = -54] Special Re	equirement is necessary to move the apertur $ \frac{400 \operatorname{Secs} (400 \operatorname{Secs})}{[==>]} $ an the other FP-POS values.	re to the con
E Comm SSA L Desire Theref theref theref E Comm 0 F	Approximate Part of the aperture in the approximate provide the approx	illuminate Segment B with G160M/1600 .1 = -330. *HOWEVER*, because of the COS/FUV, TIME-TAG, FCA	at Position 2 for 1 e TRANS rules, the G160M 1600 A	LP4 is -95. "QESIPARM XSTEPS -54 CURRENT=MEDIU M; BUFFER-TIME=11 1; FP-POS=4; SEGMENT=BOTH; LIFETIME-POS=L P4	" [(-330276) = -54] Special Re	an the other FP-POS values.	re to the con
E Comm SA L Desire heref ation. C C E E	eents: Put the aperture in the a APXSTP value at LP4 is 235. i ed LAPXSTP value for FCA to fore, XAPER is set to -95 - 235 	illuminate Segment B with G160M/1600 .1 = -330. *HOWEVER*, because of the COS/FUV, TIME-TAG, FCA mmized for Segment B. FP-POS=4 was	at Position 2 for 1 e TRANS rules, the G160M 1600 A	LP4 is -95. "QESIPARM XSTEPS -54 CURRENT=MEDIU M; BUFFER-TIME=11 1; FP-POS=4; SEGMENT=BOTH; LIFETIME-POS=L P4 revious observations show t	" [(-330276) = -54] Special Re that it has slightly more counts that QESIPARM XSTEP	equirement is necessary to move the apertur $ \frac{400 \operatorname{Secs} (400 \operatorname{Secs})}{[==>]} $ an the other FP-POS values.	re to the con
Ecomm SA LL Desire thereff ation. C E E Comm 0 F t t C Comm	eents: Put the aperture in the a APXSTP value at LP4 is 235.1 ed LAPXSTP value for FCA to fore, XAPER is set to -95 - 235 G160M/160 DEUTERIUM Deuterium Exposure 2 Exposure 2 Ex	illuminate Segment B with G160M/1600 .1 = -330. *HOWEVER*, because of the COS/FUV, TIME-TAG, FCA <u>mmized for Segment B. FP-POS=4 was</u> COS, ALIGN/APER s nominal position, i.e. XAPER=0.	e at Position 2 for 1 e TRANS rules, the G160M 1600 A	LP4 is -95. "QESIPARM XSTEPS -54 CURRENT=MEDIU M; BUFFER-TIME=11 1; FP-POS=4; SEGMENT=BOTH; LIFETIME-POS=L P4 revious observations show to XAPER=0	" [(-330276) = -54] Special Re that it has slightly more counts the QESIPARM XSTEP S 330	equirement is necessary to move the apertur $ \frac{400 \operatorname{Secs} (400 \operatorname{Secs})}{[==>]} $ an the other FP-POS values. $ 0 \operatorname{Secs} (0 \operatorname{Secs}) \\ [==>] $	re to the con
E Comm SA L Desire Cheref ation. C C E E Comm O E C C C M M C C M M M C C M M M C M M M C M M M C M M M C SA L C Desire Comm N SA L C Desire C M SA L C Desire C M SA L Desire C M SA L DESIRE C SA L DESIRE S SA L DESIRE S S S S S S S S S S S S S S S S S S S	eents: Put the aperture in the a APXSTP value at LP4 is 235.1 ed LAPXSTP value for FCA to fore, XAPER is set to -95 - 235 G160M/160 DEUTERIUM Deuterium Exposure 2 Exposure 2 Ex	illuminate Segment B with G160M/1600 .1 = -330. *HOWEVER*, because of the COS/FUV, TIME-TAG, FCA <u>mmized for Segment B. FP-POS=4 was</u> COS, ALIGN/APER	e at Position 2 for 1 e TRANS rules, the G160M 1600 A	LP4 is -95. "QESIPARM XSTEPS -54 CURRENT=MEDIU M; BUFFER-TIME=11 1; FP-POS=4; SEGMENT=BOTH; LIFETIME-POS=L P4 revious observations show to XAPER=0	" [(-330276) = -54] Special Re that it has slightly more counts the QESIPARM XSTEP S 330	equirement is necessary to move the apertur $ \frac{400 \operatorname{Secs} (400 \operatorname{Secs})}{[==>]} $ an the other FP-POS values. $ 0 \operatorname{Secs} (0 \operatorname{Secs}) \\ [==>] $	
Ecomm PSA L Desire Cheref Cheref Comm C C C C C C C C C C C C C C C C C	Approximate Part of the aperture in the aperture to it. <i>Tevers</i> , because of the TRAN Return to no DARK minal HV fo	illuminate Segment B with G160M/1600 .1 = -330. *HOWEVER*, because of the COS/FUV, TIME-TAG, FCA <u>mmized for Segment B. FP-POS=4 was</u> COS, ALIGN/APER s nominal position, i.e. XAPER=0. <u>S rules, the "QESIPARM XSTEPS +330</u>	e at Position 2 for 1 e TRANS rules, the G160M 1600 A	LP4 is -95. "QESIPARM XSTEPS -54 CURRENT=MEDIU M; BUFFER-TIME=11 1; FP-POS=4; SEGMENT=BOTH; LIFETIME-POS=L P4 revious observations show to XAPER=0	" [(-330276) = -54] Special Re that it has slightly more counts the QESIPARM XSTEP S 330 <u>necessary to move the aperture to</u> SPEC COM INSTR ELHVADJPROP;	equirement is necessary to move the apertur $ \frac{400 \operatorname{Secs} (400 \operatorname{Secs})}{[==>]} $ $ \frac{400 \operatorname{Secs} (400 \operatorname{Secs})}{[==>]} $ $ \frac{10 \operatorname{Secs} (0 \operatorname{Secs})}{[==>]} $ $ \frac{10 \operatorname{Secs} (0 \operatorname{Secs})}{[==>]} $ $ \frac{10 \operatorname{Secs} (0 \operatorname{Secs})}{[==>]} $	
E Comm PSA L Desire Theref Faction. O C C C C C C C C C C C C C C C C C C	eents: Put the aperture in the a APXSTP value at LP4 is 235.1 ed LAPXSTP value for FCA to fore, XAPER is set to -95 - 235 G160M/160 DEUTERIUM Deuterium Exposure 2 Exposure 2 Ex	illuminate Segment B with G160M/1600 .1 = -330. *HOWEVER*, because of the COS/FUV, TIME-TAG, FCA <u>mmized for Segment B. FP-POS=4 was</u> COS, ALIGN/APER s nominal position, i.e. XAPER=0. <u>S rules, the "QESIPARM XSTEPS +330</u>	e at Position 2 for 1 e TRANS rules, the G160M 1600 A	LP4 is -95. "QESIPARM XSTEPS -54 CURRENT=MEDIU M; BUFFER-TIME=11 1; FP-POS=4; SEGMENT=BOTH; LIFETIME-POS=L P4 revious observations show to XAPER=0	" [(-330276) = -54] Special Re that it has slightly more counts the QESIPARM XSTEP S 330 necessary to move the aperture to SPEC COM INSTR ELHVADJPROP; QESIPARM ENDC	equirement is necessary to move the apertur $ \frac{400 \text{ Secs } (400 \text{ Secs})}{[==>]} $ an the other FP-POS values. 0 Secs (0 Secs) [==>] 0 its correct location. 39 Secs (39 Secs)	
Ecomm PSA L Desire Cheref ation. C C C E E Comm HOW HOW 1 I F T	eents: Put the aperture in the a APXSTP value at LP4 is 235. i ed LAPXSTP value for FCA to fore, XAPER is set to -95 - 235 G160M/160 DEUTERIUM Deuterium Exposure 2 Events: Deuterium exposure optimise Return Aper NONE ure to Nomi hal Position eents: Return the aperture to it /EVER*, because of the TRAN Return to no DARK minal HV fo standard m	illuminate Segment B with G160M/1600 .1 = -330. *HOWEVER*, because of the COS/FUV, TIME-TAG, FCA <u>mmized for Segment B. FP-POS=4 was</u> COS, ALIGN/APER s nominal position, i.e. XAPER=0. <u>S rules, the "QESIPARM XSTEPS +330</u>	e at Position 2 for 1 e TRANS rules, the G160M 1600 A	LP4 is -95. "QESIPARM XSTEPS -54 CURRENT=MEDIU M; BUFFER-TIME=11 1; FP-POS=4; SEGMENT=BOTH; LIFETIME-POS=L P4 revious observations show to XAPER=0	" [(-330276) = -54] Special Re that it has slightly more counts the QESIPARM XSTEP S 330 <u>necessary to move the aperture to</u> SPEC COM INSTR ELHVADJPROP;	equirement is necessary to move the apertur $ \frac{400 \text{ Secs } (400 \text{ Secs})}{[==>]} $ an the other FP-POS values. 0 Secs (0 Secs) [==>] 0 its correct location. 39 Secs (39 Secs)	re to the cor





# Proposal 14941 - ~6 months after LP4 move - 1222 (4B) - COS FUV Detector Gain Maps

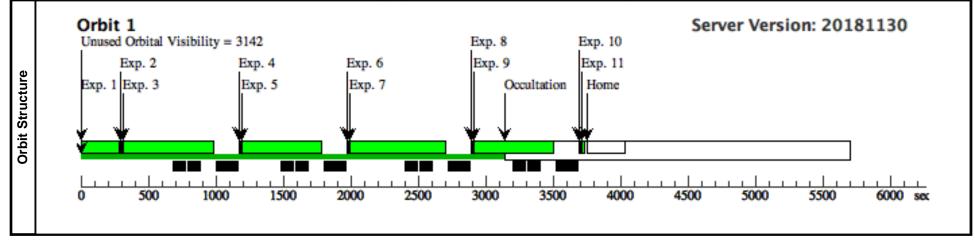
	Proposal 14941, ~6 months after LP4 move - 1222 (4B), completed	Mon May 13 19:00:27 GMT 2019
l.±	Diagnostic Status: Warning	
i,	Scientific Instruments: S/C, COS, COS/FUV	
[	Special Requirements: BETWEEN 01-APR-2018:00:00:00 AND 01-MAY-2018:00:00:00; PARALLEL	
	Comments: This visit collects data at LP4. It uses the HV values appropriate for G130M/1222 at LP4 (163/167).	
v.	(~6 months after LP4 move - 1222 (4B)) Warning (Orbit Planner): MAXIMUM DURATION EXCEEDED FOR INTERNAL OR EARTH CALIB SU	
j.	(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 sca	n.
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## Proposal 14941 - ~6 months after LP4 move - 1222 (4B) - COS FUV Detector Gain Maps

	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1	Adjust HV t	DARK	S/C, DATA, NONE			SAA CONTOUR 31;		295 Secs (295 Secs)	
		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			
	Com	ments: Adjust	the HV to the LP4	4 1222 values.						
	2	Aperture Ad	NONE	COS, ALIGN/APER		XAPER=-267			0.0 Secs (0 Secs)	
		justment 1 f or Segment A							[==>]	[1]
	Com	ments: Put the	e aperture in the a	ppropriate position to illuminate a porti	on of the LP4 region	n of the detector when illu	minating Segment A wi	th G130M/1309.		
			ue at LP4 is 235.1 value for FCA to	illuminate Segment A with G130M/1309	at Position 1 for LI	P4 is -32				
	Ther	efore, XAPER	is set to -32 - 235	5.1 = -267						
	3		DEUTERIUM	COS/FUV, TIME-TAG, FCA	G130M	CURRENT=MEDIU	I		400 Secs (400 Secs)	
Exposures		9 Deuterium Exposure 1			1309 A	M; BUFFER-TIME=11			[==>]	
su		-				1;				
bd						FP-POS=1;				[1]
Ĕ						SEGMENT=BOTH	;			
						LIFETIME-POS=L P4				
	Com	ments: Deuter	ium exposure opti	imized for Segment A. FP-POS=1 was c	hosen because prev		nat it has slightly more of	counts than the other I	FP-POS values.	
	4	Aperture Ad		COS, ALIGN/APER	,	XAPER=-321	QESIPARM XSTEP		0.0 Secs (0 Secs)	
		justment 2 f or Segment A					S -54		[==>]	[1]
	Com		e aperture in the a	ppropriate position to illuminate a porti	on of the LP4 region	n of the detector when illu	minating Segment A wi	th G130M/1309.		
	PSA	LAPXSTP val	ue at LP4 is 235.1			•				
		efore, XAPER		5.1 = -321. *HOWEVER*, because of the			" [(-321267) = -54]	Special Requirement i	s necessary to move the aperture to the	correct lo
	5	G130M/130	DEUTERIUM	COS/FUV, TIME-TAG, FCA	G130M	CURRENT=MEDIU	I		400 Secs (400 Secs)	
		9 Deuterium Exposure 2			1309 A	M;			[==>]	
		Emposure E				BUFFER-TIME=11 1;				
						FP-POS=1;				[1]
						SEGMENT=BOTH	:			[1]
						LIFETIME-POS=L	·			
						P4				
	Com	ments: Deuter	ium exposure opti	imized for Segment A. FP-POS=1 was c	hosen because prev	ious observations show th	nat it has slightly more o	counts than the other <b>I</b>	FP-POS values.	

	Aperture Ad N	JONE	COS, ALIGN/APER		XAPER=-276	QESIPARM XSTEP	0.0 Secs (0 Secs)	
	justment 1 f or Segment B					S 45	[==>]	[1
Com	ments: Put the a	perture in the app	propriate position to illuminate a porti	on of the LP4 regi	on of the detector when ill	uminating Segment B with G160M	/1600.	
		at LP4 is 235.1 alue for FCA to il	luminate Segment B with G160M/1600	) at Position 1 for 1	LP4 is -41			
There cation		set to -41 - 235.1	= -276. *HOWEVER*, because of the	e TRANS rules, the	"QESIPARM XSTEPS 45	"[(-276321) = +45] Special Re	equirement is necessary to move the apertur	e to the corre
	G160M/160 E	DEUTERIUM	COS/FUV, TIME-TAG, FCA	G160M	CURRENT=MEDI	U	400 Secs (400 Secs)	
	0 Deuterium Exposure 1			1600 A	M; BUFFER-TIME=1 1;	1	[==>]	
					FP-POS=4;			
					SEGMENT=BOTH	I;		
					LIFETIME-POS=L P4			
Comr	ments: Deuteriu	m exposure optim	mized for Segment B. FP-POS=4 was	chosen because p		that it has slightly more counts the	an the other FP-POS values	
	Aperture Ad N		COS, ALIGN/APER	enosen because pr	XAPER=-330	QESIPARM XSTEP	0.0 Secs (0 Secs)	
	justment 2 f or Segment					Š -54	[==>]	
	B							l
PSA I Desir There	LAPXSTP value red LAPXSTP va efore, XAPER is	at LP4 is 235.1 alue for FCA to il.	propriate position to illuminate a porti luminate Segment B with G160M/1600 = -330. *HOWEVER*, because of the	) at Position 2 for 1	LP4 is -95.		/1600. equirement is necessary to move the apertur	e to the corr
PSA I Desir There cation	LAPXSTP value red LAPXSTP vc efore, XAPER is n.	at LP4 is 235.1 alue for FCA to il. set to -95 - 235.1	luminate Segment B with G160M/1600 = -330. *HOWEVER*, because of the	) at Position 2 for 1 e TRANS rules, the	LP4 is -95. "QESIPARM XSTEPS -5-	4" [(-330276) = -54] Special Re	equirement is necessary to move the apertur	e to the corr
PSA I Desir There cation 9	LAPXSTP value red LAPXSTP va efore, XAPER is	at LP4 is 235.1 alue for FCA to il. set to -95 - 235.1	luminate Segment B with G160M/1600	) at Position 2 for 1 e TRANS rules, the G160M	LP4 is -95.	4" [(-330276) = -54] Special Re	equirement is necessary to move the apertur	e to the corr
PSA I Desir There cation 9	LAPXSTP value red LAPXSTP va efore, XAPER is n. G160M/160 E	at LP4 is 235.1 alue for FCA to il. set to -95 - 235.1	luminate Segment B with G160M/1600 = -330. *HOWEVER*, because of the	) at Position 2 for 1 e TRANS rules, the	LP4 is -95. - "QESIPARM XSTEPS -5- CURRENT=MEDIN M; BUFFER-TIME=1	4" [(-330276) = -54] Special Re	equirement is necessary to move the apertur	e to the corr
PSA I Desir There cation 9	LAPXSTP value ed LAPXSTP vo efore, XAPER is n. G160M/160 E 0 Deuterium	at LP4 is 235.1 alue for FCA to il. set to -95 - 235.1	luminate Segment B with G160M/1600 = -330. *HOWEVER*, because of the	) at Position 2 for 1 e TRANS rules, the G160M	LP4 is -95. • "QESIPARM XSTEPS -5- CURRENT=MEDIN M; BUFFER-TIME=1 1;	4" [(-330276) = -54] Special Re	equirement is necessary to move the apertur	
PSA I Desir There cation 9	LAPXSTP value ed LAPXSTP vo efore, XAPER is n. G160M/160 E 0 Deuterium	at LP4 is 235.1 alue for FCA to il. set to -95 - 235.1	luminate Segment B with G160M/1600 = -330. *HOWEVER*, because of the	) at Position 2 for 1 e TRANS rules, the G160M	LP4 is -95. - "QESIPARM XSTEPS -5- CURRENT=MEDIN M; BUFFER-TIME=1	4" [(-330276) = -54] Special Re U	equirement is necessary to move the apertur	
PSA I Desir There cation 9	LAPXSTP value ed LAPXSTP vo efore, XAPER is n. G160M/160 E 0 Deuterium	at LP4 is 235.1 alue for FCA to il. set to -95 - 235.1	luminate Segment B with G160M/1600 = -330. *HOWEVER*, because of the	) at Position 2 for 1 e TRANS rules, the G160M	LP4 is -95. • "QESIPARM XSTEPS -5- CURRENT=MEDIM M; BUFFER-TIME=1 1; FP-POS=4; SEGMENT=BOTH LIFETIME-POS=L	4" [(-330276) = -54] Special Re U I	equirement is necessary to move the apertur	
PSA Desir Desir There cation	LAPXSTP value eed LAPXSTP value efore, XAPER is n. G160M/160 E 0 Deuterium Exposure 2	at LP4 is 235.1 alue for FCA to ill set to -95 - 235.1 DEUTERIUM	luminate Segment B with G160M/1600 = -330. *HOWEVER*, because of the COS/FUV, TIME-TAG, FCA	) at Position 2 for 1 e TRANS rules, the G160M 1600 A	LP4 is -95. "QESIPARM XSTEPS -5- CURRENT=MEDIM M; BUFFER-TIME=1 1; FP-POS=4; SEGMENT=BOTH LIFETIME-POS=L P4	4" [(-330276) = -54] Special Re U I	equirement is necessary to move the apertur 400 Secs (400 Secs) [==>]	
PSA 1 Desir There cation 9	LAPXSTP value red LAPXSTP vo efore, XAPER is n. G160M/160 E 0 Deuterium Exposure 2 ments: Deuterium	at LP4 is 235.1 ulue for FCA to ill set to -95 - 235.1 DEUTERIUM	luminate Segment B with G160M/1600 = -330. *HOWEVER*, because of the COS/FUV, TIME-TAG, FCA mized for Segment B. FP-POS=4 was	) at Position 2 for 1 e TRANS rules, the G160M 1600 A	LP4 is -95. " "QESIPARM XSTEPS -5- CURRENT=MEDII M; BUFFER-TIME=1 1; FP-POS=4; SEGMENT=BOTH LIFETIME-POS=L P4 revious observations show	4" [(-330276) = -54] Special Re U I I that it has slightly more counts the	equirement is necessary to move the apertur $ \frac{400 \operatorname{Secs} (400 \operatorname{Secs})}{[==>]} $ an the other FP-POS values.	
PSA 1 Desir There cation 9 <u>Comr</u> 10	LAPXSTP value red LAPXSTP va efore, XAPER is n. G160M/160 E 0 Deuterium Exposure 2 <u>ments: Deuteriu</u> Return Aper N ture to Nomi	at LP4 is 235.1 ulue for FCA to ill set to -95 - 235.1 DEUTERIUM	luminate Segment B with G160M/1600 = -330. *HOWEVER*, because of the COS/FUV, TIME-TAG, FCA	) at Position 2 for 1 e TRANS rules, the G160M 1600 A	LP4 is -95. "QESIPARM XSTEPS -5- CURRENT=MEDIM M; BUFFER-TIME=1 1; FP-POS=4; SEGMENT=BOTH LIFETIME-POS=L P4	4" [(-330276) = -54] Special Re U I	equirement is necessary to move the apertur 400 Secs (400 Secs) [==>]	
PSA 1 Desir There cation 9 2 2 2	LAPXSTP value red LAPXSTP va efore, XAPER is n. G160M/160 E 0 Deuterium Exposure 2 ments: Deuteriuu Return Aper N ture to Nomi nal Position	at LP4 is 235.1 alue for FCA to il. set to -95 - 235.1 DEUTERIUM MENTERIUM	luminate Segment B with G160M/1600 = -330. *HOWEVER*, because of the COS/FUV, TIME-TAG, FCA <u>mized for Segment B. FP-POS=4 was</u> COS, ALIGN/APER	) at Position 2 for 1 e TRANS rules, the G160M 1600 A	LP4 is -95. " "QESIPARM XSTEPS -5- CURRENT=MEDII M; BUFFER-TIME=1 1; FP-POS=4; SEGMENT=BOTH LIFETIME-POS=L P4 revious observations show	4" [(-330276) = -54] Special Re U I I <i>that it has slightly more counts the</i> QESIPARM XSTEP	equirement is necessary to move the apertur $ \frac{400 \operatorname{Secs} (400 \operatorname{Secs})}{[==>]} $ an the other FP-POS values. $0 \operatorname{Secs} (0 \operatorname{Secs})$	
PSA 1 Desir There cation 9 2 <u>Com</u> r 10 Comr	LAPXSTP value ered LAPXSTP va efore, XAPER is n. G160M/160 E 0 Deuterium Exposure 2 <u>ments: Deuteriu</u> Return Aper N ture to Nomi nal Position ments: Return th	at LP4 is 235.1 alue for FCA to il. set to -95 - 235.1 DEUTERIUM MONE ne aperture to its to	luminate Segment B with G160M/1600 = -330. *HOWEVER*, because of the COS/FUV, TIME-TAG, FCA mized for Segment B. FP-POS=4 was	) at Position 2 for 1 e TRANS rules, the G160M 1600 A	LP4 is -95. " "QESIPARM XSTEPS -5- CURRENT=MEDIM M; BUFFER-TIME=1 1; FP-POS=4; SEGMENT=BOTH LIFETIME-POS=L P4 revious observations show XAPER=0	4" [(-330276) = -54] Special Re U I I <u>that it has slightly more counts tha</u> QESIPARM XSTEP S 330	equirement is necessary to move the apertur $ \frac{400 \operatorname{Secs} (400 \operatorname{Secs})}{[==>]} $ an the other FP-POS values. $ 0 \operatorname{Secs} (0 \operatorname{Secs}) \\ [==>] $	
PSA 1 Desir There cation 9 <u>Comr</u> 10 <u>Comr</u> 11	LAPXSTP value red LAPXSTP value efore, XAPER is n. G160M/160 E 0 Deuterium Exposure 2 ments: Deuterium Return Aper N ture to Nomi nal Position ments: Return th WEVER*, becau Return to no E	at LP4 is 235.1 alue for FCA to il. set to -95 - 235.1 DEUTERIUM MONE we aperture to its r use of the TRANS	luminate Segment B with G160M/1600 = -330. *HOWEVER*, because of the COS/FUV, TIME-TAG, FCA <u>mized for Segment B. FP-POS=4 was</u> COS, ALIGN/APER nominal position, i.e. XAPER=0.	) at Position 2 for 1 e TRANS rules, the G160M 1600 A	LP4 is -95. " "QESIPARM XSTEPS -5- CURRENT=MEDIM M; BUFFER-TIME=1 1; FP-POS=4; SEGMENT=BOTH LIFETIME-POS=L P4 revious observations show XAPER=0	4" [(-330276) = -54] Special Re U I I <u>that it has slightly more counts tha</u> QESIPARM XSTEP S 330 <u>s necessary to move the aperture to</u> SPEC COM INSTR	equirement is necessary to move the apertur $ \frac{400 \operatorname{Secs} (400 \operatorname{Secs})}{[==>]} $ an the other FP-POS values. $ 0 \operatorname{Secs} (0 \operatorname{Secs}) \\ [==>] $ o its correct location. $ 39 \operatorname{Secs} (39 \operatorname{Secs}) $	
PSA 1 Desir There cation 9 9 2 9 2 9 2 0 10 10 10 2 0 mr 11	LAPXSTP value red LAPXSTP value efore, XAPER is n. G160M/160 E 0 Deuterium Exposure 2 ments: Deuterium Return Aper N ture to Nomi nal Position ments: Return th WEVER*, becau Return to no E minal HV fo r standard m	at LP4 is 235.1 alue for FCA to il. set to -95 - 235.1 DEUTERIUM MONE we aperture to its r use of the TRANS	luminate Segment B with G160M/1600 = -330. *HOWEVER*, because of the COS/FUV, TIME-TAG, FCA <u>mized for Segment B. FP-POS=4 was</u> COS, ALIGN/APER nominal position, i.e. XAPER=0. rules, the "QESIPARM XSTEPS +330	) at Position 2 for 1 e TRANS rules, the G160M 1600 A	LP4 is -95. " "QESIPARM XSTEPS -5- CURRENT=MEDIM M; BUFFER-TIME=1 1; FP-POS=4; SEGMENT=BOTH LIFETIME-POS=L P4 revious observations show XAPER=0	4" [(-330276) = -54] Special Re U 1 1 <u>that it has slightly more counts the</u> QESIPARM XSTEP S 330 <u>s necessary to move the aperture to</u>	equirement is necessary to move the apertur $ \frac{400 \operatorname{Secs} (400 \operatorname{Secs})}{[==>]} $ an the other FP-POS values. $ 0 \operatorname{Secs} (0 \operatorname{Secs}) \\ [==>] $ to its correct location.	
PSA 1 Desir There cation 9 9 2 9 2 9 2 0 10 10 10 2 0 mr 11	LAPXSTP value red LAPXSTP value efore, XAPER is n. G160M/160 E 0 Deuterium Exposure 2 ments: Deuteriuu Return Aper N ture to Nomi nal Position ments: Return th WEVER*, becau Return to no E minal HV fo	at LP4 is 235.1 alue for FCA to il. set to -95 - 235.1 DEUTERIUM MONE we aperture to its r use of the TRANS	luminate Segment B with G160M/1600 = -330. *HOWEVER*, because of the COS/FUV, TIME-TAG, FCA <u>mized for Segment B. FP-POS=4 was</u> COS, ALIGN/APER nominal position, i.e. XAPER=0. rules, the "QESIPARM XSTEPS +330	) at Position 2 for 1 e TRANS rules, the G160M 1600 A	LP4 is -95. " "QESIPARM XSTEPS -5- CURRENT=MEDIM M; BUFFER-TIME=1 1; FP-POS=4; SEGMENT=BOTH LIFETIME-POS=L P4 revious observations show XAPER=0	4" [(-330276) = -54] Special Re U I I <u>that it has slightly more counts the</u> QESIPARM XSTEP S 330 <u>s necessary to move the aperture to</u> SPEC COM INSTR ELHVADJPROP; QESIPARM ENDC TSA 163;	equirement is necessary to move the apertur $ \frac{400 \operatorname{Secs} (400 \operatorname{Secs})}{[==>]} $ an the other FP-POS values. $ 0 \operatorname{Secs} (0 \operatorname{Secs}) \\ [==>] $ o its correct location. $ 39 \operatorname{Secs} (39 \operatorname{Secs}) $	
PSA 1 Desir There cation 9 Comr 10 Comr *HOV	LAPXSTP value red LAPXSTP value efore, XAPER is n. G160M/160 E 0 Deuterium Exposure 2 ments: Deuterium Return Aper N ture to Nomi nal Position ments: Return th WEVER*, becau Return to no E minal HV fo r standard m	at LP4 is 235.1 alue for FCA to il. set to -95 - 235.1 DEUTERIUM MONE we aperture to its r use of the TRANS	luminate Segment B with G160M/1600 = -330. *HOWEVER*, because of the COS/FUV, TIME-TAG, FCA <u>mized for Segment B. FP-POS=4 was</u> COS, ALIGN/APER nominal position, i.e. XAPER=0. rules, the "QESIPARM XSTEPS +330	) at Position 2 for 1 e TRANS rules, the G160M 1600 A	LP4 is -95. " "QESIPARM XSTEPS -5- CURRENT=MEDIM M; BUFFER-TIME=1 1; FP-POS=4; SEGMENT=BOTH LIFETIME-POS=L P4 revious observations show XAPER=0	4" [(-330276) = -54] Special Re U I I <u>that it has slightly more counts tha</u> QESIPARM XSTEP S 330 <u>s necessary to move the aperture to</u> SPEC COM INSTR ELHVADJPROP; QESIPARM ENDC	equirement is necessary to move the apertur $ \frac{400 \operatorname{Secs} (400 \operatorname{Secs})}{[==>]} $ an the other FP-POS values. $ 0 \operatorname{Secs} (0 \operatorname{Secs}) \\ [==>] $ o its correct location. $ 39 \operatorname{Secs} (39 \operatorname{Secs}) $	





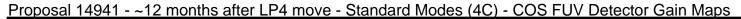
#### Proposal 14941 - ~12 months after LP4 move - Standard Modes (4C) - COS FUV Detector Gain Maps

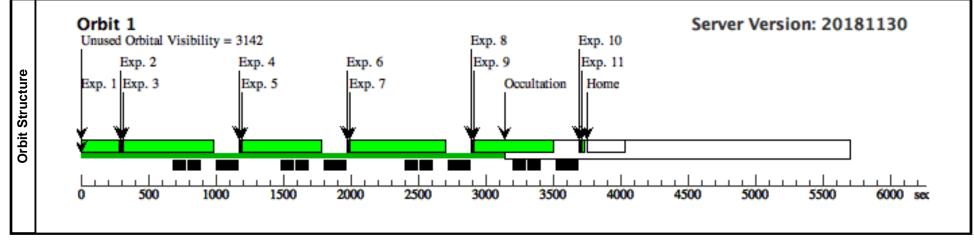
	Proposal 14941, ~12 months after LP4 move - Standard Modes (4C), completed Mon May 13 19:00:27 GMT	2019
. <u></u>	Diagnostic Status: Warning	
/is	Scientific Instruments: S/C, COS, COS/FUV	
[	Special Requirements: BETWEEN 01-OCT-2018:00:00:00 AND 01-NOV-2018:00:00:00; PARALLEL	
	Comments: This visit collects data at LP4. It uses the HV values appropriate for the Standard Modes at LP4 (163/163).	
cs	(~12 months after LP4 move - Standard Modes (4C)) Warning (Orbit Planner): MAXIMUM DURATION EXCEEDED FOR INTERNAL OR EARTH CALIB SU	
ŝti	(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 14941 - ~12 months after LP4 move - Standard Modes (4C) - COS FUV Detector Gain Maps

	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1	Adjust HV t		S/C, DATA, NONE			SAA CONTOUR 31;		295 Secs (295 Secs)	
		o LP4 value s					SPEC COM INSTR ELHLTHVF;		[==>]	
							QASISTATES COS			
							FUV HVLOW HVN OM;			
							QESIPARM ENDC TSA 163;			[1]
							QESIPARM ENDC TSB 163:			
							QESIPARM SEGM			
	Com	monte. A diust	the HV to the IP	4 Standard Modes values.			ENT AB			
	2	Aperture Ad		COS, ALIGN/APER		XAPER=-267			0.0 Secs (0 Secs)	
		justment 1 f or Segment							[==>]	
		A								[1]
	Com	ments: Put the	aperture in the a	ppropriate position to illuminate a portion	on of the LP4 region	of the detector when illu	minating Segment A wi	th G130M/1309.		
			ue at LP4 is 235.							
	Desi	red LAPXSTP	value for FCA to	illuminate Segment A with G130M/1309	at Position 1 for LP	P4 is -32				
	Ther		is set to -32 - 235						1	1
s	3	G130M/130 9 Deuterium	DEUTERIUM	COS/FUV, TIME-TAG, FCA	G130M	CURRENT=MEDIU M:			400 Secs (400 Secs)	
Exposures		Exposure 1			1309 A	BUFFER-TIME=11			[==>]	
osl						1;				
xb						FP-POS=1;				[1]
Ш						SEGMENT=BOTH;				
						LIFETIME-POS=L P4				
	Com	ments: Deuter	ium exposure opt	imized for Segment A. FP-POS=1 was c	hosen because previ	ious observations show th	at it has slightly more o	counts than the other H	P-POS values.	
	4	Aperture Ad	NONE	COS, ALIGN/APER		XAPER=-321	QESIPARM XSTEP		0.0 Secs (0 Secs)	
		justment 2 f or Segment A					S -54		[==>]	[1]
	Com		aperture in the a	ppropriate position to illuminate a portion	on of the LP4 region	of the detector when illu	minating Segment A wi	th G130M/1309.		
	PSA Desi	LAPXSTP vali red LAPXSTP	ue at LP4 is 235 value for FCA to	1 illuminate Segment A with G130M/1309	at Position 2 for LP	24 is -86				
		efore, XAPER		5.1 = -321. *HOWEVER*, because of the			" [(-321267) = -54]	Special Requirement i	s necessary to move the aperture to the	correct lo
	5		DEUTERIUM	COS/FUV, TIME-TAG, FCA	G130M	CURRENT=MEDIU			400 Secs (400 Secs)	
		9 Deuterium			1309 A	М;			[==>]	
		Exposure 2				BUFFER-TIME=11 1;				
						FP-POS=1;				[1]
						SEGMENT=BOTH;				[1]
						LIFETIME-POS=L				
	G				, , .	P4				
	Com	ments: Deuter	ium exposure opt	imized for Segment A. FP-POS=1 was c	hosen because previ	ous observations show th	at it has slightly more o	counts than the other F	P-POS values.	

Aperture Ad N	NONE	COS, ALIGN/APER		XAPER=-276	QESIPARM XSTEP	0.0 Secs (0 Secs)	
justment 1 f or Segment B					S 45	[==>]	ſ
Comments: Put the a	perture 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.	
PSA LAPXSTP value Desired LAPXSTP va		luminate Segment B with G160M/1600	) at Position 1 for 1	LP4 is -41			
Therefore, XAPER is eation.	s set to -41 - 235.1	= -276. *HOWEVER*, because of the	e TRANS rules, the	"QESIPARM XSTEPS 45"	[(-276321) = +45] Special R	equirement is necessary to move the apertu	re to the corre
G160M/160 I 0 Deuterium	DEUTERIUM	COS/FUV, TIME-TAG, FCA	G160M	CURRENT=MEDIU	1	400 Secs (400 Secs)	
Exposure 1			1600 A	M; BUFFER-TIME=11		[==>]	
				1;			
				FP-POS=4;			
				SEGMENT=BOTH	;		
				LIFETIME-POS=L P4			
		mized 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 N justment 2 f	NONE	COS, ALIGN/APER		XAPER=-330	QESIPARM XSTEP S -54	0.0 Secs (0 Secs)	
or Segment					5-54	[==>]	
В							
PSA LAPXSTP value Desired LAPXSTP va	e at LP4 is 235.1 alue for FCA to il.	propriate position to illuminate a porti luminate Segment B with G160M/1600 ' = -330. *HOWEVER*, because of the	) at Position 2 for 1	LP4 is -95.			re to the corr
PSA LAPXSTP value Desired LAPXSTP va Therefore, XAPER is vation.	e at LP4 is 235.1 alue for FCA to il s set to -95 - 235.1	luminate Segment B with G160M/1600	) at Position 2 for 1 e TRANS rules, the	LP4 is -95. "QESIPARM XSTEPS -54	" [(-330276) = -54] Special R	equirement is necessary to move the apertu	re to the corr
PSA LAPXSTP value Desired LAPXSTP va Therefore, XAPER is ation. 0 G160M/160 I 0 Deuterium	e at LP4 is 235.1 alue for FCA to il s set to -95 - 235.1	luminate Segment B with G160M/1600	) at Position 2 for 1	LP4 is -95.	" [(-330276) = -54] Special R		re to the corr
PSA LAPXSTP value Desired LAPXSTP va Therefore, XAPER is vation. G160M/160 I	e at LP4 is 235.1 alue for FCA to il s set to -95 - 235.1	luminate Segment B with G160M/1600	) at Position 2 for 1 e TRANS rules, the G160M	LP4 is -95. "QESIPARM XSTEPS -54 CURRENT=MEDIU M; BUFFER-TIME=11	" [(-330276) = -54] Special R	equirement is necessary to move the apertu 400 Secs (400 Secs)	re to the corr
PSA LAPXSTP value Desired LAPXSTP va Therefore, XAPER is ation. 0 G160M/160 I 0 Deuterium	e at LP4 is 235.1 alue for FCA to il s set to -95 - 235.1	luminate Segment B with G160M/1600	) at Position 2 for 1 e TRANS rules, the G160M	LP4 is -95. "QESIPARM XSTEPS -54 CURRENT=MEDIU M; BUFFER-TIME=11 1;	" [(-330276) = -54] Special R	equirement is necessary to move the apertu 400 Secs (400 Secs)	
PSA LAPXSTP value Desired LAPXSTP va Therefore, XAPER is ation. 0 G160M/160 I 0 Deuterium	e at LP4 is 235.1 alue for FCA to il s set to -95 - 235.1	luminate Segment B with G160M/1600	) at Position 2 for 1 e TRANS rules, the G160M	LP4 is -95. "QESIPARM XSTEPS -54 CURRENT=MEDIU M; BUFFER-TIME=11	" [(-330276) = -54] Special R	equirement is necessary to move the apertu 400 Secs (400 Secs)	
PSA LAPXSTP value Desired LAPXSTP va Therefore, XAPER is ation. 0 G160M/160 I 0 Deuterium	e at LP4 is 235.1 alue for FCA to il s set to -95 - 235.1	luminate Segment B with G160M/1600	) at Position 2 for 1 e TRANS rules, the G160M	<i>LP4 is -95.</i> <i>"QESIPARM XSTEPS -54</i> CURRENT=MEDIU M; BUFFER-TIME=11 1; FP-POS=4; SEGMENT=BOTH: LIFETIME-POS=L	" [(-330276) = -54] Special R	equirement is necessary to move the apertu 400 Secs (400 Secs)	
PSA LAPXSTP value Desired LAPXSTP va Therefore, XAPER is ation. 0 G160M/160 E 0 Deuterium Exposure 2	e at LP4 is 235.1 alue for FCA to il s set to -95 - 235.1 DEUTERIUM	luminate Segment B with G160M/1600 = -330. *HOWEVER*, because of the COS/FUV, TIME-TAG, FCA	at Position 2 for 1 e TRANS rules, the G160M 1600 A	LP4 is -95. "QESIPARM XSTEPS -54 CURRENT=MEDIU M; BUFFER-TIME=11 1; FP-POS=4; SEGMENT=BOTH: LIFETIME-POS=L P4	" [(-330276) = -54] Special R	equirement is necessary to move the apertu 400 Secs (400 Secs) [==>]	
PSA LAPXSTP value Desired LAPXSTP va Cherefore, XAPER is Sation. 0 G160M/160 I 0 Deuterium Exposure 2 Comments: Deuteriu	e at LP4 is 235.1 alue for FCA to il s set to -95 - 235.1 DEUTERIUM	luminate Segment B with G160M/1600 = -330. *HOWEVER*, because of the COS/FUV, TIME-TAG, FCA mized for Segment B. FP-POS=4 was	at Position 2 for 1 e TRANS rules, the G160M 1600 A	LP4 is -95. "QESIPARM XSTEPS -54 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 th	equirement is necessary to move the apertu 400 Secs (400 Secs) [==>] an the other FP-POS values.	
<ul> <li>PSA LAPXSTP value</li> <li>Desired LAPXSTP value</li> <li>Cherefore, XAPER is ation.</li> <li>G160M/160 I</li> <li>0 Deuterium</li> <li>Exposure 2</li> </ul> Comments: Deuteriui 0 Return Aper N ture to Nomi	e at LP4 is 235.1 alue for FCA to il s set to -95 - 235.1 DEUTERIUM	luminate Segment B with G160M/1600 = -330. *HOWEVER*, because of the COS/FUV, TIME-TAG, FCA	at Position 2 for 1 e TRANS rules, the G160M 1600 A	LP4 is -95. "QESIPARM XSTEPS -54 CURRENT=MEDIU M; BUFFER-TIME=11 1; FP-POS=4; SEGMENT=BOTH LIFETIME-POS=L P4 revious observations show the statement of the statement	" [(-330276) = -54] Special R	equirement is necessary to move the apertu 400 Secs (400 Secs) [==>]	
<ul> <li>PSA LAPXSTP value</li> <li>Desired LAPXSTP value</li> <li>Cherefore, XAPER is action.</li> <li>G160M/160 I</li> <li>O Deuterium Exposure 2</li> <li>Comments: Deuteriui</li> <li>O Return Aper N ture to Nomi nal Position</li> <li>Comments: Return th</li> </ul>	e at LP4 is 235.1 alue for FCA to il s set to -95 - 235.1 DEUTERIUM MONE he aperture to its i	luminate Segment B with G160M/1600 = -330. *HOWEVER*, because of the COS/FUV, TIME-TAG, FCA <u>unized for Segment B. FP-POS=4 was</u> COS, ALIGN/APER nominal position, i.e. XAPER=0.	0 at Position 2 for 1 e TRANS rules, the G160M 1600 A	LP4 is -95. "QESIPARM XSTEPS -54 CURRENT=MEDIU M; BUFFER-TIME=11 1; FP-POS=4; SEGMENT=BOTH: LIFETIME-POS=L P4 revious observations show 1 XAPER=0	" [(-330276) = -54] Special R ; ; ; <u>that it has slightly more counts th</u> QESIPARM XSTEP S 330	equirement is necessary to move the apertu $ \frac{400 \operatorname{Secs} (400 \operatorname{Secs})}{[==>]} $ an the other FP-POS values. $ 0 \operatorname{Secs} (0 \operatorname{Secs}) \\ [==>] $	
<ul> <li>PSA LAPXSTP value</li> <li>Desired LAPXSTP value</li> <li>Cherefore, XAPER is action.</li> <li>G160M/160 I</li> <li>O Deuterium Exposure 2</li> <li>Comments: Deuteriui</li> <li>O Return Aper N ture to Nomi nal Position</li> <li>Comments: Return th</li> </ul>	e at LP4 is 235.1 alue for FCA to il s set to -95 - 235.1 DEUTERIUM MONE he aperture to its i	luminate Segment B with G160M/1600 = -330. *HOWEVER*, because of the COS/FUV, TIME-TAG, FCA <u>unized for Segment B. FP-POS=4 was</u> COS, ALIGN/APER	0 at Position 2 for 1 e TRANS rules, the G160M 1600 A	LP4 is -95. "QESIPARM XSTEPS -54 CURRENT=MEDIU M; BUFFER-TIME=11 1; FP-POS=4; SEGMENT=BOTH: LIFETIME-POS=L P4 revious observations show 1 XAPER=0	" [(-330276) = -54] Special R that it has slightly more counts th QESIPARM XSTEP S 330 necessary to move the aperture t	equirement is necessary to move the apertu $ \frac{400 \operatorname{Secs} (400 \operatorname{Secs})}{[==>]} $ an the other FP-POS values. $ 0 \operatorname{Secs} (0 \operatorname{Secs}) \\ [==>] $ o its correct location.	
<ul> <li>PSA LAPXSTP value</li> <li>Desired LAPXSTP value</li> <li>Cherefore, XAPER is ation.</li> <li>G160M/160 I</li> <li>0 Deuterium</li> <li>Exposure 2</li> </ul> Comments: Deuteriui 0 Return Aper N ture to Nominal Position Comments: Return th HOWEVER*, becau 1 Return to no I	e at LP4 is 235.1 alue for FCA to il as set to -95 - 235.1 DEUTERIUM DEUTERIUM MONE the aperture to its to use of the TRANS	luminate Segment B with G160M/1600 = -330. *HOWEVER*, because of the COS/FUV, TIME-TAG, FCA <u>unized for Segment B. FP-POS=4 was</u> COS, ALIGN/APER nominal position, i.e. XAPER=0.	0 at Position 2 for 1 e TRANS rules, the G160M 1600 A	LP4 is -95. "QESIPARM XSTEPS -54 CURRENT=MEDIU M; BUFFER-TIME=11 1; FP-POS=4; SEGMENT=BOTH: LIFETIME-POS=L P4 revious observations show 1 XAPER=0	" [(-330276) = -54] Special R that it has slightly more counts th QESIPARM XSTEP S 330 <u>necessary to move the aperture t</u> SPEC COM INSTR	equirement is necessary to move the apertu $ \frac{400 \operatorname{Secs} (400 \operatorname{Secs})}{[==>]} $ an the other FP-POS values. 0 Secs (0 Secs) [==>] o its correct location. 39 Secs (39 Secs)	
<ul> <li><i>PSA LAPXSTP value</i></li> <li><i>Desired LAPXSTP value</i></li> <li><i>Desired LAPXSTP value</i></li> <li><i>Cherefore, XAPER is</i></li> <li><i>G</i>160M/160 I</li> <li><i>O</i> Deuterium</li> <li><i>Exposure</i> 2</li> <li><i>Comments: Deuteriu</i></li> <li><i>O</i> Return Aper N</li> <li><i>ture to Nomi</i></li> <li><i>nal Position</i></li> <li><i>Comments: Return th</i></li> <li><i>HOWEVER*, becau</i></li> <li><i>Return to no</i> I</li> <li><i>minal HV fo</i></li> <li><i>r</i> standard m</li> </ul>	e at LP4 is 235.1 alue for FCA to il as set to -95 - 235.1 DEUTERIUM DEUTERIUM MONE the aperture to its to use of the TRANS	luminate Segment B with G160M/1600 = -330. *HOWEVER*, because of the COS/FUV, TIME-TAG, FCA <u>unized for Segment B. FP-POS=4 was</u> COS, ALIGN/APER nominal position, i.e. XAPER=0. <u>rules, the "QESIPARM XSTEPS +330</u>	0 at Position 2 for 1 e TRANS rules, the G160M 1600 A	LP4 is -95. "QESIPARM XSTEPS -54 CURRENT=MEDIU M; BUFFER-TIME=11 1; FP-POS=4; SEGMENT=BOTH: LIFETIME-POS=L P4 revious observations show 1 XAPER=0	" [(-330276) = -54] Special R that it has slightly more counts th QESIPARM XSTEP S 330 <u>necessary to move the aperture t</u> SPEC COM INSTR ELHVADJPROP;	equirement is necessary to move the apertu $ \frac{400 \operatorname{Secs} (400 \operatorname{Secs})}{[==>]} $ an the other FP-POS values. $ 0 \operatorname{Secs} (0 \operatorname{Secs}) \\ [==>] $ o its correct location.	
<ul> <li>PSA LAPXSTP value</li> <li>Desired LAPXSTP value</li> <li>Cherefore, XAPER is action.</li> <li>G160M/160 I</li> <li>O Deuterium Exposure 2</li> <li>Comments: Deuteriu</li> <li>0 Return Aper N ture to Nominal Position</li> <li>Comments: Return the HOWEVER*, becau</li> <li>1 Return to no I minal HV fo</li> </ul>	e at LP4 is 235.1 alue for FCA to il as set to -95 - 235.1 DEUTERIUM DEUTERIUM MONE the aperture to its to use of the TRANS	luminate Segment B with G160M/1600 = -330. *HOWEVER*, because of the COS/FUV, TIME-TAG, FCA <u>unized for Segment B. FP-POS=4 was</u> COS, ALIGN/APER nominal position, i.e. XAPER=0. <u>rules, the "QESIPARM XSTEPS +330</u>	0 at Position 2 for 1 e TRANS rules, the G160M 1600 A	LP4 is -95. "QESIPARM XSTEPS -54 CURRENT=MEDIU M; BUFFER-TIME=11 1; FP-POS=4; SEGMENT=BOTH: LIFETIME-POS=L P4 revious observations show 1 XAPER=0	" [(-330276) = -54] Special R that it has slightly more counts th QESIPARM XSTEP S 330 <u>necessary to move the aperture t</u> SPEC COM INSTR	equirement is necessary to move the apertu $ \frac{400 \operatorname{Secs} (400 \operatorname{Secs})}{[==>]} $ an the other FP-POS values. 0 Secs (0 Secs) [==>] o its correct location. 39 Secs (39 Secs)	
<ul> <li><i>PSA LAPXSTP value</i></li> <li><i>Desired LAPXSTP value</i></li> <li><i>Desired LAPXSTP value</i></li> <li><i>Cherefore, XAPER is</i></li> <li><i>G</i>160M/160 I</li> <li><i>O</i> Deuterium</li> <li><i>Exposure</i> 2</li> <li><i>Comments: Deuteriu</i></li> <li><i>O</i> Return Aper N</li> <li><i>ture to Nomi</i></li> <li><i>nal Position</i></li> <li><i>Comments: Return th</i></li> <li><i>HOWEVER*, becau</i></li> <li><i>Return to no</i> I</li> <li><i>minal HV fo</i></li> <li><i>r</i> standard m</li> </ul>	e at LP4 is 235.1 alue for FCA to il as set to -95 - 235.1 DEUTERIUM DEUTERIUM MONE the aperture to its to use of the TRANS	luminate Segment B with G160M/1600 = -330. *HOWEVER*, because of the COS/FUV, TIME-TAG, FCA <u>unized for Segment B. FP-POS=4 was</u> COS, ALIGN/APER nominal position, i.e. XAPER=0. <u>rules, the "QESIPARM XSTEPS +330</u>	0 at Position 2 for 1 e TRANS rules, the G160M 1600 A	LP4 is -95. "QESIPARM XSTEPS -54 CURRENT=MEDIU M; BUFFER-TIME=11 1; FP-POS=4; SEGMENT=BOTH: LIFETIME-POS=L P4 revious observations show 1 XAPER=0	" [(-330276) = -54] Special R that it has slightly more counts th QESIPARM XSTEP S 330 <u>necessary to move the aperture t</u> SPEC COM INSTR ELHVADJPROP; QESIPARM ENDC	equirement is necessary to move the apertu $ \frac{400 \operatorname{Secs} (400 \operatorname{Secs})}{[==>]} $ an the other FP-POS values. 0 Secs (0 Secs) [==>] o its correct location. 39 Secs (39 Secs)	





#### Proposal 14941 - ~12 months after LP4 move - 1222 (4D) - COS FUV Detector Gain Maps

	Proposal 14941, ~12 months after LP4 move - 1222 (4D), completed	Mon May 13 19:00:27 GMT 2019
<u>.</u>	Diagnostic Status: Warning	
/is	Scientific Instruments: S/C, COS, COS/FUV	
1	Special Requirements: BETWEEN 01-OCT-2018:00:00:00 AND 01-NOV-2018:00:00; PARALLEL	
	Comments: This visit collects data at LP4. It uses the HV values appropriate for G130M/1222 at LP4 (163/167).	
S	(~12 months after LP4 move - 1222 (4D)) Warning (Orbit Planner): MAXIMUM DURATION EXCEEDED FOR INTERNAL OR EARTH CALIB SU	
sti	(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 14941 - ~12 months after LP4 move - 1222 (4D) - COS FUV Detector Gain Maps

	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1	Adjust HV t	DARK	S/C, DATA, NONE			SAA CONTOUR 31;	;	295 Secs (295 Secs)	
		o LP4 1222 values					SPEC COM INSTR ELHLTHVF;		[==>]	
							QASISTATES COS			
							FUV HVLOW HVN OM;			
							QESIPARM ENDC			[1]
							TSA 163; QESIPARM ENDC			
							TSB 167;			
							QESIPARM SEGM ENT AB			
	Com	ments: Adjust	the HV to the LP4 12	222 values.						
	2	Aperture Ad	NONE	COS, ALIGN/APER		XAPER=-267			0.0 Secs (0 Secs)	
		justment 1 f or Segment A							[==>]	[1]
	Com	ments: Put the	e aperture in the app	ropriate position to illuminate a portio	n of the LP4 region	of the detector when illu	minating Segment A wi	ith G130M/1309.		
	PSA	LAPXSTP val	ue at LP4 is 235.1							
	Desi	red LAPXSTP	value for FCA to illi	uminate Segment A with G130M/1309	at Position 1 for LP	24 is -32				
	Ther	<i>v</i>	is set to -32 - 235.1	= -267						1
6	3	G130M/130 9 Deuterium	DEUTERIUM	COS/FUV, TIME-TAG, FCA	G130M	CURRENT=MEDIU M;	I		400 Secs (400 Secs)	
Exposures		Exposure 1			1309 A	BUFFER-TIME=11			[==>]	
วรต						1;				
xb						FP-POS=1;				[1]
ш						SEGMENT=BOTH; LIFETIME-POS=L	•			
						P4				
	Com	ments: Deuter	ium exposure optimi	ized for Segment A. FP-POS=1 was ch	hosen because previ	ous observations show th	nat it has slightly more	counts than the other I	FP-POS values.	1
	4	Aperture Ad justment 2 f	NONE	COS, ALIGN/APER		XAPER=-321	QESIPARM XSTEP S -54		0.0 Secs (0 Secs)	
		or Segment A					5-54		[==>]	[1]
	Com	ments: Put the	e aperture in the app	ropriate position to illuminate a portio	n of the LP4 region	of the detector when illu	minating Segment A wi	th G130M/1309.		
			ue at LP4 is 235.1 value for FCA to illi	uminate Segment A with G130M/1309	at Position 2 for LP	24 is -86				
	Ther catic		is set to -86 - 235.1	= -321. *HOWEVER*, because of the	TRANS rules, the "Q	QESIPARM XSTEPS -54	" [(-321267) = -54]	Special Requirement i	is necessary to move the aperture to the	correct lo
	5	G130M/130	DEUTERIUM	COS/FUV, TIME-TAG, FCA	G130M	CURRENT=MEDIU	1		400 Secs (400 Secs)	
		9 Deuterium Exposure 2			1309 A	M;			[==>]	
		1				BUFFER-TIME=11 1;				
						FP-POS=1;				[1]
						SEGMENT=BOTH;	;			
						LIFETIME-POS=L P4				
	Com	ments: Deuter	ium exposure optimi	ized for Segment A. FP-POS=1 was ch	hosen because previ		nat it has slightly more	counts than the other I	FP-POS values.	
			······································		· · · · · · · · · · · · ·					

	Aperture Ad	NONE	COS, ALIGN/APER		XAPER=-276	QESIPARM XSTEP	0.0 Secs (0 Secs)	
(	justment 1 f or Segment B					S 45	[==>]	[·
Comm	ents: Put the	e 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.	
		ue at LP4 is 235.1 value for FCA to il	luminate Segment B with G160M/1600	) at Position 1 for 1	LP4 is -41			
Therej cation		is set to -41 - 235.1	= -276. *HOWEVER*, because of the	e TRANS rules, the	"QESIPARM XSTEPS 45"	' [(-276321) = +45] Special Re	equirement is necessary to move the apertur	e to the corre
		DEUTERIUM	COS/FUV, TIME-TAG, FCA	G160M	CURRENT=MEDIU	Ţ	400 Secs (400 Secs)	
1	0 Deuterium Exposure 1			1600 A	M; BUFFER-TIME=11		[==>]	
					1;			
					FP-POS=4;			
					SEGMENT=BOTH	;		
					LIFETIME-POS=L P4			
Comm	ients: Deuter	ium exposure optin	umized for Segment B. FP-POS=4 was	chosen because p	1.	that it has slightly more counts the	an the other FP-POS values.	
	Aperture Ad		COS, ALIGN/APER		XAPER=-330	QESIPARM XSTEP	0.0 Secs (0 Secs)	
	justment 2 f or Segment					S -54	[==>]	
	B							
Comm PSA L Desire Therej	nents: Put the APXSTP vali ed LAPXSTP fore, XAPER	ue at LP4 is 235.1 value for FCA to il	propriate position to illuminate a porti luminate Segment B with G160M/1600 ! = -330. *HOWEVER*, because of the	) at Position 2 for 1	LP4 is -95.		/1600. equirement is necessary to move the apertur	re to the corr
Comm PSA L Desire Therej vation	ents: Put the APXSTP vali ed LAPXSTP fore, XAPER	ue at LP4 is 235.1 value for FCA to il is set to -95 - 235.1	luminate Segment B with G160M/1600	) at Position 2 for 1 e TRANS rules, the	LP4 is -95. • "QESIPARM XSTEPS -54	" [(-330276) = -54] Special Re	equirement is necessary to move the apertur	e to the corr
Comm PSA L Desire Theref vation	ents: Put the APXSTP vali ed LAPXSTP fore, XAPER	ue at LP4 is 235.1 value for FCA to il	luminate Segment B with G160M/1600	) at Position 2 for 1 e TRANS rules, the G160M	LP4 is -95.	" [(-330276) = -54] Special Re	equirement is necessary to move the apertur	e to the corr
Comm PSA L Desire Therej vation	ents: Put the APXSTP vali ed LAPXSTP fore, XAPER G160M/160	ue at LP4 is 235.1 value for FCA to il is set to -95 - 235.1	luminate Segment B with G160M/1600	) at Position 2 for 1 e TRANS rules, the	LP4 is -95. • "QESIPARM XSTEPS -54 CURRENT=MEDIU	" [(-330276) = -54] Special Re	equirement is necessary to move the apertur	e to the corr
Comm PSA L Desire Therej cation (	nents: Put the APXSTP vali ed LAPXSTP fore, XAPER G160M/160 D Deuterium	ue at LP4 is 235.1 value for FCA to il is set to -95 - 235.1	luminate Segment B with G160M/1600	) at Position 2 for 1 e TRANS rules, the G160M	LP4 is -95. • "QESIPARM XSTEPS -54 CURRENT=MEDIU M; BUFFER-TIME=11 1;	" [(-330276) = -54] Special Re	equirement is necessary to move the apertur	
Comm PSA L Desire Therej vation	nents: Put the APXSTP vali ed LAPXSTP fore, XAPER G160M/160 D Deuterium	ue at LP4 is 235.1 value for FCA to il is set to -95 - 235.1	luminate Segment B with G160M/1600	) at Position 2 for 1 e TRANS rules, the G160M	LP4 is -95. "QESIPARM XSTEPS -54 CURRENT=MEDIU M; BUFFER-TIME=11 1; FP-POS=4;	" [(-330276) = -54] Special Re	equirement is necessary to move the apertur	
Comm PSA L Desire Therej Pation	nents: Put the APXSTP vali ed LAPXSTP fore, XAPER G160M/160 D Deuterium	ue at LP4 is 235.1 value for FCA to il is set to -95 - 235.1	luminate Segment B with G160M/1600	) at Position 2 for 1 e TRANS rules, the G160M	LP4 is -95. "QESIPARM XSTEPS -54 CURRENT=MEDIU M; BUFFER-TIME=11 1; FP-POS=4; SEGMENT=BOTH	" [(-330276) = -54] Special Re	equirement is necessary to move the apertur	
Comm SA L Desire herej ation	nents: Put the APXSTP vali ed LAPXSTP fore, XAPER G160M/160 D Deuterium	ue at LP4 is 235.1 value for FCA to il is set to -95 - 235.1	luminate Segment B with G160M/1600	) at Position 2 for 1 e TRANS rules, the G160M	LP4 is -95. "QESIPARM XSTEPS -54 CURRENT=MEDIU M; BUFFER-TIME=11 1; FP-POS=4;	" [(-330276) = -54] Special Re	equirement is necessary to move the apertur	
Comm PSA L Desire Therej ation ( ( 1 1	nents: Put the APXSTP valued LAPXSTP fore, XAPER G160M/160 D Deuterium Exposure 2	ue at LP4 is 235.1 value for FCA to il is set to -95 - 235.1 DEUTERIUM	luminate Segment B with G160M/1600 = -330. *HOWEVER*, because of the COS/FUV, TIME-TAG, FCA umized for Segment B. FP-POS=4 was	at Position 2 for 1 e TRANS rules, the G160M 1600 A	LP4 is -95. "QESIPARM XSTEPS -54 CURRENT=MEDIU M; BUFFER-TIME=11 1; FP-POS=4; SEGMENT=BOTH LIFETIME-POS=L P4 revious observations show	" [(-330276) = -54] Special Re ; ;	equirement is necessary to move the apertur 400 Secs (400 Secs) [==>] an the other FP-POS values.	
Comm PSA L Desire Therej ation ( ( 1 Comm 0 1	ents: Put the APXSTP val. ed LAPXSTP fore, XAPER Gl60M/160 Deuterium Exposure 2	ue at LP4 is 235.1 value for FCA to il is set to -95 - 235.1 DEUTERIUM	luminate Segment B with G160M/1600 = -330. *HOWEVER*, because of the COS/FUV, TIME-TAG, FCA	at Position 2 for 1 e TRANS rules, the G160M 1600 A	LP4 is -95. "QESIPARM XSTEPS -54 CURRENT=MEDIU M; BUFFER-TIME=11 1; FP-POS=4; SEGMENT=BOTH LIFETIME-POS=L P4	" [(-330276) = -54] Special Re that it has slightly more counts the QESIPARM XSTEP	equirement is necessary to move the apertur 400 Secs (400 Secs) [==>] an the other FP-POS values. 0 Secs (0 Secs)	
Comm Comm Comm Comm Comm Comm Comm Comm Comm	eents: Put the APXSTP valued LAPXSTP fore, XAPER G160M/160 D Deuterium Exposure 2 Ments: Deuter Return Aper Ture to Nomi nal Position	ue at LP4 is 235.1 value for FCA to il is set to -95 - 235.1 DEUTERIUM <u>ium exposure optim</u> NONE	luminate Segment B with G160M/1600 = -330. *HOWEVER*, because of the COS/FUV, TIME-TAG, FCA <u>unized for Segment B. FP-POS=4 was</u> COS, ALIGN/APER	at Position 2 for 1 e TRANS rules, the G160M 1600 A	LP4 is -95. "QESIPARM XSTEPS -54 CURRENT=MEDIU M; BUFFER-TIME=11 1; FP-POS=4; SEGMENT=BOTH LIFETIME-POS=L P4 revious observations show	" [(-330276) = -54] Special Re ; ;	equirement is necessary to move the apertur 400 Secs (400 Secs) [==>] an the other FP-POS values.	
Comm PSA L Desire Cherej Comm 0 ( 1 Comm	eents: Put the APXSTP valued LAPXSTP fore, XAPER G160M/160 D Deuterium Exposure 2 ments: Deuter Return Aper ture to Nomi nal Position ments: Return	ue at LP4 is 235.1 value for FCA to il is set to -95 - 235.1 DEUTERIUM <u>ium exposure optim</u> NONE the aperture to its	luminate Segment B with G160M/1600 = -330. *HOWEVER*, because of the COS/FUV, TIME-TAG, FCA <u>unized for Segment B. FP-POS=4 was</u> COS, ALIGN/APER nominal position, i.e. XAPER=0.	at Position 2 for 1 e TRANS rules, the G160M 1600 A	LP4 is -95. • "QESIPARM XSTEPS -54 CURRENT=MEDIU M; BUFFER-TIME=11 1; FP-POS=4; SEGMENT=BOTH LIFETIME-POS=L P4 revious observations show XAPER=0	" [(-330276) = -54] Special Re ; ; ; <u>that it has slightly more counts tha</u> QESIPARM XSTEP S 330	equirement is necessary to move the aperturn $ \frac{400 \operatorname{Secs} (400 \operatorname{Secs})}{[==>]} $ an the other FP-POS values. $ 0 \operatorname{Secs} (0 \operatorname{Secs}) \\ [==>] $	
Comm PSA L Desire Fhere ation ( ( 1 1 Comm HOW 1 1	eents: Put the APXSTP valued LAPXSTP fore, XAPER G160M/160 D Deuterium Exposure 2 ments: Deuter Return Aper ture to Nomi nal Position ments: Return VEVER*, bec Return to no	ue at LP4 is 235.1 value for FCA to il is set to -95 - 235.1 DEUTERIUM <u>ium exposure optim</u> NONE the aperture to its <u>ause of the TRANS</u>	luminate Segment B with G160M/1600 = -330. *HOWEVER*, because of the COS/FUV, TIME-TAG, FCA <u>unized for Segment B. FP-POS=4 was</u> COS, ALIGN/APER	at Position 2 for 1 e TRANS rules, the G160M 1600 A	LP4 is -95. • "QESIPARM XSTEPS -54 CURRENT=MEDIU M; BUFFER-TIME=11 1; FP-POS=4; SEGMENT=BOTH LIFETIME-POS=L P4 revious observations show XAPER=0	" [(-330276) = -54] Special Re that it has slightly more counts the QESIPARM XSTEP S 330 <u>necessary to move the aperture to</u> SPEC COM INSTR	equirement is necessary to move the aperturn $ \frac{400 \operatorname{Secs} (400 \operatorname{Secs})}{[==>]} $ an the other FP-POS values. $ 0 \operatorname{Secs} (0 \operatorname{Secs}) \\ [==>] $	
Comm PSA L Desire Therej ation ( ( 1 1 Comm HOW 1 1	nents: Put the APXSTP valued LAPXSTP fore, XAPER GI60M/160 Deuterium Exposure 2 Neutron Aper ture to Nomi and Position nents: Return VEVER*, becc Return to no minal HV fo	ue at LP4 is 235.1 value for FCA to il is set to -95 - 235.1 DEUTERIUM <u>ium exposure optim</u> NONE the aperture to its <u>ause of the TRANS</u>	luminate Segment B with G160M/1600 = -330. *HOWEVER*, because of the COS/FUV, TIME-TAG, FCA <u>unized for Segment B. FP-POS=4 was</u> COS, ALIGN/APER nominal position, i.e. XAPER=0. <u>rules, the "QESIPARM XSTEPS +330</u>	at Position 2 for 1 e TRANS rules, the G160M 1600 A	LP4 is -95. • "QESIPARM XSTEPS -54 CURRENT=MEDIU M; BUFFER-TIME=11 1; FP-POS=4; SEGMENT=BOTH LIFETIME-POS=L P4 revious observations show XAPER=0	" [(-330276) = -54] Special Re that it has slightly more counts the QESIPARM XSTEP S 330 <u>necessary to move the aperture to</u> SPEC COM INSTR ELHVADJPROP;	equirement is necessary to move the apertur $ \frac{400 \operatorname{Secs} (400 \operatorname{Secs})}{[==>]} $ an the other FP-POS values. $ 0 \operatorname{Secs} (0 \operatorname{Secs}) \\ [==>] $ to its correct location.	
Comm PSA L Desire Cherej Comm 0 ( 1 1 Comm Comm Comm Comm 1 1 1 1 1 1 1 1 1 1 1 1 1	eents: Put the APXSTP valued LAPXSTP fore, XAPER G160M/160 D Deuterium Exposure 2 ments: Deuter Return Aper ture to Nomi nal Position ments: Return VEVER*, bec Return to no	ue at LP4 is 235.1 value for FCA to il is set to -95 - 235.1 DEUTERIUM <u>ium exposure optim</u> NONE the aperture to its <u>ause of the TRANS</u>	luminate Segment B with G160M/1600 = -330. *HOWEVER*, because of the COS/FUV, TIME-TAG, FCA <u>unized for Segment B. FP-POS=4 was</u> COS, ALIGN/APER nominal position, i.e. XAPER=0. <u>rules, the "QESIPARM XSTEPS +330</u>	at Position 2 for 1 e TRANS rules, the G160M 1600 A	LP4 is -95. • "QESIPARM XSTEPS -54 CURRENT=MEDIU M; BUFFER-TIME=11 1; FP-POS=4; SEGMENT=BOTH LIFETIME-POS=L P4 revious observations show XAPER=0	" [(-330276) = -54] Special Re that it has slightly more counts the QESIPARM XSTEP S 330 necessary to move the aperture to SPEC COM INSTR ELHVADJPROP; QESIPARM ENDC	equirement is necessary to move the aperturn $ \frac{400 \operatorname{Secs} (400 \operatorname{Secs})}{[==>]} $ an the other FP-POS values. $ 0 \operatorname{Secs} (0 \operatorname{Secs}) \\ [==>] $ o its correct location. $ 39 \operatorname{Secs} (39 \operatorname{Secs}) $	
Comm PSA L Desire Therej ation ( ( 1 1 Comm HOW 1 1 1 1	nents: Put the APXSTP valued LAPXSTP fore, XAPER Gore, XAPER Gore, XAPER Gore, XAPER fore, XAPER Gore, XAPER fore, XAPER Gore, XAPER Core, XAPER Gore, XAPER Core,	ue at LP4 is 235.1 value for FCA to il is set to -95 - 235.1 DEUTERIUM <u>ium exposure optim</u> NONE the aperture to its <u>ause of the TRANS</u>	luminate Segment B with G160M/1600 = -330. *HOWEVER*, because of the COS/FUV, TIME-TAG, FCA <u>unized for Segment B. FP-POS=4 was</u> COS, ALIGN/APER nominal position, i.e. XAPER=0. <u>rules, the "QESIPARM XSTEPS +330</u>	at Position 2 for 1 e TRANS rules, the G160M 1600 A	LP4 is -95. • "QESIPARM XSTEPS -54 CURRENT=MEDIU M; BUFFER-TIME=11 1; FP-POS=4; SEGMENT=BOTH LIFETIME-POS=L P4 revious observations show XAPER=0	" [(-330276) = -54] Special Re that it has slightly more counts the QESIPARM XSTEP S 330 <u>necessary to move the aperture to</u> SPEC COM INSTR ELHVADJPROP;	equirement is necessary to move the aperturn $ \frac{400 \operatorname{Secs} (400 \operatorname{Secs})}{[==>]} $ an the other FP-POS values. $ 0 \operatorname{Secs} (0 \operatorname{Secs}) \\ [==>] $ o its correct location. $ 39 \operatorname{Secs} (39 \operatorname{Secs}) $	



