Proposal 16833 (STScI Edit Number: 0, Created: Saturday, May 21, 2022 at 6:00:56 AM Eastern Standard Time) - Overview



## 16833 - Cycle 29 COS FUV Characterization of Modal Gain When Changing High

## Voltage

Cycle: 29, Proposal Category: CAL/COS (Availability Mode: RESTRICTED)

#### INVESTIGATORS

Name	Institution	E-Mail
Dr. David J. Sahnow (PI) (Contact)	Space Telescope Science Institute	sahnow@stsci.edu
Dr. Christian Johnson (CoI)	Space Telescope Science Institute	chjohnson1@stsci.edu
Elaine M Frazer (CoI) (Contact)	Space Telescope Science Institute	efrazer@stsci.edu
Dr. Kate Rowlands (CoI) (Contact)	Space Telescope Science Institute	krowlands@stsci.edu

#### VISITS

Visit	Targets used in Visit	Configurations used in Visit	Orbits Used	Last Orbit Planner Run	OP Current with Visit?
2A	DARK DEUTERIUM NONE	COS COS/FUV S/C	1	21-May-2022 07:00:46.0	yes
2C	DARK DEUTERIUM NONE	COS COS/FUV S/C	1	21-May-2022 07:00:48.0	yes
3A	DARK DEUTERIUM NONE	COS COS/FUV S/C	1	21-May-2022 07:00:49.0	yes

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Visit	Targets used in Visit	Configurations used in Visit	Orbits Used	Last Orbit Planner Run	<b>OP</b> Current with Visit?
3C	DARK DEUTERIUM NONE	COS COS/FUV S/C	1	21-May-2022 07:00:50.0	yes
4A	DARK DEUTERIUM NONE	COS COS/FUV S/C	1	21-May-2022 07:00:52.0	yes
4C	DARK DEUTERIUM NONE	COS COS/FUV S/C	1	21-May-2022 07:00:53.0	yes
5A	DARK DEUTERIUM NONE	COS COS/FUV S/C	1	21-May-2022 07:00:55.0	yes
5C	DARK DEUTERIUM NONE	COS COS/FUV S/C	1	21-May-2022 07:00:56.0	yes

8 Total Orbits Used

#### ABSTRACT

This program uses the deuterium lamp to illuminate the regions of the detector being used to collect spectra during Cycle 29. The data obtained will be used to create gain maps of the detector. Because of the strongly varying intensity of the lamp as a function of wavelength, G130M/1309 data will be obtained for Segment A, and G160M/1600 will be used for Segment B.

Gain map data will be obtained both before and after any change is made to any nominal high voltage value on either segment, and before and after any lifetime move. Obtaining a gain map at these times will help to improve the modeling of the modal gain as a function of time and extracted charge, since it will provide data that cover the full time span of each high voltage at each LP. Improving these models will allow better predictions of the future lifetime of the detector.

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This program will obtain spectra from the deuterium lamp with enough counts to permit the construction of a gain map covering the region where the spectra fall. In order to efficiently illuminate the two segments, the G130M/1309 setting will be used for Segment A, and G160M/1600 will be used for Segment B. Both segments can safely remain on with either setting.

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

The plan for Cycle 29 includes 2 one-orbit contingency visits for each HV change. These two visits will be used if a HV change is made during the cycle. One will be taken immediately before the change using the current HV values (visits 2A, 3A, 4A, or 5A), and one will be taken after at the new values (visits 2C, 3C, 4C, or 5C).

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

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

\* Adjust the HV values

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

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

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

Proposal 16833 (STScI Edit Number: 0, Created: Saturday, May 21, 2022 at 6:00:56 AM Eastern Standard Time) - Overview \* Adjust the aperture in the cross dispersion direction so that the deuterium lamp will illuminate the appropriate region on Segment B when using G160M/1600.

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

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

\* Return the aperture to the HOME position

Note that because TRANS resets its aperture zero point when FCA exposures are taken, the aperture is explicitly moved using "QESIPARM XSTEPS", as was done in Program 13970, 14439, 14519, 14941, 15534, 15772, etc.

For reference, the soft and hard stops for the apertures are listed below. All aperture moves are within these ranges. MEB1: SOFT STOPS = -275 to 275 HARD STOPS = -282 to 285

MEB2: SOFT STOPS = -275 to 275 HARD STOPS = -284 to 283

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

Summary table:

Visit LP Grating/Segment Y Position LAPXSTP XAPER

2A/2C	2	G130M/A	1	-213	-60
2A/2C	2	G130M/A	2	-267*	-114
2A/2C	2	G160M/B	1	-225	-72
2A/2C	2	G160M/B	2	-267*	-114
3A/3C	3	G130M/A	1	-72	+81
3A/3C	3	G130M/A	2	-128	+25
3A/3C	3	G160M/B	1	-84	+69
3A/3C	3	G160M/B	2	-140	+13
4A/4C	4	G130M/A	1	-32	+121
4A/4C	4	G130M/A	2	-86	+67
4A/4C	4	G160M/B	1	-41	+112
4A/4C	4	G160M/B	2	-95	+58
5A/5C	5	G130M/A	1	-213	-60
5A/5C	5	G130M/A	2	-267*	-114
5A/5C	5	G160M/B	1	-225	-72
5A/5C	5	G160M/B	2	-267*	-114

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\* Limited to be within the soft stops

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

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5/20/22

Visits 4A and 4C will be executed as part of the LP4 HV change on 6/20/22. The HV value for 4C has been updated, and the On Hold has been removed for both visits.

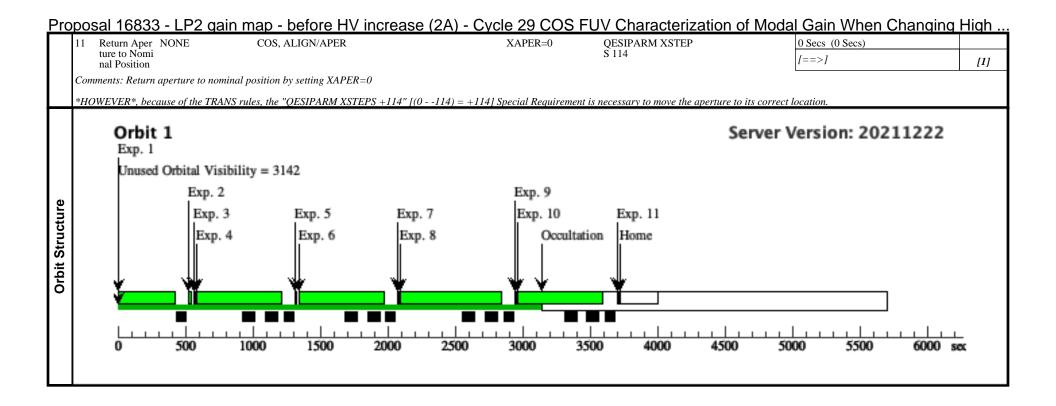
#### Proposal 16833 - LP2 gain map - before HV increase (2A) - Cycle 29 COS FUV Characterization of Modal Gain When Changing High ...

	Proposal 16833, LP2 gain map - before HV increase (2A), implementation	Sat May 21 11:00:57 GMT 2022
	Diagnostic Status: Warning	
Ξ	Scientific Instruments: S/C, COS, COS/FUV	
Visit	Special Requirements: ON HOLD ; PARALLEL	
	Comments: This visit collects data at LP2. It uses the HV values appropriate for LP2 (173/175).	
	On Hold Comments: Only needed if HV changed during Cycle 29 HV Values will have to be updated before execution!	
Diagnostics	(LP2 gain map - before HV increase (2A)) Warning (Orbit Planner): MAXIMUM DURATION EXCEEDED FOR INTERNAL OR EARTH CALIB SU	

1	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Or
		DEUTERIUM	COS/FUV, TIME-TAG, FCA	G130M	CURRENT=MEDIU			125 Secs (125 Secs)	
	9 Deuterium Exposure - S			1309 A	M;			[==>]	
	et up at LP1				BUFFER-TIME=19 6;				
					FP-POS=1;				[
					SEGMENT=BOTH;				1
					LIFETIME-POS=L				
					P1				
<u>Con</u> 2			ture to LP1, which is near the center of S/C, DATA, NONE	f the aperture range	used in this program. It a			20 Saga (20 Saga)	
2	Adjust HV t o LP2 value	DAKK	S/C, DATA, NONE			SAA CONTOUR 3 SPEC COM INSTR	·	39 Secs (39 Secs)	
	S					ELHVADJPROP;		[>]	
						QASISTATES COS			
						FUV HVNOM HVI OM;	N		
						QESIPARM ENDC			[
						ŤSA 173;			
						QESIPARM ENDC TSB 175:			
						QESIPARM SEGM	ſ		
						ENT AB	-		
Comments: Adjust the HV to the LP2 values.									
Sinc	e the HV is no	t increasing, exposu	re time = 39 seconds						
3	Aperture Ad justment 1 f	NONE	COS, ALIGN/APER		XAPER=-60			0.0 Secs (0 Secs)	
	or Segment							[==>]	[
	А								-
	aretas Destale								
Con	imenis: Pui ind	e aperture in the app	propriate position to illuminate a portion	on of the LP2 region	of the detector when illu	minating Segment A v	vith G130M/1309.		
FCA	LAPXSTP va	lue at LP1 is -153			U Contraction of the second se	minating Segment A v	vith G130M/1309.		
FCA Des	LAPXSTP va ired LAPXSTP	lue at LP1 is -153 value for FCA to ill	uminate Segment A with G130M/1309		U Contraction of the second se	minating Segment A v	vith G130M/1309.		
FCA Des	LAPXSTP va ired LAPXSTP refore, XAPER	lue at LP1 is -153 value for FCA to ill t is set to -213153	uminate Segment A with G130M/1309	at Position 1 for LF	22 is -213		vith G130M/1309.	440 Sags (440 Sags)	
FCA Des	<i>LAPXSTP va</i> <i>ired LAPXSTP</i> <i>refore, XAPER</i> G130M/130 9 Deuterium	lue at LP1 is -153 value for FCA to ill <u>e is set to -213153</u> DEUTERIUM	uminate Segment A with G130M/1309	at Position 1 for LF	U Contraction of the second se		vith G130M/1309.	440 Secs (440 Secs)	
FCA Des	LAPXSTP va ired LAPXSTP refore, XAPER G130M/130	lue at LP1 is -153 value for FCA to ill <u>e is set to -213153</u> DEUTERIUM	uminate Segment A with G130M/1309	at Position 1 for LF	2 is -213 CURRENT=MEDIU M; BUFFER-TIME=16		vith G130M/1309.	440 Secs (440 Secs) [==>]	
FCA Des	<i>LAPXSTP va</i> <i>ired LAPXSTP</i> <i>refore, XAPER</i> G130M/130 9 Deuterium	lue at LP1 is -153 value for FCA to ill <u>e is set to -213153</u> DEUTERIUM	uminate Segment A with G130M/1309	at Position 1 for LF	2 is -213 CURRENT=MEDIU M; BUFFER-TIME=16 5;		vith G130M/1309.	· · · · · · · · · · · · · · · · · · ·	
FCA Des	<i>LAPXSTP va</i> <i>ired LAPXSTP</i> <i>refore, XAPER</i> G130M/130 9 Deuterium	lue at LP1 is -153 value for FCA to ill <u>e is set to -213153</u> DEUTERIUM	uminate Segment A with G130M/1309	at Position 1 for LF	2 is -213 CURRENT=MEDIU M; BUFFER-TIME=16 5; FP-POS=1;		vith G130M/1309.	· · · · · · · · · · · · · · · · · · ·	
FCA Des	<i>LAPXSTP va</i> <i>ired LAPXSTP</i> <i>refore, XAPER</i> G130M/130 9 Deuterium	lue at LP1 is -153 value for FCA to ill <u>e is set to -213153</u> DEUTERIUM	uminate Segment A with G130M/1309	at Position 1 for LF	2 is -213 CURRENT=MEDIU M; BUFFER-TIME=16 5; FP-POS=1; SEGMENT=BOTH;		vith G130M/1309.	· · · · · · · · · · · · · · · · · · ·	
FCA Des	<i>LAPXSTP va</i> <i>ired LAPXSTP</i> <i>refore, XAPER</i> G130M/130 9 Deuterium	lue at LP1 is -153 value for FCA to ill <u>e is set to -213153</u> DEUTERIUM	uminate Segment A with G130M/1309	at Position 1 for LF	2 is -213 CURRENT=MEDIU M; BUFFER-TIME=16 5; FP-POS=1;		vith G130M/1309.	· · · · · · · · · · · · · · · · · · ·	
FCA Des <u>The</u> 4	A LAPXSTP va ired LAPXSTP refore, XAPER G130M/130 9 Deuterium Exposure 1	lue at LP1 is -153 value for FCA to ill <u>e is set to -213153</u> DEUTERIUM	uminate Segment A with G130M/1309	at Position 1 for LP G130M 1309 A	2 <i>is -213</i> CURRENT=MEDIU M; BUFFER-TIME=16 5; FP-POS=1; SEGMENT=BOTH; LIFETIME-POS=L P1			[==>]	
FCA Des <u>The</u> 4	A LAPXSTP va ired LAPXSTP refore, XAPER G130M/130 9 Deuterium Exposure 1 Exposure 1 ments: Deuter Aperture Ad	lue at LP1 is -153 value for FCA to ill <u>e is set to -213153</u> DEUTERIUM	uminate Segment A with G130M/1309 = -60 COS/FUV, TIME-TAG, FCA	at Position 1 for LP G130M 1309 A	2 <i>is -213</i> CURRENT=MEDIU M; BUFFER-TIME=16 5; FP-POS=1; SEGMENT=BOTH; LIFETIME-POS=L P1	at it has slightly more QESIPARM XSTEI	e counts than the of	[==>]	
FCA Des <u>The</u> 4	A LAPXSTP va ired LAPXSTP Cefore, XAPER G130M/130 9 Deuterium Exposure 1 Exposure 1 Aperture Ad justment 2 f or Segment	lue at LP1 is -153 value for FCA to ill <u>e is set to -213153</u> DEUTERIUM	uminate Segment A with G130M/1309 = -60 COS/FUV, TIME-TAG, FCA ized for Segment A. FP-POS=1 was c	at Position 1 for LP G130M 1309 A	2 is -213 CURRENT=MEDIU M; BUFFER-TIME=16 5; FP-POS=1; SEGMENT=BOTH; LIFETIME-POS=L P1 ous observations show th	at it has slightly more	e counts than the of	[==>] her FP-POS values.	
FCA Des <u>The</u> 4 5	A LAPXSTP va ired LAPXSTP G130M/130 9 Deuterium Exposure 1 Aperture Ad justment 2 f or Segment A	lue at LP1 is -153 value for FCA to ill <u>e is set to -213153</u> DEUTERIUM	uminate Segment A with G130M/1309 r = -60 COS/FUV, TIME-TAG, FCA <u>ized for Segment A. FP-POS=1 was c</u> COS, ALIGN/APER	at Position 1 for LF G130M 1309 A	22 is -213 CURRENT=MEDIU M; BUFFER-TIME=16 5; FP-POS=1; SEGMENT=BOTH; LIFETIME-POS=L P1 ous observations show th XAPER=-114	<u>at it has slightly more</u> QESIPARM XSTEI S -54	<u>e counts than the ot</u> P	[==>] her FP-POS values. 0.0 Secs (0 Secs)	
FCA Des. <u>The</u> 4 <u>Com</u> 5	A LAPXSTP va ired LAPXSTP G130M/130 9 Deuterium Exposure 1 Aperture Ad justment 2 f or Segment A	lue at LP1 is -153 value for FCA to ill <u>e is set to -213153</u> DEUTERIUM	uminate Segment A with G130M/1309 = -60 COS/FUV, TIME-TAG, FCA ized for Segment A. FP-POS=1 was c	at Position 1 for LF G130M 1309 A	22 is -213 CURRENT=MEDIU M; BUFFER-TIME=16 5; FP-POS=1; SEGMENT=BOTH; LIFETIME-POS=L P1 ous observations show th XAPER=-114	<u>at it has slightly more</u> QESIPARM XSTEI S -54	<u>e counts than the ot</u> P	[==>] her FP-POS values. 0.0 Secs (0 Secs)	
FCA Des <u>The</u> 4 5 Con FCA	A LAPXSTP va ired LAPXSTP G130M/130 9 Deuterium Exposure 1 Aperture Ad justment 2 f or Segment A uments: Put the A LAPXSTP va	lue at LP1 is -153 value for FCA to ill <u>e is set to -213153</u> DEUTERIUM DEUTERIUM NONE e aperture in the app lue at LP1 is -153	luminate Segment A with G130M/1309 <u>= -60</u> COS/FUV, TIME-TAG, FCA <u>ized for Segment A. FP-POS=1 was c</u> COS, ALIGN/APER propriate position to illuminate a portion	at Position 1 for LP G130M 1309 A hosen because previ	2 is -213 CURRENT=MEDIU M; BUFFER-TIME=16 5; FP-POS=1; SEGMENT=BOTH; LIFETIME-POS=L P1 ous observations show th XAPER=-114 of the detector when illust	<u>at it has slightly more</u> QESIPARM XSTEI S -54	<u>e counts than the ot</u> P	[==>] her FP-POS values. 0.0 Secs (0 Secs)	
FCA Des 4 4 5 Con FCA	A LAPXSTP va ired LAPXSTP G130M/130 9 Deuterium Exposure 1 Aperture Ad justment 2 f or Segment A aments: Put the LAPXSTP va ired LAPXSTP va	lue at LP1 is -153 value for FCA to ill <u>e is set to -213153</u> DEUTERIUM <u>DEUTERIUM</u> NONE e aperture in the app lue at LP1 is -153 value for FCA to ill	luminate Segment A with G130M/1309 <u>i = -60</u> COS/FUV, TIME-TAG, FCA <u>ized for Segment A. FP-POS=1 was c</u> COS, ALIGN/APER propriate position to illuminate a portion luminate Segment A with G130M/1309	at Position 1 for LF G130M 1309 A hosen because previ	22 is -213 CURRENT=MEDIU M; BUFFER-TIME=16 5; FP-POS=1; SEGMENT=BOTH; LIFETIME-POS=L P1 ous observations show th XAPER=-114 of the detector when illus	at it has slightly more QESIPARM XSTEI S -54 minating Segment A v	<u>e counts than the ot</u> P	[==>] her FP-POS values. 0.0 Secs (0 Secs)	

#### Proposal 16833 - LP2 gain map - before HV increase (2A) - Cycle 29 COS FUV Characterization of Modal Gain When Changing High ...

SEGMENT=BOTH; LIFETIME-POS=L P1         Comments: Deuterium exposure optimized for Segment A. FP-POS=1 was chosen because previous observations show that it has slightly more counts than the other FP-POS values.         7       Aperture Ad NONE justment 1 f       COS, ALIGN/APER       XAPER=-72       QESIPARM XSTEP S 42       0.0 Secs (0 Secs)	[1]
Exposure 2       1309 A       BUFFER-TIME=16       I==>/         FP-POS=1;       SEGMENT=BOTH;       LIFETIME-POS=L       I         Comments: Deuterium exposure optimized for Segment A. FP-POS=1 was chosen because previous observations show that it has slightly more counts than the other FP-POS values.       I         7       Aperture Ad NONE or Segment 1 for Segment 1 for Segment B       COS, ALIGN/APER       XAPER=-72       QESIPARM XSTEP S       0.0 Secs (0 Secs)         B       I       I       I       I       I       I       I	
FP-POS=1; SEGMENT=BOTH; LIFETIME-POS=L P1       segment A: FP-POS=1 was chosen because previous observations show that it has slightly more counts than the other FP-POS values.         Comments: Deuterium exposure optimized for Segment A: FP-POS=1 was chosen because previous observations show that it has slightly more counts than the other FP-POS values.         7       Aperture Ad NONE justment 1 f or Segment B       COS, ALIGN/APER             XAPER=-72       QESIPARM XSTEP S 42	
SEGMENT=BOTH; LIFETIME-POS=L P1         Comments: Deuterium exposure optimized for Segment A. FP-POS=1 was chosen because previous observations show that it has slightly more counts than the other FP-POS values.         7       Aperture Ad NONE justment 1 f or Segment B       COS, ALIGN/APER       XAPER=-72       QESIPARM XSTEP S 42       0.0 Secs (0 Secs)	
LIFETIME-POS=L       LIFETIME-POS=L	[1]
P1     Image: Comments: Deuterium exposure optimized for Segment A. FP-POS=1 was chosen because previous observations show that it has slightly more counts than the other FP-POS values.       7     Aperture Ad NONE justment 1 f or Segment B     COS, ALIGN/APER     XAPER=-72     QESIPARM XSTEP S 42     0.0 Secs (0 Secs)	[1]
7       Aperture Ad NONE       COS, ALIGN/APER       XAPER=-72       QESIPARM XSTEP       0.0 Secs (0 Secs)       []         justment 1 f       or Segment       B       []       []       []       []	[1]
justment 1 f or Segment B	[1]
or Segment B	[1]
Comments: Put the aperture in the appropriate position to illuminate a portion of the LP2 region of the detector when illuminating Segment B with G160M/1600.	
FCA LAPXSTP value at LP1 is -153 Desired LAPXSTP value for FCA to illuminate Segment B with G160M/1600 at Position 1 for LP2 is -225	
Therefore, XAPER is set to $-225153 = -72$ . *HOWEVER*, because of the TRANS rules, the "QESIPARM XSTEPS 42" [(-72114) = +42] Special Requirement is necessary to move the aperture to the correction.	t locat
8 G160M/160 DEUTERIUM COS/FUV, TIME-TAG, FCA G160M CURRENT=MEDIU 440 Secs (440 Secs)	
$\begin{array}{c} 0 \text{ Deuterium} \\ \text{Exposure 1} \end{array} \qquad 1600 \text{ A} \qquad \begin{array}{c} M; \\ \hline P        $	
BUFFER-TIME=16 5;	
FP-POS=4;	[1]
SEGMENT=BOTH;	2-3
LIFETIME-POS=L	
P1 Comments: Deuterium exposure optimmized for Segment B. FP-POS=4 was chosen because previous observations show that it has slightly more counts than the other FP-POS values.	
9       Aperture Ad NONE       COS, ALIGN/APER       XAPER=-114       QESIPARM XSTEP       0.0 Secs (0 Secs)	
justment 2 f $I = > I$	
В	[1]
Comments: Put the aperture in the appropriate position to illuminate a portion of the LP2 region of the detector when illuminating Segment B with G160M/1600.	
FCA LAPXSTP value at LP1 is -153	
Desired LAPXSTP value for FCA to illuminate Segment B with G160M/1600 at Position 2 for LP2 is -280, but the aperture soft stop is at -275 and we don't want to exceed that value when including the 5 step ov	rersho
Desired LAPXSTP value for FCA to illuminate Segment B with G160M/1600 at Position 2 for LP2 is -280, but the aperture soft stop is at -275 and we don't want to exceed that value when including the 5 step ov ot. To leave some pad, I will set it to match the G130M exposure (-267).	rersho
Desired LAPXSTP value for FCA to illuminate Segment B with G160M/1600 at Position 2 for LP2 is -280, but the aperture soft stop is at -275 and we don't want to exceed that value when including the 5 step ov ot. To leave some pad, I will set it to match the G130M exposure (-267). Therefore, XAPER is set to -267153 = -114. *HOWEVER*, because of the TRANS rules, the "QESIPARM XSTEPS -42" [(-11472) = -42] Special Requirement is necessary to move the aperture to the correction.	
ot. To leave some pad, I will set it to match the G130M exposure (-267). Therefore, XAPER is set to -267153 = -114. *HOWEVER*, because of the TRANS rules, the "QESIPARM XSTEPS -42" [(-11472) = -42] Special Requirement is necessary to move the aperture to the correction. 10 G160M/160 DEUTERIUM COS/FUV, TIME-TAG, FCA G160M CURRENT=MEDIU 440 Secs (440 Secs)	
ot. To leave some pad, I will set it to match the G130M exposure (-267).         Therefore, XAPER is set to -267153 = -114. *HOWEVER*, because of the TRANS rules, the "QESIPARM XSTEPS -42" [(-11472) = -42] Special Requirement is necessary to move the aperture to the correction.         10       G160M/160       DEUTERIUM 0 Deuterium Funceure 2       COS/FUV, TIME-TAG, FCA 1600 A       G160M M;       CURRENT=MEDIU M;       440 Secs (440 Secs) [==>]	
ot. To leave some pad, I will set it to match the G130M exposure (-267).         Therefore, XAPER is set to $-267153 = -114$ . *HOWEVER*, because of the TRANS rules, the "QESIPARM XSTEPS -42" [(-11472) = -42] Special Requirement is necessary to move the aperture to the correction.         10       G160M/160       DEUTERIUM       COS/FUV, TIME-TAG, FCA       G160M       CURRENT=MEDIU $\frac{440 \text{ Secs } (440 \text{ Secs })}{1600 \text{ A}}$ 10       G160M/160       DEUTERIUM       COS/FUV, TIME-TAG, FCA       G160M       CURRENT=MEDIU $\frac{1600 \text{ A}}{\text{ M};}$ $\frac{1}{1->1}$	
ot. To leave some pad, I will set it to match the GI30M exposure (-267).Therefore, XAPER is set to $-267153 = -114$ . *HOWEVER*, because of the TRANS rules, the "QESIPARM XSTEPS $-42"$ [(-11472) = -42] Special Requirement is necessary to move the aperture to the correction.10G160M/160DEUTERIUM 0 Deuterium Exposure 2COS/FUV, TIME-TAG, FCAG160M 1600 ACURRENT=MEDIU M; BUFFER-TIME=16 5;440 Secs (440 Secs)	ect loc
or. To leave some pad, I will set it to match the GI30M exposure (-267).Therefore, XAPER is set to $-267153 = -114$ . *HOWEVER*, because of the TRANS rules, the "QESIPARM XSTEPS -42" [(-11472) = -42] Special Requirement is necessary to move the aperture to the correction.10G160M/160DEUTERIUM 0 Deuterium Exposure 2COS/FUV, TIME-TAG, FCAG160M 1600 ACURRENT=MEDIU M; BUFFER-TIME=16 5;440 Secs (440 Secs)	
ot. To leave some pad, I will set it to match the G130M exposure (-267). Therefore, XAPER is set to -267153 = -114. *HOWEVER*, because of the TRANS rules, the "QESIPARM XSTEPS -42" [(-11472) = -42] Special Requirement is necessary to move the aperture to the correction. 10 G160M/160 DEUTERIUM COS/FUV, TIME-TAG, FCA G160M 1600 A 10 Deuterium Exposure 2 10 G160M/160 DEUTERIUM COS/FUV, TIME-TAG, FCA G160M 1600 A 1	ect loc
ot. To leave some pad, I will set it to match the G130M exposure (-267). Therefore, XAPER is set to -267153 = -114. *HOWEVER*, because of the TRANS rules, the "QESIPARM XSTEPS -42" [(-11472) = -42] Special Requirement is necessary to move the aperture to the correction. 10 G160M/160 DEUTERIUM COS/FUV, TIME-TAG, FCA G160M CURRENT=MEDIU 0 Deuterium Exposure 2 1600 A M; Exposure 2 1600 A BUFFER-TIME=16 5; FP-POS=4; SEGMENT=BOTH; LIFETIME-POS=L P1	ect loc
ot. To leave some pad, I will set it to match the G130M exposure (-267). Therefore, XAPER is set to -267153 = -114. *HOWEVER*, because of the TRANS rules, the "QESIPARM XSTEPS -42" [(-11472) = -42] Special Requirement is necessary to move the aperture to the correction. 10 G160M/160 DEUTERIUM COS/FUV, TIME-TAG, FCA G160M 1600 A 10 Deuterium Exposure 2 10 G160M/160 DEUTERIUM COS/FUV, TIME-TAG, FCA G160M 1600 A 1	ect loc
ot. To leave some pad, I will set it to match the G130M exposure (-267). Therefore, XAPER is set to -267153 = -114. *HOWEVER*, because of the TRANS rules, the "QESIPARM XSTEPS -42" [(-11472) = -42] Special Requirement is necessary to move the aperture to the correction. 10 G160M/160 DEUTERIUM COS/FUV, TIME-TAG, FCA G160M CURRENT=MEDIU 0 Deuterium Exposure 2 1600 A M; Exposure 2 1600 A BUFFER-TIME=16 5; FP-POS=4; SEGMENT=BOTH; LIFETIME-POS=L P1	ect loc
ot. To leave some pad, I will set it to match the G130M exposure (-267). Therefore, XAPER is set to -267153 = -114. *HOWEVER*, because of the TRANS rules, the "QESIPARM XSTEPS -42" [(-11472) = -42] Special Requirement is necessary to move the aperture to the correction. 10 G160M/160 DEUTERIUM COS/FUV, TIME-TAG, FCA G160M CURRENT=MEDIU 0 Deuterium Exposure 2 1600 A M; Exposure 2 1600 A BUFFER-TIME=16 5; FP-POS=4; SEGMENT=BOTH; LIFETIME-POS=L P1	ect loc



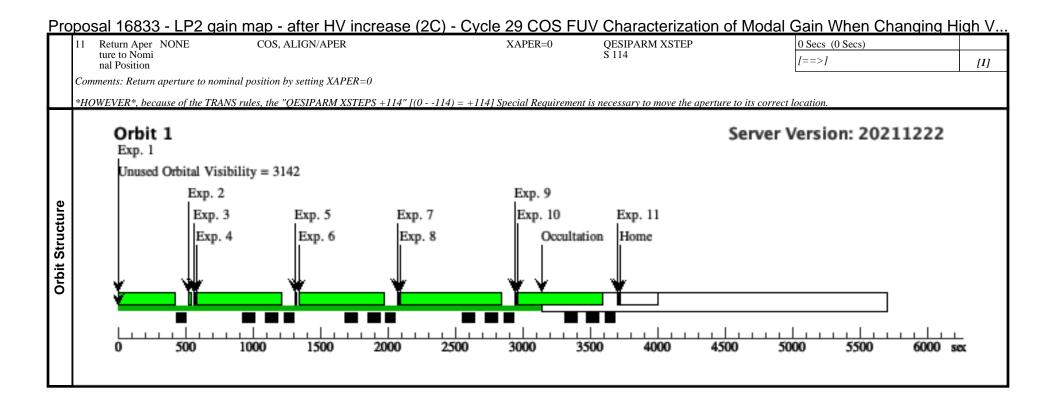
#### Proposal 16833 - LP2 gain map - after HV increase (2C) - Cycle 29 COS FUV Characterization of Modal Gain When Changing High V...

	Proposal 16833, LP2 gain map - after HV increase (2C), implementation	Sat May 21 11:00:57 GMT 2022
	Diagnostic Status: Warning	
Ξ	Scientific Instruments: S/C, COS, COS/FUV	
Vis	Special Requirements: ON HOLD ; PARALLEL	
	Comments: This visit collects data at LP2. It uses the HV values appropriate for LP2 (173/175).	
	On Hold Comments: Only needed if HV changed during Cycle 29 HV Values will have to be updated before execution!	
cs	(LP2 gain map - after HV increase (2C)) Warning (Orbit Planner): MAXIMUM DURATION EXCEEDED FOR INTERNAL OR EARTH CALIB SU	
ostics		
l ŭ		
Diagn		
	L	

1	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbi
		DEUTERIUM	COS/FUV, TIME-TAG, FCA	G130M	CURRENT=MEDIU			125 Secs (125 Secs)	
	9 Deuterium Exposure - S			1309 A	М;			[==>]	
	et up at LP1				BUFFER-TIME=19 6;				
					FP-POS=1;				[1]
					SEGMENT=BOTH;				
					LIFETIME-POS=L				
_					P1				
Con 2			ture to LP1, which is near the center of	f the aperture range	used in this program. It a			20 Saas (20 Saas)	
Ζ	Adjust HV t o LP2 value	DAKK	S/C, DATA, NONE			SAA CONTOUR 3 SPEC COM INSTR		$\frac{39 \text{ Secs } (39 \text{ Secs})}{[==>]}$	
	8					ELHVADJPROP;		[>]	
						QASISTATES COS			
						FUV HVNOM HVN OM;	N		
						QESIPARM ENDC			[1]
						TSA 173;			
						QESIPARM ENDC TSB 175;			
						QESIPARM SEGM			
						ENT AB			
Comments: Adjust the HV to the LP2 values.									
Since the HV is not increasing, exposure time = 39 seconds									
3	Aperture Ad	NONE	COS, ALIGN/APER		XAPER=-60			0.0 Secs (0 Secs)	
	justment 1 f or Segment							[==>]	[1]
	A								1 [1]
Con	nments: Put the	e aperture in the app	propriate position to illuminate a portion	on of the LP2 region	of the detector when illu	minating Segment A w	vith G130M/1309.		
FCA	A LAPXSTP va	lue at LP1 is -153		, ,	•	minating Segment A w	vith G130M/1309.		
FCA	A LAPXSTP va	lue at LP1 is -153	propriate position to illuminate a portion uminate Segment A with G130M/1309	, ,	•	minating Segment A w	vith G130M/1309.	L	
FCA Des	A LAPXSTP va ired LAPXSTP refore, XAPER	lue at LP1 is -153 Value for FCA to ill.	uminate Segment A with G130M/1309 = -60	at Position 1 for LF	22 is -213		vith G130M/1309.		
FCA Des	A LAPXSTP va ired LAPXSTP <u>refore, XAPER</u> G130M/130	lue at LP1 is -153 P value for FCA to ill. <u>R is set to -213153</u> DEUTERIUM	uminate Segment A with G130M/1309	at Position 1 for LF	22 is -213 CURRENT=MEDIU		vith G130M/1309.	440 Secs (440 Secs)	
FCA Des	A LAPXSTP va ired LAPXSTP refore, XAPER	lue at LP1 is -153 P value for FCA to ill. <u>R is set to -213153</u> DEUTERIUM	uminate Segment A with G130M/1309 = -60	at Position 1 for LF	22 is -213 CURRENT=MEDIU M;		vith G130M/1309.	440 Secs (440 Secs) [==>]	
FCA Des	A LAPXSTP va ired LAPXSTP refore, XAPER G130M/130 9 Deuterium	lue at LP1 is -153 P value for FCA to ill. <u>R is set to -213153</u> DEUTERIUM	uminate Segment A with G130M/1309 = -60	at Position 1 for LF	22 is -213 CURRENT=MEDIU		vith G130M/1309.		
FCA Des	A LAPXSTP va ired LAPXSTP refore, XAPER G130M/130 9 Deuterium	lue at LP1 is -153 P value for FCA to ill. <u>R is set to -213153</u> DEUTERIUM	uminate Segment A with G130M/1309 = -60	at Position 1 for LF	22 is -213 CURRENT=MEDIU M; BUFFER-TIME=16		vith G130M/1309.		[1]
FCA Des	A LAPXSTP va ired LAPXSTP refore, XAPER G130M/130 9 Deuterium	lue at LP1 is -153 P value for FCA to ill. <u>R is set to -213153</u> DEUTERIUM	uminate Segment A with G130M/1309 = -60	at Position 1 for LF	CURRENT=MEDIU M; BUFFER-TIME=16 5;		vith G130M/1309.		[1]
FCA Des	A LAPXSTP va ired LAPXSTP refore, XAPER G130M/130 9 Deuterium	lue at LP1 is -153 P value for FCA to ill. <u>R is set to -213153</u> DEUTERIUM	uminate Segment A with G130M/1309 = -60	at Position 1 for LF	22 is -213 CURRENT=MEDIU M; BUFFER-TIME=16 5; FP-POS=1; SEGMENT=BOTH; LIFETIME-POS=L		vith G130M/1309.		[1]
FCA Des <u>The</u> 4	A LAPXSTP va ired LAPXSTP refore, XAPER G130M/130 9 Deuterium Exposure 1	lue at LP1 is -153 Pvalue for FCA to ill <u>R is set to -213153</u> DEUTERIUM	uminate Segment A with G130M/1309 = -60 COS/FUV, TIME-TAG, FCA	G130M 1309 A	22 is -213 CURRENT=MEDIU M; BUFFER-TIME=16 5; FP-POS=1; SEGMENT=BOTH; LIFETIME-POS=L P1			[==>]	[1]
FCA Des <u>The</u> 4	A LAPXSTP va ired LAPXSTP refore, XAPER G130M/130 9 Deuterium Exposure 1 mments: Deuter	lue at LP1 is -153 Palue for FCA to ill <u>R is set to -213153</u> DEUTERIUM	uminate Segment A with G130M/1309 = -60 COS/FUV, TIME-TAG, FCA ized for Segment A. FP-POS=1 was c	G130M 1309 A	22 is -213 CURRENT=MEDIU M; BUFFER-TIME=16 5; FP-POS=1; SEGMENT=BOTH; LIFETIME-POS=L P1 ious observations show th	at it has slightly more	counts than the oth	[==>] er FP-POS values.	[1]
FCA Des <u>The</u> 4	A LAPXSTP va ired LAPXSTP refore, XAPER G130M/130 9 Deuterium Exposure 1 ments: Deuter Aperture Ad justment 2 f	lue at LP1 is -153 Palue for FCA to ill <u>R is set to -213153</u> DEUTERIUM	uminate Segment A with G130M/1309 = -60 COS/FUV, TIME-TAG, FCA	G130M 1309 A	22 is -213 CURRENT=MEDIU M; BUFFER-TIME=16 5; FP-POS=1; SEGMENT=BOTH; LIFETIME-POS=L P1		counts than the oth	[==>] er FP-POS values. 0.0 Secs (0 Secs)	[1]
FCA Des <u>The</u> 4	A LAPXSTP va ired LAPXSTP refore, XAPER G130M/130 9 Deuterium Exposure 1 ments: Deuter Aperture Ad justment 2 f or Segment	lue at LP1 is -153 Palue for FCA to ill <u>R is set to -213153</u> DEUTERIUM	uminate Segment A with G130M/1309 = -60 COS/FUV, TIME-TAG, FCA ized for Segment A. FP-POS=1 was c	G130M 1309 A	22 is -213 CURRENT=MEDIU M; BUFFER-TIME=16 5; FP-POS=1; SEGMENT=BOTH; LIFETIME-POS=L P1 ious observations show th	at it has slightly more QESIPARM XSTEI	counts than the oth	[==>] er FP-POS values.	[1]
FCA Des <u>The</u> 4 <u>Con</u> 5	A LAPXSTP va ired LAPXSTP refore, XAPER G130M/130 9 Deuterium Exposure 1 Exposure 1 Aperture Ad justment 2 f or Segment A	lue at LP1 is -153 Palue for FCA to ill <u>R is set to -213153</u> DEUTERIUM	uminate Segment A with G130M/1309 = -60 COS/FUV, TIME-TAG, FCA ized for Segment A. FP-POS=1 was c	at Position 1 for LF G130M 1309 A hosen because previ	22 is -213 CURRENT=MEDIU M; BUFFER-TIME=16 5; FP-POS=1; SEGMENT=BOTH; LIFETIME-POS=L P1 ious observations show th XAPER=-114	<u>at it has slightly more</u> QESIPARM XSTEI S -54	<u>counts than the oth</u>	[==>] er FP-POS values. 0.0 Secs (0 Secs)	
FCA Dess <u>The</u> 4 <u>Con</u> 5	A LAPXSTP va ired LAPXSTP G130M/130 9 Deuterium Exposure 1 <u>uments: Deuter</u> Aperture Ad justment 2 f or Segment A uments: Put the	lue at LP1 is -153 value for FCA to ill <u>R is set to -213153</u> DEUTERIUM <u>rium exposure optimu</u> NONE e aperture in the app	uminate Segment A with G130M/1309 = -60 COS/FUV, TIME-TAG, FCA <u>ized for Segment A. FP-POS=1 was c</u> COS, ALIGN/APER	at Position 1 for LF G130M 1309 A hosen because previ	22 is -213 CURRENT=MEDIU M; BUFFER-TIME=16 5; FP-POS=1; SEGMENT=BOTH; LIFETIME-POS=L P1 ious observations show th XAPER=-114	<u>at it has slightly more</u> QESIPARM XSTEI S -54	<u>counts than the oth</u>	[==>] er FP-POS values. 0.0 Secs (0 Secs)	
FCA Dess <u>The</u> 4 <u>Con</u> 5 <i>Con</i> <i>FCA</i>	A LAPXSTP va ired LAPXSTP refore, XAPER G130M/130 9 Deuterium Exposure 1 Exposure 1 Aperture Ad justment 2 f or Segment A uments: Put the A LAPXSTP va	lue at LP1 is -153 Palue for FCA to ill <u>R is set to -213153</u> DEUTERIUM NONE e aperture in the app lue at LP1 is -153	uminate Segment A with G130M/1309 = -60 COS/FUV, TIME-TAG, FCA <u>ized for Segment A. FP-POS=1 was c</u> COS, ALIGN/APER	at Position 1 for LF G130M 1309 A hosen because previ	22 is -213 CURRENT=MEDIU M; BUFFER-TIME=16 5; FP-POS=1; SEGMENT=BOTH; LIFETIME-POS=L P1 ious observations show th XAPER=-114	<u>at it has slightly more</u> QESIPARM XSTEI S -54	<u>counts than the oth</u>	[==>] er FP-POS values. 0.0 Secs (0 Secs)	
FCA Des 4 4 5 Con FCA	A LAPXSTP va ired LAPXSTP G130M/130 9 Deuterium Exposure 1 Ments: Deuter Aperture Ad justment 2 f or Segment A ments: Put the A LAPXSTP va ired LAPXSTP va	lue at LP1 is -153 <sup>2</sup> value for FCA to ill <u>2 is set to -213153</u> DEUTERIUM <u>DEUTERIUM</u> <u>rium exposure optimu</u> NONE e aperture in the app lue at LP1 is -153 <sup>2</sup> value for FCA to ill	luminate Segment A with G130M/1309 <u>= -60</u> COS/FUV, TIME-TAG, FCA <u>ized for Segment A. FP-POS=1 was c</u> COS, ALIGN/APER propriate position to illuminate a portion luminate Segment A with G130M/1309	at Position 1 for LF G130M 1309 A hosen because preve on of the LP2 region	22 is -213 CURRENT=MEDIU M; BUFFER-TIME=16 5; FP-POS=1; SEGMENT=BOTH; LIFETIME-POS=L P1 ious observations show th XAPER=-114 a of the detector when illus	at it has slightly more QESIPARM XSTEI S -54 minating Segment A w	<u>counts than the oth</u> Stath G130M/1309.	[==>] er FP-POS values. 0.0 Secs (0 Secs)	[1

#### Proposal 16833 - LP2 gain map - after HV increase (2C) - Cycle 29 COS FUV Characterization of Modal Gain When Changing High V..

μu	<u>sai 10055 - Li z gainn</u>		<u>; (20) - 0yc</u>		Characterization of Mou	al Gain When Ghangi	<u>ng mgn v</u>
6	G130M/130 DEUTERIUM	COS/FUV, TIME-TAG, FCA	G130M	CURRENT=MEDIU		440 Secs (440 Secs)	
	9 Deuterium Exposure 2		1309 A	M;		[==>]	
				BUFFER-TIME=16 5;			
				FP-POS=1;			[1]
				SEGMENT=BOTH;			
				LIFETIME-POS=L			
Car	un autor Dautonium ann annua antimi-	d for Some of A ED DOS-1 was al		P1	at it has alightly many sounds than the st		
7	Aperture Ad NONE	COS, ALIGN/APER	osen because previ	XAPER=-72	at it has slightly more counts than the oth QESIPARM XSTEP	0.0 Secs (0 Secs)	
/	justment 1 f or Segment B	COS, ALION/AI EK		AAI ER - 72	S 42	[==>]	[1]
Cor	-	opriate position to illuminate a portion	n of the LP2 region	ı of the detector when illu	minating Segment B with G160M/1600.		
	A LAPXSTP value at LP1 is -153		5 0	5	0 0		
		ninate Segment B with G160M/1600 a	at Position 1 for LI	P2 is -225			
The	refore. XAPER is set to -225153 =	-72. *HOWEVER*. because of the T	RANS rules, the "O	DESIPARM XSTEPS 42"	f(-72114) = +42 Special Requirement	is necessary to move the aperture t	to the correct locat
ion.		· _ · _ · _ · _ · _ · _ · _ · _ · _ · _					
8	G160M/160 DEUTERIUM 0 Deuterium	COS/FUV, TIME-TAG, FCA	G160M	CURRENT=MEDIU M;		440 Secs (440 Secs)	
	Exposure 1		1600 A	BUFFER-TIME=16		[==>]	
				5;			
				FP-POS=4;			[1]
				SEGMENT=BOTH;			
				LIFETIME-POS=L P1			
Cor	nments: Deuterium exposure optimmi	ized for Segment B_FP-POS=4 was c	hosen because pre		hat it has slightly more counts than the of	ther FP-POS values	
9	Aperture Ad NONE	COS, ALIGN/APER	nosen occunse pre	XAPER=-114	QESIPARM XSTEP	0.0 Secs (0 Secs)	
-	justment 2 f or Segment B				Š-42	[==>]	[1]
Cor	nments: Put the aperture in the appro	priate position to illuminate a portion	n of the LP2 region	n of the detector when illu	minating Segment B with G160M/1600.		<b>I</b>
FC. Des	A LAPXSTP value at LP1 is -153 ired LAPXSTP value for FCA to illur	ninate Segment B with G160M/1600 a			e soft stop is at -275 and we don't want to	exceed that value when including t	the 5 step oversho
ot.	To leave some pad, I will set it to mat	ch the G130M exposure (-267).					
The atic		-114. *HOWEVER*, because of the	TRANS rules, the "	'QESIPARM XSTEPS -42	" [(-11472) = -42] Special Requiremen		to the correct loc
10	G160M/160 DEUTERIUM 0 Deuterium	COS/FUV, TIME-TAG, FCA	G160M	CURRENT=MEDIU M:		440 Secs (440 Secs)	
	Exposure 2		1600 A	BUFFER-TIME=16		[==>]	
				5;			
				FP-POS=4;			[1]
				SEGMENT=BOTH;			
				LIFETIME-POS=L			
Car		- ad fan Saam ant D. ED. DOS-4 waa a	hoose hoose on a	P1	hat it has alightly many sounds than the o		
	uments. Deuterium exposure optimmi	zeu joi segmeni b. FF-FOS=4 Was c	nosen vecause pre	vious observations snow t	hat it has slightly more counts than the or	net FFFOS values.	
I							



#### Proposal 16833 - LP3 gain map - before HV increase (3A) - Cycle 29 COS FUV Characterization of Modal Gain When Changing High ...

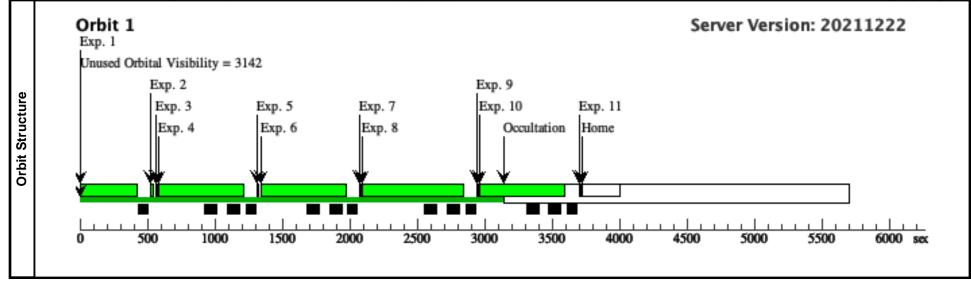
	Proposal 16833, LP3 gain map - before HV increase (3A), implementation	Sat May 21 11:00:57 GMT 2022
	Diagnostic Status: Warning	
Ξ	Scientific Instruments: S/C, COS, COS/FUV	
<u>Sis</u>	Special Requirements: ON HOLD ; PARALLEL	
	Comments: This visit collects data at LP3. It uses the HV values appropriate for LP3 (173/175).	
	On Hold Comments: Only needed if HV changed during Cycle 29 HV Values will have to be updated before execution!	
Diagnostics	(LP3 gain map - before HV increase (3A)) Warning (Orbit Planner): MAXIMUM DURATION EXCEEDED FOR INTERNAL OR EARTH CALIB SU	

1	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Or
		DEUTERIUM	COS/FUV, TIME-TAG, FCA	G130M	CURRENT=MEDIU			125 Secs (125 Secs)	
	9 Deuterium Exposure - S			1309 A	M;			[==>]	
	et up at LP1	,			BUFFER-TIME=19 6;				
					FP-POS=1;				ſ
					SEGMENT=BOTH;				[
					LIFETIME-POS=L				
					P1				
<u>Сов</u> 2	<u>nments: Short a</u> Adjust HV t		ture to LP1, which is near the center of S/C, DATA, NONE	f the aperture range	used in this program. It a	ulso sets the HV to the SAA CONTOUR 3		39 Secs (39 Secs)	
2	o LP3 value		S/C, DATA, NONE			SAA CONTOUR 3	·	[==>]	
	S					ELHVADJPROP;		[==>]	
						QASISTATES COS			
						FUV HVNOM HVN OM;	N		
						QESIPARM ENDC			1
						TSA 173;			
						QESIPARM ENDC TSB 175;			
						OESIPARM SEGM			
						ENT AB			
Con	nments: Adjust	the HV to LP3 value	es.						
Sind	e the HV is no	t increasing, exposu	re time = 39 seconds						
3	Aperture Ad		COS, ALIGN/APER		XAPER=81			0.0 Secs (0 Secs)	
	justment 1 f or Segment							[==>]	[
_	A								
Con	nments: Put the	e aperture in the app	propriate position to illuminate a portion	on of the LP3 region	of the detector when illu	minating Segment A w	vith G130M/1309.		
		lue at LP1 is -153			2: 72				
D	irea LAPXSIP	value for FCA to ill	luminate Segment A with G130M/1309	at Position 1 for LP	3 18 - 12				
	<i>V</i>	<u>R is set to -72153 =</u>		C120M	CUDDENT_MEDIU			140 Saga (140 Saga)	
	G130M/130 9 Deuterium	DEUTERIUM	= +81 COS/FUV, TIME-TAG, FCA	G130M	CURRENT=MEDIU M;			440  Secs (440  Secs)	
	G130M/130	DEUTERIUM		G130M 1309 A				440 Secs (440 Secs) [==>]	
	G130M/130 9 Deuterium	DEUTERIUM			M; BUFFER-TIME=16 5;			//	
	G130M/130 9 Deuterium	DEUTERIUM			M; BUFFER-TIME=16 5; FP-POS=1;			//	[
	G130M/130 9 Deuterium	DEUTERIUM			M; BUFFER-TIME=16 5; FP-POS=1; SEGMENT=BOTH;			//	[
	G130M/130 9 Deuterium	DEUTERIUM			M; BUFFER-TIME=16 5; FP-POS=1;			//	[
<u>The</u> 4	G130M/130 9 Deuterium Exposure 1	DEUTERIUM		1309 A	M; BUFFER-TIME=16 5; FP-POS=1; SEGMENT=BOTH; LIFETIME-POS=L P1		e counts than the o	[==>]	[
<u>The</u> 4	G130M/130 9 Deuterium Exposure 1 <u>uments: Deuter</u> Aperture Ad	DEUTERIUM rium exposure optim NONE	COS/FUV, TIME-TAG, FCA	1309 A	M; BUFFER-TIME=16 5; FP-POS=1; SEGMENT=BOTH; LIFETIME-POS=L P1	<u>at it has slightly more</u> QESIPARM XSTEI		[==>]	[
<u>The</u> 4	G130M/130 9 Deuterium Exposure 1	DEUTERIUM rium exposure optim NONE	COS/FUV, TIME-TAG, FCA ized for Segment A. FP-POS=1 was c	1309 A	M; BUFFER-TIME=16 5; FP-POS=1; SEGMENT=BOTH; LIFETIME-POS=L P1 ous observations show th	at it has slightly more		[==>] ther FP-POS values.	
<u>The</u> 4	G130M/130 9 Deuterium Exposure 1 <u>mments: Deuter</u> Aperture Ad justment 2 f	DEUTERIUM rium exposure optim NONE	COS/FUV, TIME-TAG, FCA ized for Segment A. FP-POS=1 was c	1309 A	M; BUFFER-TIME=16 5; FP-POS=1; SEGMENT=BOTH; LIFETIME-POS=L P1 ous observations show th	<u>at it has slightly more</u> QESIPARM XSTEI		[==>] ther FP-POS values. 0.0 Secs (0 Secs)	
<u>The</u> 4 <u>Cor</u> 5	G130M/130 9 Deuterium Exposure 1 Aperture Ad justment 2 f or Segment A	DEUTERIUM rium exposure optim NONE	COS/FUV, TIME-TAG, FCA ized for Segment A. FP-POS=1 was c	1309 A hosen because previ	M; BUFFER-TIME=16 5; FP-POS=1; SEGMENT=BOTH; LIFETIME-POS=L P1 ous observations show th XAPER=25	<u>at it has slightly more</u> QESIPARM XSTEI S -56	2	[==>] ther FP-POS values. 0.0 Secs (0 Secs) [==>]	
<u>The</u> 4 <u>Con</u> 5 <i>Con</i>	G130M/130 9 Deuterium Exposure 1 Aperture Ad justment 2 f or Segment A anments: Put the A LAPXSTP va	DEUTERIUM <u>rium exposure optim</u> NONE e aperture in the app slue at LP1 is -153	COS/FUV, TIME-TAG, FCA <i>ized for Segment A. FP-POS=1 was c</i> COS, ALIGN/APER propriate position to illuminate a portion	1309 A hosen because previ on of the LP3 region	M; BUFFER-TIME=16 5; FP-POS=1; SEGMENT=BOTH; LIFETIME-POS=L P1 ous observations show th XAPER=25	<u>at it has slightly more</u> QESIPARM XSTEI S -56	2	[==>] ther FP-POS values. 0.0 Secs (0 Secs) [==>]	
The 4 <u>Con</u> 5 <i>Con</i> <i>FC</i>	G130M/130 9 Deuterium Exposure 1 Aperture Ad justment 2 f or Segment A anments: Put the A LAPXSTP va	DEUTERIUM <u>rium exposure optim</u> NONE e aperture in the app slue at LP1 is -153	COS/FUV, TIME-TAG, FCA ized for Segment A. <u>FP-POS=1</u> was c COS, ALIGN/APER	1309 A hosen because previ on of the LP3 region	M; BUFFER-TIME=16 5; FP-POS=1; SEGMENT=BOTH; LIFETIME-POS=L P1 ous observations show th XAPER=25	<u>at it has slightly more</u> QESIPARM XSTEI S -56	2	[==>] ther FP-POS values. 0.0 Secs (0 Secs) [==>]	

#### Proposal 16833 - LP3 gain map - before HV increase (3A) - Cycle 29 COS FUV Characterization of Modal Gain When Changing High ...

μŪ							ing right.
6	G130M/130 DEUTERIUM	COS/FUV, TIME-TAG, FCA	G130M	CURRENT=MEDIU	I	440 Secs (440 Secs)	
	9 Deuterium Exposure 2		1309 A	M; BUFFER-TIME=16	i	[==>]	
				5;			
				FP-POS=1; SEGMENT=BOTH:			[1]
				LIFETIME-POS=L	,		
				P1			
Con		ized for Segment A. FP-POS=1 was c	hosen because pre				
7	Aperture Ad NONE justment 1 f	COS, ALIGN/APER		XAPER=69	QESIPARM XSTEP S 44	0.0 Secs (0 Secs)	
	or Segment B					[==>]	[1]
Con	nments: Put the aperture in the app	propriate position to illuminate a porti	on of the LP3 regio	on of the detector when illu	minating Segment B with G160M	И/1600.	
	A LAPXSTP value at LP1 is -153 ired LAPXSTP value for FCA to ill	luminate Segment B with G160M/1600	at Position 1 for 1	LP3 is -84			
The ion.		= +69. *HOWEVER*, because of the	TRANS rules, the "	'QESIPARM XSTEPS 44" [	f(+69 - +25) = +44] Special Req	quirement is necessary to move the aperture to	the correct locat
8	G160M/160 DEUTERIUM	COS/FUV, TIME-TAG, FCA	G160M	CURRENT=MEDIU	I	440 Secs (440 Secs)	
	0 Deuterium Exposure 1		1600 A	M;		[==>]	
	Ī			BUFFER-TIME=16 5;			
				FP-POS=4;			[1]
				SEGMENT=BOTH;	;		
				LIFETIME-POS=L P1			
Con	nments: Deuterium exposure optim	mized for Segment B. FP-POS=4 was	chosen because pr		that it has slightly more counts th	nan the other FP-POS values.	
9	Aperture Ad NONE	COS, ALIGN/APER		XAPER=13	QESIPARM XSTEP	0.0 Secs (0 Secs)	
	justment 2 f or Segment B				S -56	[==>]	[1]
Con	nments: Put the aperture in the app	propriate position to illuminate a porti	on of the LP3 regio	on of the detector when illu	minating Segment B with G160M	<u>и/1600.</u>	
	A LAPXSTP value at LP1 is -153 ired LAPXSTP value for FCA to ill	luminate Segment B with G160M/1600	at Position 2 for 1	LP3 is -140.			
The atio		B = +13. *HOWEVER*, because of the	TRANS rules, the	"QESIPARM XSTEPS -56	" [(+13 - +69) = -56] Special Re	equirement is necessary to move the aperture t	to the correct loc
10	G160M/160 DEUTERIUM	COS/FUV, TIME-TAG, FCA	G160M	CURRENT=MEDIU	l	440 Secs (440 Secs)	
	0 Deuterium Exposure 2		1600 A	M; BUFFER-TIME=16		[==>]	
				5;			
				FP-POS=4;			[1]
				SEGMENT=BOTH;	• •		
				LIFETIME-POS=L P1			
Con	nments: Deuterium exposure optim	mized for Segment B. FP-POS=4 was	chosen because pr	evious observations show t	that it has slightly more counts th	ian the other FP-POS values.	
	Return Aper NONE	COS, ALIGN/APER		XAPER=0	QESIPARM XSTEP	0 Secs (0 Secs)	
	ture to Nomi nal Position				S -13	[==>]	[1]
Con	nments: Return aperture to nomina	l position by setting XAPER=0					
*HO	OWEVER*, because of the TRANS	rules, the "QESIPARM XSTEPS -13"	(0 - 13) = -131 Spa	ecial Requirement is neces.	sary to move the aperture to its c	correct location.	
			, 10,000				

Proposal 16833 - LP3 gain map - before HV increase (3A) - Cycle 29 COS FUV Characterization of Modal Gain When Changing High ...



#### Proposal 16833 - LP3 gain map - after HV increase (3C) - Cycle 29 COS FUV Characterization of Modal Gain When Changing High V...

	Proposal 16833, LP3 gain map - after HV increase (3C), implementation	Sat May 21 11:00:57 GMT 2022
	Diagnostic Status: Warning	
Ξ	Scientific Instruments: S/C, COS, COS/FUV	
Vis	Special Requirements: ON HOLD ; PARALLEL	
	Comments: This visit collects data at LP3. It uses the HV values appropriate for LP3 (173/175).	
	On Hold Comments: Only needed if HV changed during Cycle 29 HV Values will have to be updated before execution!	
ics	(LP3 gain map - after HV increase (3C)) Warning (Orbit Planner): MAXIMUM DURATION EXCEEDED FOR INTERNAL OR EARTH CALIB SU	
ostics		
Diagn		
ă		

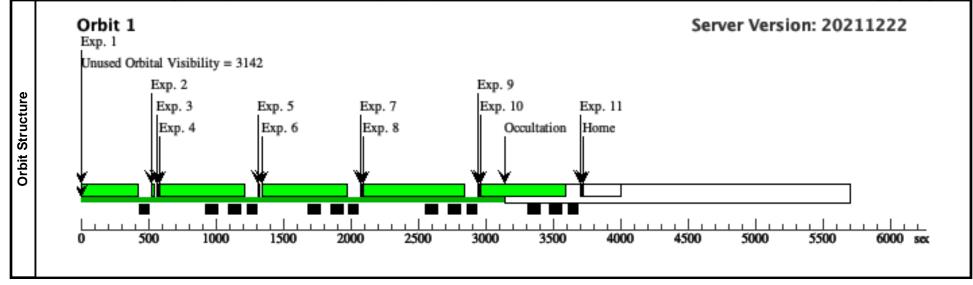
# Label Targ	et	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Ort
G130M/130 DEU 9 Deuterium	TERIUM	COS/FUV, TIME-TAG, FCA	G130M	CURRENT=MEDIU M;			125 Secs (125 Secs)	
Exposure - S			1309 A	BUFFER-TIME=19			[==>]	
et up at LP1				6;				
				FP-POS=1;				[]
				SEGMENT=BOTH;				
				LIFETIME-POS=L P1				
Comments: Short exposu	re to set apertur	e to LP1, which is near the center of	f the aperture rang		ulso sets the HV to the	e LP1 values.		
2 Adjust HV t DAR		S/C, DATA, NONE			SAA CONTOUR 3		39 Secs (39 Secs)	
o ĽP3 value s					SPEC COM INSTR ELHVADJPROP;	R	[==>]	
					QASISTATES COS FUV HVNOM HV	S N		
					OM; QESIPARM ENDC TSA 173;	2		[.
					QESIPARM ENDC TSB 175;	2		
					QESIPARM SEGMENT AB	1		
Comments: Adjust the H	V to LP3 values.							
ince the HV is not incre	asing, exposure	time = 39 seconds						
Aperture Ad NON		COS, ALIGN/APER		XAPER=81			0.0 Secs (0 Secs)	
justment 1 f or Segment A							[==>]	I
Comments: Put the apert	ure in the appro	priate position to illuminate a portio	on of the LP3 regio	n of the detector when illu	minating Segment A	with G130M/1309.		
	for FCA to illun	ninate Segment A with G130M/1309	at Position 1 for L	P3 is -72				
Therefore, XAPER is set			~					
G130M/130 DEU 9 Deuterium	TERIUM	COS/FUV, TIME-TAG, FCA	G130M	CURRENT=MEDIU M:			440 Secs (440 Secs)	
Exposure 1			1309 A	BUFFER-TIME=16			[==>]	
				5;				
				FP-POS=1;				[
				SEGMENT=BOTH;				
				LIFETIME-POS=L				
		I Conference (A. ED. DOG. 1	1 1	P1				
Aperture Ad NON		ed for Segment A. FP-POS=1 was c. COS, ALIGN/APER	nosen because prev	XAPER=25	QESIPARM XSTE		0.0 Secs (0 Secs)	
justment 2 f	E	COS, ALION/AFER		AAFER-23	S -56	ſ	$\int \frac{1}{(z=z)} dz = \frac{1}{(z-z)}$	
or Segment A							1>1	[.
	ure in the appro	ppriate position to illuminate a portion	on of the LP3 regio	n of the detector when illu	minating Segment A v	with G130M/1309.	L	
TCA LAPXSTP value at A			,	,				
		ninate Segment A with G130M/1309	at Position 2 for L	P3 is -128				
Charafora YADED is not	to -128 152 -	125 *HOWEVER* because of the	TRANS rules the	"ΩΕςΙΡΔΡΜ νετέρε - 56'	$''[(\pm 25 - \pm 81) = -56]$	Special Promiser	nt is necessary to move the aperture to the	COPPO
tion.	10 1201 <i>5</i> 5 -	20. HOWEVER, because of the	in the rates, the	ZESH MUM ASI LI 5-50	1(123 + 01) = -30	, special Requireme	in is necessary to move the uperture to the	corre

Proposal 16833 - LP3 gain map - after HV increase (3C) - Cycle 29 COS FUV Characterization of Modal Gain When Changing High V.

#### Proposal 16833 - LP3 gain map - after HV increase (3C) - Cycle 29 COS FUV Characterization of Modal Gain When Changing High V..

Coronal and the state of the said when the sharging high vit
ENT=MEDIU 440 Secs (440 Secs)
[==>]
ER-TIME=16
S=1; [1]
ENT=BOTH;
IME-POS=L
tions show that it has slightly more counts than the other FP-POS values.
R=69 QESIPARM XSTEP 0.0 Secs (0 Secs)
[==>] [1]
ctor when illuminating Segment B with G160M/1600.
XSTEPS 44" $[(+69 - +25) = +44]$ Special Requirement is necessary to move the aperture to the correct locat
ENT=MEDIU 440 Secs (440 Secs)
[==>]
ER-TIME=16
S=4; [1]
ENT=BOTH;
IME-POS=L
vations show that it has slightly more counts than the other FP-POS values.
R=13 QESIPARM XSTEP 0.0 Secs (0 Secs)
S-50 [==>] [1]
ctor when illuminating Segment B with G160M/1600.
XSTEPS -56" $[(+13 - +69) = -56]$ Special Requirement is necessary to move the aperture to the correct loc
ENT=MEDIU 440 Secs (440 Secs)
ER-TIME=16
S. 4.
S=4; [1]
S=4; ENT=BOTH; IME-POS=L
S=4; ENT=BOTH; IME-POS=L vations show that it has slightly more counts than the other FP-POS values.
S=4; ENT=BOTH; IME-POS=L vations show that it has slightly more counts than the other FP-POS values. R=0 QESIPARM XSTEP 0 Secs 0 Secs)
S=4; ENT=BOTH; IME-POS=L vations show that it has slightly more counts than the other FP-POS values.
S=4; ENT=BOTH; IME-POS=L vations show that it has slightly more counts than the other FP-POS values. R=0 QESIPARM XSTEP 0 Secs (0 Secs) S - 13

Proposal 16833 - LP3 gain map - after HV increase (3C) - Cycle 29 COS FUV Characterization of Modal Gain When Changing High V...



### Proposal 16833 - LP4 gain map - before HV increase (4A) - Cycle 29 COS FUV Characterization of Modal Gain When Changing High ...

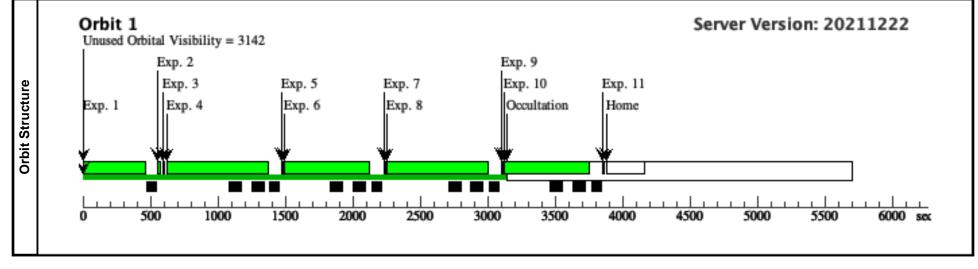
		Proposal 16833, LP4 gain map - before HV increase (4A), implementation	Sat May 21 11:00:57 GMT 2022
1.3		Diagnostic Status: Warning	
:	/IS	Scientific Instruments: S/C, COS, COS/FUV	
[		Special Requirements: PARALLEL	
		Comments: This visit collects data at LP4. It uses the HV values appropriate for LP4 (173/169).	
Disancetice	Diagnostics	(LP4 gain map - before HV increase (4A)) Warning (Orbit Planner): MAXIMUM DURATION EXCEEDED FOR INTERNAL OR EARTH CALIB SU	

1	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Or
		DEUTERIUM	COS/FUV, TIME-TAG, FCA	G160M	CURRENT=MEDIU			125 Secs (125 Secs)	
	0 Deuterium Exposure - S			1600 A	M;			[==>]	
	et up at LP1				BUFFER-TIME=19 6;				
					FP-POS=1;				, r
					SEGMENT=BOTH;				[
					LIFETIME-POS=L				
_					P1				
<u>Con</u> 2	<u>aments: Short e</u> Adjust HV t		ure to LP1, which is near the center of S/C. DATA. NONE	the aperture range	used in this program. It a	ulso sets the HV to the SAA CONTOUR 3		39 Secs (39 Secs)	
2	o LP4 value	DAKK	S/C, DATA, NONE			SAA CONTOUR 3. SPEC COM INSTR	·	[==>]	-
	S					ELHVADJPROP;		1>1	
						QASISTATES COS			
						FUV HVNOM HVN OM;	N		
						QESIPARM ENDC			[
						TSA 173;			
						QESIPARM ENDC TSB 169:			
						OESIPARM SEGM	ſ		
						ENT AB			
Con	iments: Adjust	the HV to LP4 value	25.						
Sinc	e the HV is no	t increasing, exposur	re time = 39 seconds					T	
3	Aperture Ad justment 1 f	NONE	COS, ALIGN/APER		XAPER=121			0.0 Secs (0 Secs)	
	or Segment							[==>]	1
_	A								-
Con	imenis: Pui ine	e aperture in the app	ropriate position to illuminate a portio	on of the LP3 region	of the detector when illu	minating Segment A w	vith G130M/1309.		
FCA	LAPXSTP va	lue at LP1 is -153			U Contraction of the second se	minating Segment A w	vith G130M/1309.		
FCA Desi	LAPXSTP va ired LAPXSTP	lue at LP1 is -153 Value for FCA to illi	uminate Segment A with G130M/1309		U Contraction of the second se	minating Segment A w	vith G130M/1309.		
FCA Desi	LAPXSTP va ired LAPXSTP refore, XAPER	lue at LP1 is -153 value for FCA to illi t is set to -32153 =	uminate Segment A with G130M/1309 = +121	at Position 1 for LF	4 is -32		with G130M/1309.	440 Sacs (440 Sacs)	
FCA Desi	<i>LAPXSTP va</i> <i>ired LAPXSTP</i> <i>refore, XAPER</i> G130M/130 9 Deuterium	lue at LP1 is -153 value for FCA to illi <u>tis set to -32153 =</u> DEUTERIUM	uminate Segment A with G130M/1309	at Position 1 for LF	U Contraction of the second se		vith G130M/1309.	440 Secs (440 Secs)	
FCA Desi	LAPXSTP va ired LAPXSTP <u>refore, XAPER</u> G130M/130	lue at LP1 is -153 value for FCA to illi <u>tis set to -32153 =</u> DEUTERIUM	uminate Segment A with G130M/1309 = +121	at Position 1 for LF	4 is -32 CURRENT=MEDIU		vith G130M/1309.	440 Secs (440 Secs) [==>]	
FCA Desi	<i>LAPXSTP va</i> <i>ired LAPXSTP</i> <i>refore, XAPER</i> G130M/130 9 Deuterium	lue at LP1 is -153 value for FCA to illi <u>tis set to -32153 =</u> DEUTERIUM	uminate Segment A with G130M/1309 = +121	at Position 1 for LF	<i>CURRENT=MEDIU</i> M; BUFFER-TIME=16 5;		vith G130M/1309.	//	
FCA Desi	<i>LAPXSTP va</i> <i>ired LAPXSTP</i> <i>refore, XAPER</i> G130M/130 9 Deuterium	lue at LP1 is -153 value for FCA to illi <u>tis set to -32153 =</u> DEUTERIUM	uminate Segment A with G130M/1309 = +121	at Position 1 for LF	<i>CURRENT=MEDIU</i> M; BUFFER-TIME=16 5; FP-POS=1;		vith G130M/1309.	//	
FCA Desi	<i>LAPXSTP va</i> <i>ired LAPXSTP</i> <i>refore, XAPER</i> G130M/130 9 Deuterium	lue at LP1 is -153 value for FCA to illi <u>tis set to -32153 =</u> DEUTERIUM	uminate Segment A with G130M/1309 = +121	at Position 1 for LF	<i>CURRENT=MEDIU</i> M; BUFFER-TIME=16 5; FP-POS=1; SEGMENT=BOTH;		vith G130M/1309.	//	
FCA Desi	<i>LAPXSTP va</i> <i>ired LAPXSTP</i> <i>refore, XAPER</i> G130M/130 9 Deuterium	lue at LP1 is -153 value for FCA to illi <u>tis set to -32153 =</u> DEUTERIUM	uminate Segment A with G130M/1309 = +121	at Position 1 for LF	<i>CURRENT=MEDIU</i> M; BUFFER-TIME=16 5; FP-POS=1;		vith G130M/1309.	//	
FCA Dest <u>The</u> t 4	A LAPXSTP va ired LAPXSTP refore, XAPER G130M/130 9 Deuterium Exposure 1	lue at LP1 is -153 value for FCA to illi 2 is set to -32153 = DEUTERIUM	uminate Segment A with G130M/1309 = +121	at Position 1 for LF G130M 1309 A	<i>CURRENT=MEDIU</i> M; BUFFER-TIME=16 5; FP-POS=1; SEGMENT=BOTH; LIFETIME-POS=L P1			[==>]	
FCA Dest <u>The</u> t 4	A LAPXSTP va ired LAPXSTP refore, XAPER G130M/130 9 Deuterium Exposure 1 Exposure 1 meents: Deuter Aperture Ad	lue at LP1 is -153 value for FCA to illi <u>e is set to -32153 =</u> DEUTERIUM	uminate Segment A with G130M/1309 = +121 COS/FUV, TIME-TAG, FCA	at Position 1 for LF G130M 1309 A	<i>CURRENT=MEDIU</i> M; BUFFER-TIME=16 5; FP-POS=1; SEGMENT=BOTH; LIFETIME-POS=L P1	at it has slightly more QESIPARM XSTEI	e counts than the ot	[==>]	
FCA Dest <u>The</u> t 4	A LAPXSTP va ired LAPXSTP refore, XAPER G130M/130 9 Deuterium Exposure 1 ments: Deuter Aperture Ad justment 2 f	lue at LP1 is -153 value for FCA to illi <u>e is set to -32153 =</u> DEUTERIUM	uminate Segment A with G130M/1309 = +121 COS/FUV, TIME-TAG, FCA ized for Segment A. FP-POS=1 was c	at Position 1 for LF G130M 1309 A	<i>CURRENT=MEDIU</i> M; BUFFER-TIME=16 5; FP-POS=1; SEGMENT=BOTH; LIFETIME-POS=L P1 ous observations show th	at it has slightly more	e counts than the ot	[==>] her FP-POS values.	
FCA Dest <u>The</u> t 4	A LAPXSTP va ired LAPXSTP refore, XAPER G130M/130 9 Deuterium Exposure 1 Exposure 1 meents: Deuter Aperture Ad	lue at LP1 is -153 value for FCA to illi <u>e is set to -32153 =</u> DEUTERIUM	uminate Segment A with G130M/1309 = +121 COS/FUV, TIME-TAG, FCA ized for Segment A. FP-POS=1 was c	at Position 1 for LF G130M 1309 A	<i>CURRENT=MEDIU</i> M; BUFFER-TIME=16 5; FP-POS=1; SEGMENT=BOTH; LIFETIME-POS=L P1 ous observations show th	at it has slightly more QESIPARM XSTEI	e counts than the ot	[==>] her FP-POS values. 0.0 Secs (0 Secs)	
FCA Dest <u>Ther</u> 4 5	A LAPXSTP va ired LAPXSTP G130M/130 9 Deuterium Exposure 1 ments: Deuter Aperture Ad justment 2 f or Segment A	lue at LP1 is -153 value for FCA to illi <u>e is set to -32153 =</u> DEUTERIUM	uminate Segment A with G130M/1309 = +121 COS/FUV, TIME-TAG, FCA ized for Segment A. FP-POS=1 was c	at Position 1 for LF G130M 1309 A	<i>V4 is -32</i> CURRENT=MEDIU M; BUFFER-TIME=16 5; FP-POS=1; SEGMENT=BOTH; LIFETIME-POS=L P1 ous observations show th XAPER=67	at it has slightly more QESIPARM XSTEI S -54	<u>e counts than the ot</u>	[==>] her FP-POS values. 0.0 Secs (0 Secs)	
FCA Dest <u>Ther</u> 4 5 Con FCA	A LAPXSTP va ired LAPXSTP G130M/130 9 Deuterium Exposure 1 Aperture Ad justment 2 f or Segment A uments: Put the A LAPXSTP va	lue at LP1 is -153 value for FCA to illi <u>2 is set to -32153 =</u> DEUTERIUM <u>rium exposure optimi</u> NONE e aperture in the app lue at LP1 is -153	uminate Segment A with G130M/1309 <u>= +121</u> COS/FUV, TIME-TAG, FCA <u>ized for Segment A. FP-POS=1 was c</u> COS, ALIGN/APER ropriate position to illuminate a portio	at Position 1 for LP G130M 1309 A hosen because previ	<i>24 is -32</i> CURRENT=MEDIU M; BUFFER-TIME=16 5; FP-POS=1; SEGMENT=BOTH; LIFETIME-POS=L P1 ous observations show th XAPER=67 of the detector when illust	at it has slightly more QESIPARM XSTEI S -54	<u>e counts than the ot</u>	[==>] her FP-POS values. 0.0 Secs (0 Secs)	
FCA Desi 1 4 2 5 Con FCA	A LAPXSTP va ired LAPXSTP G130M/130 9 Deuterium Exposure 1 Aperture Ad justment 2 f or Segment A uments: Put the A LAPXSTP va	lue at LP1 is -153 value for FCA to illi <u>2 is set to -32153 =</u> DEUTERIUM <u>rium exposure optimi</u> NONE e aperture in the app lue at LP1 is -153	uminate Segment A with G130M/1309 = +121 COS/FUV, TIME-TAG, FCA <u>ized for Segment A. FP-POS=1 was c</u> COS, ALIGN/APER	at Position 1 for LP G130M 1309 A hosen because previ	<i>24 is -32</i> CURRENT=MEDIU M; BUFFER-TIME=16 5; FP-POS=1; SEGMENT=BOTH; LIFETIME-POS=L P1 ous observations show th XAPER=67 of the detector when illust	at it has slightly more QESIPARM XSTEI S -54	<u>e counts than the ot</u>	[==>] her FP-POS values. 0.0 Secs (0 Secs)	

#### Proposal 16833 - LP4 gain map - before HV increase (4A) - Cycle 29 COS FUV Characterization of Modal Gain When Changing High .

<u> 10055 - Li 4 yain</u>		<u>136 (47) - C</u>			i or moual Gain when Changi	ng mgn .
6 G130M/130 DEUTERIUM	COS/FUV, TIME-TAG, FCA	G130M	CURRENT=MEDIU	J	440 Secs (440 Secs)	
9 Deuterium Exposure 2		1309 A	M; BUFFER-TIME=16	i	[==>]	
			5; FP-POS=1;			[1]
			SEGMENT=BOTH	;		[1]
			LIFETIME-POS=L			
Commentes Deutenium exposure entir	nized for Segment A ED BOS-1 was	hagan haquusa nu	P1	hat it has slightly more counts th	age the other EP POS values	
7 Aperture Ad NONE	nized for Segment A. FP-POS=1 was c COS, ALIGN/APER	nosen because pro	XAPER=112	QESIPARM XSTEP	0.0 Secs (0 Secs)	
justment 1 f or Segment B				S 45	[==>]	[1]
Comments: Put the aperture in the ap	propriate position to illuminate a porti	on of the LP3 regi	on of the detector when illu	minating Segment B with G160	М/1600.	
FCA LAPXSTP value at LP1 is -153						
Desired LAPXSTP value for FCA to it	lluminate Segment B with G160M/1600	at Position 1 for	LP4 is -41			
	= +112. *HOWEVER*, because of the	e TRANS rules, the	e "QESIPARM XSTEPS 45"	' [(+112 - +67) = +45] Special	Requirement is necessary to move the aperture to	o the correct lo
cation. 8 G160M/160 DEUTERIUM	COS/FUV, TIME-TAG, FCA	G160M	CURRENT=MEDIU	J	440 Secs (440 Secs)	
0 Deuterium Exposure 1	, -,	1600 A	М;		[==>]	
Exposure 1			BUFFER-TIME=16 5;	i		
			FP-POS=4;			[1]
			SEGMENT=BOTH	;		1-1
			LIFETIME-POS=L			
Comments: Deuterium exposure optin	nmized for Segment B. FP-POS=4 was	chosen because p	P1 revious observations show t	that it has slightly more counts	than the other FP-POS values.	
9 Aperture Ad NONE	COS, ALIGN/APER		XAPER=58	QESIPARM XSTEP	0.0 Secs (0 Secs)	
justment 2 f or Segment B				S -54	[==>]	[1]
Comments: Put the aperture in the ap	propriate position to illuminate a porti	on of the LP3 regi	on of the detector when illu	minating Segment B with G160	М/1600.	
FCA LAPXSTP value at LP1 is -153 Desired LAPXSTP value for FCA to it	lluminate Segment B with G160M/1600	at Position 2 for	LP3 is -95.			
ation.	= +58. *HOWEVER*, because of the	TRANS rules, the	"QESIPARM XSTEPS -54"	[(+58 - +112) = -54] Special R	Requirement is necessary to move the aperture to	the correct loc
10 G160M/160 DEUTERIUM 0 Deuterium	COS/FUV, TIME-TAG, FCA	G160M	CURRENT=MEDIU M:	J	440 Secs (440 Secs)	
Exposure 2		1600 A	BUFFER-TIME=16		[==>]	
			5;			
			FP-POS=4;			[1]
			SEGMENT=BOTH	· ,		
			LIFETIME-POS=L P1			
Comments: Deuterium exposure optim	nmized for Segment B. FP-POS=4 was	chosen because p	revious observations show	that it has slightly more counts	than the other FP-POS values.	
11 Return Aper NONE ture to Nomi	COS, ALIGN/APER		XAPER=0	QESIPARM XSTEP S -58	0 Secs (0 Secs)	
nal Position				J-J0	[==>]	[1]
Comments: Return aperture to nomine	al position by setting XAPER=0					
*HOWEVER*, because of the TRANS	rules, the "QESIPARM XSTEPS -58"	T(0 - 58) = -58] Sp	pecial Requirement is neces.	sary to move the aperture to its	correct location.	





#### Proposal 16833 - LP4 gain map - after HV increase (4C) - Cycle 29 COS FUV Characterization of Modal Gain When Changing High V...

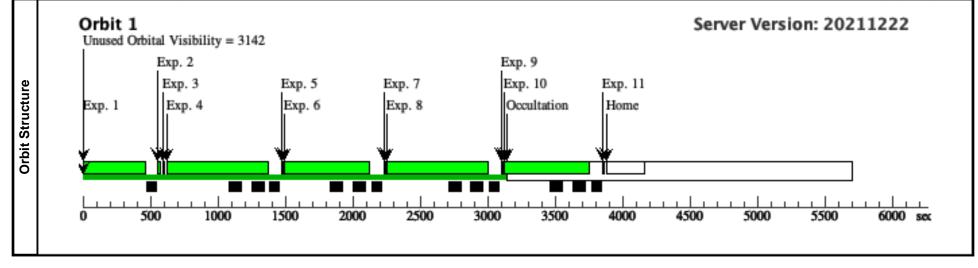
Г		Proposal 16833, LP4 gain map - after HV increase (4C), implementation	Sat May 21 11:00:57 GMT 2022
3		Diagnostic Status: Warning	
1	/IS	Scientific Instruments: S/C, COS, COS/FUV	
1	-	Special Requirements: PARALLEL	
		Comments: This visit collects data at LP4. It uses the HV values appropriate for LP4 after the change (173/175).	
	Diagnostics	(LP4 gain map - after HV increase (4C)) Warning (Orbit Planner): MAXIMUM DURATION EXCEEDED FOR INTERNAL OR EARTH CALIB SU	

1	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Ort
		DEUTERIUM	COS/FUV, TIME-TAG, FCA	G160M	CURRENT=MEDIU			125 Secs (125 Secs)	
	0 Deuterium Exposure - S			1600 A	M;			[==>]	
	et up at LP1				BUFFER-TIME=19 6;				
					FP-POS=1;				
					SEGMENT=BOTH;				1
					LIFETIME-POS=L				
					P1				
<u>Com</u> 2	<i>ments: Short e</i> Adjust HV t		ture to LP1, which is near the center of S/C, DATA, NONE	<sup>*</sup> the aperture range	used in this program. It a			20 Saga (20 Saga)	
2	o new LP4 v		S/C, DATA, NONE			SAA CONTOUR 3 SPEC COM INSTR	<i>.</i>	$\frac{39 \text{ Secs } (39 \text{ Secs})}{[==>]}$	
	alues					ELHVADJPROP;		[==>]	
						QASISTATES COS			
						FUV HVNOM HVN OM;	Ν		
						QESIPARM ENDC			[]
						TSA 173;			1-
						QESIPARM ENDC			
						TSB 175; OESIPARM SEGM			
						ENT AB	L		
Com	ments: Adjust	the HV to the new L	.P4 values.						
Sinc	e the HV is not	t increasing, exposu	re time = 39 seconds						
3	Aperture Ad	NONE	COS, ALIGN/APER		XAPER=121			0.0 Secs (0 Secs)	
	justment 1 f or Segment							[==>]	
	A								11
Com	ments: Put the	e aperture in the app	propriate position to illuminate a portio	on of the LP4 region	of the detector when illu	minating Segment A w	vith G130M/1309.		
ECA		lue at LP1 is -153							
	red LAPXSTP	value for FCA to ill	luminate Segment A with G130M/1309	at Position 1 for LP	24 is -32				
Desi		<i>is set to -32153 =</i>		~					
Desi	G130M/130	DEUTERIUM	= +121 COS/FUV, TIME-TAG, FCA	G130M	CURRENT=MEDIU M:			440 Secs (440 Secs)	
Desi		DEUTERIUM		G130M 1309 A	М;			440 Secs (440 Secs) [==>]	
Desi	G130M/130 9 Deuterium	DEUTERIUM							
Desi	G130M/130 9 Deuterium	DEUTERIUM			M; BUFFER-TIME=16				[1
Desi	G130M/130 9 Deuterium	DEUTERIUM			M; BUFFER-TIME=16 5;				[1
Desi	G130M/130 9 Deuterium	DEUTERIUM			M; BUFFER-TIME=16 5; FP-POS=1; SEGMENT=BOTH; LIFETIME-POS=L				[1
Desi <u>Ther</u> 4	G130M/130 9 Deuterium Exposure 1	DEUTERIUM	COS/FUV, TIME-TAG, FCA	1309 A	M; BUFFER-TIME=16 5; FP-POS=1; SEGMENT=BOTH; LIFETIME-POS=L P1		e counts than the o	[==>]	[1
Desi <u>Ther</u> 4	G130M/130 9 Deuterium Exposure 1	DEUTERIUM		1309 A	M; BUFFER-TIME=16 5; FP-POS=1; SEGMENT=BOTH; LIFETIME-POS=L P1			[==>]	[1
Desi <u>Ther</u> 4	G130M/130 9 Deuterium Exposure 1 <u>ments: Deuter</u> Aperture Ad justment 2 f	DEUTERIUM	COS/FUV, TIME-TAG, FCA ized for Segment A. FP-POS=1 was cl	1309 A	M; BUFFER-TIME=16 5; FP-POS=1; SEGMENT=BOTH; LIFETIME-POS=L P1 <i>ious observations show th</i>	at it has slightly more		[==>] ther FP-POS values.	[1
Desi <u>Ther</u> 4	G130M/130 9 Deuterium Exposure 1 <u>ments: Deuter</u> Aperture Ad	DEUTERIUM	COS/FUV, TIME-TAG, FCA ized for Segment A. FP-POS=1 was cl	1309 A	M; BUFFER-TIME=16 5; FP-POS=1; SEGMENT=BOTH; LIFETIME-POS=L P1 <i>ious observations show th</i>	<u>at it has slightly more</u> QESIPARM XSTEI		[==>] ther FP-POS values. 0.0 Secs (0 Secs)	
Desi <u>Ther</u> 4 <u>Com</u> 5	G130M/130 9 Deuterium Exposure 1 <u>ments: Deuter</u> Aperture Ad justment 2 f or Segment A	DEUTERIUM <sup>r</sup> ium exposure optim. NONE	COS/FUV, TIME-TAG, FCA ized for Segment A. FP-POS=1 was cl	1309 A hosen because previo	M; BUFFER-TIME=16 5; FP-POS=1; SEGMENT=BOTH; LIFETIME-POS=L P1 <u>ous observations show th</u> XAPER=67	<u>at it has slightly more</u> QESIPARM XSTEI S -54	p	[==>] ther FP-POS values. $0.0  Secs  (0  Secs)$ $[==>]$	
Desi <u>Ther</u> 4 5 Com	G130M/130 9 Deuterium Exposure 1 <u>ments: Deuter</u> Aperture Ad justment 2 f or Segment A ments: Put the	DEUTERIUM <u>rium exposure optim</u> NONE e aperture in the app	COS/FUV, TIME-TAG, FCA ized for Segment A. FP-POS=1 was cl COS, ALIGN/APER	1309 A hosen because previo	M; BUFFER-TIME=16 5; FP-POS=1; SEGMENT=BOTH; LIFETIME-POS=L P1 <u>ous observations show th</u> XAPER=67	<u>at it has slightly more</u> QESIPARM XSTEI S -54	p	[==>] ther FP-POS values. $0.0  Secs  (0  Secs)$ $[==>]$	
Desi <u>Ther</u> 4 <u>Com</u> 5 <i>Com</i>	G130M/130 9 Deuterium Exposure 1 <u>ments: Deuter</u> Aperture Ad justment 2 f or Segment A <u>ments: Put the</u> LAPXSTP va	DEUTERIUM <u>rium exposure optima</u> NONE e aperture in the app lue at LP1 is -153	COS/FUV, TIME-TAG, FCA ized for Segment A. FP-POS=1 was cl COS, ALIGN/APER	1309 A hosen because previo on of the LP4 region	M; BUFFER-TIME=16 5; FP-POS=1; SEGMENT=BOTH; LIFETIME-POS=L P1 <u>ous observations show th</u> XAPER=67 of the detector when illur	<u>at it has slightly more</u> QESIPARM XSTEI S -54	p	[==>] ther FP-POS values. $0.0  Secs  (0  Secs)$ $[==>]$	

#### Proposal 16833 - LP4 gain map - after HV increase (4C) - Cycle 29 COS FUV Characterization of Modal Gain When Changing High V..

pou	Sui 10000 Ei i gui				Onuradionzation o	i wodai Oairi wiich Onarigi	ng ingn v
6	G130M/130 DEUTERIUM	COS/FUV, TIME-TAG, FCA	G130M	CURRENT=MEDIU		440 Secs (440 Secs)	
	9 Deuterium Exposure 2		1309 A	M; BUFFER-TIME=16		[==>]	
				5;			
				FP-POS=1;			[1]
				SEGMENT=BOTH;			
				LIFETIME-POS=L			
Com		imized for Segment A. FP-POS=1 was c	haan haanna mu	P1	at it has alightly many sounds th	an the other ED DOS unlines	
<i>Com</i> 7	Aperture Ad NONE	COS. ALIGN/APER	nosen because pre	XAPER=112	QESIPARM XSTEP	0.0 Secs (0 Secs)	
,	justment 1 f or Segment B	COS, ALIOIVAI LK		AAI LK-112	S 45	[==>]	[1]
Com	-	appropriate position to illuminate a porti	on of the LP4 regio	on of the detector when illu	minating Segment B with G1601	М/1600.	
	LAPXSTP value at LP1 is -153				0.0		
		illuminate Segment B with G160M/1600	at Position 1 for L	LP4 is -41			
Ther	efore. XAPER is set to -4115	53 = +112. *HOWEVER*. because of the	TRANS rules, the	"OESIPARM XSTEPS 45"	I(+112 - +67) = +451 Special	Requirement is necessary to move the aperture	e to the correct lo
catic			,	2			
8	G160M/160 DEUTERIUM 0 Deuterium	COS/FUV, TIME-TAG, FCA	G160M	CURRENT=MEDIU M;		440 Secs (440 Secs)	
	Exposure 1		1600 A	BUFFER-TIME=16		[==>]	
				5;			
				FP-POS=4;			[1]
				SEGMENT=BOTH;			
				LIFETIME-POS=L P1			
Com	ments: Deuterium exposure opt	immized for Segment B. FP-POS=4 was	chosen because pr		hat it has slightly more counts t	han the other FP-POS values.	
9	Aperture Ad NONE	COS, ALIGN/APER		XAPER=58	QESIPARM XSTEP	0.0 Secs (0 Secs)	
	justment 2 f or Segment B				S -54	[==>]	[1]
Com	ments: Put the aperture in the a	appropriate position to illuminate a portion	on of the LP4 regio	on of the detector when illu	minating Segment B with G160	М/1600.	
	LAPXSTP value at LP1 is -153 red LAPXSTP value for FCA to	e illuminate Segment B with G160M/1600	at Position 2 for L	LP4 is -95.			
Ther ation		33 = +58. *HOWEVER*, because of the 2	TRANS rules, the "	QESIPARM XSTEPS -54"	[(+58 - +112) = -54] Special R	equirement is necessary to move the aperture	to the correct loc
10	G160M/160 DEUTERIUM	COS/FUV, TIME-TAG, FCA	G160M	CURRENT=MEDIU		440 Secs (440 Secs)	
	0 Deuterium Exposure 2		1600 A	M; DUEEED TIME-16		[==>]	
	•			BUFFER-TIME=16 5;			
				FP-POS=4;			[1]
				SEGMENT=BOTH;			
				LIFETIME-POS=L			
C	D	in the Course of ED DOC 4	.1 1	P1	1		
	Return Aper NONE	immized for Segment B. FP-POS=4 was COS, ALIGN/APER	cnosen because pr	evious observations show t XAPER=0	hat it has slightly more counts t QESIPARM XSTEP	0 Secs (0 Secs)	
11	ture to Nomi	COS, ALION/AFER		AAI LIN-U	S -58	$\frac{0 \sec(0 \sec)}{1 = > 1}$	
6	nal Position					1	[1]
Com	ments: Return aperture to nomi	inal position by setting XAPER=0					
*H0	WEVER*, because of the TRAN	IS rules, the "QESIPARM XSTEPS -58"	f(0 - 58) = -58] Spectrum	ecial Requirement is necess	sary to move the aperture to its	correct location.	





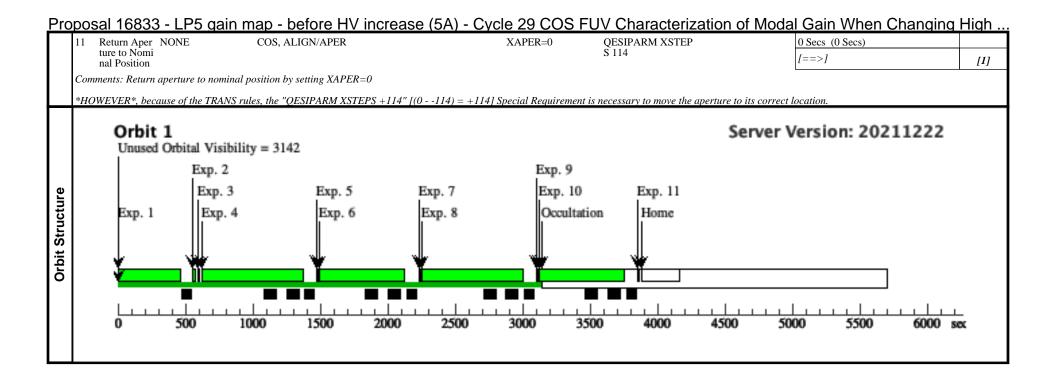
#### Proposal 16833 - LP5 gain map - before HV increase (5A) - Cycle 29 COS FUV Characterization of Modal Gain When Changing High ...

	Proposal 16833, LP5 gain map - before HV increase (5A), implementation	Sat May 21 11:00:57 GMT 2022
	Diagnostic Status: Warning	
Ξ	Scientific Instruments: S/C, COS, COS/FUV	
Ś	Special Requirements: ON HOLD ; PARALLEL	
	Comments: This visit collects data at LP5. It uses the HV values appropriate for LP5 (167/169).	
	On Hold Comments: Only needed if HV changed during Cycle 29 HV Values will have to be updated before execution!	
Diagnostics	(LP5 gain map - before HV increase (5A)) Warning (Orbit Planner): MAXIMUM DURATION EXCEEDED FOR INTERNAL OR EARTH CALIB SU	

1	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Or
		DEUTERIUM	COS/FUV, TIME-TAG, FCA	G160M	CURRENT=MEDIU			125 Secs (125 Secs)	
	0 Deuterium Exposure - S			1600 A	M;			[==>]	
	et up at LP1				BUFFER-TIME=19 6;				
					FP-POS=1;				, r
					SEGMENT=BOTH;				[
					LIFETIME-POS=L				
_					P1				
Con 2	<u>iments: Short a</u> Adjust HV t		ure to LP1, which is near the center of S/C. DATA. NONE	the aperture range	used in this program. It a	ulso sets the HV to the SAA CONTOUR 3		39 Secs (39 Secs)	
2	o LP5 value	DAKK	S/C, DATA, NONE			SAA CONTOUR 3 SPEC COM INSTR		59  Secs (59  Secs)	
	S					ELHVADJPROP;	L	[==>]	
						QASISTATES COS			
						FUV HVNOM HVI OM;	N		
						QESIPARM ENDC			[
						TSA 167;			
						QESIPARM ENDC TSB 169:	2		
						OESIPARM SEGM	r		
					ENT AB				
Con	nments: Adjust	the HV to LP5 value	25.						
Sinc	e the HV is no	t increasing, exposur	re time = 39 seconds					T	
3	Aperture Ad	NONE	COS, ALIGN/APER		XAPER=-60			0.0 Secs (0 Secs)	
	justment 1 f or Segment							[==>]	[
	A								L .
Con									
Con	iments: Put the	e aperture in the app	ropriate position to illuminate a portio	on of the LP5 region	of the detector when illu	minating Segment A v	with G130M/1309.		
FCA	A LAPXSTP va	lue at LP1 is -153			U Contraction of the second se	minating Segment A v	vith G130M/1309.		
FCA Desi	LAPXSTP va ired LAPXSTP	lue at LP1 is -153 value for FCA to illi	uminate Segment A with G130M/1309		U Contraction of the second se	minating Segment A v	vith G130M/1309.		
FCA Desi	A LAPXSTP va ired LAPXSTP refore, XAPER	lue at LP1 is -153 value for FCA to illi t is set to -213153	uminate Segment A with G130M/1309 = -60	at Position 1 for LF	25 is -213		vith G130M/1309.	440 Spec (440 Spec)	
FCA Desi	A LAPXSTP va ired LAPXSTP refore, XAPER	lue at LP1 is -153 Value for FCA to illu <u>tis set to -213153</u> DEUTERIUM	uminate Segment A with G130M/1309	at Position 1 for LF	U Contraction of the second se		vith G130M/1309.	440 Secs (440 Secs)	
FCA Desi	A LAPXSTP va ired LAPXSTP refore, XAPER G130M/130	lue at LP1 is -153 Value for FCA to illu <u>tis set to -213153</u> DEUTERIUM	uminate Segment A with G130M/1309 = -60	at Position 1 for LF	CURRENT=MEDIU		vith G130M/1309.	440 Secs (440 Secs) [==>]	
FCA Desi	<i>LAPXSTP va</i> <i>ired LAPXSTP</i> <i>refore, XAPER</i> G130M/130 9 Deuterium	lue at LP1 is -153 Value for FCA to illu <u>tis set to -213153</u> DEUTERIUM	uminate Segment A with G130M/1309 = -60	at Position 1 for LF	CURRENT=MEDIU M; BUFFER-TIME=16 5;		vith G130M/1309.		
FCA Desi	<i>LAPXSTP va</i> <i>ired LAPXSTP</i> <i>refore, XAPER</i> G130M/130 9 Deuterium	lue at LP1 is -153 Value for FCA to illu <u>tis set to -213153</u> DEUTERIUM	uminate Segment A with G130M/1309 = -60	at Position 1 for LF	CURRENT=MEDIU M; BUFFER-TIME=16 5; FP-POS=1;		vith G130M/1309.		
FCA Desi	<i>LAPXSTP va</i> <i>ired LAPXSTP</i> <i>refore, XAPER</i> G130M/130 9 Deuterium	lue at LP1 is -153 Value for FCA to illu <u>tis set to -213153</u> DEUTERIUM	uminate Segment A with G130M/1309 = -60	at Position 1 for LF	CURRENT=MEDIU M; BUFFER-TIME=16 5; FP-POS=1; SEGMENT=BOTH;		vith G130M/1309.		
FCA Desi	<i>LAPXSTP va</i> <i>ired LAPXSTP</i> <i>refore, XAPER</i> G130M/130 9 Deuterium	lue at LP1 is -153 Value for FCA to illu <u>tis set to -213153</u> DEUTERIUM	uminate Segment A with G130M/1309 = -60	at Position 1 for LF	CURRENT=MEDIU M; BUFFER-TIME=16 5; FP-POS=1;		vith G130M/1309.		
FCA Dest <u>The</u> t 4	A LAPXSTP va ired LAPXSTP refore, XAPER G130M/130 9 Deuterium Exposure 1	lue at LP1 is -153 value for FCA to illi <u>e is set to -213153</u> DEUTERIUM	uminate Segment A with G130M/1309 = -60	at Position 1 for LP G130M 1309 A	CURRENT=MEDIU M; BUFFER-TIME=16 5; FP-POS=1; SEGMENT=BOTH; LIFETIME-POS=L P1			[==>]	
FCA Dest <u>The</u> t 4	A LAPXSTP va ired LAPXSTP refore, XAPER G130M/130 9 Deuterium Exposure 1 Exposure 1 <u>uments: Deuter</u> Aperture Ad	lue at LP1 is -153 value for FCA to illu <u>e is set to -213153</u> DEUTERIUM	uminate Segment A with G130M/1309 = -60 COS/FUV, TIME-TAG, FCA	at Position 1 for LP G130M 1309 A	CURRENT=MEDIU M; BUFFER-TIME=16 5; FP-POS=1; SEGMENT=BOTH; LIFETIME-POS=L P1	at it has slightly more QESIPARM XSTE	e counts than the ot	[==>]	
FCA Dest <u>Thei</u> 4	A LAPXSTP va ired LAPXSTP refore, XAPER G130M/130 9 Deuterium Exposure 1 ments: Deuter Aperture Ad justment 2 f	lue at LP1 is -153 value for FCA to illu <u>e is set to -213153</u> DEUTERIUM	uminate Segment A with G130M/1309 = -60 COS/FUV, TIME-TAG, FCA	at Position 1 for LP G130M 1309 A	25 is -213 CURRENT=MEDIU M; BUFFER-TIME=16 5; FP-POS=1; SEGMENT=BOTH; LIFETIME-POS=L P1 ous observations show th	at it has slightly more	e counts than the ot	[==>] her FP-POS values.	
FCA Dest <u>The</u> t 4	A LAPXSTP va ired LAPXSTP refore, XAPER G130M/130 9 Deuterium Exposure 1 Exposure 1 <u>uments: Deuter</u> Aperture Ad	lue at LP1 is -153 value for FCA to illu <u>e is set to -213153</u> DEUTERIUM	uminate Segment A with G130M/1309 = -60 COS/FUV, TIME-TAG, FCA	at Position 1 for LP G130M 1309 A	25 is -213 CURRENT=MEDIU M; BUFFER-TIME=16 5; FP-POS=1; SEGMENT=BOTH; LIFETIME-POS=L P1 ous observations show th	at it has slightly more QESIPARM XSTE	e counts than the ot	[==>] her FP-POS values. 0.0 Secs (0 Secs)	
FCA Dest <u>Ther</u> 4 5	A LAPXSTP va ired LAPXSTP G130M/130 9 Deuterium Exposure 1 ments: Deuter Aperture Ad justment 2 f or Segment A	lue at LP1 is -153 value for FCA to illu <u>e is set to -213153</u> DEUTERIUM	uminate Segment A with G130M/1309 = -60 COS/FUV, TIME-TAG, FCA	at Position 1 for LF G130M 1309 A	<i>CURRENT=MEDIU</i> M; BUFFER-TIME=16 5; FP-POS=1; SEGMENT=BOTH; LIFETIME-POS=L P1 <i>ous observations show th</i> XAPER=-114	<u>at it has slightly more</u> QESIPARM XSTE S -54	<u>e counts than the ot</u> P	[==>] her FP-POS values. 0.0 Secs (0 Secs)	
FCA Dest <u>Ther</u> 4 5 Con FCA	A LAPXSTP va ired LAPXSTP refore, XAPER G130M/130 9 Deuterium Exposure 1 Exposure 1 Aperture Ad justment 2 f or Segment A uments: Put the A LAPXSTP va	lue at LP1 is -153 value for FCA to illu <u>e is set to -213153</u> DEUTERIUM <u>rium exposure optimi</u> NONE e aperture in the appu lue at LP1 is -153	uminate Segment A with G130M/1309 = -60 COS/FUV, TIME-TAG, FCA <u>ized for Segment A. FP-POS=1 was c.</u> COS, ALIGN/APER ropriate position to illuminate a portic	at Position 1 for LP G130M 1309 A hosen because previ	25 is -213 CURRENT=MEDIU M; BUFFER-TIME=16 5; FP-POS=1; SEGMENT=BOTH; LIFETIME-POS=L P1 ous observations show th XAPER=-114 of the detector when illust	<u>at it has slightly more</u> QESIPARM XSTE S -54	<u>e counts than the ot</u> P	[==>] her FP-POS values. 0.0 Secs (0 Secs)	
FCA Desi 1 4 2 5 Con FCA	A LAPXSTP va ired LAPXSTP refore, XAPER G130M/130 9 Deuterium Exposure 1 Exposure 1 Aperture Ad justment 2 f or Segment A uments: Put the A LAPXSTP va	lue at LP1 is -153 value for FCA to illu <u>e is set to -213153</u> DEUTERIUM <u>rium exposure optimi</u> NONE e aperture in the appu lue at LP1 is -153	uminate Segment A with G130M/1309 = -60 COS/FUV, TIME-TAG, FCA	at Position 1 for LP G130M 1309 A hosen because previ	25 is -213 CURRENT=MEDIU M; BUFFER-TIME=16 5; FP-POS=1; SEGMENT=BOTH; LIFETIME-POS=L P1 ous observations show th XAPER=-114 of the detector when illust	<u>at it has slightly more</u> QESIPARM XSTE S -54	<u>e counts than the ot</u> P	[==>] her FP-POS values. 0.0 Secs (0 Secs)	

#### Proposal 16833 - LP5 gain map - before HV increase (5A) - Cycle 29 COS FUV Characterization of Modal Gain When Changing High .

		<u> 136 (JA) - C</u>				<u>, ng mgn .</u>
6 G130M/130 DEUTERIUM	COS/FUV, TIME-TAG, FCA	G130M	CURRENT=MEDIU	l	440 Secs (440 Secs)	
9 Deuterium Exposure 2		1309 A	M; BUFFER-TIME=16	i	[==>]	
			5; FP-POS=1;			(1)
			SEGMENT=BOTH:	:		[1]
			LIFETIME-POS=L	,		
			P1			
Comments: Deuterium exposure optim	uzed for Segment A. FP-POS=1 was c COS, ALIGN/APER	chosen because pre	vious observations show th XAPER=-72	at it has slightly more counts than a QESIPARM XSTEP		
7 Aperture Ad NONE justment 1 f or Segment B	COS, ALION/APER		AAPEK=-/2	S 42	0.0 Secs (0 Secs) [==>]	[1]
Comments: Put the aperture in the app	propriate position to illuminate a porti	on of the LP5 regi	on of the detector when illu	minating Segment B with G160M/1	600.	
FCA LAPXSTP value at LP1 is -153 Desired LAPXSTP value for FCA to ill	luminate Segment R with G160M/1600	) at Position 1 for	IP5 is -225			
Therefore, XAPER is set to -225153	0	0		[(-72114) = +42] Special Requir	rement is necessary to move the aperture to	the correct locat
ion. 8 G160M/160 DEUTERIUM	COS/FUV, TIME-TAG, FCA	G160M	CURRENT=MEDIU	1	440 Secs (440 Secs)	
0 Deuterium Exposure 1		1600 A	М;		[==>]	
			BUFFER-TIME=16 5;			
			FP-POS=4;			[1]
			SEGMENT=BOTH;	;		
			LIFETIME-POS=L			
Comments: Deuterium exposure optim	mized for Segment B FP-POS-4 was	chosen because n	P1 revious observations show i	that it has slightly more counts than	the other FP-POS values	
9 Aperture Ad NONE	COS, ALIGN/APER	enosen because pr	XAPER=-114	QESIPARM XSTEP	0.0 Secs (0 Secs)	
justment 2 f or Segment B				S -42	[==>]	[1]
Comments: Put the aperture in the app	propriate position to illuminate a porti	on of the LP5 regi	on of the detector when illu	minating Segment B with G160M/1	600.	
FCA LAPXSTP value at LP1 is -153 Desired LAPXSTP value for FCA to ill ot. To leave some pad, I will set it to m	luminate Segment B with G160M/1600 atch the G130M exposure (-267).	) at Position 2 for 1	LP5 is -280, but the apertur	re soft stop is at -275 and we don't v	want to exceed that value when including th	he 5 step oversho
Therefore, XAPER is set to -267153 ation.	B = -114. *HOWEVER*, because of the	e TRANS rules, the	e "QESIPARM XSTEPS -42	?" [(-11472) = -42] Special Requ	irement is necessary to move the aperture t	to the correct loc
10 G160M/160 DEUTERIUM	COS/FUV, TIME-TAG, FCA	G160M	CURRENT=MEDIU	I	440 Secs (440 Secs)	
0 Deuterium Exposure 2		1600 A	M; BUFFER-TIME=16		[==>]	
-			5;			
			FP-POS=4;			[1]
		SEGMENT=BOTH;	,			
			LIFETIME-POS=L P1			
Comments: Deuterium exposure optim	mized for Segment B. FP-POS=4 was	chosen because m		that it has slightly more counts than	the other FP-POS values.	I
		eneben because pr				



#### Proposal 16833 - LP5 gain map - after HV increase (5C) - Cycle 29 COS FUV Characterization of Modal Gain When Changing High V...

	Proposal 16833, LP5 gain map - after HV increase (5C), implementation	Sat May 21 11:00:57 GMT 2022
	Diagnostic Status: Warning	
Ξ	Scientific Instruments: S/C, COS, COS/FUV	
Ś	Special Requirements: ON HOLD ; PARALLEL	
	Comments: This visit collects data at LP5. It uses the HV values appropriate for LP5 (167/169).	
	On Hold Comments: Only needed if HV changed during Cycle 29 HV Values will have to be updated before execution!	
Diagnostics	(LP5 gain map - after HV increase (5C)) Warning (Orbit Planner): MAXIMUM DURATION EXCEEDED FOR INTERNAL OR EARTH CALIB SU	

1	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Or
1		DEUTERIUM	COS/FUV, TIME-TAG, FCA	G160M	CURRENT=MEDIU			125 Secs (125 Secs)	
	0 Deuterium Exposure - S			1600 A	M;			[==>]	
	et up at LP1				BUFFER-TIME=19 6;				
					FP-POS=1;				
					SEGMENT=BOTH;				[]
					LIFETIME-POS=L				
					P1				
<u>Con</u> 2			ture to LP1, which is near the center of S/C, DATA, NONE	the aperture range	used in this program. It a			20 Saga (20 Saga)	
Z	Adjust HV t o LP5 value	DAKK	S/C, DATA, NONE			SAA CONTOUR 31 SPEC COM INSTR		39 Secs (39 Secs) $[==>]$	
	S					ELHVADJPROP;		1==>1	
						QASISTATES COS			
						FUV HVNOM HVN OM;	N		
						QESIPARM ENDC			[
						TSA 167;			
						QESIPARM ENDC TSB 169;			
						OESIPARM SEGM			
						ENT AB			
Con	nments: Adjust	the HV to the LP5 ve	alues.						
Sinc	e the HV is no	t increasing, exposu	$re\ time = 39\ seconds$						
3	Aperture Ad	NONE	COS, ALIGN/APER		XAPER=-60			0.0 Secs (0 Secs)	
	justment 1 f or Segment							[==>]	[
	A								-
Con	iments: Put the	e aperture in the app	propriate position to illuminate a portion	on of the LP5 region	of the detector when illu	ninating Segment A w	vith G130M/1309.		
	A LAPXSTP va	lue at LP1 is -153							
	· 114 DVC/TD		uminate Segment & with (+1311M/1311U	at Position 1 for LP	'S is -213				
Desi	ired LAPXSTP	0	Ũ						
Desi	refore, XAPER	e is set to -213153	B = -60		CURRENT MEDIL			440 5 (440 5)	
Desi	refore, XAPER	<i>is set to -213153</i> DEUTERIUM	Ũ	G130M	CURRENT=MEDIU M;			440 Secs (440 Secs)	
Desi	<u>refore, XAPER</u> G130M/130	<i>is set to -213153</i> DEUTERIUM	B = -60	G130M 1309 A				440 Secs (440 Secs) [==>]	
Desi	<i>refore, XAPER</i> G130M/130 9 Deuterium	<i>is set to -213153</i> DEUTERIUM	B = -60		M; BUFFER-TIME=16 5;			· · · · · · · · · · · · · · · · · · ·	
Desi	<i>refore, XAPER</i> G130M/130 9 Deuterium	<i>is set to -213153</i> DEUTERIUM	B = -60		M; BUFFER-TIME=16 5; FP-POS=1;			· · · · · · · · · · · · · · · · · · ·	[.
Desi	<i>refore, XAPER</i> G130M/130 9 Deuterium	<i>is set to -213153</i> DEUTERIUM	B = -60		M; BUFFER-TIME=16 5; FP-POS=1; SEGMENT=BOTH;			· · · · · · · · · · · · · · · · · · ·	[
Desi	<i>refore, XAPER</i> G130M/130 9 Deuterium	<i>is set to -213153</i> DEUTERIUM	B = -60		M; BUFFER-TIME=16 5; FP-POS=1; SEGMENT=BOTH; LIFETIME-POS=L			· · · · · · · · · · · · · · · · · · ·	[
Dest <u>Thei</u> 4	refore, XAPER G130M/130 9 Deuterium Exposure 1	<u>e is set to -213153</u> DEUTERIUM	B = -60	1309 A	M; BUFFER-TIME=16 5; FP-POS=1; SEGMENT=BOTH; LIFETIME-POS=L P1	at it has slightly more	counts than the of	[==>]	[
Dest <u>Thei</u> 4	refore, XAPER G130M/130 9 Deuterium Exposure 1 <u>uments: Deuter</u> Aperture Ad	<u>e is set to -213153</u> DEUTERIUM	B = -60 COS/FUV, TIME-TAG, FCA	1309 A	M; BUFFER-TIME=16 5; FP-POS=1; SEGMENT=BOTH; LIFETIME-POS=L P1	QESIPARM XSTEP		[==>]	[.
Dest <u>Thei</u> 4	nefore, XAPER G130M/130 9 Deuterium Exposure 1 ments: Deuter Aperture Ad justment 2 f	<u>e is set to -213153</u> DEUTERIUM	2 = -60 COS/FUV, TIME-TAG, FCA ized for Segment A. FP-POS=1 was cl	1309 A	M; BUFFER-TIME=16 5; FP-POS=1; SEGMENT=BOTH; LIFETIME-POS=L P1 ous observations show the	0		[==>] her FP-POS values.	
Dest <u>Thei</u> 4	refore, XAPER G130M/130 9 Deuterium Exposure 1 <u>uments: Deuter</u> Aperture Ad	<u>e is set to -213153</u> DEUTERIUM	2 = -60 COS/FUV, TIME-TAG, FCA ized for Segment A. FP-POS=1 was cl	1309 A	M; BUFFER-TIME=16 5; FP-POS=1; SEGMENT=BOTH; LIFETIME-POS=L P1 ous observations show the	QESIPARM XSTEP		[==>] her FP-POS values. 0.0 Secs (0 Secs)	
Dess <u>Ther</u> 4 5	aments: Deuteri Aperture Ad justment 2 f or Segment A	<u>e is set to -213153</u> DEUTERIUM <u>rium exposure optimu</u> NONE	2 = -60 COS/FUV, TIME-TAG, FCA ized for Segment A. FP-POS=1 was cl	1309 A hosen because previo	M; BUFFER-TIME=16 5; FP-POS=1; SEGMENT=BOTH; LIFETIME-POS=L P1 ous observations show th XAPER=-114	QESIPARM XSTEF S -54	2	[==>] her FP-POS values. 0.0 Secs (0 Secs)	
Dess <u>Ther</u> 4 5 <i>Con</i> <i>FCA</i>	aments: Deuteri Aperture Ad justment 2 f or Segment A uments: Put the ALAPXSTP va	tis set to -213153 DEUTERIUM NONE e aperture in the app lue at LP1 is -153	2 = -60 COS/FUV, TIME-TAG, FCA <i>ized for Segment A. FP-POS=1 was cl</i> COS, ALIGN/APER	1309 A hosen because previo on of the LP5 region	M; BUFFER-TIME=16 5; FP-POS=1; SEGMENT=BOTH; LIFETIME-POS=L P1 ous observations show th XAPER=-114	QESIPARM XSTEF S -54	2	[==>] her FP-POS values. 0.0 Secs (0 Secs)	
Dess <u>Ther</u> 4 5 <i>Con</i> <i>FCA</i>	aments: Deuteri Aperture Ad justment 2 f or Segment A uments: Put the ALAPXSTP va	tis set to -213153 DEUTERIUM NONE e aperture in the app lue at LP1 is -153	2 = -60 COS/FUV, TIME-TAG, FCA <i>ized for Segment A. FP-POS=1 was ch</i> COS, ALIGN/APER	1309 A hosen because previo on of the LP5 region	M; BUFFER-TIME=16 5; FP-POS=1; SEGMENT=BOTH; LIFETIME-POS=L P1 ous observations show th XAPER=-114	QESIPARM XSTEF S -54	2	[==>] her FP-POS values. 0.0 Secs (0 Secs)	

#### Proposal 16833 - LP5 gain map - after HV increase (5C) - Cycle 29 COS FUV Characterization of Modal Gain When Changing High V..

	map - anei riv moreas	<u>e (30) - 0y</u>		Characterization of h	noual Gain when Chang	ing nigh v
6 G130M/130 DEUTERIUM	COS/FUV, TIME-TAG, FCA	G130M	CURRENT=MEDIU	1	440 Secs (440 Secs)	
9 Deuterium Exposure 2		1309 A	M; BUFFER-TIME=16		[==>]	
-			5;			
			FP-POS=1;			[1]
			SEGMENT=BOTH	;		
			LIFETIME-POS=L			
Comments: Deuterium exposure optim	$pized$ for Segment A $EP_POS-1$ was a	hosen because pr	P1	nat it has slightly more counts than t	the other FP-POS values	
7 Aperture Ad NONE	COS, ALIGN/APER	nosen because pre	XAPER=-72	QESIPARM XSTEP	0.0 Secs (0 Secs)	
justment 1 f or Segment B				S 42	[==>]	[1]
Comments: Put the aperture in the app	propriate position to illuminate a portion	on of the LP5 regi	on of the detector when illu	minating Segment B with G160M/10	600.	
FCA LAPXSTP value at LP1 is -153 Desired LAPXSTP value for FCA to il.	luminate Segment B with G160M/1600	at Position 1 for	LP5 is -225			
Therefore, XAPER is set to -225153 ion.	B = -72. *HOWEVER*, because of the	TRANS rules, the	"QESIPARM XSTEPS 42"	[(-72114) = +42] Special Requir	rement is necessary to move the aperture	to the correct locat
8 G160M/160 DEUTERIUM	COS/FUV, TIME-TAG, FCA	G160M	CURRENT=MEDIU	I	440 Secs (440 Secs)	
0 Deuterium Exposure 1		1600 A	M;		[==>]	
Exposure 1			BUFFER-TIME=16 5;			
			FP-POS=4;			[1]
			SEGMENT=BOTH	?		[1]
			LIFETIME-POS=L			
Comments: Deuterium exposure optim	E DOS A	.1	P1	d at it has all half and a surface design		
9 Aperture Ad NONE	COS, ALIGN/APER	chosen because pi	XAPER=-114	QESIPARM XSTEP	0.0 Secs (0 Secs)	
justment 2 f	Cob, Alion Ali Ek			S -42	$\int \frac{1}{1} = 0.0 \text{ Becs}(0 \text{ Becs})$	
or Segment B						[1]
Comments: Put the aperture in the app	propriate position to illuminate a portion	on of the LP5 regi	on of the detector when illu	minating Segment B with G160M/10	600.	
FCA LAPXSTP value at LP1 is -153 Desired LAPXSTP value for FCA to il. ot. To leave some pad, I will set it to m	luminate Segment B with G160M/1600 aatch the G130M exposure (-267).	at Position 2 for 1	LP5 is -280, but the apertur	re soft stop is at -275 and we don't w	vant to exceed that value when including	the 5 step oversho
Therefore, XAPER is set to -267153 ation.	B = -114. *HOWEVER*, because of the	e TRANS rules, the	e "QESIPARM XSTEPS -42	" [(-11472) = -42] Special Requi	irement is necessary to move the aperture	e to the correct loc
10 G160M/160 DEUTERIUM 0 Deuterium	COS/FUV, TIME-TAG, FCA	G160M	CURRENT=MEDIU M:	Ţ	440 Secs (440 Secs)	
Exposure 2		1600 A	BUFFER-TIME=16		[==>]	
-			5;			
			FP-POS=4;			[1]
			SEGMENT=BOTH	;		
			LIFETIME-POS=L P1			
Comments: Deuterium exposure optim	mized for Segment P FP POS-4 was	ahasan haarusa n		that it has slightly more counts than	the other FP POS values	
comments. Demertant exposure optim	milea for segment <b>D</b> . 11 1 05–4 was	enosen because pr	erious observations show i	indi ii nus sugnity more counts indit	ine one III 105 values.	

