

# 13617 - Characterization of COS/FUV modal gain at lifetime position 3 (LOP1)

Cycle: 21, Proposal Category: CAL/COS (Availability Mode: RESTRICTED)

## **INVESTIGATORS**

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### **VISITS**

Visit	Targets used in Visit	Configurations used in Visit	Orbits Used	Last Orbit Planner Run	OP Current with Visit?
01	DARK DEUTERIUM NONE	COS COS/FUV S/C	1	19-Dec-2013 16:05:34.0	yes
02	DARK DEUTERIUM NONE	COS COS/FUV S/C	1	21-Dec-2013 00:35:27.0	yes
03	DARK DEUTERIUM NONE	COS COS/FUV S/C	1	21-Dec-2013 00:35:35.0	yes
04	DARK DEUTERIUM NONE	COS COS/FUV S/C	1	21-Dec-2013 00:35:42.0	yes

<sup>4</sup> Total Orbits Used

Proposal 13617 (STScI Edit Number: 4, Created: Saturday, December 21, 2013 12:35:49 AM EST) - Overview

#### ABSTRACT

This program will characterize the COS/FUV modal gain at the detector locations and initial HV settings for LP3 operations. The deuterium lamp will be used to illuminate the detector region covering possible LP3 positions up to LP1. The data obtained will be used to create gain maps 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 from LP1 down to LP3. This will be done at the lowest 2 high-voltage settings for each detector (167 and 171 for FUVA, 163 and 167 for FUVB). 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.

The procedure for collecting this data is:

- \* Set HV levels on both segments
- \* Adjust the aperture in the cross dispersion direction so that the deuterium lamp will illuminate the appropriate region.
- \* Take a 400 second deuterium lamp exposure using both detector segments optimized for FUVA.
- \* Take a 400 second deuterium lamp exposure using both detector segments optimized for FUVB.
- \* Return to nominal

Repeat for each Y-location and HV setting.

#### **CALIBRATION JUSTIFICATION**

No up-to-date gainmaps exist (showing current usage) for the regions from LP1 to LP3 at the specified high-voltage levels. It is important to know the current gain situation over this detector region in order to optimize the placement of LP3. These maps will allow the spectra to be placed as close as possible to LP1, thus preserving resolution and extending operational lifetime, while retaining data quality.

#### ADDITIONAL COMMENTS

Since non-default FUV HV settings are being specified, the FUV cannot be allowed to transition out of HVNOM until the exposures requiring that setting have completed. The SEQ NON-INT special requirement on exposure 1 of each visit enforces this requirement.

<u>Pro</u>	pposal 13617 - First HV, first position (01) - Characterization of COS/FUV modal gain at lifetime position 3 (LOP1	
	Proposal 13617, First HV, first position (01), implementation	Sat Dec 21 05:35:50 GMT 2013
±	Diagnostic Status: Warning	
Ιż	Scientific Instruments: S/C, COS/FUV, COS	
1	Special Requirements: PARALLEL	
	Comments: Disallow FUV transitions out of HVNOM until end (exp AFTERs and/or SEQ NON-INTs should enforce this).	
SS	(Aperture Adjustment (01.002)) 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 13617 - First HV, first position (01) - Characterization of COS/FUV modal gain at lifetime position 3 (LOP1)

	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Regs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbi
<ol> <li>Set DETHV level</li> </ol>	V DARK	S/C, DATA, NONE			SAA CONTOUR 31; SPEC COM INSTR	Sequence 1-4 Non-In t in First HV, first po	256 Secs (256 Secs)	
					ELHLTHVF;	sition (01)	11	
					QASISTATES COS FUV HVLOW HVN OM;			
					QASISTATES COS SI OBSERVE OBSE RVE;			[1]
					QESIPARM ENDC TSA 167;			
					QESIPARM ENDC TSB 163			
Comments: Setting Setting DETHV to	ng DETHV to 167 for to 163 for FUVB	FUVA						
Disallow FUV tro	ansitions out of HVN	OM until end (enforced by Seq Non-In	t).					
SQL required for	r qexposure to specify	the si_used = "COS".						
2 Aperture Ad	d NONE	COS, ALIGN/APER		XAPER=-202	NEW ALIGNMENT	Sequence 1-4 Non-In t in First HV, first po	0.0 Secs (0 Secs)	
justment					, OASISTATES COS	sition (01)	[==>]	
					FUV HVNOM HVN OM			[1
Comments: Put th	he aperture in the app	propriate position to illuminate the cor	rect region of the de	etector when illuminating	Segment A with G130N	1/1309 and Segment B	with G160M/1600.	
PSA I APXSTP v	alue at I P2 is 52 1 - I	Desired LAPXSTP value for FCA to ill	uminate Seament A	with G130M/1309 is -150	Therefore XAPFR is	set to -202		
1 511 2211 11511 70		sestived Entriper value joi i cirro in	minute segment 11	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,				
					•			
* Current rules s	state that the aperture	mechanism will not be moved for the	science exposure tha	at follows an ALIGN/APE	•	pecial commanding is n	ot needed.	
	ad coverage of the de	mechanism will not be moved for the suterium lamps and the wide range cover	•		R, so ELNOAPMAIN sp	· ·		ling is inc
* Due to the broa ed (see 13494 for	ad coverage of the de	V	•		R, so ELNOAPMAIN sp	or these exposures. The	refore, no XSTEPS special command	ing is inc
* Due to the broa ed (see 13494 for 3 G130M/130 9 Deuteriun	ad coverage of the det r example) 0 DEUTERIUM	uterium lamps and the wide range cove	ered, the ~6pix y-off.	CURRENT=MEDIU	R, so ELNOAPMAIN sp	or these exposures. The Sequence 1-4 Non-In t in First HV, first po	refore, no XSTEPS special command	ling is ind
* Due to the broa ed (see 13494 for 3 G130M/130	ad coverage of the det r example) 0 DEUTERIUM	uterium lamps and the wide range cove	G130M	CURRENT=MEDIU M; BUFFER-TIME=11	R, so ELNOAPMAIN sp	or these exposures. The	erefore, no XSTEPS special command	
* Due to the broaded (see 13494 for 3 G130M/130 9 Deuterium	ad coverage of the det r example) 0 DEUTERIUM	uterium lamps and the wide range cove	G130M	CURRENT=MEDIU M; BUFFER-TIME=11	R, so ELNOAPMAIN sp	or these exposures. The Sequence 1-4 Non-In t in First HV, first po	erefore, no XSTEPS special command	
* Due to the broa ed (see 13494 for 3 G130M/130 9 Deuteriun Exposure	ad coverage of the det r example) 0 DEUTERIUM m	uterium lamps and the wide range cove	G130M 1309 A	CURRENT=MEDIU M; BUFFER-TIME=11 1; FP-POS=1	R, so ELNOAPMAIN sp UVB is not a concern fo	Sequence 1-4 Non-In t in First HV, first po sition (01)	400 Secs (400 Secs) $l ==> l$	ing is inc
* Due to the broa ed (see 13494 for 3 G130M/130 9 Deuteriun Exposure	ad coverage of the det r example) 0 DEUTERIUM m	uterium lamps and the wide range cove  COS/FUV, TIME-TAG, FCA  nized for Segment A. FP-POS=1 was o	G130M 1309 A	CURRENT=MEDIU M; BUFFER-TIME=11 1; FP-POS=1	R, so ELNOAPMAIN sp UVB is not a concern fo	Sequence 1-4 Non-In t in First HV, first po sition (01)	400 Secs (400 Secs)  [==>]  P-POS values.  400 Secs (400 Secs)	
* Due to the broaded (see 13494 for 3 G130M/130 9 Deuterium Exposure  **Comments: Deute 4 G160M/160 0 Deuterium et al.	ad coverage of the det r example)  0 DEUTERIUM m  rerium exposure optim 0 DEUTERIUM	uterium lamps and the wide range cove	G130M 1309 A	CURRENT=MEDIU M; BUFFER-TIME=11 1; FP-POS=1	R, so ELNOAPMAIN sp UVB is not a concern fo	Sequence 1-4 Non-In t in First HV, first po sition (01)  counts than the other F Sequence 1-4 Non-In t in First HV, first po	trefore, no XSTEPS special command  400 Secs (400 Secs)  [==>]  P-POS values.  400 Secs (400 Secs)	
* Due to the broaded (see 13494 for 3 G130M/130 9 Deuterium Exposure  **Comments: Deute 4 G160M/160	ad coverage of the det r example)  0 DEUTERIUM m  rerium exposure optim 0 DEUTERIUM	uterium lamps and the wide range cove  COS/FUV, TIME-TAG, FCA  nized for Segment A. FP-POS=1 was o	G130M 1309 A	CURRENT=MEDIU M; BUFFER-TIME=11 1; FP-POS=1 CURRENT=MEDIU M; BUFFER-TIME=11 BUFFER-TIME=11	R, so ELNOAPMAIN sp UVB is not a concern fo	Sequence 1-4 Non-In t in First HV, first po sition (01)	400 Secs (400 Secs)    ==>	[1]
* Due to the broaded (see 13494 for 3 G130M/130 9 Deuterium Exposure  **Comments: Deute 4 G160M/160 0 Deuterium et al.   Comments: Deute   Comments: Deute   Comments   Comments	ad coverage of the det r example)  0 DEUTERIUM m  rerium exposure optim 0 DEUTERIUM	uterium lamps and the wide range cove  COS/FUV, TIME-TAG, FCA  nized for Segment A. FP-POS=1 was o	G130M 1309 A	CURRENT=MEDIU M; BUFFER-TIME=11 1; FP-POS=1 CURRENT=MEDIU M; BUFFER-TIME=11 1;	R, so ELNOAPMAIN sp UVB is not a concern fo	Sequence 1-4 Non-In t in First HV, first po sition (01)  counts than the other F Sequence 1-4 Non-In t in First HV, first po	trefore, no XSTEPS special command  400 Secs (400 Secs)  [==>]  P-POS values.  400 Secs (400 Secs)	[1]
* Due to the broated (see 13494 for 3 G130M/130 9 Deuterium Exposure  **Comments: Deute 4 G160M/160 0 Deuterium 13494 for 3494 160	ad coverage of the det r example)  0 DEUTERIUM m  rerium exposure optim 0 DEUTERIUM	uterium lamps and the wide range cove  COS/FUV, TIME-TAG, FCA  nized for Segment A. FP-POS=1 was o	G130M 1309 A	CURRENT=MEDIU M; BUFFER-TIME=11 1; FP-POS=1 CURRENT=MEDIU M; BUFFER-TIME=11 BUFFER-TIME=11	R, so ELNOAPMAIN sp UVB is not a concern fo	Sequence 1-4 Non-In t in First HV, first po sition (01)  counts than the other F Sequence 1-4 Non-In t in First HV, first po	trefore, no XSTEPS special command  400 Secs (400 Secs)  [==>]  P-POS values.  400 Secs (400 Secs)	
* Due to the broaded (see 13494 for Barbara San Gl30M/130 9 Deuterium Exposure  **Comments: Deute Gl60M/160 0 Deuterium Exposure	ad coverage of the det r example)  0 DEUTERIUM m  rerium exposure optim 0 DEUTERIUM	uterium lamps and the wide range cove  COS/FUV, TIME-TAG, FCA  nized for Segment A. FP-POS=1 was o	G130M 1309 A 1309 A thosen because prev G160M 1600 A	CURRENT=MEDIU M; BUFFER-TIME=11 1; FP-POS=1 CURRENT=MEDIU M; BUFFER-TIME=11 1; FP-POS=4	R, so ELNOAPMAIN sp	Sequence 1-4 Non-In t in First HV, first position (01)  counts than the other F Sequence 1-4 Non-In t in First HV, first position (01)	### Acceptance of the image of	
* Due to the broaded (see 13494 for 3 G130M/130 9 Deuterium Exposure  **Comments: Deute 4 G160M/160 0 Deuterium Exposure	ad coverage of the det r example)  0 DEUTERIUM m  rerium exposure optim 0 DEUTERIUM	COS/FUV, TIME-TAG, FCA  rized for Segment A. FP-POS=1 was a	G130M 1309 A 1309 A thosen because prev G160M 1600 A	CURRENT=MEDIU M; BUFFER-TIME=11 1; FP-POS=1 CURRENT=MEDIU M; BUFFER-TIME=11 1; FP-POS=4	R, so ELNOAPMAIN sp	Sequence 1-4 Non-In t in First HV, first position (01)  counts than the other F Sequence 1-4 Non-In t in First HV, first position (01)	### Acceptance of the image of	[1
* Due to the broaded (see 13494 for 3 G130M/130 9 Deuterium Exposure  **Comments: Deuted 4 G160M/160 0 Deuterium Exposure	ad coverage of the det r example)  0 DEUTERIUM m  rerium exposure optim 0 DEUTERIUM	COS/FUV, TIME-TAG, FCA  rized for Segment A. FP-POS=1 was a	G130M 1309 A 1309 A thosen because prev G160M 1600 A	CURRENT=MEDIU M; BUFFER-TIME=11 1; FP-POS=1 CURRENT=MEDIU M; BUFFER-TIME=11 1; FP-POS=4	R, so ELNOAPMAIN sp	Sequence 1-4 Non-In t in First HV, first position (01)  counts than the other F Sequence 1-4 Non-In t in First HV, first position (01)	### Acceptance of the image of	[1
* Due to the broaded (see 13494 for a G130M/130 g Deuterium Exposure  **Comments: Deuted to G160M/160 g Deuterium Exposure**  **Due to the broaded to G13494 for g G130M/130 g	ad coverage of the det r example)  0 DEUTERIUM m  rerium exposure optim 0 DEUTERIUM	COS/FUV, TIME-TAG, FCA  rized for Segment A. FP-POS=1 was a	G130M 1309 A 1309 A thosen because prev G160M 1600 A	CURRENT=MEDIU M; BUFFER-TIME=11 1; FP-POS=1 CURRENT=MEDIU M; BUFFER-TIME=11 1; FP-POS=4	R, so ELNOAPMAIN sp	Sequence 1-4 Non-In t in First HV, first position (01)  counts than the other F Sequence 1-4 Non-In t in First HV, first position (01)	### Acceptance of the image of	[1
* Due to the broaded (see 13494 for a G130M/130 g Deuterium Exposure  **Comments: Deute    G160M/160 g Deuterium Exposure	ad coverage of the det r example)  0 DEUTERIUM m  rerium exposure optim 0 DEUTERIUM	COS/FUV, TIME-TAG, FCA  rized for Segment A. FP-POS=1 was a	G130M 1309 A 1309 A thosen because prev G160M 1600 A	CURRENT=MEDIU M; BUFFER-TIME=11 1; FP-POS=1 CURRENT=MEDIU M; BUFFER-TIME=11 1; FP-POS=4	R, so ELNOAPMAIN sp	Sequence 1-4 Non-In t in First HV, first position (01)  counts than the other F Sequence 1-4 Non-In t in First HV, first position (01)	### Acceptance of the image of	[1
* Due to the broaded (see 13494 for 3 G130M/130 9 Deuterium Exposure  **Comments: Deute 4 G160M/160 0 Deuterium Exposure	ad coverage of the det r example)  0 DEUTERIUM m  rerium exposure optim 0 DEUTERIUM	COS/FUV, TIME-TAG, FCA  rized for Segment A. FP-POS=1 was a	G130M 1309 A 1309 A thosen because prev G160M 1600 A	CURRENT=MEDIU M; BUFFER-TIME=11 1; FP-POS=1 CURRENT=MEDIU M; BUFFER-TIME=11 1; FP-POS=4	R, so ELNOAPMAIN sp	Sequence 1-4 Non-In t in First HV, first position (01)  counts than the other F Sequence 1-4 Non-In t in First HV, first position (01)	### Acceptance of the image of	
* Due to the broaded (see 13494 for 3 G130M/130 9 Deuterium Exposure  **Comments: Deute 4 G160M/160 0 Deuterium Exposure	ad coverage of the det r example)  0 DEUTERIUM m  rerium exposure optim 0 DEUTERIUM	COS/FUV, TIME-TAG, FCA  rized for Segment A. FP-POS=1 was a	G130M 1309 A 1309 A thosen because prev G160M 1600 A	CURRENT=MEDIU M; BUFFER-TIME=11 1; FP-POS=1 CURRENT=MEDIU M; BUFFER-TIME=11 1; FP-POS=4	R, so ELNOAPMAIN sp	Sequence 1-4 Non-In t in First HV, first position (01)  counts than the other F Sequence 1-4 Non-In t in First HV, first position (01)	### Acceptance of the image of	[1]
* Due to the broaded (see 13494 for 3 G130M/130 9 Deuteriun Exposure  **Comments: Deute 4 G160M/160 0 Deuteriun Exposure	ad coverage of the det r example)  0 DEUTERIUM m  rerium exposure optim 0 DEUTERIUM	COS/FUV, TIME-TAG, FCA  rized for Segment A. FP-POS=1 was a	G130M 1309 A 1309 A thosen because prev G160M 1600 A	CURRENT=MEDIU M; BUFFER-TIME=11 1; FP-POS=1 CURRENT=MEDIU M; BUFFER-TIME=11 1; FP-POS=4	R, so ELNOAPMAIN sp	Sequence 1-4 Non-In t in First HV, first position (01)  counts than the other F Sequence 1-4 Non-In t in First HV, first position (01)	### Acceptance of the image of	[1

<u>Pr</u>	oposal 13617 - First I	HV, first position (01) - Character	ization of COS/FUV modal gain at lifetime position	3 (LOP1)	
	5 End with FU DARK	S/C, DATA, NONE	NEW OBSET;	l Secs (1 Secs)	
	V in HVLo w		QASISTATES COS FUV HVLOW HVL OW;	T==>J	[1]
			QASISTATES COS SI OBSERVE OBSE RVE		[1]
l	Comments: Force the FUV to its	nominal rest state (HVLow) to ensure appropriate H	V settings will be used by any following COS FUV observation.		
	SQL required for qexposure to s	pecify the si_used = "COS".			
l	New obset SR necessary to force	this exposure to be the very last exposure after Home	:		

	<u> </u>	<u> posai 13617 - First HV, second position (UZ) - Characterization (</u>	TCOS/FUV modal gain at lifetime position 3 (LOP1)
ſ		Proposal 13617, First HV, second position (02), implementation	Sat Dec 21 05:35:51 GMT 201
١	<u>:</u> =	Diagnostic Status: Warning	
- 1	<u>.s</u>	Scientific Instruments: S/C, COS/FUV, COS	

Comments: Disallow FUV transitions out of HVNOM until end (exp AFTERs and/or SEQ NON-INTs should enforce this). Diagnostics (First HV, second position (02)) Warning (Orbit Planner): MAXIMUM DURATION EXCEEDED FOR INTERNAL OR EARTH CALIB SU

Special Requirements: PARALLEL

(Aperture Adjustment (02.002)) Warning (Form): This ALIGN/APER exposure should be preceded by a science exposure to define the starting position for the scan.

Proposal 13617 - First HV, second position (02) - Characterization of COS/FUV modal gain at lifetime position 3 (LOP1)

	#	SAI 1361 Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1	Set DETHV level	DARK	S/C, DATA, NONE		-	SAA CONTOUR 31: SPEC COM INSTR ELHLTHVF;	Sequence 1-4 Non-In t in First HV, second position (02)	256 Secs (256 Secs) [==>]	
							QASISTATES COS FUV HVLOW HVN OM;			
							QASISTATES COS SI OBSERVE OBSE RVE;			[1]
							QESIPARM ENDC TSA 167;			
							QESIPARM ENDC TSB 163			
			g DETHV to 167 for 163 for FUVB	·FUVA						
	Disa	llow FUV tra	nsitions out of HVN	OM until end (enforced by Seq Non-Int	t).					
	SQL	required for a	qexposure to specify	the si_used = "COS".						
	2	Aperture Ad	NONE	COS, ALIGN/APER		XAPER=-152	NEW ALIGNMENT	Sequence 1-4 Non-In	0.0 Secs (0 Secs)	
		justment					; QASISTATES COS FUV HVNOM HVN OM	t in First HV, second position (02)	[==>]	[1]
Ş	Com	ments: Put th	e aperture in the ap	propriate position to illuminate the cor	rect region of the de	etector when illuminating		1/1300 and Seament R	with G160M/1600.	
	00				0 0	rector when tituminating	segmeni A wiin 0130N	1/1309 ana segmeni <b>D</b> (		
Sure		LAPXSTP va	lue at LP2 is 52.1.	Desired LAPXSTP value for FCA to illi	uminate Segment A v	8	O	Ü		
Exposure	PSA * Cu * Du	rrent rules sto e to the broac ee 13494 for	ate that the aperture d coverage of the de example)	mechanism will not be moved for the sufficient that the wide range cover	science exposure tha	with G130M/1309 is -100. t follows an ALIGN/APEI set between FUVA and FU	. Therefore, XAPER is R, so ELNOAPMAIN sp IVB is not a concern fo	set to -152.  pecial commanding is nor these exposures. The	ot needed. refore, no XSTEPS special command	ling is includ
Exposure	PSA * Cu * Du	rrent rules sto e to the broac ee 13494 for	ate that the aperture of coverage of the de example) DEUTERIUM	e mechanism will not be moved for the s	science exposure that ered, the ~6pix y-offs G130M	with G130M/1309 is -100. t follows an ALIGN/APEI	. Therefore, XAPER is R, so ELNOAPMAIN sp IVB is not a concern fo	set to -152.  pecial commanding is nor these exposures. The  Sequence 1-4 Non-Int in First HV, second	ot needed. refore, no XSTEPS special command 400 Secs (400 Secs)	ing is includ
Exposure	PSA * Cu * Du	rrent rules store to the broad ee 13494 for G130M/130	ate that the aperture of coverage of the de example) DEUTERIUM	mechanism will not be moved for the sufficient that the wide range cover	science exposure tha	with G130M/1309 is -100.  It follows an ALIGN/APER  Set between FUVA and FU  CURRENT=MEDIU	. Therefore, XAPER is R, so ELNOAPMAIN sp IVB is not a concern fo	set to -152.  pecial commanding is nor these exposures. The	ot needed. refore, no XSTEPS special command	
Exposure	PSA * Cu * Du	rrent rules state to the broad ee 13494 for G130M/130 9 Deuterium	ate that the aperture of coverage of the de example) DEUTERIUM	mechanism will not be moved for the sufficient that the wide range cover	science exposure that ered, the ~6pix y-offs G130M	with G130M/1309 is -100. It follows an ALIGN/APEI Set between FUVA and FU  CURRENT=MEDIU M;  BUFFER-TIME=11 1;	. Therefore, XAPER is R, so ELNOAPMAIN sp IVB is not a concern fo	set to -152.  pecial commanding is nor these exposures. The  Sequence 1-4 Non-Int in First HV, second	ot needed. refore, no XSTEPS special command 400 Secs (400 Secs)	ing is includ
Exposure	PSA * Cu * Du ed (s	rrent rules sto ee to the broad ee 13494 for G130M/130 9 Deuterium Exposure	ate that the aperture d coverage of the de example) DEUTERIUM	e mechanism will not be moved for the s uterium lamps and the wide range cove COS/FUV, TIME-TAG, FCA	science exposure that ered, the ~6pix y-offs G130M 1309 A	with G130M/1309 is -100. It follows an ALIGN/APEI Set between FUVA and FU  CURRENT=MEDIU M;  BUFFER-TIME=11 1; FP-POS=1	. Therefore, XAPER is R, so ELNOAPMAIN sp IVB is not a concern fo	set to -152.  secial commanding is nor these exposures. The  Sequence 1-4 Non-In tin First HV, second position (02)	ot needed. refore, no XSTEPS special command 400 Secs (400 Secs) [==>]	
Exposure	PSA * Cu * Du ed (s	rrent rules state to the broade 13494 for G130M/130 9 Deuterium Exposure	ate that the aperture of coverage of the de example)  DEUTERIUM  rium exposure optin	e mechanism will not be moved for the sutterium lamps and the wide range cover COS/FUV, TIME-TAG, FCA	science exposure that ered, the ~6pix y-offs G130M 1309 A	with G130M/1309 is -100. It follows an ALIGN/APEI Set between FUVA and FU  CURRENT=MEDIU M;  BUFFER-TIME=11 1;  FP-POS=1 ious observations show the	Therefore, XAPER is R, so ELNOAPMAIN sp WB is not a concern for	set to -152.  secial commanding is nor these exposures. The  Sequence 1-4 Non-Int in First HV, second position (02)	ot needed.  refore, no XSTEPS special command  400 Secs (400 Secs)  [==>]  P-POS values.	
Exposure	PSA * Cu * Du ed (s	rrent rules state to the broade ee 13494 for G130M/130 9 Deuterium Exposure  ments: Deute G160M/160	ate that the aperture of coverage of the de example)  DEUTERIUM  rium exposure optin  DEUTERIUM	e mechanism will not be moved for the s uterium lamps and the wide range cove COS/FUV, TIME-TAG, FCA	G130M 1309 A	with G130M/1309 is -100. It follows an ALIGN/APEI Set between FUVA and FU  CURRENT=MEDIU M;  BUFFER-TIME=11 1; FP-POS=1 ious observations show th	Therefore, XAPER is R, so ELNOAPMAIN sp WB is not a concern for	set to -152.  secial commanding is nor these exposures. The  Sequence 1-4 Non-In tin First HV, second position (02)  counts than the other F.  Sequence 1-4 Non-In	ot needed.  refore, no XSTEPS special command  400 Secs (400 Secs)  [==>]  P-POS values.  400 Secs (400 Secs)	
Exposure	PSA * Cu * Du ed (s	rrent rules state to the broade 13494 for G130M/130 9 Deuterium Exposure	ate that the aperture of coverage of the de example)  DEUTERIUM  rium exposure optin  DEUTERIUM	e mechanism will not be moved for the sutterium lamps and the wide range cover COS/FUV, TIME-TAG, FCA	science exposure that ered, the ~6pix y-offs G130M 1309 A	with G130M/1309 is -100. It follows an ALIGN/APEI Set between FUVA and FU  CURRENT=MEDIU M;  BUFFER-TIME=11 1; FP-POS=1 ious observations show th  CURRENT=MEDIU M;  BUFFER-TIME=11 1;	Therefore, XAPER is R, so ELNOAPMAIN sp WB is not a concern for	set to -152.  secial commanding is nor these exposures. The  Sequence 1-4 Non-Int in First HV, second position (02)	ot needed.  refore, no XSTEPS special command  400 Secs (400 Secs)  [==>]  P-POS values.	
Exposure	PSA * Cu * Du ed (s 3 3 )	rrent rules stere to the broade ee 13494 for G130M/130 9 Deuterium Exposure  ments: Deute G160M/160 0 Deuterium Exposure	ate that the aperture of coverage of the de example)  DEUTERIUM  rium exposure optin  DEUTERIUM	e mechanism will not be moved for the sutterium lamps and the wide range covered COS/FUV, TIME-TAG, FCA  nized for Segment A. FP-POS=1 was a COS/FUV, TIME-TAG, FCA	G130M 1309 A Schosen because previous G160M 1600 A	with G130M/1309 is -100. It follows an ALIGN/APEI Set between FUVA and FU  CURRENT=MEDIU M; BUFFER-TIME=11 1; FP-POS=1 ious observations show th  CURRENT=MEDIU M; BUFFER-TIME=11 1; FP-POS=4	Therefore, XAPER is R, so ELNOAPMAIN sp UVB is not a concern for	set to -152.  secial commanding is n or these exposures. The  Sequence 1-4 Non-In t in First HV, second position (02)  counts than the other F. Sequence 1-4 Non-In t in First HV, second position (02)	ot needed.  refore, no XSTEPS special command  400 Secs (400 Secs)  [==>]  P-POS values.  400 Secs (400 Secs)  [==>]	[1]
Exposure	PSA * Cu * Du ed (s 3 3 )	rrent rules stere to the broade ee 13494 for G130M/130 9 Deuterium Exposure  ments: Deute G160M/160 0 Deuterium Exposure	ate that the aperture of coverage of the de example)  DEUTERIUM  rium exposure optin  DEUTERIUM	e mechanism will not be moved for the sutterium lamps and the wide range cover COS/FUV, TIME-TAG, FCA	G130M 1309 A Schosen because previous G160M 1600 A	with G130M/1309 is -100. It follows an ALIGN/APEI Set between FUVA and FU  CURRENT=MEDIU M; BUFFER-TIME=11 1; FP-POS=1 ious observations show th  CURRENT=MEDIU M; BUFFER-TIME=11 1; FP-POS=4	Therefore, XAPER is R, so ELNOAPMAIN sp UVB is not a concern for	set to -152.  secial commanding is n or these exposures. The  Sequence 1-4 Non-In t in First HV, second position (02)  counts than the other F. Sequence 1-4 Non-In t in First HV, second position (02)	ot needed.  refore, no XSTEPS special command  400 Secs (400 Secs)  [==>]  P-POS values.  400 Secs (400 Secs)  [==>]	[1]
Exposure	PSA * Cu * Du ed (s 3 3 )	rrent rules stere to the broade ee 13494 for G130M/130 9 Deuterium Exposure  ments: Deute G160M/160 0 Deuterium Exposure	ate that the aperture of coverage of the de example)  DEUTERIUM  rium exposure optin  DEUTERIUM	e mechanism will not be moved for the sutterium lamps and the wide range covered COS/FUV, TIME-TAG, FCA  nized for Segment A. FP-POS=1 was a COS/FUV, TIME-TAG, FCA	G130M 1309 A Schosen because previous G160M 1600 A	with G130M/1309 is -100. It follows an ALIGN/APEI Set between FUVA and FU  CURRENT=MEDIU M; BUFFER-TIME=11 1; FP-POS=1 ious observations show th  CURRENT=MEDIU M; BUFFER-TIME=11 1; FP-POS=4	Therefore, XAPER is R, so ELNOAPMAIN sp UVB is not a concern for	set to -152.  secial commanding is n or these exposures. The  Sequence 1-4 Non-In t in First HV, second position (02)  counts than the other F. Sequence 1-4 Non-In t in First HV, second position (02)	ot needed.  refore, no XSTEPS special command  400 Secs (400 Secs)  [==>]  P-POS values.  400 Secs (400 Secs)  [==>]	[1]
Exposure	PSA * Cu * Du ed (s 3 3 )	rrent rules stere to the broade ee 13494 for G130M/130 9 Deuterium Exposure  ments: Deute G160M/160 0 Deuterium Exposure	ate that the aperture of coverage of the de example)  DEUTERIUM  rium exposure optin  DEUTERIUM	e mechanism will not be moved for the sutterium lamps and the wide range covered COS/FUV, TIME-TAG, FCA  nized for Segment A. FP-POS=1 was a COS/FUV, TIME-TAG, FCA	G130M 1309 A Schosen because previous G160M 1600 A	with G130M/1309 is -100. It follows an ALIGN/APEI Set between FUVA and FU  CURRENT=MEDIU M; BUFFER-TIME=11 1; FP-POS=1 ious observations show th  CURRENT=MEDIU M; BUFFER-TIME=11 1; FP-POS=4	Therefore, XAPER is R, so ELNOAPMAIN sp UVB is not a concern for	set to -152.  secial commanding is n or these exposures. The  Sequence 1-4 Non-In t in First HV, second position (02)  counts than the other F. Sequence 1-4 Non-In t in First HV, second position (02)	ot needed.  refore, no XSTEPS special command  400 Secs (400 Secs)  [==>]  P-POS values.  400 Secs (400 Secs)  [==>]	[1]
Exposure	PSA * Cu * Du ed (s 3 3 )	rrent rules stere to the broade ee 13494 for G130M/130 9 Deuterium Exposure  ments: Deute G160M/160 0 Deuterium Exposure	ate that the aperture of coverage of the de example)  DEUTERIUM  rium exposure optin  DEUTERIUM	e mechanism will not be moved for the sutterium lamps and the wide range covered COS/FUV, TIME-TAG, FCA  nized for Segment A. FP-POS=1 was a COS/FUV, TIME-TAG, FCA	G130M 1309 A Schosen because previous G160M 1600 A	with G130M/1309 is -100. It follows an ALIGN/APEI Set between FUVA and FU  CURRENT=MEDIU M; BUFFER-TIME=11 1; FP-POS=1 ious observations show th  CURRENT=MEDIU M; BUFFER-TIME=11 1; FP-POS=4	Therefore, XAPER is R, so ELNOAPMAIN sp UVB is not a concern for	set to -152.  secial commanding is n or these exposures. The  Sequence 1-4 Non-In t in First HV, second position (02)  counts than the other F. Sequence 1-4 Non-In t in First HV, second position (02)	ot needed.  refore, no XSTEPS special command  400 Secs (400 Secs)  [==>]  P-POS values.  400 Secs (400 Secs)  [==>]	[1]
Exposures	PSA * Cu * Du ed (s 3 3 )	rrent rules stere to the broade ee 13494 for G130M/130 9 Deuterium Exposure  ments: Deute G160M/160 0 Deuterium Exposure	ate that the aperture of coverage of the de example)  DEUTERIUM  rium exposure optin  DEUTERIUM	e mechanism will not be moved for the sutterium lamps and the wide range covered COS/FUV, TIME-TAG, FCA  nized for Segment A. FP-POS=1 was a COS/FUV, TIME-TAG, FCA	G130M 1309 A Schosen because previous G160M 1600 A	with G130M/1309 is -100. It follows an ALIGN/APEI Set between FUVA and FU  CURRENT=MEDIU M; BUFFER-TIME=11 1; FP-POS=1 ious observations show th  CURRENT=MEDIU M; BUFFER-TIME=11 1; FP-POS=4	Therefore, XAPER is R, so ELNOAPMAIN sp UVB is not a concern for	set to -152.  secial commanding is n or these exposures. The  Sequence 1-4 Non-In t in First HV, second position (02)  counts than the other F. Sequence 1-4 Non-In t in First HV, second position (02)	ot needed.  refore, no XSTEPS special command  400 Secs (400 Secs)  [==>]  P-POS values.  400 Secs (400 Secs)  [==>]	[1]
Exposure	PSA * Cu * Du ed (s 3 3 )	rrent rules stere to the broade ee 13494 for G130M/130 9 Deuterium Exposure  ments: Deute G160M/160 0 Deuterium Exposure	ate that the aperture of coverage of the de example)  DEUTERIUM  rium exposure optin  DEUTERIUM	e mechanism will not be moved for the sutterium lamps and the wide range covered COS/FUV, TIME-TAG, FCA  nized for Segment A. FP-POS=1 was a COS/FUV, TIME-TAG, FCA	G130M 1309 A Schosen because previous G160M 1600 A	with G130M/1309 is -100. It follows an ALIGN/APEI Set between FUVA and FU  CURRENT=MEDIU M; BUFFER-TIME=11 1; FP-POS=1 ious observations show th  CURRENT=MEDIU M; BUFFER-TIME=11 1; FP-POS=4	Therefore, XAPER is R, so ELNOAPMAIN sp UVB is not a concern for	set to -152.  secial commanding is n or these exposures. The  Sequence 1-4 Non-In t in First HV, second position (02)  counts than the other F. Sequence 1-4 Non-In t in First HV, second position (02)	ot needed.  refore, no XSTEPS special command  400 Secs (400 Secs)  [==>]  P-POS values.  400 Secs (400 Secs)  [==>]	[1]
Exposure	PSA * Cu * Du ed (s 3 3 )	rrent rules stere to the broade ee 13494 for G130M/130 9 Deuterium Exposure  ments: Deute G160M/160 0 Deuterium Exposure	ate that the aperture of coverage of the de example)  DEUTERIUM  rium exposure optin  DEUTERIUM	e mechanism will not be moved for the sutterium lamps and the wide range covered COS/FUV, TIME-TAG, FCA  nized for Segment A. FP-POS=1 was a COS/FUV, TIME-TAG, FCA	G130M 1309 A Schosen because previous G160M 1600 A	with G130M/1309 is -100. It follows an ALIGN/APEI Set between FUVA and FU  CURRENT=MEDIU M; BUFFER-TIME=11 1; FP-POS=1 ious observations show th  CURRENT=MEDIU M; BUFFER-TIME=11 1; FP-POS=4	Therefore, XAPER is R, so ELNOAPMAIN sp UVB is not a concern for	set to -152.  secial commanding is n or these exposures. The  Sequence 1-4 Non-In t in First HV, second position (02)  counts than the other F. Sequence 1-4 Non-In t in First HV, second position (02)	ot needed.  refore, no XSTEPS special command  400 Secs (400 Secs)  [==>]  P-POS values.  400 Secs (400 Secs)  [==>]	[1]
Exposure	PSA * Cu * Du ed (s 3 3 )	rrent rules stere to the broade ee 13494 for G130M/130 9 Deuterium Exposure  ments: Deute G160M/160 0 Deuterium Exposure	ate that the aperture of coverage of the de example)  DEUTERIUM  rium exposure optin  DEUTERIUM	e mechanism will not be moved for the sutterium lamps and the wide range covered COS/FUV, TIME-TAG, FCA  nized for Segment A. FP-POS=1 was a COS/FUV, TIME-TAG, FCA	G130M 1309 A Schosen because previous G160M 1600 A	with G130M/1309 is -100. It follows an ALIGN/APEI Set between FUVA and FU  CURRENT=MEDIU M; BUFFER-TIME=11 1; FP-POS=1 ious observations show th  CURRENT=MEDIU M; BUFFER-TIME=11 1; FP-POS=4	Therefore, XAPER is R, so ELNOAPMAIN sp UVB is not a concern for	set to -152.  secial commanding is n or these exposures. The  Sequence 1-4 Non-In t in First HV, second position (02)  counts than the other F. Sequence 1-4 Non-In t in First HV, second position (02)	ot needed.  refore, no XSTEPS special command  400 Secs (400 Secs)  [==>]  P-POS values.  400 Secs (400 Secs)  [==>]	[1]

Proposal 13617 - First HV, second position (02) - Characterization of COS/FUV modal gain at lifetime position 3 (LOP1) End with FU DARK V in HVLo S/C, DATA, NONE NEW OBSET; 1 Secs (1 Secs) QASISTATES COS FUV HVLOW HVL [==>] OW; [1] QASISTATES COS SI OBSERVE OBSE RVE Comments: Force the FUV to its nominal rest state (HVLow) to ensure appropriate HV settings will be used by any following COS FUV observation. *SQL* required for qexposure to specify the si\_used = "COS". New obset SR necessary to force this exposure to be the very last exposure after Home. Server Version: 20131031 Orbit 1 Exp. 1 Unused Visibility = 3229 Exp. 2 **Orbit Structure** Home Exp. 5 Exp. 3 Exp. 4 Occultation 500 1000 1500 2000 2500 3000 3500 4000 4500 5000 55**00** æc

	Proposal 13617, Second HV, first position (03), implementation	Sat Dec 21 05:35:53 GMT 2013
<u>.</u>	Diagnostic Status: Warning	
/is	Scientific Instruments: S/C, COS/FUV, COS	
1	Special Requirements: PARALLEL	
	Comments: Disallow FUV transitions out of HVNOM until end (exp AFTERs and/or SEQ NON-INTs should enforce this).	
SS	(Second HV, first position (03)) Warning (Orbit Planner): MAXIMUM DURATION EXCEEDED FOR INTERNAL OR EARTH CALIB SU	
sti	(Aperture Adjustment (03.002)) 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 13617 - Second HV, first position (03) - Characterization of COS/FUV modal gain at lifetime position 3 (LOP1)

	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Regs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbi
	Set DETHV level	DARK	S/C, DATA, NONE			SAA CONTOUR 31; SPEC COM INSTR ELHLTHVF;	Sequence 1-4 Non-In t in Second HV, first position (03)	268 Secs (268 Secs) [==>]	
						QASISTATES COS FUV HVLOW HVN OM;			
						QASISTATES COS SI OBSERVE OBSE RVE;			[1]
						QESIPARM ENDC TSA 171;			
						QESIPARM ENDC TSB 167			
Comm Setting	nents: Setting g DETHV to	g DETHV to 171 for 167 for FUVB	· FUVA						
Disall	ow FUV tran	nsitions out of HVN	OM until end (enforced by Seq Non-In	t).					
SQL r	equired for a	qexposure to specify	v the si_used = "COS".					_	
	Aperture Ad	NONE	COS, ALIGN/APER		XAPER=-202	NEW ALIGNMENT	Sequence 1-4 Non-In	0.0 Secs (0 Secs)	
J	justment					; QASISTATES COS	t in Second HV, first position (03)	[==>]	
						FUV HVNOM HVN OM			[1]
									_
Comm	ents: Put the	e aperture in the ap	propriate position to illuminate the cor	rect region of the d	etector when illuminating	Segment A with G130M	1/1309 and Segment B	with G160M/1600.	
				0 0		· ·	· ·	with G160M/1600.	
PSA L	APXSTP val	lue at LP2 is 52.1.	Desired LAPXSTP value for FCA to ill	uminate Segment A	with G130M/1309 is -150	Therefore, XAPER is	set to -202.		
PSA L	APXSTP val	lue at LP2 is 52.1.		uminate Segment A	with G130M/1309 is -150	Therefore, XAPER is	set to -202.		
PSA L * Curi * Due	APXSTP val	lue at LP2 is 52.1.  ate that the aperture  I coverage of the de	Desired LAPXSTP value for FCA to ill	uminate Segment A science exposure the	with G130M/1309 is -150 at follows an ALIGN/APE	Therefore, XAPER is	set to -202. pecial commanding is n	ot needed.	ing is inc
* Curr * Due ed (see	APXSTP values stated to the broad to 13494 for 6 G130M/130	lue at LP2 is 52.1.  ate that the aperture d coverage of the de example)  DEUTERIUM	Desired LAPXSTP value for FCA to ill mechanism will not be moved for the	uminate Segment A science exposure the	with G130M/1309 is -150 at follows an ALIGN/APEA fset between FUVA and FU CURRENT=MEDIU	Therefore, XAPER is	set to -202.  secial commanding is not these exposures. The	ot needed. vrefore, no XSTEPS special command	ing is inc
* Curr * Due ed (see	APXSTP val rent rules sta to the broaa e 13494 for o	lue at LP2 is 52.1.  ate that the aperture d coverage of the de example)  DEUTERIUM	Desired LAPXSTP value for FCA to ill e mechanism will not be moved for the surrous lamps and the wide range cover	uminate Segment A science exposure the ered, the ~6pix y-off	with G130M/1309 is -150 at follows an ALIGN/APE fset between FUVA and FU  CURRENT=MEDIU M;  BUFFER-TIME=11	Therefore, XAPER is	set to -202.  pecial commanding is now these exposures. The	ot needed. vrefore, no XSTEPS special command	
* Curr * Due ed (see	APXSTP values stated to the broad to the broad to 13494 for to G130M/130 Deuterium	lue at LP2 is 52.1.  ate that the aperture d coverage of the de example)  DEUTERIUM	Desired LAPXSTP value for FCA to ill e mechanism will not be moved for the surrous lamps and the wide range cover	uminate Segment A science exposure the ered, the ~6pix y-off G130M	with G130M/1309 is -150 at follows an ALIGN/APE fset between FUVA and FO  CURRENT=MEDIU M;  BUFFER-TIME=11 1;	Therefore, XAPER is	set to -202.  secial commanding is not these exposures. The Sequence 1-4 Non-Int in Second HV, first	ot needed. erefore, no XSTEPS special command 400 Secs (400 Secs)	
* Curr * Due ed (see	APXSTP vales state to the broad to 14e broad to 13494 for to G130M/130 Deuterium Exposure	lue at LP2 is 52.1.  ate that the aperture I coverage of the de example)  DEUTERIUM	Desired LAPXSTP value for FCA to ill e mechanism will not be moved for the suterium lamps and the wide range cove COS/FUV, TIME-TAG, FCA	uminate Segment A science exposure the ered, the ~6pix y-off G130M 1309 A	with G130M/1309 is -150 at follows an ALIGN/APE fset between FUVA and FU  CURRENT=MEDIU M;  BUFFER-TIME=11 1; FP-POS=1	Therefore, XAPER is R, so ELNOAPMAIN sp VB is not a concern fo	set to -202.  pecial commanding is not these exposures. The  Sequence 1-4 Non-Int in Second HV, first position (03)	ot needed.  refore, no XSTEPS special command  400 Secs (400 Secs)  [==>]	
* Curr  * Due ed (see	APXSTP val rent rules sta to the broad e 13494 for c G130M/130 9 Deuterium Exposure	lue at LP2 is 52.1.  ate that the aperture I coverage of the de example)  DEUTERIUM	Desired LAPXSTP value for FCA to ill e mechanism will not be moved for the surrous lamps and the wide range cover	uminate Segment A science exposure the ered, the ~6pix y-off G130M 1309 A	with G130M/1309 is -150 at follows an ALIGN/APE fset between FUVA and FU  CURRENT=MEDIU M;  BUFFER-TIME=11 1; FP-POS=1	Therefore, XAPER is R, so ELNOAPMAIN sp VB is not a concern fo	set to -202.  pecial commanding is not these exposures. The  Sequence 1-4 Non-Int in Second HV, first position (03)	ot needed. erefore, no XSTEPS special command 400 Secs (400 Secs) [==>] P-POS values.	
PSA L * Curr * Due ed (see 3 () 1  Comm 4 ()	APXSTP values state to the broad to the broad to 13494 for the broad to 13494 for	lue at LP2 is 52.1.  It that the aperture of the de example)  DEUTERIUM  Trium exposure optin  DEUTERIUM	Desired LAPXSTP value for FCA to ill e mechanism will not be moved for the suterium lamps and the wide range cove COS/FUV, TIME-TAG, FCA	uminate Segment A science exposure the ered, the ~6pix y-off G130M 1309 A	with G130M/1309 is -150 at follows an ALIGN/APE fset between FUVA and FU  CURRENT=MEDIU M; BUFFER-TIME=11 1; FP-POS=1	Therefore, XAPER is R, so ELNOAPMAIN sp VB is not a concern fo	set to -202.  secial commanding is not these exposures. The Sequence 1-4 Non-Int in Second HV, first position (03)  secounts than the other F Sequence 1-4 Non-Int in Second HV, first	ot needed. erefore, no XSTEPS special command 400 Secs (400 Secs) [==>] P-POS values.	[1]
PSA L * Curr * Due ed (see 3 () 1  Comm 4 ()	APXSTP values state to the broad to the broad to 13494 for the G130M/130 Deuterium Exposure	lue at LP2 is 52.1.  It that the aperture of the de example)  DEUTERIUM  Trium exposure optin  DEUTERIUM	Desired LAPXSTP value for FCA to ill e mechanism will not be moved for the suterium lamps and the wide range cove COS/FUV, TIME-TAG, FCA	uminate Segment A science exposure the ered, the ~6pix y-off G130M 1309 A	with G130M/1309 is -150 at follows an ALIGN/APE feet between FUVA and FU  CURRENT=MEDIU M; BUFFER-TIME=11 1; FP-POS=1 vious observations show th  CURRENT=MEDIU M; BUFFER-TIME=11	Therefore, XAPER is R, so ELNOAPMAIN sp VB is not a concern fo	set to -202.  secial commanding is not these exposures. The Sequence 1-4 Non-Int in Second HV, first position (03)  secounts than the other F Sequence 1-4 Non-In	ot needed.  erefore, no XSTEPS special command  400 Secs (400 Secs)  [==>]  P-POS values.  400 Secs (400 Secs)	[1]
* Curr * Due ed (see 3 () 1	APXSTP values state to the broad to the broad to 13494 for the broad to 13494 for	lue at LP2 is 52.1.  It that the aperture of the de example)  DEUTERIUM  Trium exposure optin  DEUTERIUM	Desired LAPXSTP value for FCA to ill e mechanism will not be moved for the suterium lamps and the wide range cove COS/FUV, TIME-TAG, FCA	uminate Segment A science exposure the ered, the ~6pix y-off G130M 1309 A	with G130M/1309 is -150 at follows an ALIGN/APE fset between FUVA and FU  CURRENT=MEDIU M; BUFFER-TIME=11 1; FP-POS=1 vious observations show the CURRENT=MEDIU M;	Therefore, XAPER is R, so ELNOAPMAIN sp VB is not a concern fo	set to -202.  secial commanding is not these exposures. The Sequence 1-4 Non-Int in Second HV, first position (03)  secounts than the other F Sequence 1-4 Non-Int in Second HV, first	ot needed.  erefore, no XSTEPS special command  400 Secs (400 Secs)  [==>]  P-POS values.  400 Secs (400 Secs)	

Proposal 13617 - Second HV, first position (03) - Characterization of COS/FUV modal gain at lifetime position 3 (LOP1) End with FU DARK V in HVLo S/C, DATA, NONE NEW OBSET; 1 Secs (1 Secs) QASISTATES COS FUV HVLOW HVL [==>] OW; [1] QASISTATES COS SI OBSERVE OBSE RVE Comments: Force the FUV to its nominal rest state (HVLow) to ensure appropriate HV settings will be used by any following COS FUV observation. *SQL* required for qexposure to specify the si\_used = "COS". New obset SR necessary to force this exposure to be the very last exposure after Home. Server Version: 20131031 Orbit 1 Exp. 1 Unused Visibility = 3229 Exp. 2 **Orbit Structure** Exp. 4 Home Exp. 5 Occultation Exp. 3 500 1000 1500 2000 2500 3000 3500 4000 4500 5000 55**00** æc

<u>Pro</u>	<u> oposal 13617 - Second HV, second position (04) - Characterization of COS/FUV modal gain at lifetime position 3</u>	3 (LOP1)
	Proposal 13617, Second HV, second position (04), implementation	Sat Dec 21 05:35:54 GMT 2013
.±	Diagnostic Status: Warning	
\ \ Sis	Scientific Instruments: S/C, COS/FUV, COS	
1	Special Requirements: PARALLEL	
	Comments: Disallow FUV transitions out of HVNOM until end (exp AFTERs and/or SEQ NON-INTs should enforce this).	
ပ္သ	(Second HV, second position (04)) Warning (Orbit Planner): MAXIMUM DURATION EXCEEDED FOR INTERNAL OR EARTH CALIB SU	
sti	(Aperture Adjustment (04.002)) 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 13617 - Second HV, second position (04) - Characterization of COS/FUV modal gain at lifetime position 3 (LOP1)

		Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbi
	et DETHV evel	DARK	S/C, DATA, NONE			SAA CONTOUR 31; SPEC COM INSTR	Sequence 1-4 Non-In t in Second HV, seco	268 Secs (268 Secs) [==>]	
						ELHLTHVF;	nd position (04)	[==>]	
						QASISTATES COS FUV HVLOW HVN OM;			
						QASISTATES COS SI OBSERVE OBSE RVE;			[1]
						QESIPARM ENDC TSA 171;			
						QESIPARM ENDC TSB 167			
		DETHV to 171 for 167 for FUVB	·FUVA						
Disallow	w FUV tran	sitions out of HVN	OM until end (enforced by Seq Non-In	nt).					
SQL requ	quired for q	exposure to specify	the si_used = "COS".						
2 Ap	perture Ad	NONE	COS, ALIGN/APER		XAPER=-152	NEW ALIGNMENT	Sequence 1-4 Non-In t in Second HV, seco	0.0 Secs (0 Secs)	
:						:	r in Second H.V. seco.	I==>1	
jus	ıstment					QASISTATES COS	nd position (04)	[/]	
jus	istinent					FUV HVNOM HVN		1>1	[1]
, and the second		aperture in the ap	propriate position to illuminate the co	rrect region of the de	etector when illuminating	FUV HVNOM HVN OM	nd position (04)		[1]
Commen	ents: Put the		• •		o o	FUV HVNOM HVN OM Segment A with G130M	nd position (04)  M/1309 and Segment B		[1]
Commen PSA LAF	ents: Put the	ue at LP2 is 52.1.	Desired LAPXSTP value for FCA to ill	luminate Segment A	with G130M/1309 is -100	FUV HVNOM HVN OM Segment A with G130M Therefore, XAPER is	nd position (04)  1/1309 and Segment B  set to -152.	with G160M/1600.	[1]
Commen PSA LAF	ents: Put the APXSTP vali ent rules sta	ue at LP2 is 52.1. te that the aperture	Desired LAPXSTP value for FCA to ill mechanism will not be moved for the	luminate Segment A science exposure tha	with G130M/1309 is -100 at follows an ALIGN/APE.	FUV HVNOM HVN OM Segment A with G130M Therefore, XAPER is R, so ELNOAPMAIN sp	nd position (04)  1/1309 and Segment B  set to -152.  pecial commanding is n	with G160M/1600.  ot needed.	
Commen PSA LAF * Curren * Due to	ents: Put the APXSTP valuent rules state to the broad	ue at LP2 is 52.1. te that the aperture coverage of the de	Desired LAPXSTP value for FCA to ill	luminate Segment A science exposure tha	with G130M/1309 is -100 at follows an ALIGN/APE.	FUV HVNOM HVN OM Segment A with G130M Therefore, XAPER is R, so ELNOAPMAIN sp	nd position (04)  1/1309 and Segment B  set to -152.  pecial commanding is n	with G160M/1600.  ot needed.	
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Commen  PSA LAF  * Curren  * Due to ed (see I  3 G1 9 Ex  Commen  4 G1 0 D	ents: Put the APXSTP vali ent rules sta to the broad 13494 for e 6130M/130 Deuterium exposure ents: Deuter 6160M/160 Deuterium	te that the aperture coverage of the de xample)  DEUTERIUM	Desired LAPXSTP value for FCA to ill emechanism will not be moved for the uterium lamps and the wide range cov COS/FUV, TIME-TAG, FCA	luminate Segment A science exposure the ered, the ~6pix y-off G130M 1309 A	with G130M/1309 is -100 at follows an ALIGN/APE feet between FUVA and For  CURRENT=MEDIU M;  BUFFER-TIME=11 1; FP-POS=1 cious observations show th  CURRENT=MEDIU M;	FUV HVNOM HVN OM Segment A with G130M Therefore, XAPER is R, so ELNOAPMAIN sp JVB is not a concern for	nd position (04)  A/1309 and Segment B  set to -152.  pecial commanding is not these exposures. The Sequence 1-4 Non-Int in Second HV, second position (04)  counts than the other F  Sequence 1-4 Non-Int in Second HV, sec	with G160M/1600.  ot needed.  refore, no XSTEPS special command.  400 Secs (400 Secs)  [==>]  P-POS values.	ing is inc
Commen  PSA LAF  * Curren  * Due to ed (see I  3 G1 9 Ex  Commen  4 G1 0 D	ents: Put the APXSTP valident rules state to the broad 13494 for estanding to the broad 130M/130 Deuterium exposure  ents: Deuter filo 160M/160	te that the aperture coverage of the de xample)  DEUTERIUM	Desired LAPXSTP value for FCA to ill emechanism will not be moved for the uterium lamps and the wide range cov COS/FUV, TIME-TAG, FCA	luminate Segment A science exposure the ered, the ~6pix y-off G130M 1309 A  chosen because prev	with G130M/1309 is -100 at follows an ALIGN/APE. set between FUVA and Form CURRENT=MEDIU M; BUFFER-TIME=11 1; FP-POS=1 vious observations show the	FUV HVNOM HVN OM Segment A with G130M Therefore, XAPER is R, so ELNOAPMAIN sp JVB is not a concern for	nd position (04)  A/1309 and Segment B  set to -152.  pecial commanding is not these exposures. The Sequence 1-4 Non-In tin Second HV, second position (04)  counts than the other F  Sequence 1-4 Non-In	with G160M/1600.  ot needed.  refore, no XSTEPS special command.  400 Secs (400 Secs)  [==>]  P-POS values.  400 Secs (400 Secs)	ing is inc

Proposal 13617 - Second HV, second position (04) - Characterization of COS/FUV modal gain at lifetime position 3 (LOP1) End with FU DARK V in HVLo S/C, DATA, NONE NEW OBSET; 1 Secs (1 Secs) QASISTATES COS FUV HVLOW HVL [==>] OW; [1] QASISTATES COS SI OBSERVE OBSE RVE Comments: Force the FUV to its nominal rest state (HVLow) to ensure appropriate HV settings will be used by any following COS FUV observation. *SQL* required for qexposure to specify the si\_used = "COS". New obset SR necessary to force this exposure to be the very last exposure after Home. Server Version: 20131031 Orbit 1 Exp. 1 Unused Visibility = 3229 Exp. 2 **Orbit Structure** Exp. 4 Home Exp. 5 Occultation Exp. 3 500 1000 1500 2000 2500 3000 3500 4000 4500 5000 55**00** æc