

12793 - Second COS FUV Lifetime Position: FUV Detector High Voltage Sweep

(FENA1)

Cycle: 19, 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 NONE WAVE	COS COS/FUV S/C	1	17-Aug-2012 21:06:46.0	yes
02	DARK DEUTERIUM NONE	COS COS/FUV S/C	2	17-Aug-2012 21:07:10.0	yes
03	DARK DEUTERIUM NONE	COS COS/FUV S/C	2	17-Aug-2012 21:07:37.0	yes

Visit	Targets used in Visit	Configurations used in Visit	Orbits Used	Last Orbit Planner Run	OP Current with Visit?
04	DARK DEUTERIUM NONE	COS COS/FUV S/C	2	17-Aug-2012 21:08:07.0	yes
05	DARK DEUTERIUM NONE	COS COS/FUV S/C	2	17-Aug-2012 21:08:32.0	yes
06	DARK NONE WAVE	COS COS/FUV S/C	1	17-Aug-2012 21:08:50.0	yes
07	DARK NONE WAVE	COS COS/FUV S/C	1	17-Aug-2012 21:09:03.0	yes
08	DARK NONE WAVE	COS COS/FUV S/C	1	17-Aug-2012 21:09:16.0	yes
09	DARK NONE WAVE	COS COS/FUV S/C	1	17-Aug-2012 21:09:29.0	yes
10	DARK NONE WAVE	COS COS/FUV S/C	1	17-Aug-2012 21:09:43.0	yes
11	DARK NONE WAVE	COS COS/FUV S/C	1	17-Aug-2012 21:09:57.0	yes
12	DARK NONE WAVE	COS COS/FUV S/C	1	17-Aug-2012 21:10:11.0	yes

16 Total Orbits Used

ABSTRACT

This is a one-time-only enabling program (FENA1) for establishing operating conditions at lifetime position 2. The results of this proposal will enable us to select the optimum high voltage at lifetime position 2 for maximizing scientific performance and detector life at the new position. Over a selected range of high voltage on the COS FUV XDL detector comprising six settings, we will produce gain maps, measure the walk correction, verify geometric distortion corrections, and characterize detector focus at low gain for the new selected location (+35 pixels) for science observations on the FUV detector. The lowest HV setting is chosen to place the peak of the modal gain distribution at about 4. The highest HV setting would be the current HVNom. Four intermediate settings will produce overlapping gain distributions in all pixels covering the full range from gain of 3 to a gain of 19. At each HV setting we will take deuterium lamp exposures to map the detector gain, and calibration lamp exposures to measure the walk correction, geometric distortion, and detector resolution.

OBSERVING DESCRIPTION

Over a selected range of high voltage on the COS FUV XDL detector comprising six settings, we will produce gain maps, measure the walk correction, verify geometric distortion corrections, and characterize detector focus at low gain for the new selected location (+35 pixels) for science observations on the FUV detector. The lowest HV setting is chosen to place the peak of the modal gain distribution at about 4. Examining pre-flight calibration data, the required HV settings for segments A/B are 143/142. The highest HV setting would be 175/172. Four intermediate settings will be chosen to produce overlapping gain distributions in all pixels covering the full range from gain of 3 to gain of 19.

The strategy for this program will be to first do a visit in which we take cal lamp exposures through the WCA with grating G160M at the +35-pixel new lifetime position using each HV setting. By setting the aperture in place and using the same tilt and FP-POS for each exposure while changing the HV, we maximize stability by having no mechanism motions between cal lamp exposures. Using the emission lines we will obtain a first assessment of detector resolution and X and Y walk as a function of gain. This will also map the gain vs. HV relation down to low gains and low HV, which is crucial for planning observations at HV settings that produce a full sampling of the gain distribution from low to high. This visit uses the following sequence:

- 1. Move the WCA to a position to illuminate the new lifetime position. (Nominally XAPER=127. See below.)
- 2. Set HVA/HVB to 143/142.
- 3. Using G160M/1600/FP-POS=3, obtain a 220 s cal lamp exposure.
- 4. Repeat steps 2 and 3 at the following series of HV settings: 147/147, 152/153, 157/162, 169/168, 175/172.

We expect the selected high voltages to give the following modal gains on each segment:

HVA GainA HVB GainB

143 4 142 4

147 5 147 6

152 7 153 8

157 9 162 12

169 13 168 15

175 15 172 17

In the second visit, we will obtain deuterium lamp exposures through the FCA at the +35-pixel new lifetime position at a high voltage setting chosen to have a modal gain of 7. For this modal gain, the full gain distribution should span the range from about 3 to 12. Operating at this gain may be an important way to extend detector life, so evaluating the data from this visit to assess the potential science quality of such operations will be crucial for choosing our nominal operating voltage at the second lifetime position. This visit uses the following observing sequence:

- 1. Set HV to its new setting for each segment.
- 2. Move the FCA to a position to illuminate the new lifetime position. (Nominally XAPER=-68. See below.)
- 3. Take deuterium lamp exposures (980 s each) using G130M at all four FP-POS positions.
- 4. Take deuterium lamp exposures (980 s each) using G160M at all four FP-POS positions.

Grating G130M optimally exposes Segment B for the deuterium lamp exposures, and grating G160M optimally exposes Segment A. With overheads, this sequence will take 2 orbits to execute.

In a set of 3 additional visits (2 orbits apiece), we will obtain deuterium lamp exposures through the FCA at the +35-pixel new lifetime position at high voltage settings chosen to provide a full sampling of the gain distribution from low to high gains. Existing spectra at dY=+3.1" from program 12676 at HVA/HVB=169/168 will supplement these data. Visit 2 will nominally have provided a gain distribution centered at a modal gain of 7. These visits will have HVs chosen to sample the lower and higher ends of the gain distribution as uniformly as practical. We use the same observing sequence as described above for Visit 2, differing only in the HV setting. Each visit will take 2 orbits to execute.

Finally, again using the results of Visits 1-2 to choose a range of high voltage settings that sample the gain distribution well, we will obtain well exposed cal lamp spectra at all four FP-POS settings using grating G160M/1600. As described below, these will provide the dense sampling in X required to check the resolution across the detector as a function of gain and to calibrate the X-walk and Y-walk, and to verify the geometric distortion. Each visit here is one orbit at a fixed FP-POS, similar to visit 1, but using only 5 HV settings and 350 s cal lamp exposures.

To determine the XAPER values for positioning the aperture plate, we use the following relationship between the detector Y coordinate and XAPER:

Aperture mechanism motor steps are 13.21 microns per step (SER COS-SYS-034). Detector Y pixels are 24 microns (COS OP-01, COS-01-0001). Also remember that the sign of positive XAPER is the opposite of positive Y.

Therefore, dXAPER/dY = -24/13.21 = -1.816.

So, nominally, a dY=+35 for Lifetime Position 2 is at

$$XAPER = -1.816*35 = -63.58 = -64.$$

However, based on the spectral locations determined empirically in the characterization program 12678, we are choosing to use XAPER = -68.

Since the WCA is offset from the PSA by 2.5 mm (SER-COS-OPT-020), to place a calibration lamp spectrum through the WCA on the detector at the location of the PSA requires an offset of the aperture plate of dXAPER=-2500/13.21=+189.3 from the PSA location. So the cal lamp exposures should use

$$XAPER = -68 + 189.3 = 121.3 = 121.$$

However, again using program 12678 and examining the locations of the WCA spectrum in the TAG FLASH exposures, empirically we find a scale of

dXAPER/dY = -126/68.23 = -1.8467. In that program, the offsets of XAPER=+63 placed the WCA at Y=555.5 on Segment A. To move it further down to Y=521 (the new lifetime position), implies we should use a total offset of

$$XAPER = 63 + (34.5 * 1.8467) = 126.7 = 127.$$

Notes on special commands used for this program:

In the Phase II proposal for this program, each visit must start with S/C Observations using the special command ELAPERSET along with QUESIPARM APERTURE FCA and QUESIPARM DET FUV preceding every XAPER command. This sets the value for the aperture location as the default location for the PSA or the FCA so that the subsequent XAPER command will move from the appropriate location.

Then each subsequent exposure contains a special command instruction ELNOAPMAIN, which keeps the instrument from returning to the default location after each exposure.

Changes made after Visits 1 & 2, prior to executing Visits 3-9:

- 1. Adjust aperture plate offsets to reflect:
- a. Decision after FENA2, 12795, to move another delta Y=+6 pixels, so that the new lifetime position avoids the Ly alpha gain sag holes better.
- b. Move WCA spectrum placement with G160M to a position that is part way between the object locations using the PSA with gratings G160M and G130M at the new lifetime position.
- 2. Adjust high voltage settings to get a good sampling of the pulse height distributions from PHA=2 up to PHA=15 (when visits 1 & 2 are included).

Details for spectrum placement:

For FCA exposures on Visits 3—5, shift Y=+6 to account for the adjustment in spectral location determined after Visit 1 of FENA2.

This implies XAPER=-1.816*6=-11, so use XAPER=-68-11=-79

For WCA exposures on Visits 6—9, shift Y=+6 to account for the new spectral location, plus add an additional Y=+4 to place the cal lamp spectrum half way in between G160M and G130M.

Proposal 12793 (STScI Edit Number: 5, Created: Friday, August 17, 2012 8:10:20 PM EST) - Overview This implies XAPER=-1.816*10=-18, so use XAPER=+127-18=+109

Details for High Voltage settings:

Visit HVA Expected Gain HVB Expected Gain

3 142 3 143 3

4 147 5 153 5

5 162 10 159 10-11

6-9 143 3 142 3

147 4 147 5

152 6 153 7

157 7-8 158 9

163 9-10 162 11

For contingency visits 10, 11, and 12, we want to place the spectrum so that it brackets the new lifetime position. Visits 1 and 2 ended up at Y=510 for the high-PHA spectra.

We want Visits 10 and 11 at the same place, so use XAPER=127.

We want Visit 12 on the top side of the new lifetime position at Y=545.

This is deltaY=+35, so XAPER=127-1.816*35=63.

High Voltage settings for the contingency visits: To calibrate X and Y walk, we want to sample the full range of PHAs, from low to high, plus tie in to the previous visits. The following selection accomplishes this:

Visit HVA Expected Gain HVB Expected Gain

10 143 2 142 2

147 3 144 3

152 5 153 6

157 7 162 10

169 10-11 168 13

175 13 172 14

11 147 3 144 4

157 7 153 6

167 10 163 10

172 11 169 13-14

175 12 172 14

178 13 175 15

CALIBRATION JUSTIFICATION

Examining a range of high-voltage operating characteristics at the new lifetime position is necessary in order to select the best operating high voltage that will maximize the lifetime of the detector at the new position while delivering the best scientific performance.

Proposal 12793 - Visit 01 - Second COS FUV Lifetime Position: FUV Detector High Voltage Sweep (FENA1)

Proposal 12793, Visit 01, completed Sat Aug 18 01:10:21 GMT 2012

Diagnostic Status: Warning

Diagnostics

Scientific Instruments: S/C, COS/FUV, COS

Special Requirements: GROUP 01,02 WITHIN 7D; PARALLEL

Comments: Schedule V01 and V02 in the same SMS. Scheduling priority is V01, V02.

Obtaining G160M cal lamp exposures at the new lifetime position. Without any mechanism motions, sweep through a series of 6 high voltage settings to evaluate the resolution as a function of gain and high voltage: HVA/HVB=143/142, 147/147, 152/153, 157/162, 169/168, 175/172.

(Visit 01) Warning (Orbit Planner): MAXIMUM DURATION EXCEEDED FOR INTERNAL OR EARTH CALIB SU

(Exposure 3 (Sequence 1-4 Non-Int in Visit 01)) Warning (Form): This ALIGN/APER exposure should be preceded by a science exposure to define the starting position for the scan.

Proposal 12793 - Visit 01 - Second COS FUV Lifetime Position: FUV Detector High Voltage Sweep (FENA1)

	Label Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Regs.	Groups	Exp. Time/[Actual Dur.]	Orbit
1	DARK	S/C, DATA, NONE			SAA CONTOUR 31;	Sequence 1-4 Non-In	346 Secs	
					SPEC COM INSTR ELHLTHVF;	t in Visit 01	[==>]	
					QASISTATES COS FUV HVLOW HVN OM;			[1]
					QESIPARM ENDC TSA 143;			
					QESIPARM ENDC TSB 142			
Comm	ents: SQL required for qex	xposure to specify the si_used = "COS".						•
The ex	posure time allows for ove	ts the the nominal high voltage for this visit erhead not included in APT of 35 s for the h ldition (which is only for APTs benefit) to u.	igh voltage to ramp	down to its lowest sett	TSA and ENDCTS B) to 143 ing, and then 442 s to ramp	3 and 142, respectively. 5 up to values less than	175.	
2	DARK	S/C, DATA, NONE				Sequence 1-4 Non-In	10 Secs	
					ELAPERSET; OESIPARM APERT	t in Visit 01	[==>]	
					URE PSA;			[1]
					QESIPARM DET F UV			
Comm	ents: SQL required for qex	xposure to specify the si_used = "COS".						
The sp	ecial commanding here de	efines the ALIGN/APER command to apply	to the PSA aperture	and override the nomi	nal defaults.			
3	NONE	COS, ALIGN/APER		XAPER=127		Sequence 1-4 Non-In	0.0 Secs	
						t in Visit 01	[==>]	[1]
		l exposure using the calibration lamp throw XAPFR=127	gh the WCA on the	detector at Lifetime Po	esition 2, we need to set the		1	[1]
	ents: To place a WAVE ca cribed above this requires WAVE		gh the WCA on the	detector at Lifetime Po	SPEC COM INSTR	default PSA aperture l	ocation to 2.5 mm lower in Y.	[1]
	cribed above this requires	XAPER=127.			·	default PSA aperture l	ocation to 2.5 mm lower in Y.	
As deso	cribed above this requires WAVE ents: Since we have set the	XAPER=127. COS/FUV, TIME-TAG, WCA e aperture location to an off-nominal location	G160M 1600 A	FP-POS=3	SPEC COM INSTR ELNOAPMAIN	default PSA aperture l Sequence 1-4 Non-In t in Visit 01	ocation to 2.5 mm lower in Y. 220 Secs [==>]	[1]
As deso	cribed above this requires WAVE ents: Since we have set the r the exposure is complete	XAPER=127. COS/FUV, TIME-TAG, WCA e aperture location to an off-nominal location.	G160M 1600 A	FP-POS=3	SPEC COM INSTR ELNOAPMAIN Special command ELNOAF	default PSA aperture lessequence 1-4 Non-Int in Visit 01 PMAIN to prevent reset	ocation to 2.5 mm lower in Y. 220 Secs [==>] ting the aperture location back to	[1]
As deso	cribed above this requires WAVE ents: Since we have set the	XAPER=127. COS/FUV, TIME-TAG, WCA e aperture location to an off-nominal location	G160M 1600 A	FP-POS=3	SPEC COM INSTR ELNOAPMAIN Special command ELNOAF	default PSA aperture l Sequence 1-4 Non-In t in Visit 01	ocation to 2.5 mm lower in Y. 220 Secs [==>] ting the aperture location back to	[1]
As deso	cribed above this requires WAVE ents: Since we have set the r the exposure is complete	XAPER=127. COS/FUV, TIME-TAG, WCA e aperture location to an off-nominal location.	G160M 1600 A	FP-POS=3	SPEC COM INSTR ELNOAPMAIN Special command ELNOAF SAA CONTOUR 31; SPEC COM INSTR	default PSA aperture lessequence 1-4 Non-Int in Visit 01 PMAIN to prevent reset. Sequence 5-6 Non-In	ocation to 2.5 mm lower in Y. 220 Secs $[==>]$ ting the aperture location back to	[1] o the nominal
As deso	cribed above this requires WAVE ents: Since we have set the r the exposure is complete	XAPER=127. COS/FUV, TIME-TAG, WCA e aperture location to an off-nominal location.	G160M 1600 A	FP-POS=3	SPEC COM INSTR ELNOAPMAIN Special command ELNOAF SAA CONTOUR 31; SPEC COM INSTR ELHLTHVF; QASISTATES COS FUV HVLOW HVN	default PSA aperture lessequence 1-4 Non-Int in Visit 01 PMAIN to prevent reset. Sequence 5-6 Non-In	ocation to 2.5 mm lower in Y. 220 Secs $[==>]$ ting the aperture location back to	[1] o the nominal
As deso	cribed above this requires WAVE ents: Since we have set the r the exposure is complete	XAPER=127. COS/FUV, TIME-TAG, WCA e aperture location to an off-nominal location.	G160M 1600 A	FP-POS=3	SPEC COM INSTR ELNOAPMAIN Special command ELNOAF SAA CONTOUR 31; SPEC COM INSTR ELHLTHVF; QASISTATES COS FUV HVLOW HVN OM; QESIPARM ENDC TSA 147; QESIPARM ENDC	default PSA aperture lessequence 1-4 Non-Int in Visit 01 PMAIN to prevent reset. Sequence 5-6 Non-In	ocation to 2.5 mm lower in Y. 220 Secs $[==>]$ ting the aperture location back to	[1] o the nominal
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	DARK	S/C, DATA, NONE		n: FUV Detec		Sequence 7-8 Non-In	276 Saas	
,	DAKK	S/C, DATA, NONE			SPEC COM INSTR ELHLTHVF;	t in Visit 01	[==>]	
					QASISTATES COS FUV HVLOW HVN OM;			[1]
					QESIPARM ENDC TSA 152;			
					QESIPARM ENDC TSB 153			
Comments:	SQL required for qexpos	sure to specify the si_used = "COS".						
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8	WAVE	COS/FUV, TIME-TAG, WCA	G160M	FP-POS=3		Sequence 7-8 Non-In	220 Secs	
			1600 A		ELNOAPMAIN	t in Visit 01	[==>]	[1]
	Since we have set the ap exposure is completed.	perture location to an off-nominal location	n, this science exp	osure must include the	special command ELNOAI	PMAIN to prevent reset	ting the aperture location	back to the nominal ve
9	DARK	S/C, DATA, NONE				Sequence 9-10 Non-I	403 Secs	
					SPEC COM INSTR ELHLTHVF;	nt in Visit 01	[==>]	
					QASISTATES COS FUV HVLOW HVN OM;			[1]
					QESIPARM ENDC TSA 157;			
					QESIPARM ENDC TSB 162			
								•
Comments:	SQL required for qexpo	sure to specify the si_used = "COS".						
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The special The exposur 2/8/12: Rem 10 Comments: ue after the	commanding here sets ti re time allows for overhe oved this artifical additi WAVE Since we have set the ap exposure is completed.	he the nominal high voltage for this visit (ead not included in APT of 35 s for the high ion (which is only for APTs benefit) to use COS/FUV, TIME-TAG, WCA perture location to an off-nominal location	gh voltage to ramp e the actual time n G160M 1600 A	o down to its lowest sett eeded. FP-POS=3	SPEC COM INSTR ELNOAPMAIN special command ELNOAI SAA CONTOUR 31: SPEC COM INSTR	Sequence 9-10 Non-Int in Visit 01 PMAIN to prevent resets Sequence 11-12 Non	220 Secs $[z=>]$ ting the aperture location $424 Secs$	back to the nominal v
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The special The exposur 2/8/12: Rem 10 Comments: ue after the	commanding here sets ti re time allows for overhe oved this artifical additi WAVE Since we have set the ap exposure is completed.	he the nominal high voltage for this visit (ead not included in APT of 35 s for the high ion (which is only for APTs benefit) to use COS/FUV, TIME-TAG, WCA perture location to an off-nominal location	gh voltage to ramp e the actual time n G160M 1600 A	o down to its lowest sett eeded. FP-POS=3	SPEC COM INSTR ELNOAPMAIN SPECIAL command ELNOAPMAIN SAA CONTOUR 31: SPEC COM INSTR ELHLTHVF; QASISTATES COS FUV HVLOW HVN OM; QESIPARM ENDC	Sequence 9-10 Non-Int in Visit 01 PMAIN to prevent resets Sequence 11-12 Non	220 Secs $[z=>]$ ting the aperture location $424 Secs$	back to the nominal ve

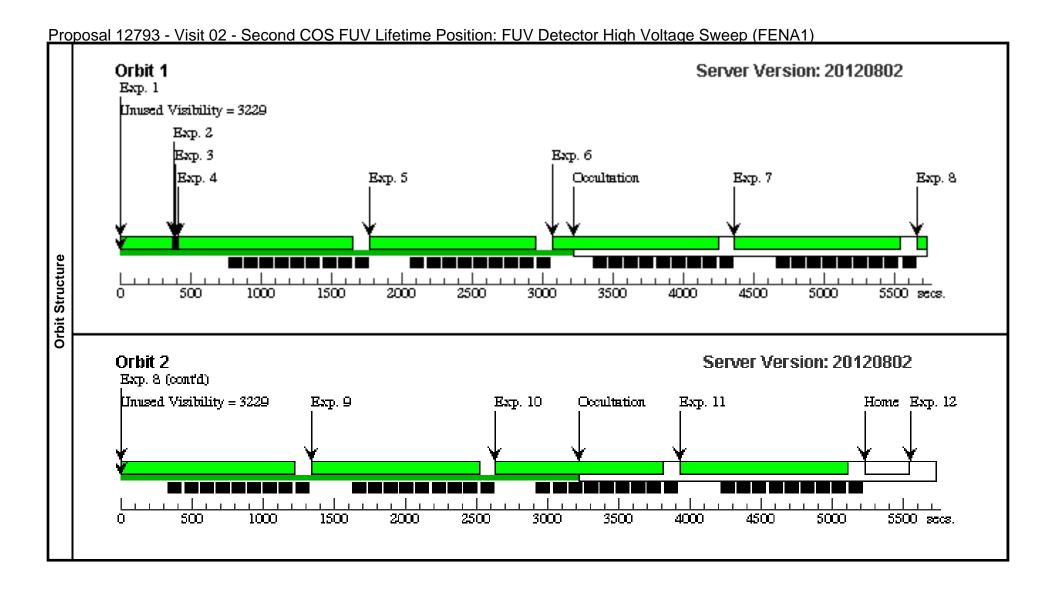
Proposal 12793 - Visit 01 - Second COS FUV Lifetime Position: FUV Detector High Voltage Sweep (FENA1) SPEC COM INSTR Sequence 11-12 Non WAVE COS/FUV, TIME-TAG, WCA G160M FP-POS=3 220 Secs ELNOAPMAIN -Int in Visit 01 1600 A [1] Comments: Since we have set the aperture location to an off-nominal location, this science exposure must include the special command ELNOAPMAIN to prevent resetting the aperture location back to the nominal val ue after the exposure is completed. 13 S/C, DATA, NONE SAA CONTOUR 31; Sequence 13-14 Non | 442 Secs DARK -Int in Visit 01 SPEC COM INSTR *[==>1* ELHLTHVF; **OASISTATES COS FUV HVLOW HVN** OM: [1] OESIPARM ENDC TSA 175; **OESIPARM ENDC** TSB 172 Comments: SOL required for gexposure to specify the si used = "COS". The special commanding here sets the the nominal high voltage for this visit (HVNOM) for segments A and B (ENDCTSA and ENDCTS B) to 175 and 172, respectively. The exposure time allows for overhead not included in APT of 35 s for the high voltage to ramp down to its lowest setting, and then 442 s to ramp up to values of 175 or below. 2/8/12: Removed this artifical addition (which is only for APTs benefit) to use the actual time needed. 14 WAVE COS/FUV. TIME-TAG. WCA G160M FP-POS=3 SPEC COM INSTR Sequence 13-14 Non | 220 Secs **ELNOAPMAIN** -Int in Visit 01 1600 A [1] Comments: Since we have set the aperture location to an off-nominal location, this science exposure must include the special command ELNOAPMAIN to prevent resetting the aperture location back to the nominal val ue after the exposure is completed. 15 DARK S/C, DATA, NONE NEW OBSET; 1 Secs **OASISTATES COS** I = = > 1**FUV HVLOW HVL** OW: [1] **QASISTATES COS** SI OBSERVE OBSE **RVE** Comments: 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: 20120802 Orbit 1 Unused Visibility = 3229 Exp. 11 Exp. 2 Decultration Exp. 3 Orbit Structure Exp. 7 Exp. 8 Exp. 9 Емр. 5 Емр. 6 Exp. 10 Exp. 12 Exp. 13 Exp. 14 Home Exp. 15 Exp. 1 500 1000 1500 2000 25003000 3500 4000 4500 5000 5500 sec

Pı	oposal 12793 - Visit 02 - Second COS FUV Lifetime Position: FUV Detector High Voltage Sweep (FENA1)	
	Proposal 12793, Visit 02, completed	Sat Aug 18 01:10:24 GMT 2012
	Diagnostic Status: Warning	
.±	Scientific Instruments: S/C, COS/FUV, COS	
į	Special Requirements: PARALLEL	
	Comments: Schedule V01 and V02 in the same SMS. Scheduling priority is V01, V02. SAA-FREE scheduling only. Obtaining G130M and G160M deuterium lamp exposures at the new lifetime position. This visit for HV settings HVA=155, HVB=151, targeting a modal gain of 7 in both A and B.	
٤	(Visit 02) Warning (Orbit Planner): MAXIMUM DURATION EXCEEDED FOR INTERNAL OR EARTH CALIB SU	
Diagnostic	(Exposure 3 (Sequence 1-4 Non-Int in Visit 02)) Warning (Form): This ALIGN/APER exposure should be preceded by a science exposure to define the starting position for the scan.	

Proposal 12793 - Visit 02 - Second COS FUV Lifetime Position: FUV Detector High Voltage Sweep (FENA1)

	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Regs.	Groups	Exp. Time/[Actual Dur.]	Orbit
1	DARK	S/C, DATA, NONE			SAA CONTOUR 31;	Sequence 1-4 Non-In	382 Secs	
					SPEC COM INSTR ELHLTHVF;	t in Visit 02	[==>]	
					QASISTATES COS FUV HVLOW HVN OM;			[1]
					QESIPARM ENDC TSA 155;			
					QESIPARM ENDC TSB 151			
Comments: SQ	L required for qexposu	re to specify the si_used = "COS".						·
The special con		the nominal high voltage for this visit	(HVNOM) for segme	nts A and B (ENDCTSA				
2	DARK	S/C, DATA, NONE			SPEC COM INSTR ELAPERSET;	Sequence 1-4 Non-In t in Visit 02		
					QESIPARM APERT	· iii · iiiii · ii	[==>]	
					URE FCA;			[1]
					QESIPARM DET F UV			
Comments: SQ	L required for qexposu	re to specify the si_used = "COS".						
The special con	nmanding here defines	the ALIGN/APER command to apply t	o the FCA aperture a	nd override the nominal	defaults.			
3	NONE	COS, ALIGN/APER		XAPER=-68		Sequence 1-4 Non-In	0.0 Secs	
						t in Visit 02	[==>]	[1]
Comments: As		on Description, positioning the FCA at					T	
4	DEUTERIUM	COS/FUV, TIME-TAG, FCA	G130M	BUFFER-TIME=11 1:	SPEC COM INSTR ELNOAPMAIN	Sequence 1-4 Non-In t in Visit 02		
			1309 A	CURRENT=MEDI UM;		VIII VIDIC 02	[==>]	[1]
				FP-POS=1				
	ce we have set the aper osure is completed.	ture location to an off-nominal location	on, this science exposi	ure must include the spec	rial command ELNOAF	MAIN to prevent resett	ting the aperture location back to	the nominal v
5	DEUTERIUM	COS/FUV, TIME-TAG, FCA	G130M		SPEC COM INSTR		980 Secs	
			1309 A	1; CUDDENT_MEDI	ELNOAPMAIN; AFTER BY 1 S TO		[==>]	
				UM; FP-POS=2	4000 S			[1]
	ce we have set the aner	ture location to an off-nominal location	on, this science exposi		cial command ELNOAF	MAIN to prevent resett	ting the aperture location back to	the nominal v
					SDEC COM INSTD		980 Secs	
	DEUTERIUM	COS/FUV, TIME-TAG, FCA	G130M	BUFFER-TIME=11	SI EC COM INSTR			
ue after the exp	osure is completed.	COS/FUV, TIME-TAG, FCA	G130M 1309 A	1;	ELNOAPMAIN;		[==>]	
ue after the exp	osure is completed.	COS/FUV, TIME-TAG, FCA		1; CURRENT=MEDI	ELNOAPMAIN; AFTER BY 1 S TO		[==>]	[1]
ue after the exp	osure is completed.	COS/FUV, TIME-TAG, FCA		1;	ELNOAPMAIN;		[==>]	[1]

Proposal 12793 - Visit 02 - Second COS FUV Lifetime Position: FUV Detector High Voltage Sweep (FENA1) **DEUTERIUM** COS/FUV, TIME-TAG, FCA G130M BUFFER-TIME=11 SPEC COM INSTR 980 Secs ELNOAPMAIN: 1: 1309 A *[==>1* CURRENT=MEDI AFTER BY 1 S TO [1] UM; 4000 S FP-POS=4 Comments: Since we have set the aperture location to an off-nominal location, this science exposure must include the special command ELNOAPMAIN to prevent resetting the aperture location back to the nominal val ue after the exposure is completed. **DEUTERIUM** COS/FUV, TIME-TAG, FCA G160M BUFFER-TIME=11 SPEC COM INSTR 980 Secs ELNOAPMAIN; 1; [==>] 1600 A CURRENT=MEDI AFTER BY 1 S TO [1] UM; 4000 S FP-POS=1 Comments: Since we have set the aperture location to an off-nominal location, this science exposure must include the special command ELNOAPMAIN to prevent resetting the aperture location back to the nominal va ue after the exposure is completed. **DEUTERIUM** COS/FUV, TIME-TAG, FCA G160M SPEC COM INSTR 980 Secs BUFFER-TIME=11 ELNOAPMAIN: 1600 A *[==>1* CURRENT=MEDI AFTER BY 1 S TO [2] UM; 4000 S FP-POS=2 Comments: Since we have set the aperture location to an off-nominal location, this science exposure must include the special command ELNOAPMAIN to prevent resetting the aperture location back to the nominal va ue after the exposure is completed. 10 SPEC COM INSTR DEUTERIUM COS/FUV, TIME-TAG, FCA G160M BUFFER-TIME=11 980 Secs ELNOAPMAIN: 1600 A *[==>1* CURRENT=MEDI AFTER BY 1 S TO [2] UM; 4000 S FP-POS=3 Comments: Since we have set the aperture location to an off-nominal location, this science exposure must include the special command ELNOAPMAIN to prevent resetting the aperture location back to the nominal val ue after the exposure is completed. 11 **DEUTERIUM** COS/FUV, TIME-TAG, FCA G160M BUFFER-TIME=11 SPEC COM INSTR 980 Secs ELNOAPMAIN: 1600 A [==>] CURRENT=MEDI AFTER BY 1 S TO [2] 4000 S UM; FP-POS=4 Comments: Since we have set the aperture location to an off-nominal location, this science exposure must include the special command ELNOAPMAIN to prevent resetting the aperture location back to the nominal val ue after the exposure is completed. 12 DARK S/C, DATA, NONE NEW OBSET; 1 Secs **OASISTATES COS** f = = > 1FUV HVLOW HVL OW; [2] **OASISTATES COS** SI OBSERVE OBSE RVE Comments: 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.



Proposal 12793 - Visit 03 - Second COS FUV Lifetime Position: FUV Detector High Voltage Sweep (FENA1)

Proposal 12793, Visit 03, completed Sat Aug 18 01:10:26 GMT 2012

Diagnostic Status: Warning

Scientific Instruments: S/C, COS/FUV, COS

Special Requirements: PARALLEL

Comments: Schedule V03 thru V09 in the same SMS, three weeks AFTER V01 SMS. Scheduling priority is V06, V03, V04, V05, V07, V08 & V09.

SAA-FREE scheduling only.

Diagnostics

Obtaining G130M and G160M deuterium lamp exposures at the new lifetime position.
This visit is for HV settings HVA=142, HVB=142, based on the results of Visits 1 and 2.

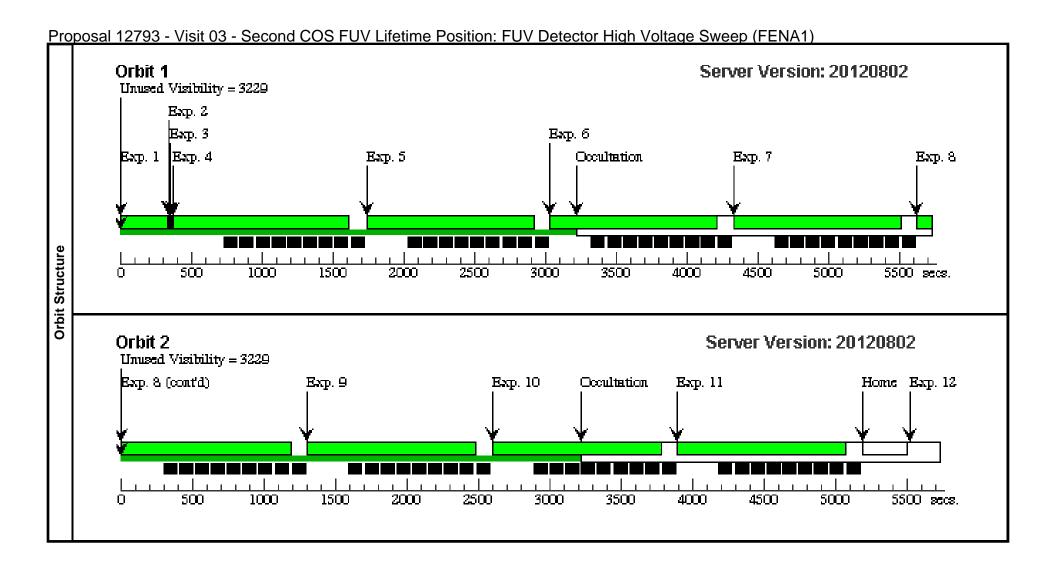
(Visit 03) Warning (Orbit Planner): MAXIMUM DURATION EXCEEDED FOR INTERNAL OR EARTH CALIB SU

(Exposure 3 (Sequence 1-4 Non-Int in Visit 03)) Warning (Form): This ALIGN/APER exposure should be preceded by a science exposure to define the starting position for the scan.

Proposal 12793 - Visit 03 - Second COS FUV Lifetime Position: FUV Detector High Voltage Sweep (FENA1)

# Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Regs.	Groups	Exp. Time/[Actual Dur.]	Orb
1	DARK	S/C, DATA, NONE			SAA CONTOUR 31:	; Sequence 1-4 Non-In	346 Secs	
					SPEC COM INSTR ELHLTHVF;	t in Visit 03	[==>]	
					QASISTATES COS FUV HVLOW HVN OM;			[1]
					QESIPARM ENDC TSA 142;			
					QESIPARM ENDC TSB 142			
Comments: SQ	L required for qexposu	re to specify the si_used = "COS".						
The special con	•	the nominal high voltage for this visit	(HVNOM) for segme	ents A and B (ENDCTSA				
2	DARK	S/C, DATA, NONE			SPEC COM INSTR ELAPERSET;	Sequence 1-4 Non-In t in Visit 03		
					QESIPARM APERT URE FCA;		[==>]	[1]
					QESIPARM DET F			11.
Comments: SQ	L required for qexposu	re to specify the si_used = "COS".						
The special con	nmanding here defines	the ALIGN/APER command to apply t	to the FCA aperture a	and override the nominal	defaults.			
		COC ALICN/ADED		VADED 70		Sequence 1-4 Non-In	0.0 Secs	
3	NONE	COS, ALIGN/APER		XAPER=-79				
3	NONE	COS, ALIGN/APER		XAPER=-/9		t in Visit 03	[==>]	[1]
Comments: As		on Description, positioning the FCA at	Lifetime Position 2 r			t in Visit 03		[1]
Comments: As	given in the Observatio	on Description, positioning the FCA at	Lifetime Position 2 r			t in Visit 03 Sequence 1-4 Non-In	[==>]	[1]
Comments: As	given in the Observatio PER=-79 after visits 1	on Description, positioning the FCA at & 2.		BUFFER-TIME=11 1;	SPEC COM INSTR ELNOAPMAIN	t in Visit 03	[==>]	[1]
Comments: As	given in the Observatio PER=-79 after visits 1	on Description, positioning the FCA at & 2.	G130M	BUFFER-TIME=11 1; CURRENT=MEDI	SPEC COM INSTR ELNOAPMAIN	t in Visit 03 Sequence 1-4 Non-In	[==>] 980 Secs	
Comments: As	given in the Observatio PER=-79 after visits 1	on Description, positioning the FCA at & 2.	G130M	BUFFER-TIME=11 1; CURRENT=MEDI UM;	SPEC COM INSTR ELNOAPMAIN	t in Visit 03 Sequence 1-4 Non-In	[==>] 980 Secs	
Comments: As Updated to XA. 4 Comments: Sin	given in the Observatic PER=-79 after visits 1 DEUTERIUM The control of the contr	on Description, positioning the FCA at & 2.	G130M 1309 A	BUFFER-TIME=11 1; CURRENT=MEDI UM; FP-POS=1	ELNOAPMAIN	t in Visit 03 Sequence 1-4 Non-In t in Visit 03	[==>] 980 Secs [==>]	[1]
Comments: As Updated to XA. 4 Comments: Sin	given in the Observatic PER=-79 after visits 1 DEUTERIUM	on Description, positioning the FCA at & 2. COS/FUV, TIME-TAG, FCA	G130M 1309 A	BUFFER-TIME=11 1; CURRENT=MEDI UM; FP-POS=1 ure must include the spec	ELNOAPMAIN	t in Visit 03 Sequence 1-4 Non-In t in Visit 03	[==>] 980 Secs [==>]	[1]
Comments: As Updated to XA. 4 Comments: Sin	given in the Observation PER=-79 after visits 1 DEUTERIUM The second of	on Description, positioning the FCA at & 2. COS/FUV, TIME-TAG, FCA rture location to an off-nominal location	G130M 1309 A on, this science expos	BUFFER-TIME=11 1; CURRENT=MEDI UM; FP-POS=1 ure must include the spec	ELNOAPMAIN cial command ELNOAF SPEC COM INSTR ELNOAPMAIN;	t in Visit 03 Sequence 1-4 Non-In t in Visit 03	980 Secs [==>] ting the aperture location back to	[1]
Comments: As Updated to XA. 4 Comments: Sin	given in the Observation PER=-79 after visits 1 DEUTERIUM The second of	on Description, positioning the FCA at & 2. COS/FUV, TIME-TAG, FCA rture location to an off-nominal location	G130M 1309 A on, this science expos	BUFFER-TIME=11 1; CURRENT=MEDI UM; FP-POS=1 ure must include the special speci	ELNOAPMAIN cial command ELNOAF SPEC COM INSTR ELNOAPMAIN; AFTER BY 1 S TO	t in Visit 03 Sequence 1-4 Non-In t in Visit 03	[==>] 980 Secs [==>] ting the aperture location back to 980 Secs	[1]
Comments: As Updated to XA. 4 Comments: Sin	given in the Observation PER=-79 after visits 1 DEUTERIUM The second of	on Description, positioning the FCA at & 2. COS/FUV, TIME-TAG, FCA rture location to an off-nominal location	G130M 1309 A on, this science expos	BUFFER-TIME=11 1; CURRENT=MEDI UM; FP-POS=1 ure must include the spec BUFFER-TIME=11 1; CURRENT=MEDI UM;	ELNOAPMAIN cial command ELNOAF SPEC COM INSTR ELNOAPMAIN;	t in Visit 03 Sequence 1-4 Non-In t in Visit 03	[==>] 980 Secs [==>] ting the aperture location back to 980 Secs	[1] the nominal
Comments: As Updated to XA. 4 Comments: Sin ue after the exp. 5 Comments: Sin	given in the Observation PER=-79 after visits 1 DEUTERIUM The second of	on Description, positioning the FCA at & 2. COS/FUV, TIME-TAG, FCA rture location to an off-nominal location	G130M 1309 A on, this science expos G130M 1309 A	BUFFER-TIME=11 1; CURRENT=MEDI UM; FP-POS=1 ure must include the special speci	ELNOAPMAIN cial command ELNOAF SPEC COM INSTR ELNOAPMAIN; AFTER BY 1 S TO 4000 S	sequence 1-4 Non-In t in Visit 03 PMAIN to prevent resett	[==>] $980 Secs$ $[==>]$ $ting the aperture location back to$ $980 Secs$ $[==>]$	the nominal
Comments: As Updated to XA. 4 Comments: Sin ue after the exp. 5 Comments: Sin ue after the exp.	given in the Observation PER=-79 after visits 1 DEUTERIUM The control of the con	con Description, positioning the FCA at & 2. COS/FUV, TIME-TAG, FCA reture location to an off-nominal location COS/FUV, TIME-TAG, FCA	G130M 1309 A on, this science expos G130M 1309 A	BUFFER-TIME=11 1; CURRENT=MEDI UM; FP-POS=1 were must include the special spec	ELNOAPMAIN cial command ELNOAF SPEC COM INSTR ELNOAPMAIN; AFTER BY 1 S TO 4000 S cial command ELNOAF	sequence 1-4 Non-In t in Visit 03 PMAIN to prevent resett	980 Secs [==>] ting the aperture location back to 980 Secs [==>] ting the aperture location back to	the nominal
Comments: As Updated to XA. 4 Comments: Sin ue after the exp. 5 Comments: Sin	given in the Observation PER=-79 after visits 1 DEUTERIUM The second of	on Description, positioning the FCA at & 2. COS/FUV, TIME-TAG, FCA rture location to an off-nominal location COS/FUV, TIME-TAG, FCA	G130M 1309 A on, this science expos G130M 1309 A on, this science expos	BUFFER-TIME=11 1; CURRENT=MEDI UM; FP-POS=1 were must include the special spec	ELNOAPMAIN cial command ELNOAF SPEC COM INSTR ELNOAPMAIN; AFTER BY 1 S TO 4000 S	sequence 1-4 Non-In t in Visit 03 PMAIN to prevent resett	[==>] $980 Secs$ $[==>]$ $980 Secs$ $[==>]$ $[==>]$ $ting the aperture location back to the second part of the secon$	the nominal
Comments: As Updated to XA. 4 Comments: Sin ue after the exp. 5 Comments: Sin ue after the exp.	given in the Observation PER=-79 after visits 1 DEUTERIUM The control of the con	con Description, positioning the FCA at & 2. COS/FUV, TIME-TAG, FCA reture location to an off-nominal location COS/FUV, TIME-TAG, FCA	G130M 1309 A on, this science expos G130M 1309 A	BUFFER-TIME=11 1; CURRENT=MEDI UM; FP-POS=1 were must include the special spec	ELNOAPMAIN cial command ELNOAF SPEC COM INSTR ELNOAPMAIN; AFTER BY 1 S TO 4000 S cial command ELNOAF SPEC COM INSTR	sequence 1-4 Non-In t in Visit 03 PMAIN to prevent resett	980 Secs [==>] ting the aperture location back to 980 Secs [==>] ting the aperture location back to	[1]

Proposal 12793 - Visit 03 - Second COS FUV Lifetime Position: FUV Detector High Voltage Sweep (FENA1) **DEUTERIUM** COS/FUV, TIME-TAG, FCA G130M BUFFER-TIME=11 SPEC COM INSTR 980 Secs ELNOAPMAIN: 1: 1309 A *[==>1* CURRENT=MEDI AFTER BY 1 S TO [1] UM; 4000 S FP-POS=4 Comments: Since we have set the aperture location to an off-nominal location, this science exposure must include the special command ELNOAPMAIN to prevent resetting the aperture location back to the nominal val ue after the exposure is completed. **DEUTERIUM** COS/FUV, TIME-TAG, FCA G160M BUFFER-TIME=11 SPEC COM INSTR 980 Secs ELNOAPMAIN; 1; f = = > 11600 A CURRENT=MEDI AFTER BY 1 S TO [1] UM; 4000 S FP-POS=1 Comments: Since we have set the aperture location to an off-nominal location, this science exposure must include the special command ELNOAPMAIN to prevent resetting the aperture location back to the nominal va ue after the exposure is completed. **DEUTERIUM** COS/FUV, TIME-TAG, FCA G160M SPEC COM INSTR 980 Secs BUFFER-TIME=11 ELNOAPMAIN: 1600 A *[==>1* CURRENT=MEDI AFTER BY 1 S TO [2] UM; 4000 S FP-POS=2 Comments: Since we have set the aperture location to an off-nominal location, this science exposure must include the special command ELNOAPMAIN to prevent resetting the aperture location back to the nominal va ue after the exposure is completed. 10 SPEC COM INSTR DEUTERIUM COS/FUV, TIME-TAG, FCA G160M BUFFER-TIME=11 980 Secs ELNOAPMAIN: 1600 A *[==>1* CURRENT=MEDI AFTER BY 1 S TO [2] UM; 4000 S FP-POS=3 Comments: Since we have set the aperture location to an off-nominal location, this science exposure must include the special command ELNOAPMAIN to prevent resetting the aperture location back to the nominal val ue after the exposure is completed. 11 **DEUTERIUM** COS/FUV, TIME-TAG, FCA G160M BUFFER-TIME=11 SPEC COM INSTR 980 Secs ELNOAPMAIN: 1600 A [==>] CURRENT=MEDI AFTER BY 1 S TO [2] 4000 S UM; FP-POS=4 Comments: Since we have set the aperture location to an off-nominal location, this science exposure must include the special command ELNOAPMAIN to prevent resetting the aperture location back to the nominal val ue after the exposure is completed. 12 DARK S/C, DATA, NONE NEW OBSET; 1 Secs **OASISTATES COS** f = = > 1FUV HVLOW HVL OW; [2] **OASISTATES COS** SI OBSERVE OBSE RVE Comments: 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.



Proposal 12793.	- Vigit 04	- Second COS FUV	Lifetime Position	FLIV Detecto	r High Voltage	Sween (FENA1)
F10003a1 12133	- visil U 4 '		LITEUITIE FUSICIOIT.	I O V DEIECIO	i i iiqii voitaye	OMEED (I FINA I)

Proposal 12793, Visit 04, completed Sat Aug 18 01:10:29 GMT 2012

Diagnostic Status: Warning

Scientific Instruments: S/C, COS/FUV, COS

Special Requirements: PARALLEL

Comments: Schedule V03 thru V09 in the same SMS, three weeks AFTER V01 SMS. Scheduling priority is V06, V03, V04, V05, V07, V08 & V09. SAA-FREE scheduling only.

Obtaining G130M and G160M deuterium lamp exposures at the new lifetime position. This visit is nominally for HV settings HVA=147, HVB=153, based on the results of Visits 1 and 2.

Diagnostics (Visit 04) Warning (Orbit Planner): MAXIMUM DURATION EXCEEDED FOR INTERNAL OR EARTH CALIB SU

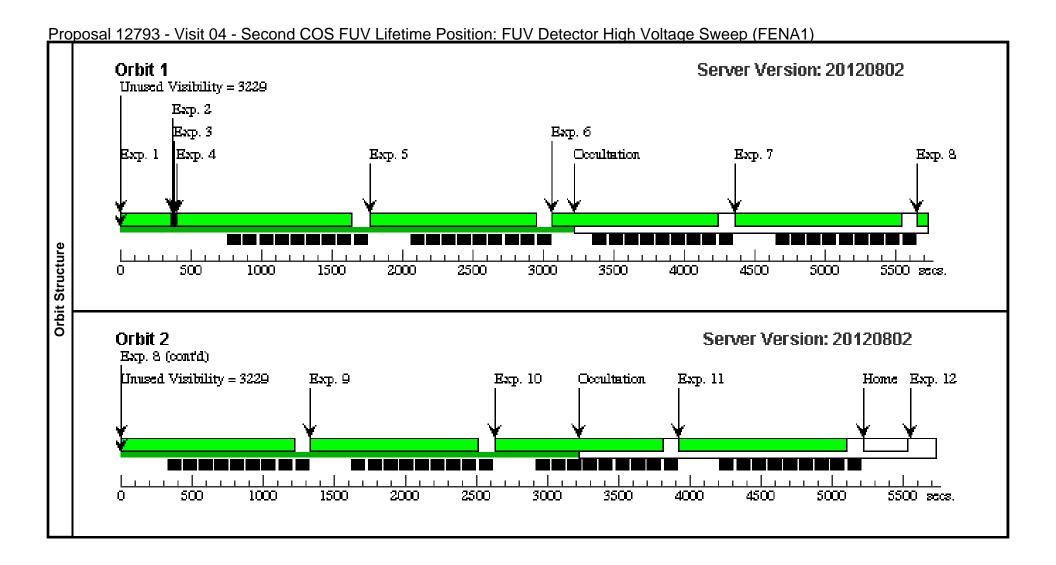
(Exposure 3 (Sequence 1-4 Non-Int in Visit 04)) Warning (Form): This ALIGN/APER exposure should be preceded by a science exposure to define the starting position for the scan.

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Proposal 12793 - Visit 04 - Second COS FUV Lifetime Position: FUV Detector High Voltage Sweep (FENA1)

# Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Regs.	Groups	Exp. Time/[Actual Dur.]	Orbi
1	DARK	S/C, DATA, NONE			SAA CONTOUR 31;	Sequence 1-4 Non-In	376 Secs	
					SPEC COM INSTR ELHLTHVF;	t in Visit 04	[==>]	
					QASISTATES COS FUV HVLOW HVN OM;			[1]
					QESIPARM ENDC TSA 147;			
					QESIPARM ENDC TSB 153			
~		re to specify the si_used = "COS".						
The special co	•	e the nominal high voltage for this visit	(HVNOM) for segme	ents A and B (ENDCTSA				
2	DARK	S/C, DATA, NONE			SPEC COM INSTR ELAPERSET;	Sequence 1-4 Non-In t in Visit 04		
					QESIPARM APERT URE FCA;	van van o	[==>]	
					QESIPARM DET F			[1]
Comments: SQ	L required for qexposu	are to specify the si_used = "COS".			O V			
The special co	mmanding here defines	the ALIGN/APER command to apply t	o the FCA aperture a	and override the nominal	defaults.			
	V	COS, ALIGN/APER		XAPER=-79	,	Sequence 1-4 Non-In	0.0 Secs	
3	NONE							
3	NONE	COS, ALIGIVAI EK		Mil Like 19		t in Visit 04	[==>]	[1]
Comments: As	given in the Observation	on Description, positioning the FCA at	Lifetime Position 2 r				[==>]	[1]
Comments: As		on Description, positioning the FCA at	Lifetime Position 2 r			t in Visit 04 Sequence 1-4 Non-In		[1]
Comments: As	given in the Observation PER=-79 after visits 1	on Description, positioning the FCA at & 2.		BUFFER-TIME=11 1;	SPEC COM INSTR ELNOAPMAIN	t in Visit 04		[1]
Comments: As	given in the Observation PER=-79 after visits 1	on Description, positioning the FCA at & 2.	G130M	BUFFER-TIME=11 1; CURRENT=MEDI	SPEC COM INSTR ELNOAPMAIN	t in Visit 04 Sequence 1-4 Non-In	980 Secs	
Comments: As	given in the Observation PER=-79 after visits 1	on Description, positioning the FCA at & 2.	G130M	BUFFER-TIME=11 1; CURRENT=MEDI UM;	SPEC COM INSTR ELNOAPMAIN	t in Visit 04 Sequence 1-4 Non-In	980 Secs	
Comments: As Updated to XA 4 Comments: Sin	given in the Observatii PER=-79 after visits 1 DEUTERIUM nce we have set the ape	on Description, positioning the FCA at & 2.	G130M 1309 A	BUFFER-TIME=11 1; CURRENT=MEDI UM; FP-POS=1	ELNOAPMAIN	t in Visit 04 Sequence 1-4 Non-In t in Visit 04	980 Secs [==>]	[1]
Comments: As Updated to XA 4 Comments: Sin	given in the Observati PER=-79 after visits 1 DEUTERIUM	on Description, positioning the FCA at & 2. COS/FUV, TIME-TAG, FCA	G130M 1309 A	BUFFER-TIME=11 1; CURRENT=MEDI UM; FP-POS=1 ure must include the spec	ELNOAPMAIN cial command ELNOAF SPEC COM INSTR	t in Visit 04 Sequence 1-4 Non-In t in Visit 04	980 Secs [==>]	[1]
Comments: As Updated to XA 4 Comments: Sin	given in the Observation PER=-79 after visits 1 DEUTERIUM DEUTER (DEUTER (on Description, positioning the FCA at & 2. COS/FUV, TIME-TAG, FCA rture location to an off-nominal location	G130M 1309 A	BUFFER-TIME=11 1; CURRENT=MEDI UM; FP-POS=1 ure must include the spec	ELNOAPMAIN cial command ELNOAF SPEC COM INSTR ELNOAPMAIN;	t in Visit 04 Sequence 1-4 Non-In t in Visit 04	980 Secs [==>] ting the aperture location back to	[1]
Comments: As Updated to XA 4 Comments: Sin	given in the Observation PER=-79 after visits 1 DEUTERIUM DEUTER (DEUTER (on Description, positioning the FCA at & 2. COS/FUV, TIME-TAG, FCA rture location to an off-nominal location	G130M 1309 A on, this science expos	BUFFER-TIME=11 1; CURRENT=MEDI UM; FP-POS=1 ure must include the special speci	ELNOAPMAIN cial command ELNOAF SPEC COM INSTR ELNOAPMAIN; AFTER BY 1 S TO	t in Visit 04 Sequence 1-4 Non-In t in Visit 04	980 Secs [==>] ting the aperture location back to 980 Secs	[1]
Comments: As Updated to XA 4 Comments: Sin	given in the Observation PER=-79 after visits 1 DEUTERIUM DEUTER (DEUTER (on Description, positioning the FCA at & 2. COS/FUV, TIME-TAG, FCA rture location to an off-nominal location	G130M 1309 A on, this science expos	BUFFER-TIME=11 1; CURRENT=MEDI UM; FP-POS=1 ure must include the spec BUFFER-TIME=11 1; CURRENT=MEDI UM;	ELNOAPMAIN cial command ELNOAF SPEC COM INSTR ELNOAPMAIN;	t in Visit 04 Sequence 1-4 Non-In t in Visit 04	980 Secs [==>] ting the aperture location back to 980 Secs	[1]
Comments: As Updated to XA 4 Comments: Sin ue after the exp 5 Comments: Sin	given in the Observation PER=-79 after visits 1 DEUTERIUM The second of	on Description, positioning the FCA at & 2. COS/FUV, TIME-TAG, FCA rture location to an off-nominal location	G130M 1309 A on, this science expos G130M 1309 A	BUFFER-TIME=11 1; CURRENT=MEDI UM; FP-POS=1 ure must include the special speci	Cial command ELNOAF SPEC COM INSTR ELNOAPMAIN; AFTER BY 1 S TO 4000 S	t in Visit 04 Sequence 1-4 Non-In t in Visit 04 PMAIN to prevent resett	980 Secs [==>] ting the aperture location back to 980 Secs [==>]	the nominal
Comments: As Updated to XA 4 Comments: Sin ue after the exp 5 Comments: Sin	given in the Observation PER=-79 after visits 1 DEUTERIUM ace we have set the aperposure is completed. DEUTERIUM	con Description, positioning the FCA at & 2. COS/FUV, TIME-TAG, FCA rture location to an off-nominal location COS/FUV, TIME-TAG, FCA	G130M 1309 A on, this science expos G130M 1309 A	BUFFER-TIME=11 1; CURRENT=MEDI UM; FP-POS=1 were must include the special spec	Cial command ELNOAF SPEC COM INSTR ELNOAPMAIN; AFTER BY 1 S TO 4000 S	t in Visit 04 Sequence 1-4 Non-In t in Visit 04 PMAIN to prevent resett	980 Secs [==>] ting the aperture location back to 980 Secs [==>]	the nominal
Comments: As Updated to XA 4 Comments: Sin ue after the exp 5 Comments: Sin ue after the exp	given in the Observation PER=-79 after visits 1 DEUTERIUM The process of the section of the sec	con Description, positioning the FCA at & 2. COS/FUV, TIME-TAG, FCA rture location to an off-nominal location COS/FUV, TIME-TAG, FCA	G130M 1309 A on, this science expos G130M 1309 A	BUFFER-TIME=11 1; CURRENT=MEDI UM; FP-POS=1 were must include the special spec	ELNOAPMAIN cial command ELNOAF SPEC COM INSTR ELNOAPMAIN; AFTER BY 1 S TO 4000 S cial command ELNOAF SPEC COM INSTR ELNOAPMAIN;	t in Visit 04 Sequence 1-4 Non-In t in Visit 04 PMAIN to prevent resett	980 Secs [==>] sing the aperture location back to 980 Secs [==>] sing the aperture location back to 980 Secs	the nominal
Comments: As Updated to XA 4 Comments: Sin ue after the exp 5 Comments: Sin ue after the exp	given in the Observation PER=-79 after visits 1 DEUTERIUM The process of the section of the sec	con Description, positioning the FCA at & 2. COS/FUV, TIME-TAG, FCA rture location to an off-nominal location COS/FUV, TIME-TAG, FCA	G130M 1309 A on, this science expose G130M 1309 A on, this science expose G130M	BUFFER-TIME=11 1; CURRENT=MEDI UM; FP-POS=1 were must include the special spec	ELNOAPMAIN cial command ELNOAF SPEC COM INSTR ELNOAPMAIN; AFTER BY 1 S TO 4000 S cial command ELNOAF SPEC COM INSTR	t in Visit 04 Sequence 1-4 Non-In t in Visit 04 PMAIN to prevent resett	980 Secs [==>] ting the aperture location back to 980 Secs [==>] ting the aperture location back to 980 Secs	[1]

Proposal 12793 - Visit 04 - Second COS FUV Lifetime Position: FUV Detector High Voltage Sweep (FENA1) **DEUTERIUM** COS/FUV, TIME-TAG, FCA G130M BUFFER-TIME=11 SPEC COM INSTR 980 Secs ELNOAPMAIN: 1: 1309 A *[==>1* CURRENT=MEDI AFTER BY 1 S TO [1] UM; 4000 S FP-POS=4 Comments: Since we have set the aperture location to an off-nominal location, this science exposure must include the special command ELNOAPMAIN to prevent resetting the aperture location back to the nominal val ue after the exposure is completed. **DEUTERIUM** COS/FUV, TIME-TAG, FCA G160M BUFFER-TIME=11 SPEC COM INSTR 980 Secs ELNOAPMAIN; 1; f = = > 11600 A CURRENT=MEDI AFTER BY 1 S TO [1] UM; 4000 S FP-POS=1 Comments: Since we have set the aperture location to an off-nominal location, this science exposure must include the special command ELNOAPMAIN to prevent resetting the aperture location back to the nominal val ue after the exposure is completed. **DEUTERIUM** COS/FUV, TIME-TAG, FCA G160M SPEC COM INSTR 980 Secs BUFFER-TIME=11 ELNOAPMAIN: 1600 A *[==>1* CURRENT=MEDI AFTER BY 1 S TO [2] UM; 4000 S FP-POS=2 Comments: Since we have set the aperture location to an off-nominal location, this science exposure must include the special command ELNOAPMAIN to prevent resetting the aperture location back to the nominal va ue after the exposure is completed. 10 SPEC COM INSTR DEUTERIUM COS/FUV, TIME-TAG, FCA G160M BUFFER-TIME=11 980 Secs ELNOAPMAIN: 1600 A *[==>1* CURRENT=MEDI AFTER BY 1 S TO [2] UM; 4000 S FP-POS=3 Comments: Since we have set the aperture location to an off-nominal location, this science exposure must include the special command ELNOAPMAIN to prevent resetting the aperture location back to the nominal val ue after the exposure is completed. 11 **DEUTERIUM** COS/FUV, TIME-TAG, FCA G160M BUFFER-TIME=11 SPEC COM INSTR 980 Secs ELNOAPMAIN: 1600 A [==>] CURRENT=MEDI AFTER BY 1 S TO [2] 4000 S UM; FP-POS=4 Comments: Since we have set the aperture location to an off-nominal location, this science exposure must include the special command ELNOAPMAIN to prevent resetting the aperture location back to the nominal val ue after the exposure is completed. 12 DARK S/C, DATA, NONE NEW OBSET; 1 Secs **OASISTATES COS** f = = > 1FUV HVLOW HVL OW; [2] **OASISTATES COS** SI OBSERVE OBSE RVE Comments: 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.



Proposal 12793 - Visit 05 - Second COS FUV Lifetime Position: FUV Detector High Voltage Sweep (FENA1)

Proposal 12793, Visit 05, completed Sat Aug 18 01:10:31 GMT 2012

Diagnostic Status: Warning

Scientific Instruments: S/C, COS/FUV, COS

Special Requirements: PARALLEL

Comments: Schedule V03 thru V09 in the same SMS, three weeks AFTER V01 SMS. Scheduling priority is V06, V03, V04, V05, V07, V08 & V09.

SAA-FREE scheduling only.

Obtaining G130M and G160M deuterium lamp exposures at the new lifetime position.
This visit is nominally for HV settings HVA=162, HVB=159, updated based on the results of Visits 1 and 2.

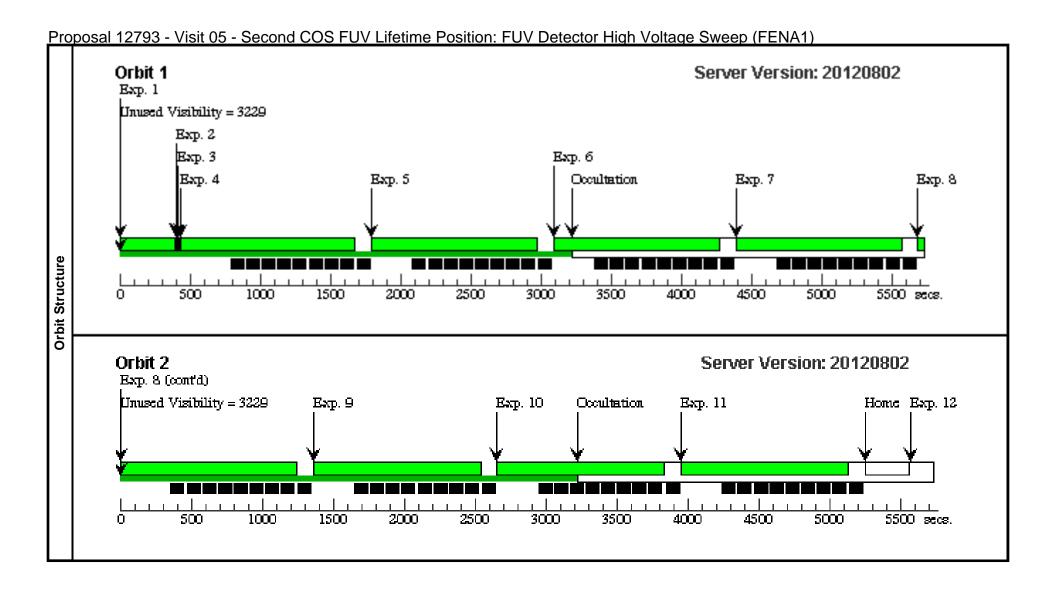
Diagnostics (Visit 05) Warning (Orbit Planner): MAXIMUM DURATION EXCEEDED FOR INTERNAL OR EARTH CALIB SU

(Exposure 3 (Sequence 1-4 Non-Int in Visit 05)) Warning (Form): This ALIGN/APER exposure should be preceded by a science exposure to define the starting position for the scan.

Proposal 12793 - Visit 05 - Second COS FUV Lifetime Position: FUV Detector High Voltage Sweep (FENA1)

	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbi
1	DARK	S/C, DATA, NONE				Sequence 1-4 Non-In	403 Secs	
					SPEC COM INSTR ELHLTHVF;	t in Visit 05	[==>]	
					QASISTATES COS FUV HVLOW HVN OM;			(11
					QESIPARM ENDC TSA 162;			[1]
					QESIPARM ENDC TSB 159			
Comments: SQ	L required for qexposu	re to specify the si_used = "COS".						•
The special con		the nominal high voltage for this visit	(HVNOM) for segme	ents A and B (ENDCTSA				
2	DARK	S/C, DATA, NONE			SPEC COM INSTR ELAPERSET;	Sequence 1-4 Non-In t in Visit 05		
					QESIPARM APERT		[==>]	
					URE FCA;			[1]
					QESIPARM DET F UV			
Comments: SQ	L required for qexposu	re to specify the si_used = "COS".						'
The special con	nmanding here defines	the ALIGN/APER command to apply t	o the FCA aperture o	and override the nominal	defaults.			
3	NONE	COS, ALIGN/APER		XAPER=-79		Sequence 1-4 Non-In	0.0 Secs	
						t in Visit 05	[==>]	[1]
Comments: As a Updated to XA	given in the Observatio PER=-79 after visits 1	on Description, positioning the FCA at & 2.	Lifetime Position 2 i	requires XAPER=-68.				
4	DEUTERIUM	COS/FUV, TIME-TAG, FCA	G130M	BUFFER-TIME=11	SPEC COM INSTR	Sequence 1-4 Non-In	980 Secs	
			1309 A	1;	ELNOAPMAIN	t in Visit 05	[==>]	
				CURRENT=MEDI UM;				[1]
				FP-POS=1				
Comments: Single after the exp	ce we have set the aper cosure is completed.	rture location to an off-nominal location	n, this science expos		cial command ELNOAF	PMAIN to prevent resett	ting the aperture location back to	the nominal v
5	DEUTERIUM	COS/FUV, TIME-TAG, FCA	G130M	BUFFER-TIME=11	SPEC COM INSTR		980 Secs	
			1309 A	1;	ELNOAPMAIN;		[==>]	
				CURRENT=MEDI UM;	AFTER BY 1 S TO 4000 S			[1]
				FP-POS=2	4000 3			1-3
					· · · · · · · · · · · · · · · · · · ·	PMAIN to provent resets	ting the aperture location back to	the nominal
Comments: Sin	ce we have set the aper	rture location to an off-nominal locatio	n, this science expos	ure must include the spec	nal command ELNOAF	MIMIN IO PIEVEIII IESEII		ine nomina i
ue after the exp	osure is completed.	rture location to an off-nominal location				MAIIV to prevent resett	<u> </u>	The nominal (
		rture location to an off-nominal location	G130M	BUFFER-TIME=11	SPEC COM INSTR	MAIN to prevent resen	980 Secs	ine nominai
ue after the exp	osure is completed.			BUFFER-TIME=11 1;		man to prevent resea	<u> </u>	[1]

Proposal 12793 - Visit 05 - Second COS FUV Lifetime Position: FUV Detector High Voltage Sweep (FENA1) DEUTERIUM COS/FUV, TIME-TAG, FCA G130M BUFFER-TIME=11 SPEC COM INSTR 980 Secs ELNOAPMAIN: 1: 1309 A *[==>1* CURRENT=MEDI AFTER BY 1 S TO [1] UM; 4000 S FP-POS=4 Comments: Since we have set the aperture location to an off-nominal location, this science exposure must include the special command ELNOAPMAIN to prevent resetting the aperture location back to the nominal val ue after the exposure is completed. **DEUTERIUM** COS/FUV, TIME-TAG, FCA G160M BUFFER-TIME=11 SPEC COM INSTR 980 Secs ELNOAPMAIN; 1; *[==>1* 1600 A CURRENT=MEDI AFTER BY 1 S TO [1] UM; 4000 S FP-POS=1 Comments: Since we have set the aperture location to an off-nominal location, this science exposure must include the special command ELNOAPMAIN to prevent resetting the aperture location back to the nominal va ue after the exposure is completed. **DEUTERIUM** COS/FUV, TIME-TAG, FCA G160M SPEC COM INSTR 980 Secs BUFFER-TIME=11 ELNOAPMAIN: 1600 A *[==>1* CURRENT=MEDI AFTER BY 1 S TO [2] UM; 4000 S FP-POS=2 Comments: Since we have set the aperture location to an off-nominal location, this science exposure must include the special command ELNOAPMAIN to prevent resetting the aperture location back to the nominal va ue after the exposure is completed. 10 SPEC COM INSTR DEUTERIUM COS/FUV, TIME-TAG, FCA G160M BUFFER-TIME=11 980 Secs ELNOAPMAIN: 1600 A *[==>1* CURRENT=MEDI AFTER BY 1 S TO [2] UM; 4000 S FP-POS=3 Comments: Since we have set the aperture location to an off-nominal location, this science exposure must include the special command ELNOAPMAIN to prevent resetting the aperture location back to the nominal val ue after the exposure is completed. 11 **DEUTERIUM** COS/FUV, TIME-TAG, FCA G160M BUFFER-TIME=11 SPEC COM INSTR 980 Secs ELNOAPMAIN: 1600 A [==>] CURRENT=MEDI AFTER BY 1 S TO [2] 4000 S UM; FP-POS=4 Comments: Since we have set the aperture location to an off-nominal location, this science exposure must include the special command ELNOAPMAIN to prevent resetting the aperture location back to the nominal val ue after the exposure is completed. 12 DARK S/C, DATA, NONE NEW OBSET; 1 Secs **OASISTATES COS** f = = > 1FUV HVLOW HVL OW; [2] **OASISTATES COS** SI OBSERVE OBSE RVE Comments: 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.



<u>Pr</u>	oposal 12793 - Visit 06 - Second COS FUV Lifetime Position: FUV Detector High Voltage Sweep (FENA1)
	Proposal 12793, Visit 06, completed Sat Aug 18 01:10:33 GMT 2012
ı	Diagnostic Status: Warning
	Scientific Instruments: S/C, COS/FUV, COS
Si	Special Requirements: PARALLEL
Š	Comments: Schedule V03 thru V09 in the same SMS, three weeks AFTER V01 SMS. Scheduling priority is V06, V03, V04, V05, V07, V08 & V09. Obtaining G160M cal lamp exposures at the new lifetime position. Without any mechanism motions, sweep through a series of 5 high voltage settings to evaluate the resolution as a function of gain and high voltage: HVA/HVB=143/142, 147/147, 152/153, 157/158, 163/162. The chosen high voltage values have been updated based on the results of Visits 1-2. This visit uses FP-POS=1.
	(Visit 06) Warning (Orbit Planner): LAMP EXPOSURE EXCEEDS 300 SECONDS
SS	(Visit 06) Warning (Orbit Planner): LAMP EXPOSURE EXCEEDS 300 SECONDS
Sti	(Visit 06) Warning (Orbit Planner): LAMP EXPOSURE EXCEEDS 300 SECONDS
10	ATT TO A THE TEN OF THE PROPERTY OF THE PROPER

(Visit 06) Warning (Orbit Planner): LAMP EXPOSURE EXCEEDS 300 SECONDS
(Visit 06) Warning (Orbit Planner): MAXIMUM DURATION EXCEEDED FOR INTERNAL OR EARTH CALIB SU
(Visit 06) Warning (Orbit Planner): LAMP EXPOSURE EXCEEDS 300 SECONDS

(Exposure 3 (Sequence 1-4 Non-Int in Visit 06)) Warning (Form): This ALIGN/APER exposure should be preceded by a science exposure to define the starting position for the scan.

Proposal 12793 - Visit 06 - Second COS FUV Lifetime Position: FUV Detector High Voltage Sweep (FENA1)

# Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbi
1	DARK	S/C, DATA, NONE			SAA CONTOUR 31;	Sequence 1-4 Non-In	346 Secs	
					SPEC COM INSTR ELHLTHVF;	t in Visit 06	[==>]	
					QASISTATES COS FUV HVLOW HVN OM;			[1]
					QESIPARM ENDC TSA 143;			
					QESIPARM ENDC TSB 142			
Comments: SQ	QL required for qexpo	osure to specify the si_used = "COS".						
The exposure t	time allows for overh	the the nominal high voltage for this visit ead not included in APT of 35 s for the hi tion (which is only for APTs benefit) to us	igh voltage to ramp o	down to its lowest setti	SA and ENDCTS B) to 142 ing, and then 442 s to ramp	3 and 142, respectively. 5 up to values less than	175.	
2	DARK	S/C, DATA, NONE			SPEC COM INSTR	Sequence 1-4 Non-In	10 Secs	
					ELAPERSET;	t in Visit 06	[==>]	
					QESIPARM APERT URE PSA;			[1
					QESIPARM DET F UV			
Comments: SQ	QL required for qexpo	osure to specify the si_used = "COS".						
					1.1.6.1.			
The special co	mmandina hara dafin	ies the ALIGN/APER command to apply to	to the PSA aperture of	and override the nomi				
The special con		nes the ALIGN/APER command to apply to COS_ALIGN/APER	o the PSA aperture of		ial defaults.	Sequence 1-4 Non-In	0.0 Secs	
The special con	mmanding here defin NONE	nes the ALIGN/APER command to apply to COS, ALIGN/APER	to the PSA aperture o	and override the nomin XAPER=109	ial defaults.	Sequence 1-4 Non-In t in Visit 06		- 11
3 Comments: To	NONE o place a WAVE cal e	COS, ALIGN/APER xposure using the calibration lamp through		XAPER=109		t in Visit 06	[==>]	[1
3 Comments: To As described a	NONE place a WAVE cal extra this requires XA	COS, ALIGN/APER $xposure\ using\ the\ calibration\ lamp\ through APER=127.$	gh the WCA on the d	XAPER=109 letector at Lifetime Po	sition 2, we need to set the	t in Visit 06	[==>]	[1
3 Comments: To As described a	NONE place a WAVE cal explose this requires XA e XAPER for increase	COS, ALIGN/APER xposure using the calibration lamp through APER=127. ed delta Y of +6, plus +4 to place spectru	gh the WCA on the a	XAPER=109 letector at Lifetime Po and G130M. XAPER=	sition 2, we need to set the +109.	t in Visit 06 default PSA aperture l	[==>] ocation to 2.5 mm lower in Y.	[1
3 Comments: To As described a	NONE place a WAVE cal extra this requires XA	COS, ALIGN/APER $xposure\ using\ the\ calibration\ lamp\ through APER=127.$	gh the WCA on the d um between G160M o G160M	XAPER=109 letector at Lifetime Po	sition 2, we need to set the +109.	t in Visit 06	[==>] ocation to 2.5 mm lower in Y. 350 Secs	
3 Comments: To As described a 3/5/12: Update 4	NONE place a WAVE cal e. plove this requires XA e XAPER for increase WAVE	COS, ALIGN/APER exposure using the calibration lamp through APER=127. ed delta Y of +6, plus +4 to place spectru COS/FUV, TIME-TAG, WCA	gh the WCA on the d um between G160M o G160M 1600 A	XAPER=109 letector at Lifetime Po and G130M. XAPER= FP-POS=1	sition 2, we need to set the +109. SPEC COM INSTR ELNOAPMAIN	t in Visit 06 default PSA aperture l Sequence 1-4 Non-In t in Visit 06	[==>] ocation to 2.5 mm lower in Y. $350 Secs$ $[==>]$	[1
Comments: To As described a 3/5/12: Update 4 Comments: Sir	NONE place a WAVE cal e. plove this requires XA e XAPER for increase WAVE	COS, ALIGN/APER xposure using the calibration lamp through APER=127. ed delta Y of +6, plus +4 to place spectru COS/FUV, TIME-TAG, WCA perture location to an off-nominal locatio	gh the WCA on the d um between G160M o G160M 1600 A	XAPER=109 letector at Lifetime Po and G130M. XAPER= FP-POS=1	sition 2, we need to set the +109. SPEC COM INSTR ELNOAPMAIN special command ELNOAF	t in Visit 06 default PSA aperture lessequence 1-4 Non-In t in Visit 06 MAIN to prevent resetted.	[==>] ocation to 2.5 mm lower in Y. 350 Secs $[==>]$ ting the aperture location back to	[1
Comments: To As described a 3/5/12: Update 4 Comments: Sir	NONE place a WAVE cal e above this requires XA e XAPER for increase WAVE	COS, ALIGN/APER exposure using the calibration lamp through APER=127. ed delta Y of +6, plus +4 to place spectru COS/FUV, TIME-TAG, WCA	gh the WCA on the d um between G160M o G160M 1600 A	XAPER=109 letector at Lifetime Po and G130M. XAPER= FP-POS=1	sition 2, we need to set the +109. SPEC COM INSTR ELNOAPMAIN special command ELNOAF SAA CONTOUR 31;	t in Visit 06 default PSA aperture l Sequence 1-4 Non-In t in Visit 06 MAIN to prevent resett Sequence 5-6 Non-In	[==>] ocation to 2.5 mm lower in Y. 350 Secs $[==>]$ ting the aperture location back to	[1
3 Comments: To As described a 3/5/12: Update 4 Comments: Sir	NONE p place a WAVE cal e. above this requires XA e XAPER for increase WAVE nce we have set the apposure is completed.	COS, ALIGN/APER xposure using the calibration lamp through APER=127. ed delta Y of +6, plus +4 to place spectru COS/FUV, TIME-TAG, WCA perture location to an off-nominal locatio	gh the WCA on the d um between G160M o G160M 1600 A	XAPER=109 letector at Lifetime Po and G130M. XAPER= FP-POS=1	sition 2, we need to set the +109. SPEC COM INSTR ELNOAPMAIN special command ELNOAF	t in Visit 06 default PSA aperture lessequence 1-4 Non-In t in Visit 06 MAIN to prevent resetted.	[==>] ocation to 2.5 mm lower in Y. 350 Secs $[==>]$ ting the aperture location back to	[1
3 Comments: To As described a 3/5/12: Update 4 Comments: Sir	NONE p place a WAVE cal e. above this requires XA e XAPER for increase WAVE nce we have set the apposure is completed.	COS, ALIGN/APER xposure using the calibration lamp through APER=127. ed delta Y of +6, plus +4 to place spectru COS/FUV, TIME-TAG, WCA perture location to an off-nominal locatio	gh the WCA on the d um between G160M o G160M 1600 A	XAPER=109 letector at Lifetime Po and G130M. XAPER= FP-POS=1	sition 2, we need to set the +109. SPEC COM INSTR ELNOAPMAIN special command ELNOAF SAA CONTOUR 31; SPEC COM INSTR ELHLTHVF; QASISTATES COS	t in Visit 06 default PSA aperture l Sequence 1-4 Non-In t in Visit 06 MAIN to prevent resett Sequence 5-6 Non-In	[==>] ocation to 2.5 mm lower in Y. 350 Secs $[==>]$ ting the aperture location back to	[1
3 Comments: To As described a 3/5/12: Update 4 Comments: Sir	NONE p place a WAVE cal e. above this requires XA e XAPER for increase WAVE nce we have set the apposure is completed.	COS, ALIGN/APER xposure using the calibration lamp through APER=127. ed delta Y of +6, plus +4 to place spectru COS/FUV, TIME-TAG, WCA perture location to an off-nominal locatio	gh the WCA on the d um between G160M o G160M 1600 A	XAPER=109 letector at Lifetime Po and G130M. XAPER= FP-POS=1	sition 2, we need to set the +109. SPEC COM INSTR ELNOAPMAIN special command ELNOAF SAA CONTOUR 31; SPEC COM INSTR ELHLTHVF;	t in Visit 06 default PSA aperture l Sequence 1-4 Non-In t in Visit 06 MAIN to prevent resett Sequence 5-6 Non-In	[==>] ocation to 2.5 mm lower in Y. 350 Secs $[==>]$ ting the aperture location back to	[1
3 Comments: To As described a 3/5/12: Update 4 Comments: Sir	NONE p place a WAVE cal e. above this requires XA e XAPER for increase WAVE nce we have set the apposure is completed.	COS, ALIGN/APER xposure using the calibration lamp through APER=127. ed delta Y of +6, plus +4 to place spectru COS/FUV, TIME-TAG, WCA perture location to an off-nominal locatio	gh the WCA on the d um between G160M o G160M 1600 A	XAPER=109 letector at Lifetime Po and G130M. XAPER= FP-POS=1	sition 2, we need to set the +109. SPEC COM INSTR ELNOAPMAIN special command ELNOAF SAA CONTOUR 31; SPEC COM INSTR ELHLTHVF; QASISTATES COS FUV HVLOW HVN	t in Visit 06 default PSA aperture l Sequence 1-4 Non-In t in Visit 06 MAIN to prevent resett Sequence 5-6 Non-In	[==>] ocation to 2.5 mm lower in Y. 350 Secs $[==>]$ ting the aperture location back to	the nomina
Comments: To As described a 3/5/12: Update 4 Comments: Sir	NONE p place a WAVE cal e. above this requires XA e XAPER for increase WAVE nce we have set the apposure is completed.	COS, ALIGN/APER xposure using the calibration lamp through APER=127. ed delta Y of +6, plus +4 to place spectru COS/FUV, TIME-TAG, WCA perture location to an off-nominal locatio	gh the WCA on the d um between G160M o G160M 1600 A	XAPER=109 letector at Lifetime Po and G130M. XAPER= FP-POS=1	sition 2, we need to set the +109. SPEC COM INSTR ELNOAPMAIN special command ELNOAF SAA CONTOUR 31; SPEC COM INSTR ELHLTHVF; QASISTATES COS FUV HVLOW HVN OM;	t in Visit 06 default PSA aperture l Sequence 1-4 Non-In t in Visit 06 MAIN to prevent resett Sequence 5-6 Non-In	[==>] ocation to 2.5 mm lower in Y. 350 Secs $[==>]$ ting the aperture location back to	the nomina
Comments: To As described a 3/5/12: Update 4 Comments: Sir	NONE p place a WAVE cal e. above this requires XA e XAPER for increase WAVE nce we have set the apposure is completed.	COS, ALIGN/APER xposure using the calibration lamp through APER=127. ed delta Y of +6, plus +4 to place spectru COS/FUV, TIME-TAG, WCA perture location to an off-nominal locatio	gh the WCA on the d um between G160M o G160M 1600 A	XAPER=109 letector at Lifetime Po and G130M. XAPER= FP-POS=1	SPEC COM INSTR ELNOAPMAIN SPEC COM INSTR ELNOAPMAIN SAA CONTOUR 31; SPEC COM INSTR ELHLTHVF; QASISTATES COS FUV HVLOW HVN OM; QESIPARM ENDC TSA 147; QESIPARM ENDC	t in Visit 06 default PSA aperture l Sequence 1-4 Non-In t in Visit 06 MAIN to prevent resett Sequence 5-6 Non-In	[==>] ocation to 2.5 mm lower in Y. 350 Secs $[==>]$ ting the aperture location back to	the nomino
3 Comments: To As described a 3/5/12: Update 4 Comments: Sin ue after the exp 5	NONE p place a WAVE cal extractions this requires XA e XAPER for increase WAVE nce we have set the apposure is completed. DARK	COS, ALIGN/APER exposure using the calibration lamp through APER=127. ed delta Y of +6, plus +4 to place spectrued COS/FUV, TIME-TAG, WCA perture location to an off-nominal location S/C, DATA, NONE	gh the WCA on the d um between G160M o G160M 1600 A	XAPER=109 letector at Lifetime Po and G130M. XAPER= FP-POS=1	sition 2, we need to set the +109. SPEC COM INSTR ELNOAPMAIN SPECIAL command ELNOAF SAA CONTOUR 31; SPEC COM INSTR ELHLTHVF; QASISTATES COS FUV HVLOW HVN OM; QESIPARM ENDC TSA 147;	t in Visit 06 default PSA aperture l Sequence 1-4 Non-In t in Visit 06 MAIN to prevent resett Sequence 5-6 Non-In	[==>] ocation to 2.5 mm lower in Y. 350 Secs $[==>]$ ting the aperture location back to	the nomina
3 Comments: To As described a 3/5/12: Update 4 Comments: Sinue after the exp 5 Comments: SQ	NONE p place a WAVE cal e. pbove this requires XA e XAPER for increase WAVE make the posure is completed. DARK DL required for qexpo	COS, ALIGN/APER exposure using the calibration lamp through APER=127. ed delta Y of +6, plus +4 to place spectru COS/FUV, TIME-TAG, WCA perture location to an off-nominal locatio S/C, DATA, NONE cosure to specify the si_used = "COS".	gh the WCA on the d am between G160M o G160M 1600 A on, this science expos	XAPER=109 letector at Lifetime Po und G130M. XAPER= FP-POS=1 sure must include the s	sition 2, we need to set the +109. SPEC COM INSTR ELNOAPMAIN SAA CONTOUR 31; SPEC COM INSTR ELHLTHVF; QASISTATES COS FUV HVLOW HVN OM; QESIPARM ENDC TSA 147; QESIPARM ENDC TSB 147	t in Visit 06 default PSA aperture le Sequence 1-4 Non-In t in Visit 06 MAIN to prevent resett Sequence 5-6 Non-In t in Visit 06	[==>] ocation to 2.5 mm lower in Y. $350 Secs$ $[==>]$ ting the aperture location back to $358 Secs$ $[==>]$	the nomino
3 Comments: To As described a 3/5/12: Update 4 Comments: Sin we after the exp 5 Comments: SQ The special con The exposure to	NONE p place a WAVE cal e. above this requires XA e XAPER for increase WAVE nce we have set the apposure is completed. DARK DL required for qexpontant and the position of the position	COS, ALIGN/APER exposure using the calibration lamp through APER=127. ed delta Y of +6, plus +4 to place spectrued COS/FUV, TIME-TAG, WCA perture location to an off-nominal location S/C, DATA, NONE	gh the WCA on the day between G160M of G160M 1600 A on, this science expositely (HVNOM) for segment to the segment of the segm	XAPER=109 letector at Lifetime Po and G130M. XAPER= FP-POS=1 sure must include the s ents A and B (ENDCT) down to its lowest settle	SPEC COM INSTR ELNOAPMAIN SPECIAL command ELNOAF SAA CONTOUR 31; SPEC COM INSTR ELHLTHVF; QASISTATES COS FUV HVLOW HVN OM; QESIPARM ENDC TSA 147; QESIPARM ENDC TSB 147	t in Visit 06 default PSA aperture le Sequence 1-4 Non-In t in Visit 06 PMAIN to prevent resett Sequence 5-6 Non-In t in Visit 06	[==>] ocation to 2.5 mm lower in Y. 350 Secs $[==>]$ ting the aperture location back to 358 Secs $[==>]$	[1
3 Comments: To As described a 3/5/12: Update 4 Comments: Sin we after the exp 5 Comments: SQ The special con The exposure to	NONE p place a WAVE cal e. above this requires XA e XAPER for increase WAVE nce we have set the apposure is completed. DARK DL required for qexpontant and the position of the position	COS, ALIGN/APER xposure using the calibration lamp through APER = 127. ed delta Y of +6, plus +4 to place spectru COS/FUV, TIME-TAG, WCA perture location to an off-nominal location S/C, DATA, NONE consume to specify the si_used = "COS". the the nominal high voltage for this visit ead not included in APT of 35 s for the high.	gh the WCA on the day between G160M of G160M 1600 A on, this science expositely (HVNOM) for segment to the segment of the segm	XAPER=109 letector at Lifetime Po and G130M. XAPER= FP-POS=1 sure must include the s ents A and B (ENDCT) down to its lowest settle	SPEC COM INSTR ELNOAPMAIN SPECIAL command ELNOAF SAA CONTOUR 31; SPEC COM INSTR ELHLTHVF; QASISTATES COS FUV HVLOW HVN OM; QESIPARM ENDC TSA 147; QESIPARM ENDC TSB 147 SA and ENDCTS B) to 142; ing, and then 442 s to ramp	t in Visit 06 default PSA aperture le Sequence 1-4 Non-In t in Visit 06 PMAIN to prevent resett Sequence 5-6 Non-In t in Visit 06	[==>] ocation to 2.5 mm lower in Y. 350 Secs $[==>]$ ting the aperture location back to $[==>]$ $[==>]$ 175.	[1]

7	DARK	S/C, DATA, NONE				Sequence 7-8 Non-In		
					SPEC COM INSTR ELHLTHVF;	t in Visit 06	[==>]	
					QASISTATES COS FUV HVLOW HVN OM:			[1]
					QESIPARM ENDC TSA 152;			[1]
					QESIPARM ENDC TSB 153			
Comments:	SQL required for qexpo	sure to specify the si_used = "COS".						
The exposur	e time allows for overh	the the nominal high voltage for this visit (ead not included in APT of 35 s for the hig ion (which is only for APTs benefit) to use	gh voltage to ram	o down to its lowest set	TSA and ENDCTS B) to 15. ting, and then 442 s to ram	2 and 153, respectively. To up to values less than	175.	
8	WAVE	COS/FUV, TIME-TAG, WCA	G160M	FP-POS=1	SPEC COM INSTR	Sequence 7-8 Non-In	350 Secs	
			1600 A		ELNOAPMAIN	t in Visit 06	[==>]	[1]
	Since we have set the apexposure is completed.	perture location to an off-nominal location	n, this science exp	osure must include the	special command ELNOAF	PMAIN to prevent reset	ting the aperture locat	ion back to the nominal val
9	DARK	S/C, DATA, NONE			SAA CONTOUR 31:	Sequence 9-10 Non-I	391 Secs	
					SPEC COM INSTR ELHLTHVF;	nt in Visit 06	[==>]	
					QASISTATES COS FUV HVLOW HVN OM;			[1]
					QESIPARM ENDC TSA 157;			12)
					QESIPARM ENDC			[2]
Comments: ,	SQL required for qexpo	ssure to specify the si_used = "COS".			QESIPARM ENDC TSA 157; QESIPARM ENDC			[2]
The special of the exposur	commanding here sets t te time allows for overh	usure to specify the si_used = "COS". The the nominal high voltage for this visit (ead not included in APT of 35 s for the hig tion (which is only for APTs benefit) to use	gh voltage to ram	o down to its lowest set	QESIPARM ENDC TSA 157; QESIPARM ENDC TSB 158			
The special of the exposur	commanding here sets t te time allows for overh	the the nominal high voltage for this visit (ead not included in APT of 35 s for the high	gh voltage to ram	o down to its lowest set	QESIPARM ENDC TSA 157; QESIPARM ENDC TSB 158 TSA and ENDCTS B) to 15 ting, and then 442 s to ramp	Sequence 9-10 Non-I	175.	[4]
The special The exposur 2/8/12: Rem 10	commanding here sets t re time allows for overh oved this artifical addit WAVE	the the nominal high voltage for this visit (ead not included in APT of 35 s for the higion (which is only for APTs benefit) to use COS/FUV, TIME-TAG, WCA	gh voltage to ramp e the actual time r G160M 1600 A	o down to its lowest set seeded. FP-POS=1	QESIPARM ENDC TSA 157; QESIPARM ENDC TSB 158 TSA and ENDCTS B) to 15 ting, and then 442 s to ramp SPEC COM INSTR ELNOAPMAIN	Sequence 9-10 Non-Int in Visit 06	175. 350 Secs [==>]	[1]
The special of the exposur 2/8/12: Rem 10	commanding here sets t re time allows for overh soved this artifical addit WAVE	the the nominal high voltage for this visit (ead not included in APT of 35 s for the hig ion (which is only for APTs benefit) to use	gh voltage to ramp e the actual time r G160M 1600 A	o down to its lowest set seeded. FP-POS=1	QESIPARM ENDC TSA 157; QESIPARM ENDC TSB 158 TSA and ENDCTS B) to 15 ting, and then 442 s to ramp SPEC COM INSTR ELNOAPMAIN	Sequence 9-10 Non-Int in Visit 06	175. 350 Secs [==>]	[1]
The special of the exposur 2/8/12: Rem 10	commanding here sets t re time allows for overh oved this artifical addit WAVE	the the nominal high voltage for this visit (ead not included in APT of 35 s for the higion (which is only for APTs benefit) to use COS/FUV, TIME-TAG, WCA	gh voltage to ramp e the actual time r G160M 1600 A	o down to its lowest set seeded. FP-POS=1	QESIPARM ENDC TSA 157; QESIPARM ENDC TSB 158 TSA and ENDCTS B) to 15 ting, and then 442 s to ram, SPEC COM INSTR ELNOAPMAIN special command ELNOAI	Sequence 9-10 Non-Int in Visit 06 PMAIN to prevent reset Sequence 11-12 Non	175. 350 Secs [==>]	[1]
The special of The exposur 2/8/12: Rem 10 Comments: ue after the control of the c	commanding here sets to the time allows for overhous and this artifical addit WAVE Since we have set the apexposure is completed.	the the nominal high voltage for this visit (ead not included in APT of 35 s for the higion (which is only for APTs benefit) to use COS/FUV, TIME-TAG, WCA	gh voltage to ramp e the actual time r G160M 1600 A	o down to its lowest set seeded. FP-POS=1	QESIPARM ENDC TSA 157; QESIPARM ENDC TSB 158 TSA and ENDCTS B) to 15 ting, and then 442 s to ram, SPEC COM INSTR ELNOAPMAIN special command ELNOAI	o up to values less than Sequence 9-10 Non-I nt in Visit 06 PMAIN to prevent reset	175.	[1]
The special of The exposur 2/8/12: Rem 10 Comments: ue after the control of the c	commanding here sets to the time allows for overhous and this artifical addit WAVE Since we have set the apexposure is completed.	the the nominal high voltage for this visit (ead not included in APT of 35 s for the higion (which is only for APTs benefit) to use COS/FUV, TIME-TAG, WCA	gh voltage to ramp e the actual time r G160M 1600 A	o down to its lowest set seeded. FP-POS=1	QESIPARM ENDC TSA 157; QESIPARM ENDC TSB 158 TSA and ENDCTS B) to 15 ting, and then 442 s to ram, SPEC COM INSTR ELNOAPMAIN special command ELNOAI SAA CONTOUR 31: SPEC COM INSTR	Sequence 9-10 Non-Int in Visit 06 PMAIN to prevent reset Sequence 11-12 Non-Int in Visit 06	$ 350 Secs \\ [==>] \\ ting the aperture locate \\ 406 Secs $	[1] ion back to the nominal val
The special of The exposur 2/8/12: Rem 10 Comments: ue after the control of the c	commanding here sets to the time allows for overhous and this artifical addit WAVE Since we have set the apexposure is completed.	the the nominal high voltage for this visit (ead not included in APT of 35 s for the higion (which is only for APTs benefit) to use COS/FUV, TIME-TAG, WCA	gh voltage to ramp e the actual time r G160M 1600 A	o down to its lowest set seeded. FP-POS=1	QESIPARM ENDC TSA 157; QESIPARM ENDC TSB 158 TSA and ENDCTS B) to 15 ting, and then 442 s to ram SPEC COM INSTR ELNOAPMAIN SPECIAL command ELNOAF SAA CONTOUR 31: SPEC COM INSTR ELHLTHVF; QASISTATES COS FUV HVLOW HVN	Sequence 9-10 Non-Int in Visit 06 PMAIN to prevent reset Sequence 11-12 Non-Int in Visit 06	$ 350 Secs \\ [==>] \\ ting the aperture locate \\ 406 Secs $	[1]
The special of The exposur 2/8/12: Rem 10 Comments: ue after the control of the c	commanding here sets to the time allows for overhous artifical addit WAVE Since we have set the apexposure is completed.	the the nominal high voltage for this visit (ead not included in APT of 35 s for the higion (which is only for APTs benefit) to use COS/FUV, TIME-TAG, WCA	gh voltage to ramp e the actual time r G160M 1600 A	o down to its lowest set seeded. FP-POS=1	QESIPARM ENDC TSA 157; QESIPARM ENDC TSB 158 TSA and ENDCTS B) to 15 ting, and then 442 s to ram SPEC COM INSTR ELNOAPMAIN SPECIAL COMMAND SAA CONTOUR 31: SPEC COM INSTR ELHLTHVF; QASISTATES COS FUV HVLOW HVN OM; QESIPARM ENDC	Sequence 9-10 Non-Int in Visit 06 PMAIN to prevent reset Sequence 11-12 Non-Int in Visit 06	$ 350 Secs \\ [==>] \\ ting the aperture locate \\ 406 Secs $	[1] ion back to the nominal val

Proposal 12793 - Visit 06 - Second COS FUV Lifetime Position: FUV Detector High Voltage Sweep (FENA1) WAVE COS/FUV, TIME-TAG, WCA FP-POS=1 SPEC COM INSTR Sequence 11-12 Non 350 Secs G160M ELNOAPMAIN -Int in Visit 06 1600 A [1] Comments: Since we have set the aperture location to an off-nominal location, this science exposure must include the special command ELNOAPMAIN to prevent resetting the aperture location back to the nominal val ue after the exposure is completed. 13 DARK S/C, DATA, NONE NEW OBSET; 1 Secs **QASISTATES COS** *[==>1* FUV HVLOW HVL OW; [1] QASISTATES COS SI OBSERVE OBSE RVE Comments: 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. Orbit 1 Server Version: 20120802 Exp. 1 Unused Visibility = 3229 Exp. 2 **Orbit Structure** Exp. 3 Exp. 10 Ехф. 5 Ехф. 6 Exp. 7 Exp. 8 Exp. 9 Decultation Exp. 11 Exp. 12 Home Exp. 13 Exp. 4 500 1000 1500 2000 2500 3000 3500 4000 4500 5000 5500 sec

<u>Pr</u>	oposal 12793 - Visit 07 - Second COS FUV Lifetime Position: FUV Detector High Voltage Sweep (FENA1)
	Proposal 12793, Visit 07, completed Sat Aug 18 01:10:35 GMT 2012
l	Diagnostic Status: Warning
l	Scientific Instruments: S/C, COS/FUV, COS
탏	Special Requirements: PARALLEL
Š	Comments: Schedule V03 thru V09 in the same SMS, three weeks AFTER V01 SMS. Scheduling priority is V06, V03, V04, V05, V07, V08 & V09. Obtaining G160M cal lamp exposures at the new lifetime position. Without any mechanism motions, sweep through a series of 5 high voltage settings to evaluate the resolution as a function of gain and high voltage: HVA/HVB=143/142, 147/147, 152/153, 157/158, 163/162. The chosen high voltage values have been updated based on the results of Visits 1-2. This visit uses FP-POS=2.
	(Visit 07) Warning (Orbit Planner): LAMP EXPOSURE EXCEEDS 300 SECONDS
SS	(Visit 07) Warning (Orbit Planner): LAMP EXPOSURE EXCEEDS 300 SECONDS
Sti	(Visit 07) Warning (Orbit Planner): MAXIMUM DURATION EXCEEDED FOR INTERNAL OR EARTH CALIB SU
잍	(Visit 07) Warning (Orbit Planner): LAMP EXPOSURE EXCEEDS 300 SECONDS
<u>a</u> d	(Visit 07) Warning (Orbit Planner): LAMP EXPOSURE EXCEEDS 300 SECONDS
ַבֿן	(Visit 07) Warning (Orbit Planner): LAMP EXPOSURE EXCEEDS 300 SECONDS
	<u> </u>

Proposal 12793 - Visit 07 - Second COS FUV Lifetime Position: FUV Detector High Voltage Sweep (FENA1)

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
1		DARK	S/C, DATA, NONE			SAA CONTOUR 31	Sequence 1-4 Non-In	346 Secs	
						SPEC COM INSTR ELHLTHVF;	t in Visit 07	[==>]	
						QASISTATES COS FUV HVLOW HVN OM;			[1]
						QESIPARM ENDC TSA 143;			
						QESIPARM ENDC TSB 142			
Coi	mments: SQI	required for qexpo	sure to specify the si_used = "COS".						
The	e êxposure tir	ne allows for overh	he the nominal high voltage for this visit ead not included in APT of 35 s for the hi ion (which is only for APTs benefit) to us	gh voltage to ramp	down to its lowest sett	TSA and ENDCTS B) to 14. ing, and then 442 s to ram	3 and 142, respectively. 5 up to values less than	175.	
2		DARK	S/C, DATA, NONE				Sequence 1-4 Non-In	10 Secs	
						ELAPERSET; QESIPARM APERT	t in Visit 07	[==>]	
						URE PSA;			[1]
						QESIPARM DET F UV			
	mments: The		g here defines the ALIGN/APER comman	d to apply to the PS	SA aperture and overr	ide the nominal defaults.		T	
3		NONE	COS, ALIGN/APER		XAPER=109		Sequence 1-4 Non-In t in Visit 07	0.0 Secs	
								[==>]	[1]
As	described ab	ove this requires XA	xposure using the calibration lamp throug APER=127. ad delta Y of +6, plus +4 to place spectru	,	3	•	default PSA aperture l	ocation to 2.5 mm lower in Y.	
4		WAVE	COS/FUV, TIME-TAG, WCA	G160M	FP-POS=2		Sequence 1-4 Non-In	350 Secs	
				1600 A		ELNOAPMAIN	t in Visit 07	[==>]	[1]
		e we have set the ap osure is completed.	perture location to an off-nominal locatio	n, this science expo	sure must include the	special command ELNOAI	PMAIN to prevent reset	ting the aperture location back to	the nominal v
5		DARK	S/C, DATA, NONE			SAA CONTOUR 31	Sequence 5-6 Non-In	358 Secs	
						SPEC COM INSTR ELHLTHVF;	t in Visit 07	[==>]	
						QASISTATES COS FUV HVLOW HVN OM;			[1]
						QESIPARM ENDC TSA 147;			
						QESIPARM ENDC TSB 147			
									•
Coi	omments: SQI	L required for qexpo	sure to specify the si_used = "COS".						
The The	e special com e exposure tii	manding here sets t ne allows for overh	he the nominal high voltage for this visit ead not included in APT of 35 s for the hi	gh voltage to ramp	down to its lowest sett	TSA and ENDCTS B) to 14 ing, and then 442 s to ram	7 and 147, respectively. 5 up to values less than	175.	
The The	e special com e exposure tii	manding here sets t ne allows for overh	he the nominal high voltage for this visit	gh voltage to ramp	down to its lowest sett	ing, and then 442 s to ram	7 and 147, respectively. 5 up to values less than Sequence 5-6 Non-In	175.	
The The 2/8	e special com e exposure tii	manding here sets t ne allows for overh d this artifical addit	he the nominal high voltage for this visit ead not included in APT of 35 s for the hi ion (which is only for APTs benefit) to us	gh voltage to ramp e the actual time ne	down to its lowest sett eded.	ing, and then 442 s to ram	o up to values less than	175.	

7	DARK	S/C, DATA, NONE				Sequence 7-8 Non-In	376 Secs	
					SPEC COM INSTR ELHLTHVF;	t in Visit 07	[==>]	
					QASISTATES COS FUV HVLOW HVN OM:			
					QESIPARM ENDC TSA 152;			[1]
					QESIPARM ENDC TSB 153			
Comments:	SQL required for qexpo	sure to specify the si_used = "COS".			100 100			
The exposur	e time allows for overh	he the nominal high voltage for this visit (ead not included in APT of 35 s for the hig ion (which is only for APTs benefit) to use	gh voltage to ram	o down to its lowest sett	TSA and ENDCTS B) to 15 ting, and then 442 s to ram	2 and 153, respectively. To up to values less than	175.	
8	WAVE	COS/FUV, TIME-TAG, WCA	G160M	FP-POS=2	SPEC COM INSTR	Sequence 7-8 Non-In	350 Secs	
			1600 A		ELNOAPMAIN	t in Visit 07	[==>]	[1]
	Since we have set the ap exposure is completed.	perture location to an off-nominal location	n, this science exp	osure must include the	special command ELNOAI	PMAIN to prevent reset	ting the aperture locati	ion back to the nominal val
9	DARK	S/C, DATA, NONE			SAA CONTOUR 31	Sequence 9-10 Non-I	391 Secs	
					SPEC COM INSTR ELHLTHVF;	nt in Visit 07	[==>]	
					QASISTATES COS FUV HVLOW HVN OM;			[1]
					O1:1,			
					QESIPARM ENDC TSA 157;			12)
					QESIPARM ENDC			[2]
Comments: ,	SQL required for qexpo	sure to specify the si_used = "COS".			QESIPARM ENDC TSA 157; QESIPARM ENDC			[2]
The special of the exposur	commanding here sets t te time allows for overh	sure to specify the si_used = "COS". he the nominal high voltage for this visit (ead not included in APT of 35 s for the hig ion (which is only for APTs benefit) to use	gh voltage to ram	o down to its lowest sett	QESIPARM ENDC TSA 157; QESIPARM ENDC TSB 158			[2]
The special of the exposur	commanding here sets t te time allows for overh	he the nominal high voltage for this visit (ead not included in APT of 35 s for the hig	gh voltage to ram	o down to its lowest sett	QESIPARM ENDC TSA 157; QESIPARM ENDC TSB 158 TSA and ENDCTS B) to 16 ting, and then 442 s to ram, SPEC COM INSTR	Sequence 9-10 Non-I	175.	[2]
The special The exposur 2/8/12: Rem 10	commanding here sets to the time allows for overholoved this artifical addit WAVE	he the nominal high voltage for this visit (ead not included in APT of 35 s for the hig ion (which is only for APTs benefit) to use COS/FUV, TIME-TAG, WCA	gh voltage to ramp e the actual time r G160M 1600 A	o down to its lowest sett seeded. FP-POS=2	QESIPARM ENDC TSA 157; QESIPARM ENDC TSB 158 TSA and ENDCTS B) to 16 ting, and then 442 s to ram, SPEC COM INSTR ELNOAPMAIN	Sequence 9-10 Non-Int in Visit 07	175. 350 Secs [==>]	[1]
The special of the exposur 2/8/12: Rem 10	commanding here sets to the time allows for overhoved this artifical additional WAVE	he the nominal high voltage for this visit (ead not included in APT of 35 s for the hig ion (which is only for APTs benefit) to use	gh voltage to ramp e the actual time r G160M 1600 A	o down to its lowest sett seeded. FP-POS=2	QESIPARM ENDC TSA 157; QESIPARM ENDC TSB 158 TSA and ENDCTS B) to 16 ting, and then 442 s to ram, SPEC COM INSTR ELNOAPMAIN	Sequence 9-10 Non-Int in Visit 07	175. 350 Secs [==>]	[1]
The special of the exposur 2/8/12: Rem 10	commanding here sets to the time allows for overholoved this artifical addit WAVE	he the nominal high voltage for this visit (ead not included in APT of 35 s for the hig ion (which is only for APTs benefit) to use COS/FUV, TIME-TAG, WCA	gh voltage to ramp e the actual time r G160M 1600 A	o down to its lowest sett seeded. FP-POS=2	QESIPARM ENDC TSA 157; QESIPARM ENDC TSB 158 TSA and ENDCTS B) to 16 ting, and then 442 s to ram, SPEC COM INSTR ELNOAPMAIN special command ELNOAL	Sequence 9-10 Non-Int in Visit 07 PMAIN to prevent reset Sequence 11-12 Non	175. 350 Secs [==>]	[1]
The special of The exposur 2/8/12: Rem 10 Comments: ue after the control of the c	commanding here sets to the time allows for overhowed this artifical addit WAVE Since we have set the apexposure is completed.	he the nominal high voltage for this visit (ead not included in APT of 35 s for the hig ion (which is only for APTs benefit) to use COS/FUV, TIME-TAG, WCA perture location to an off-nominal location	gh voltage to ramp e the actual time r G160M 1600 A	o down to its lowest sett seeded. FP-POS=2	QESIPARM ENDC TSA 157; QESIPARM ENDC TSB 158 TSA and ENDCTS B) to 16 ting, and then 442 s to ram, SPEC COM INSTR ELNOAPMAIN special command ELNOAL	o up to values less than Sequence 9-10 Non-I nt in Visit 07 PMAIN to prevent reset	175.	[1]
The special of The exposur 2/8/12: Rem 10 Comments: ue after the control of the c	commanding here sets to the time allows for overhowed this artifical addit WAVE Since we have set the apexposure is completed.	he the nominal high voltage for this visit (ead not included in APT of 35 s for the hig ion (which is only for APTs benefit) to use COS/FUV, TIME-TAG, WCA perture location to an off-nominal location	gh voltage to ramp e the actual time r G160M 1600 A	o down to its lowest sett seeded. FP-POS=2	QESIPARM ENDC TSA 157; QESIPARM ENDC TSB 158 TSA and ENDCTS B) to 16 ting, and then 442 s to ram, SPEC COM INSTR ELNOAPMAIN special command ELNOAI SAA CONTOUR 31 SPEC COM INSTR	Sequence 9-10 Non-Int in Visit 07 PMAIN to prevent reset Sequence 11-12 Non-Int in Visit 07	$ 350 Secs \\ [==>] \\ ting the aperture location description and the secs \\ 406 Secs $	[1]
The special of The exposur 2/8/12: Rem 10 Comments: ue after the control of the c	commanding here sets to the time allows for overhowed this artifical addit WAVE Since we have set the apexposure is completed.	he the nominal high voltage for this visit (ead not included in APT of 35 s for the hig ion (which is only for APTs benefit) to use COS/FUV, TIME-TAG, WCA perture location to an off-nominal location	gh voltage to ramp e the actual time r G160M 1600 A	o down to its lowest sett seeded. FP-POS=2	QESIPARM ENDC TSA 157; QESIPARM ENDC TSB 158 TSA and ENDCTS B) to 16 ting, and then 442 s to ram, SPEC COM INSTR ELNOAPMAIN SPECIAL COMMAND SAA CONTOUR 31 SPEC COM INSTR ELHLTHVF; QASISTATES COS FUV HVLOW HVN	Sequence 9-10 Non-Int in Visit 07 PMAIN to prevent reset Sequence 11-12 Non-Int in Visit 07	$ 350 Secs \\ [==>] \\ ting the aperture location description and the secs \\ 406 Secs $	[1]
The special of The exposur 2/8/12: Rem 10 Comments: ue after the control of the c	commanding here sets to the time allows for overhowed this artifical addit WAVE Since we have set the apexposure is completed.	he the nominal high voltage for this visit (ead not included in APT of 35 s for the hig ion (which is only for APTs benefit) to use COS/FUV, TIME-TAG, WCA perture location to an off-nominal location	gh voltage to ramp e the actual time r G160M 1600 A	o down to its lowest sett seeded. FP-POS=2	QESIPARM ENDC TSA 157; QESIPARM ENDC TSB 158 TSA and ENDCTS B) to 16 ting, and then 442 s to ram, SPEC COM INSTR ELNOAPMAIN SPECIAL COMMAND SAA CONTOUR 31 SPEC COM INSTR ELHLTHVF; QASISTATES COS FUV HVLOW HVN OM; QESIPARM ENDC	Sequence 9-10 Non-Int in Visit 07 PMAIN to prevent reset Sequence 11-12 Non-Int in Visit 07	$ 350 Secs \\ [==>] \\ ting the aperture location description and the secs \\ 406 Secs $	[1]

Proposal 12793 - Visit 07 - Second COS FUV Lifetime Position: FUV Detector High Voltage Sweep (FENA1) WAVE COS/FUV, TIME-TAG, WCA FP-POS=2 G160M SPEC COM INSTR Sequence 11-12 Non | 350 Secs ELNOAPMAIN -Int in Visit 07 1600 A [1] Comments: Since we have set the aperture location to an off-nominal location, this science exposure must include the special command ELNOAPMAIN to prevent resetting the aperture location back to the nominal val ue after the exposure is completed. 13 S/C, DATA, NONE NEW OBSET; 1 Secs DARK **QASISTATES COS** *[==>1* FUV HVLOW HVL OW; [1] QASISTATES COS SI OBSERVE OBSE RVE Comments: 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: 20120802 Orbit 1 Unused Visibility = 3229 Exp. 2 Exp. 3 Exp. 10 **Orbit Structure** Exp. 5 Exp. 6 Exp. 7 Exp. 8 Exp. 9 Decultation Exp. 11 Exp. 12 Home Exp. 13 Exp. 1 Exp. 4 500 1000 1500 2000 2500 3000 3500 4000 4500 5000 5500 sec

Pro	oposal 12793 - Visit 08 - Second COS FUV Lifetime Position: FUV Detector High Voltage Sweep (FENA1)	
	Proposal 12793, Visit 08, completed	Sat Aug 18 01:10:37 GMT 2012
	Diagnostic Status: Warning	
	Scientific Instruments: S/C, COS/FUV, COS	
∺ا	Special Requirements: PARALLEL	
Visit	Comments: Schedule V03 thru V09 in the same SMS, three weeks AFTER V01 SMS. Scheduling priority is V06, V03, V04, V05, V07, V08 & V09. Obtaining G160M cal lamp exposures at the new lifetime position. Without any mechanism motions, sweep through a series of 5 high voltage settings to evaluate the resolution as HVA/HVB=143/142, 147/147, 152/153, 157/158, 163/162. The chosen high voltage values have been updated based on the results of Visits 1-2. This visit uses FP-POS=3.	s a function of gain and high voltage:
	(Visit 08) Warning (Orbit Planner): LAMP EXPOSURE EXCEEDS 300 SECONDS	
cs	(Visit 08) Warning (Orbit Planner): LAMP EXPOSURE EXCEEDS 300 SECONDS	
Sti	(Visit 08) Warning (Orbit Planner): LAMP EXPOSURE EXCEEDS 300 SECONDS	
10	W' '- 00\W - '- (0.1'-D) - \ LAMD EVDOSIDE EVCEEDS 200 SECONDS	

(Visit 08) Warning (Orbit Planner): LAMP EXPOSURE EXCEEDS 300 SECONDS
(Visit 08) Warning (Orbit Planner): LAMP EXPOSURE EXCEEDS 300 SECONDS
(Visit 08) Warning (Orbit Planner): MAXIMUM DURATION EXCEEDED FOR INTERNAL OR EARTH CALIB SU

(Exposure 3 (Sequence 1-4 Non-Int in Visit 08)) Warning (Form): This ALIGN/APER exposure should be preceded by a science exposure to define the starting position for the scan.

Proposal 12793 - Visit 08 - Second COS FUV Lifetime Position: FUV Detector High Voltage Sweep (FENA1)

# Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Regs.	Groups	Exp. Time/[Actual Dur.]	Orb
1	DARK	S/C, DATA, NONE				Sequence 1-4 Non-In	346 Secs	
					SPEC COM INSTR ELHLTHVF;	t in Visit 08	[==>]	
					QASISTATES COS FUV HVLOW HVN OM;			[1]
					QESIPARM ENDC TSA 143;			
					QESIPARM ENDC TSB 142			
Comments: SQ1	L required for qexpo	osure to specify the si_used = "COS".						
The exposure til	me allows for overh	the the nominal high voltage for this visit t ead not included in APT of 35 s for the hig tion (which is only for APTs benefit) to us	gh voltage to ramp a	lown to its lowest setti	SA and ENDCTS B) to 143 ng, and then 442 s to ramp	3 and 142, respectively. 5 up to values less than	175.	
2	DARK	S/C, DATA, NONE			SPEC COM INSTR	Sequence 1-4 Non-In	10 Secs	
					ELAPERSET; QESIPARM APERT	t in Visit 08	[==>]	
					URE PSA; QESIPARM DET F			[.
					UV UV			
3	NONE	nes the ALIGN/APER command to apply to COS, ALIGN/APER		XAPER=109	,	Sequence 1-4 Non-In	0.0 Secs	
				11111 211 107		t in Visit 08		ſ
As described ab	pove this requires XA			etector at Lifetime Po		t in Visit 08	[==>]	[]
As described ab 3/5/12: Update	pove this requires XA			etector at Lifetime Po	+109. SPEC COM INSTR	t in Visit 08 default PSA aperture le Sequence 1-4 Non-In	[==>] ocation to 2.5 mm lower in Y.	[.
As described ab 3/5/12: Update	oove this requires XA XAPER for increase	APER=127. ed delta Y of +6, plus +4 to place spectru	n between G160M a	etector at Lifetime Po and G130M. XAPER=	+109.	t in Visit 08 default PSA aperture la	[==>] ocation to 2.5 mm lower in Y.	
As described ab 3/5/12: Update 4 Comments: Sinc	oove this requires XA XAPER for increase WAVE	APER=127. ed delta Y of +6, plus +4 to place spectru	<u>n between G160M a</u> G160M 1600 A	letector at Lifetime Po und G130M. XAPER= FP-POS=3	SPEC COM INSTR ELNOAPMAIN	t in Visit 08 default PSA aperture le Sequence 1-4 Non-In t in Visit 08	$[==>]$ ocation to 2.5 mm lower in Y. $350 \operatorname{Secs}$ $[==>]$	
As described ab 3/5/12: Update 4 Comments: Sinc	ove this requires XA XAPER for increase WAVE ce we have set the a	APER=127. ed delta Y of +6, plus +4 to place spectrum COS/FUV, TIME-TAG, WCA	<u>n between G160M a</u> G160M 1600 A	letector at Lifetime Po und G130M. XAPER= FP-POS=3	+109. SPEC COM INSTR ELNOAPMAIN pecial command ELNOAF	t in Visit 08 default PSA aperture le Sequence 1-4 Non-In t in Visit 08 MAIN to prevent resett Sequence 5-6 Non-In	[==>] ocation to 2.5 mm lower in Y. 350 Secs $[==>]$ ing the aperture location back to	[.
As described ab 3/5/12: Update 4 Comments: Sinc	ove this requires XA XAPER for increase WAVE ce we have set the a osure is completed.	APER=127. ed delta Y of +6, plus +4 to place spectrum COS/FUV, TIME-TAG, WCA perture location to an off-nominal location	<u>n between G160M a</u> G160M 1600 A	letector at Lifetime Po und G130M. XAPER= FP-POS=3	+109. SPEC COM INSTR ELNOAPMAIN pecial command ELNOAF	t in Visit 08 default PSA aperture la Sequence 1-4 Non-In t in Visit 08 MAIN to prevent resett	[==>] ocation to 2.5 mm lower in Y. 350 Secs $[==>]$ ing the aperture location back to	[1
As described ab 3/5/12: Update 4 Comments: Sinc	ove this requires XA XAPER for increase WAVE ce we have set the a osure is completed.	APER=127. ed delta Y of +6, plus +4 to place spectrum COS/FUV, TIME-TAG, WCA perture location to an off-nominal location	<u>n between G160M a</u> G160M 1600 A	letector at Lifetime Po und G130M. XAPER= FP-POS=3	SPEC COM INSTR ELNOAPMAIN pecial command ELNOAP SAA CONTOUR 31; SPEC COM INSTR ELHLTHVF; QASISTATES COS FUV HVLOW HVN	t in Visit 08 default PSA aperture le Sequence 1-4 Non-In t in Visit 08 MAIN to prevent resett Sequence 5-6 Non-In	[==>] ocation to 2.5 mm lower in Y. 350 Secs $[==>]$ ing the aperture location back to 358 Secs	[
As described ab 3/5/12: Update 4 Comments: Sinc	ove this requires XA XAPER for increase WAVE ce we have set the a osure is completed.	APER=127. ed delta Y of +6, plus +4 to place spectrum COS/FUV, TIME-TAG, WCA perture location to an off-nominal location	<u>n between G160M a</u> G160M 1600 A	letector at Lifetime Po und G130M. XAPER= FP-POS=3	SPEC COM INSTR ELNOAPMAIN pecial command ELNOAP SAA CONTOUR 31; SPEC COM INSTR ELHLTHVF; QASISTATES COS FUV HVLOW HVN OM; QESIPARM ENDC	t in Visit 08 default PSA aperture le Sequence 1-4 Non-In t in Visit 08 MAIN to prevent resett Sequence 5-6 Non-In	[==>] ocation to 2.5 mm lower in Y. 350 Secs $[==>]$ ing the aperture location back to 358 Secs	[
As described ab 3/5/12: Update 4 Comments: Sinc	ove this requires XA XAPER for increase WAVE ce we have set the a osure is completed.	APER=127. ed delta Y of +6, plus +4 to place spectrum COS/FUV, TIME-TAG, WCA perture location to an off-nominal location	<u>n between G160M a</u> G160M 1600 A	letector at Lifetime Po und G130M. XAPER= FP-POS=3	SPEC COM INSTR ELNOAPMAIN pecial command ELNOAP SAA CONTOUR 31; SPEC COM INSTR ELHLTHVF; QASISTATES COS FUV HVLOW HVN OM; QESIPARM ENDC TSA 147; QESIPARM ENDC	t in Visit 08 default PSA aperture le Sequence 1-4 Non-In t in Visit 08 MAIN to prevent resett Sequence 5-6 Non-In	[==>] ocation to 2.5 mm lower in Y. 350 Secs $[==>]$ ing the aperture location back to 358 Secs	[
As described ab 3/5/12: Update 4 Comments: Sinc ue after the exp	ove this requires XX XAPER for increase WAVE ce we have set the a osure is completed. DARK	APER=127. ed delta Y of +6, plus +4 to place spectrus COS/FUV, TIME-TAG, WCA perture location to an off-nominal location S/C, DATA, NONE	<u>n between G160M a</u> G160M 1600 A	letector at Lifetime Po und G130M. XAPER= FP-POS=3	SPEC COM INSTR ELNOAPMAIN pecial command ELNOAP SAA CONTOUR 31; SPEC COM INSTR ELHLTHVF; QASISTATES COS FUV HVLOW HVN OM; QESIPARM ENDC TSA 147;	t in Visit 08 default PSA aperture le Sequence 1-4 Non-In t in Visit 08 MAIN to prevent resett Sequence 5-6 Non-In	[==>] ocation to 2.5 mm lower in Y. 350 Secs $[==>]$ ing the aperture location back to 358 Secs	[
As described ab 3/5/12: Update 4 Comments: Since after the expose 5 Comments: SQI The special con The exposure ti	wave this requires XXXPER for increase WAVE WAVE The we have set the approximation of the completed. DARK Let required for question of the completed of the complete o	APER=127. ed delta Y of +6, plus +4 to place spectrus COS/FUV, TIME-TAG, WCA perture location to an off-nominal location S/C, DATA, NONE osure to specify the si_used = "COS". the the nominal high voltage for this visit ead not included in APT of 35 s for the high.	m between G160M a G160M 1600 A n, this science expos (HVNOM) for segme gh voltage to ramp a	etector at Lifetime Pound G130M. XAPER= FP-POS=3 Fure must include the second of the	SPEC COM INSTR ELNOAPMAIN pecial command ELNOAP SAA CONTOUR 31; SPEC COM INSTR ELHLTHVF; QASISTATES COS FUV HVLOW HVN OM; QESIPARM ENDC TSA 147; QESIPARM ENDC TSB 147	t in Visit 08 default PSA aperture le Sequence 1-4 Non-In t in Visit 08 PMAIN to prevent resett Sequence 5-6 Non-In t in Visit 08	[==>] ocation to 2.5 mm lower in Y. 350 Secs $[==>]$ ing the aperture location back to 358 Secs $[==>]$	the nomina
As described ab 3/5/12: Update 4 Comments: Since after the expose 5 Comments: SQI The special con The exposure ti	wave this requires XXAPER for increase WAVE WAVE The we have set the a concept is completed. DARK The properties of the concept in the co	APER=127. ed delta Y of +6, plus +4 to place spectrum COS/FUV, TIME-TAG, WCA perture location to an off-nominal location S/C, DATA, NONE sure to specify the si_used = "COS". the the nominal high voltage for this visit the the not included in APT of 35 s for the high tion (which is only for APTs benefit) to use	m between G160M a G160M 1600 A n, this science expos (HVNOM) for segme gh voltage to ramp a	etector at Lifetime Pound G130M. XAPER= FP-POS=3 Fure must include the source must be sourced must be source must be sourced must be sourc	SPEC COM INSTR ELNOAPMAIN pecial command ELNOAP SAA CONTOUR 31; SPEC COM INSTR ELHLTHVF; QASISTATES COS FUV HVLOW HVN OM; QESIPARM ENDC TSA 147; QESIPARM ENDC TSB 147 SA and ENDCTS B) to 147, ng, and then 442 s to ramp	t in Visit 08 default PSA aperture le Sequence 1-4 Non-In t in Visit 08 MAIN to prevent resett Sequence 5-6 Non-In t in Visit 08	[==>] ocation to 2.5 mm lower in Y. 350 Secs $[==>]$ ing the aperture location back to 358 Secs $[==>]$	[1]
As described ab 3/5/12: Update 4 4 Comments: Sinue after the exposor 5 Comments: SQI The special con The exposure the 2/8/12: Remove	wave this requires XXXPER for increase WAVE WAVE The we have set the approximation of the completed. DARK Let require for question of the complete of the	APER=127. ed delta Y of +6, plus +4 to place spectrus COS/FUV, TIME-TAG, WCA perture location to an off-nominal location S/C, DATA, NONE osure to specify the si_used = "COS". the the nominal high voltage for this visit ead not included in APT of 35 s for the high.	m between G160M a G160M 1600 A n, this science expos (HVNOM) for segments of voltage to ramp a tente the actual time need	etector at Lifetime Pound G130M. XAPER= FP-POS=3 Fure must include the second of the	SPEC COM INSTR ELNOAPMAIN pecial command ELNOAP SAA CONTOUR 31; SPEC COM INSTR ELHLTHVF; QASISTATES COS FUV HVLOW HVN OM; QESIPARM ENDC TSA 147; QESIPARM ENDC TSB 147 SA and ENDCTS B) to 147, ng, and then 442 s to ramp	t in Visit 08 default PSA aperture le Sequence 1-4 Non-In t in Visit 08 PMAIN to prevent resett Sequence 5-6 Non-In t in Visit 08	[==>] ocation to 2.5 mm lower in Y. 350 Secs $[==>]$ ing the aperture location back to 358 Secs $[==>]$	the nomin

_					tor High Voltage			
/	DARK	S/C, DATA, NONE			·	Sequence 7-8 Non-In		
					SPEC COM INSTR ELHLTHVF;	t in Visit 08	[==>]	
					QASISTATES COS FUV HVLOW HVN OM:			_
					QESIPARM ENDC TSA 152;			[1]
					QESIPARM ENDC TSB 153			
Comments: S	SQL required for qexpo	sure to specify the si_used = "COS".			13B 133			I
The exposure	e time allows for overh	he the nominal high voltage for this visit (ead not included in APT of 35 s for the hig ion (which is only for APTs benefit) to usc	gh voltage to ram	p down to its lowest set	TSA and ENDCTS B) to 152 ting, and then 442 s to ram	2 and 153, respectively. To up to values less than	175.	
8	WAVE	COS/FUV, TIME-TAG, WCA	G160M	FP-POS=3	SPEC COM INSTR	Sequence 7-8 Non-In	350 Secs	
			1600 A		ELNOAPMAIN	t in Visit 08	[==>]	[1]
	Since we have set the apexposure is completed.	perture location to an off-nominal location	n, this science exp	posure must include the	special command ELNOAF	MAIN to prevent reset	ing the aperture locat	tion back to the nominal val
9	DARK	S/C, DATA, NONE			SAA CONTOUR 31:	Sequence 9-10 Non-I	391 Secs	
					SPEC COM INSTR ELHLTHVF;	nt in Visit 08	[==>]	
					QASISTATES COS FUV HVLOW HVN OM;			[1]
					organ i na crain o			'-'
					QESIPARM ENDC TSA 157;			
					TSA 157; QESIPARM ENDC			
Comments: S	SQL required for qexpo	osure to specify the si_used = "COS".			TSA 157;			
The special c The exposure	commanding here sets t e time allows for overh	usure to specify the si_used = "COS". The the nominal high voltage for this visit (ead not included in APT of 35 s for the his tion (which is only for APTs benefit) to use	gh voltage to ram	p down to its lowest set	TSA 157; QESIPARM ENDC TSB 158 TSA and ENDCTS B) to 153		175.	
The special c The exposure	commanding here sets t e time allows for overh	the the nominal high voltage for this visit (ead not included in APT of 35 s for the high	gh voltage to ram	p down to its lowest set	TSA 157; QESIPARM ENDC TSB 158 TSA and ENDCTS B) to 152; ting, and then 442 s to ramp SPEC COM INSTR	o up to values less than Sequence 9-10 Non-I	ı	
The special c The exposure 2/8/12: Remo	commanding here sets t e time allows for overho oved this artifical addit	the the nominal high voltage for this visit (ead not included in APT of 35 s for the high ion (which is only for APTs benefit) to use	gh voltage to ram the actual time r	p down to its lowest set needed.	TSA 157; QESIPARM ENDC TSB 158 TSA and ENDCTS B) to 152 ting, and then 442 s to ramp	o up to values less than	ı	[1]
The special c The exposure 2/8/12: Remo 10 Comments: S	commanding here sets tet time allows for overhoved this artifical addit WAVE Since we have set the ap	the the nominal high voltage for this visit (ead not included in APT of 35 s for the high ion (which is only for APTs benefit) to use	gh voltage to ram, the actual time r G160M 1600 A	p down to its lowest sets needed. FP-POS=3	TSA 157; QESIPARM ENDC TSB 158 TSA and ENDCTS B) to 15; ting, and then 442 s to ramp SPEC COM INSTR ELNOAPMAIN	Sequence 9-10 Non-I nt in Visit 08	350 Secs $I = => J$	
The special c The exposure 2/8/12: Remo 10 Comments: S	commanding here sets t e time allows for overh oved this artifical addit WAVE	the the nominal high voltage for this visit (ead not included in APT of 35 s for the higion (which is only for APTs benefit) to use COS/FUV, TIME-TAG, WCA	gh voltage to ram, the actual time r G160M 1600 A	p down to its lowest sets needed. FP-POS=3	TSA 157; QESIPARM ENDC TSB 158 TSA and ENDCTS B) to 15; ting, and then 442 s to ramp SPEC COM INSTR ELNOAPMAIN special command ELNOAF	Sequence 9-10 Non-Int in Visit 08 MAIN to prevent resets Sequence 11-12 Non	350 Secs $I = => J$	
The special c The exposure 2/8/12: Remo 10 Comments: S ue after the e	commanding here sets t e time allows for overho oved this artifical addit WAVE Since we have set the ap exposure is completed.	the the nominal high voltage for this visit (ead not included in APT of 35 s for the higion (which is only for APTs benefit) to use COS/FUV, TIME-TAG, WCA	gh voltage to ram, the actual time r G160M 1600 A	p down to its lowest sets needed. FP-POS=3	TSA 157; QESIPARM ENDC TSB 158 TSA and ENDCTS B) to 15; ting, and then 442 s to ramp SPEC COM INSTR ELNOAPMAIN special command ELNOAF	Sequence 9-10 Non-I nt in Visit 08	350 Secs [==>] ing the aperture local	
The special c The exposure 2/8/12: Remo 10 Comments: S ue after the e	commanding here sets t e time allows for overho oved this artifical addit WAVE Since we have set the ap exposure is completed.	the the nominal high voltage for this visit (ead not included in APT of 35 s for the higion (which is only for APTs benefit) to use COS/FUV, TIME-TAG, WCA	gh voltage to ram, the actual time r G160M 1600 A	p down to its lowest sets needed. FP-POS=3	TSA 157; QESIPARM ENDC TSB 158 TSA and ENDCTS B) to 15; ting, and then 442 s to ramp SPEC COM INSTR ELNOAPMAIN special command ELNOAF SAA CONTOUR 31; SPEC COM INSTR	Sequence 9-10 Non-Int in Visit 08 MAIN to prevent resets Sequence 11-12 Non	350 Secs $[==>]$ ing the aperture local $406 Secs$	tion back to the nominal val
The special c The exposure 2/8/12: Remo 10 Comments: S ue after the e	commanding here sets t e time allows for overho oved this artifical addit WAVE Since we have set the ap exposure is completed.	the the nominal high voltage for this visit (ead not included in APT of 35 s for the higion (which is only for APTs benefit) to use COS/FUV, TIME-TAG, WCA	gh voltage to ram, the actual time r G160M 1600 A	p down to its lowest sets needed. FP-POS=3	TSA 157; QESIPARM ENDC TSB 158 TSA and ENDCTS B) to 15; ting, and then 442 s to ramp SPEC COM INSTR ELNOAPMAIN special command ELNOAF SAA CONTOUR 31; SPEC COM INSTR ELHLTHVF; QASISTATES COS FUV HVLOW HVN	Sequence 9-10 Non-Int in Visit 08 MAIN to prevent resets Sequence 11-12 Non	350 Secs $[==>]$ ing the aperture local $406 Secs$	
The special c The exposure 2/8/12: Remo 10 Comments: S ue after the e	commanding here sets t e time allows for overho oved this artifical addit WAVE Since we have set the ap exposure is completed.	the the nominal high voltage for this visit (ead not included in APT of 35 s for the higion (which is only for APTs benefit) to use COS/FUV, TIME-TAG, WCA	gh voltage to ram, the actual time r G160M 1600 A	p down to its lowest sets needed. FP-POS=3	TSA 157; QESIPARM ENDC TSB 158 TSA and ENDCTS B) to 15; ting, and then 442 s to ramp SPEC COM INSTR ELNOAPMAIN special command ELNOAF SAA CONTOUR 31; SPEC COM INSTR ELHLTHVF; QASISTATES COS FUV HVLOW HVN OM; QESIPARM ENDC	Sequence 9-10 Non-Int in Visit 08 MAIN to prevent resets Sequence 11-12 Non	350 Secs $[==>]$ ing the aperture local $406 Secs$	tion back to the nominal val

Proposal 12793 - Visit 08 - Second COS FUV Lifetime Position: FUV Detector High Voltage Sweep (FENA1) WAVE COS/FUV, TIME-TAG, WCA FP-POS=3 SPEC COM INSTR Sequence 11-12 Non 350 Secs G160M ELNOAPMAIN -Int in Visit 08 1600 A [1] Comments: Since we have set the aperture location to an off-nominal location, this science exposure must include the special command ELNOAPMAIN to prevent resetting the aperture location back to the nominal val ue after the exposure is completed. 13 DARK S/C, DATA, NONE NEW OBSET; 1 Secs **QASISTATES COS** *[==>1* FUV HVLOW HVL OW; [1] QASISTATES COS SI OBSERVE OBSE RVE Comments: 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. Orbit 1 Server Version: 20120802 Exp. 1 Unused Visibility = 3229 Exp. 2 **Orbit Structure** Exp. 3 Exp. 10 Ехф. 5 Ехф. 6 Exp. 7 Exp. 8 Exp. 9 Decultation Exp. 11 Exp. 12 Home Exp. 13 Exp. 4 500 1000 1500 2000 2500 3000 3500 4000 4500 5000 5500 sec

Proposal 12793 - Visit 09 -	Second COS FUV Lifetime Position: FUV Detector High Voltage Sweep (FENA1)	

Proposal 12793, Visit 09, completed Sat Aug 18 01:10:39 GMT 2012

Diagnostic Status: Warning

Scientific Instruments: S/C, COS/FUV, COS

Special Requirements: PARALLEL

Comments: Schedule V03 thru V09 in the same SMS, three weeks AFTER V01 SMS. Scheduling priority is V06, V03, V04, V05, V07, V08 & V09.

Obtaining G160M cal lamp exposures at the new lifetime position. Without any mechanism motions, sweep through a series of 5 high voltage settings to evaluate the resolution as a function of gain and high voltage:

HVA/HVB=143/142, 147/147, 152/153, 157/158, 163/162.

The chosen high voltage values have been updated based on the results of Visits 1-2.

This visit uses FP-POS=4.

(Visit 09) Warning (Orbit Planner): MAXIMUM DURATION EXCEEDED FOR INTERNAL OR EARTH CALIB SU

Diagnostics (Visit 09) Warning (Orbit Planner): LAMP EXPOSURE EXCEEDS 300 SECONDS

(Visit 09) Warning (Orbit Planner): LAMP EXPOSURE EXCEEDS 300 SECONDS

(Visit 09) Warning (Orbit Planner): LAMP EXPOSURE EXCEEDS 300 SECONDS

(Visit 09) Warning (Orbit Planner): LAMP EXPOSURE EXCEEDS 300 SECONDS

(Visit 09) Warning (Orbit Planner): LAMP EXPOSURE EXCEEDS 300 SECONDS

(Exposure 3 (Sequence 1-4 Non-Int in Visit 09)) Warning (Form): This ALIGN/APER exposure should be preceded by a science exposure to define the starting position for the scan.

Proposal 12793 - Visit 09 - Second COS FUV Lifetime Position: FUV Detector High Voltage Sweep (FENA1)

# Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orl
1	DARK	S/C, DATA, NONE			SAA CONTOUR 31;	Sequence 1-4 Non-In	346 Secs	
					SPEC COM INSTR ELHLTHVF;	t in Visit 09	[==>]	
					QASISTATES COS FUV HVLOW HVN OM;			[1
					QESIPARM ENDC TSA 143;			
					QESIPARM ENDC TSB 142			
Comments: SQ	L required for qexpo	osure to specify the si_used = "COS".						
The exposure to	ime allows for overh	the the nominal high voltage for this visit lead not included in APT of 35 s for the hig tion (which is only for APTs benefit) to us	gh voltage to ramp o	down to its lowest setti	SA and ENDCTS B) to 143 ing, and then 442 s to ramp	3 and 142, respectively. 5 up to values less than	175.	
2	DARK	S/C, DATA, NONE			SPEC COM INSTR	Sequence 1-4 Non-In	10 Secs	
					ELAPERSET; OESIPARM APERT	t in Visit 09	[==>]	
					ÙRE PSA;			I-
					QESIPARM DET F UV			
~	mmanding here defin	nes the ALIGN/APER command to apply to COS, ALIGN/APER	o the PSA aperture o	and override the nomin XAPER=109	nal defaults.	Sequence 1-4 Non-In		
The special con 3 Comments: To	NONE place a WAVE cal e	COS, ALIGN/APER exposure using the calibration lamp through		XAPER=109		t in Visit 09	[==>]	[.
3 Comments: To As described at	NONE place a WAVE cal e bove this requires X	COS, ALIGN/APER exposure using the calibration lamp through APER=127.	gh the WCA on the d	XAPER=109 letector at Lifetime Po	sition 2, we need to set the	t in Visit 09	[==>]	[1
The special con 3 Comments: To As described al 3/5/12: Update	NONE place a WAVE cal e bove this requires X	COS, ALIGN/APER exposure using the calibration lamp through	gh the WCA on the d	XAPER=109 letector at Lifetime Po	sition 2, we need to set the +109. SPEC COM INSTR	t in Visit 09 default PSA aperture l Sequence 1-4 Non-In	[==>] ocation to 2.5 mm lower in Y.	[
The special con 3 Comments: To As described al 3/5/12: Update	NONE place a WAVE cal e bove this requires X XAPER for increase	COS, ALIGN/APER exposure using the calibration lamp through APER=127. ed delta Y of +6, plus +4 to place spectrum	gh the WCA on the d m between G160M c	XAPER=109 letector at Lifetime Po and G130M. XAPER=	sition 2, we need to set the +109.	t in Visit 09 default PSA aperture l	[==>] ocation to 2.5 mm lower in Y.	
The special con Comments: To As described at 3/5/12: Update 4 Comments: Sin	NONE place a WAVE cal e bove this requires X v XAPER for increase WAVE	COS, ALIGN/APER exposure using the calibration lamp through APER=127. ed delta Y of +6, plus +4 to place spectrum	gh the WCA on the d m between G160M o G160M 1600 A	XAPER=109 letector at Lifetime Po und G130M. XAPER= FP-POS=4	sition 2, we need to set the +109. SPEC COM INSTR ELNOAPMAIN	t in Visit 09 default PSA aperture le Sequence 1-4 Non-In t in Visit 09	$[==>]$ ocation to 2.5 mm lower in Y. $350 \operatorname{Secs}$ $[==>]$	
The special con 3 Comments: To As described at 3/5/12: Update 4 Comments: Sin	NONE place a WAVE cal e bove this requires XA boxAPER for increase WAVE Acce we have set the a bosure is completed.	COS, ALIGN/APER exposure using the calibration lamp through APER=127. ed delta Y of +6, plus +4 to place spectrum COS/FUV, TIME-TAG, WCA perture location to an off-nominal location	gh the WCA on the d m between G160M o G160M 1600 A	XAPER=109 letector at Lifetime Po und G130M. XAPER= FP-POS=4	sition 2, we need to set the +109. SPEC COM INSTR ELNOAPMAIN special command ELNOAP	t in Visit 09 default PSA aperture lessequence 1-4 Non-In t in Visit 09 PMAIN to prevent resetted.	[==>] ocation to 2.5 mm lower in Y. 350 Secs $[==>]$ ing the aperture location back to	
The special con Comments: To As described at 3/5/12: Update 4 Comments: Sin	NONE place a WAVE cal e bove this requires X v XAPER for increase WAVE	COS, ALIGN/APER exposure using the calibration lamp through APER=127. ed delta Y of +6, plus +4 to place spectrum COS/FUV, TIME-TAG, WCA	gh the WCA on the d m between G160M o G160M 1600 A	XAPER=109 letector at Lifetime Po und G130M. XAPER= FP-POS=4	sition 2, we need to set the +109. SPEC COM INSTR ELNOAPMAIN special command ELNOAP	t in Visit 09 default PSA aperture le Sequence 1-4 Non-In t in Visit 09	[==>] ocation to 2.5 mm lower in Y. 350 Secs $[==>]$ ing the aperture location back to	
The special con Comments: To As described at 3/5/12: Update 4 Comments: Sin	NONE place a WAVE cal e bove this requires XA boxAPER for increase WAVE Acce we have set the a bosure is completed.	COS, ALIGN/APER exposure using the calibration lamp through APER=127. ed delta Y of +6, plus +4 to place spectrum COS/FUV, TIME-TAG, WCA perture location to an off-nominal location	gh the WCA on the d m between G160M o G160M 1600 A	XAPER=109 letector at Lifetime Po und G130M. XAPER= FP-POS=4	sition 2, we need to set the +109. SPEC COM INSTR ELNOAPMAIN special command ELNOAF SAA CONTOUR 31; SPEC COM INSTR ELHLTHVF; QASISTATES COS	t in Visit 09 default PSA aperture lessequence 1-4 Non-In t in Visit 09 PMAIN to prevent resetted Sequence 5-6 Non-In	[==>] ocation to 2.5 mm lower in Y. 350 Secs $[==>]$ ing the aperture location back to	
The special con Comments: To As described at 3/5/12: Update 4 Comments: Sin	NONE place a WAVE cal e bove this requires XA boxAPER for increase WAVE Acce we have set the a bosure is completed.	COS, ALIGN/APER exposure using the calibration lamp through APER=127. ed delta Y of +6, plus +4 to place spectrum COS/FUV, TIME-TAG, WCA perture location to an off-nominal location	gh the WCA on the d m between G160M o G160M 1600 A	XAPER=109 letector at Lifetime Po und G130M. XAPER= FP-POS=4	sition 2, we need to set the +109. SPEC COM INSTR ELNOAPMAIN Special command ELNOAF SAA CONTOUR 31; SPEC COM INSTR ELHLTHVF; QASISTATES COS FUV HVLOW HVN OM;	t in Visit 09 default PSA aperture lessequence 1-4 Non-In t in Visit 09 PMAIN to prevent resetted Sequence 5-6 Non-In	[==>] ocation to 2.5 mm lower in Y. 350 Secs $[==>]$ ing the aperture location back to	[[
The special con Comments: To As described at 3/5/12: Update 4 Comments: Sin	NONE place a WAVE cal e bove this requires XA boxAPER for increase WAVE Acce we have set the a bosure is completed.	COS, ALIGN/APER exposure using the calibration lamp through APER=127. ed delta Y of +6, plus +4 to place spectrum COS/FUV, TIME-TAG, WCA perture location to an off-nominal location	gh the WCA on the d m between G160M o G160M 1600 A	XAPER=109 letector at Lifetime Po und G130M. XAPER= FP-POS=4	sition 2, we need to set the +109. SPEC COM INSTR ELNOAPMAIN special command ELNOAP SAA CONTOUR 31; SPEC COM INSTR ELHLTHVF; QASISTATES COS FUV HVLOW HVN	t in Visit 09 default PSA aperture lessequence 1-4 Non-In t in Visit 09 PMAIN to prevent resetted Sequence 5-6 Non-In	[==>] ocation to 2.5 mm lower in Y. 350 Secs $[==>]$ ing the aperture location back to	the nomina
The special con Comments: To As described at 3/5/12: Update Comments: Sin	NONE place a WAVE cal e bove this requires XA boxAPER for increase WAVE Acce we have set the a bosure is completed.	COS, ALIGN/APER exposure using the calibration lamp through APER=127. ed delta Y of +6, plus +4 to place spectrum COS/FUV, TIME-TAG, WCA perture location to an off-nominal location	gh the WCA on the d m between G160M o G160M 1600 A	XAPER=109 letector at Lifetime Po und G130M. XAPER= FP-POS=4	sition 2, we need to set the +109. SPEC COM INSTR ELNOAPMAIN special command ELNOAP SAA CONTOUR 31; SPEC COM INSTR ELHLTHVF; QASISTATES COS FUV HVLOW HVN OM; QESIPARM ENDC	t in Visit 09 default PSA aperture lessequence 1-4 Non-In t in Visit 09 PMAIN to prevent resetted Sequence 5-6 Non-In	[==>] ocation to 2.5 mm lower in Y. 350 Secs $[==>]$ ing the aperture location back to	[[
The special con Comments: To As described at 3/5/12: Update Comments: Sin we after the exp 5	NONE place a WAVE cal e bove this requires XA boxAPER for increase WAVE where we have set the a consure is completed. DARK	COS, ALIGN/APER exposure using the calibration lamp through APER=127. ed delta Y of +6, plus +4 to place spectrum COS/FUV, TIME-TAG, WCA perture location to an off-nominal location	gh the WCA on the d m between G160M o G160M 1600 A	XAPER=109 letector at Lifetime Po und G130M. XAPER= FP-POS=4	sition 2, we need to set the +109. SPEC COM INSTR ELNOAPMAIN SPECIAL COMMAIN SAA CONTOUR 31; SPEC COM INSTR ELHLTHVF; QASISTATES COS FUV HVLOW HVN OM; QESIPARM ENDC TSA 147; QESIPARM ENDC	t in Visit 09 default PSA aperture lessequence 1-4 Non-In t in Visit 09 PMAIN to prevent resetted Sequence 5-6 Non-In	[==>] ocation to 2.5 mm lower in Y. 350 Secs $[==>]$ ing the aperture location back to	the nomin
The special con The special con Comments: To As described at 3/5/12: Update Comments: Sin we after the exp Comments: SQ The special con The exposure to	NONE place a WAVE cal e bove this requires XA EXAPER for increase WAVE WAVE The we have set the a posure is completed. DARK The Lequired for qexponents of the position o	COS, ALIGN/APER exposure using the calibration lamp through APER=127. ed delta Y of +6, plus +4 to place spectrum COS/FUV, TIME-TAG, WCA perture location to an off-nominal location S/C, DATA, NONE cosure to specify the si_used = "COS". the the nominal high voltage for this visit the the not included in APT of 35 s for the high.	gh the WCA on the dim between G160M of G160M 1600 A on, this science exposign (HVNOM) for segment of the graph of the world age to ramp of gh voltage to ramp of the graph of the world age to ramp	XAPER=109 letector at Lifetime Po and G130M. XAPER= FP-POS=4 sure must include the s ents A and B (ENDCT lown to its lowest settle)	SPEC COM INSTR ELNOAPMAIN SPECIAL command ELNOAP SAA CONTOUR 31; SPEC COM INSTR ELHLTHVF; QASISTATES COS FUV HVLOW HVN OM; QESIPARM ENDC TSA 147; QESIPARM ENDC TSB 147	t in Visit 09 default PSA aperture I Sequence 1-4 Non-In t in Visit 09 PMAIN to prevent resets Sequence 5-6 Non-In t in Visit 09	[==>] ocation to 2.5 mm lower in Y. 350 Secs $[==>]$ ing the aperture location back to 358 Secs $[==>]$	[]
The special con The special con Comments: To As described at 3/5/12: Update Comments: Sin we after the exp Comments: SQ The special con The exposure to	NONE place a WAVE cal e bove this requires XA EXAPER for increase WAVE WE we have set the a posure is completed. DARK PL required for qexponentation of the position of th	COS, ALIGN/APER exposure using the calibration lamp through APER=127. ed delta Y of +6, plus +4 to place spectrum COS/FUV, TIME-TAG, WCA perture location to an off-nominal location S/C, DATA, NONE cosure to specify the si_used = "COS". the the nominal high voltage for this visit	gh the WCA on the dim between G160M of G160M 1600 A on, this science exposign (HVNOM) for segment of the graph of the world age to ramp of the wor	XAPER=109 letector at Lifetime Po and G130M. XAPER= FP-POS=4 sure must include the s ents A and B (ENDCT lown to its lowest settle)	SPEC COM INSTR ELNOAPMAIN SPECIAL command ELNOAP SAA CONTOUR 31; SPEC COM INSTR ELHLTHVF; QASISTATES COS FUV HVLOW HVN OM; QESIPARM ENDC TSA 147; QESIPARM ENDC TSB 147 SSA and ENDCTS B) to 147 ing, and then 442 s to ramp	t in Visit 09 default PSA aperture I Sequence 1-4 Non-In t in Visit 09 PMAIN to prevent resets Sequence 5-6 Non-In t in Visit 09	$[==>]$ ocation to 2.5 mm lower in Y. $350 \operatorname{Secs}$ $[==>]$ ing the aperture location back to $358 \operatorname{Secs}$ $[==>]$ $175.$	the nomina

<u> </u>								
7	DARK	S/C, DATA, NONE				Sequence 7-8 Non-In	376 Secs	
					SPEC COM INSTR ELHLTHVF;	t in Visit 09	[==>]	
					QASISTATES COS FUV HVLOW HVN OM:			
					QESIPARM ENDC TSA 152;			[1]
					QESIPARM ENDC TSB 153			
Comments:	SQL required for qexpo	sure to specify the si_used = "COS".						<u>'</u>
The exposur	e time allows for overh	he the nominal high voltage for this visit (ead not included in APT of 35 s for the hig ion (which is only for APTs benefit) to use	gh voltage to ram	o down to its lowest sett	TSA and ENDCTS B) to 15. ting, and then 442 s to ram	2 and 153, respectively. o up to values less than	175.	
8	WAVE	COS/FUV, TIME-TAG, WCA	G160M	FP-POS=4	SPEC COM INSTR	Sequence 7-8 Non-In	350 Secs	
			1600 A		ELNOAPMAIN	t in Visit 09	[==>]	[1]
	Since we have set the ap exposure is completed.	perture location to an off-nominal location	n, this science exp	osure must include the	special command ELNOAF	PMAIN to prevent reset	ting the aperture locati	ion back to the nominal val
9	DARK	S/C, DATA, NONE			SAA CONTOUR 31:	Sequence 9-10 Non-I	391 Secs	
					SPEC COM INSTR ELHLTHVF;	nt in Visit 09	[==>]	
					QASISTATES COS FUV HVLOW HVN OM;			[1]
					0171,			
					QESIPARM ENDC TSA 157;			[1]
					QESIPARM ENDC			[1]
Comments:	SQL required for qexpo	sure to specify the si_used = "COS".			QESIPARM ENDC TSA 157; QESIPARM ENDC			[1]
The special The exposur	commanding here sets t te time allows for overh	usure to specify the si_used = "COS". The the nominal high voltage for this visit (ead not included in APT of 35 s for the hig ion (which is only for APTs benefit) to use	gh voltage to ram	o down to its lowest sett	QESIPARM ENDC TSA 157; QESIPARM ENDC TSB 158			
The special The exposur	commanding here sets t te time allows for overh	the the nominal high voltage for this visit (ead not included in APT of 35 s for the high	gh voltage to ram	o down to its lowest sett	QESIPARM ENDC TSA 157; QESIPARM ENDC TSB 158 TSA and ENDCTS B) to 15 ting, and then 442 s to ramp	Sequence 9-10 Non-I	175.	[1]
The special The exposur 2/8/12: Rem	commanding here sets to time allows for overhooved this artifical addit	the the nominal high voltage for this visit (ead not included in APT of 35 s for the hig ion (which is only for APTs benefit) to use	gh voltage to rampe the actual time n	o down to its lowest sett eeded.	QESIPARM ENDC TSA 157; QESIPARM ENDC TSB 158 TSA and ENDCTS B) to 15 ting, and then 442 s to ram	o up to values less than	175.	[1]
The special The exposur 2/8/12: Rem 10	commanding here sets te time allows for overhoved this artifical addit WAVE	the the nominal high voltage for this visit (ead not included in APT of 35 s for the hig ion (which is only for APTs benefit) to use	gh voltage to ramp the actual time ra G160M 1600 A	o down to its lowest sett needed. FP-POS=4	QESIPARM ENDC TSA 157; QESIPARM ENDC TSB 158 TSA and ENDCTS B) to 15 ting, and then 442 s to ramp SPEC COM INSTR ELNOAPMAIN	Sequence 9-10 Non-Int in Visit 09	175. 350 Secs [==>]	[1]
The special The exposur 2/8/12: Rem 10	commanding here sets t te time allows for overh oved this artifical addit WAVE	the the nominal high voltage for this visit (ead not included in APT of 35 s for the higion (which is only for APTs benefit) to use COS/FUV, TIME-TAG, WCA	gh voltage to ramp the actual time ra G160M 1600 A	o down to its lowest sett needed. FP-POS=4	QESIPARM ENDC TSA 157; QESIPARM ENDC TSB 158 TSA and ENDCTS B) to 15 ting, and then 442 s to ram, SPEC COM INSTR ELNOAPMAIN special command ELNOAI	Sequence 9-10 Non-Int in Visit 09 PMAIN to prevent reset Sequence 11-12 Non	175. 350 Secs [==>]	[1]
The special The exposur 2/8/12: Rem 10 Comments: ue after the	commanding here sets to the time allows for overhooved this artifical addit WAVE Since we have set the apexposure is completed.	the the nominal high voltage for this visit (ead not included in APT of 35 s for the higion (which is only for APTs benefit) to use COS/FUV, TIME-TAG, WCA	gh voltage to ramp the actual time ra G160M 1600 A	o down to its lowest sett needed. FP-POS=4	QESIPARM ENDC TSA 157; QESIPARM ENDC TSB 158 TSA and ENDCTS B) to 15 ting, and then 442 s to ram, SPEC COM INSTR ELNOAPMAIN special command ELNOAI	o up to values less than Sequence 9-10 Non-I nt in Visit 09 PMAIN to prevent reset	175.	[1]
The special The exposur 2/8/12: Rem 10 Comments: ue after the	commanding here sets to the time allows for overhooved this artifical addit WAVE Since we have set the apexposure is completed.	the the nominal high voltage for this visit (ead not included in APT of 35 s for the higion (which is only for APTs benefit) to use COS/FUV, TIME-TAG, WCA	gh voltage to ramp the actual time ra G160M 1600 A	o down to its lowest sett needed. FP-POS=4	QESIPARM ENDC TSA 157; QESIPARM ENDC TSB 158 TSA and ENDCTS B) to 15 ting, and then 442 s to ram, SPEC COM INSTR ELNOAPMAIN special command ELNOAI SAA CONTOUR 31: SPEC COM INSTR	Sequence 9-10 Non-Int in Visit 09 PMAIN to prevent reset Sequence 11-12 Non-Int in Visit 09	$ 350 Secs \\ [==>] \\ ting the aperture location description and the secs \\ 406 Secs \\ $	[1]
The special The exposur 2/8/12: Rem 10 Comments: ue after the	commanding here sets to the time allows for overhooved this artifical addit WAVE Since we have set the apexposure is completed.	the the nominal high voltage for this visit (ead not included in APT of 35 s for the higion (which is only for APTs benefit) to use COS/FUV, TIME-TAG, WCA	gh voltage to ramp the actual time ra G160M 1600 A	o down to its lowest sett needed. FP-POS=4	QESIPARM ENDC TSA 157; QESIPARM ENDC TSB 158 TSA and ENDCTS B) to 15 ting, and then 442 s to ram SPEC COM INSTR ELNOAPMAIN SPECIAL command ELNOAF SAA CONTOUR 31: SPEC COM INSTR ELHLTHVF; QASISTATES COS FUV HVLOW HVN	Sequence 9-10 Non-Int in Visit 09 PMAIN to prevent reset Sequence 11-12 Non-Int in Visit 09	$ 350 Secs \\ [==>] \\ ting the aperture location description and the secs \\ 406 Secs \\ $	[1]
The special The exposur 2/8/12: Rem 10 Comments: ue after the	commanding here sets to the time allows for overhooved this artifical addit WAVE Since we have set the apexposure is completed.	the the nominal high voltage for this visit (ead not included in APT of 35 s for the higion (which is only for APTs benefit) to use COS/FUV, TIME-TAG, WCA	gh voltage to ramp the actual time ra G160M 1600 A	o down to its lowest sett needed. FP-POS=4	QESIPARM ENDC TSA 157; QESIPARM ENDC TSB 158 TSA and ENDCTS B) to 15 ting, and then 442 s to ram SPEC COM INSTR ELNOAPMAIN SPECIAL COMMAND SAA CONTOUR 31: SPEC COM INSTR ELHLTHVF; QASISTATES COS FUV HVLOW HVN OM; QESIPARM ENDC	Sequence 9-10 Non-Int in Visit 09 PMAIN to prevent reset Sequence 11-12 Non-Int in Visit 09	$ 350 Secs \\ [==>] \\ ting the aperture location description and the secs \\ 406 Secs \\ $	[1]

Proposal 12793 - Visit 09 - Second COS FUV Lifetime Position: FUV Detector High Voltage Sweep (FENA1) WAVE COS/FUV, TIME-TAG, WCA FP-POS=4 G160M SPEC COM INSTR Sequence 11-12 Non | 350 Secs ELNOAPMAIN -Int in Visit 09 1600 A [1] Comments: Since we have set the aperture location to an off-nominal location, this science exposure must include the special command ELNOAPMAIN to prevent resetting the aperture location back to the nominal val ue after the exposure is completed. 13 S/C, DATA, NONE NEW OBSET; 1 Secs DARK **QASISTATES COS** *[==>1* FUV HVLOW HVL OW; [1] QASISTATES COS SI OBSERVE OBSE RVE Comments: 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: 20120802 Orbit 1 Unused Visibility = 3229 Exp. 2 Exp. 3 Exp. 10 **Orbit Structure** Exp. 1 Exp. 4 Ехф. 5 Ехф. 6 Exp. 7 Exp. 8 Exp. 9 Decultation Exp. 11 Exp. 12 Home Exp. 13 500 1000 1500 2000 2500 3000 3500 4000 4500 5000 5500 sec

Proposal 12793 - Visit 10 - Second COS FUV Lifetime Position: FUV Detector High Voltage Sweep (FENA1)

Proposal 12793, Visit 10, implementation Sat Aug 18 01:10:41 GMT 2012

Diagnostic Status: Warning

Scientific Instruments: S/C, COS/FUV, COS

Special Requirements: BEFORE 03-SEP-2012:00:00:00; PARALLEL

Comments: This is a contingency visit, approved by the HST Mission Office on 7/31/12, to enable additional wavecal measurements over a range of high voltages extending to the highest available pulse heights, at Y location on segment A of Y=510. In combination with additional contingency visits 11 and 12, this will allow us to calibrate X and Y walk corrections over the full range of available pulse heights at Y positions that bracket the new lifetime position.

Diagnostics

(Visit 10) Warning (Orbit Planner): MAXIMUM DURATION EXCEEDED FOR INTERNAL OR EARTH CALIB SU

(Exposure 3 (Sequence 1-4 Non-Int in Visit 10)) Warning (Form): This ALIGN/APER exposure should be preceded by a science exposure to define the starting position for the scan.

Proposal 12793 - Visit 10 - Second COS FUV Lifetime Position: FUV Detector High Voltage Sweep (FENA1)

# Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Ort
1	DARK	S/C, DATA, NONE			SAA CONTOUR 31;	Sequence 1-4 Non-In	346 Secs	
					SPEC COM INSTR ELHLTHVF;	t in Visit 10	[==>]	
					QASISTATES COS FUV HVLOW HVN OM;			[1]
					QESIPARM ENDC TSA 143;			
					QESIPARM ENDC TSB 142			
Comments: SQL	required for qexposi	ure to specify the si_used = "COS".						
The special com	manding here sets the	e the nominal high voltage for this visit	(HVNOM) for segme	ents A and B (ENDCTSA)	and ENDCTS B) to 14	3 and 142, respectively		
2	DARK	S/C, DATA, NONE	(11717011) jor segme			Sequence 1-4 Non-In		
		, , , , ,			ELAPERSET;	t in Visit 10	[==>]	
					QESIPARM APERT URE PSA_O;			
					QESIPARM DET F UV			
Comments: SOI	required for garness	ure to specify the si_used = "COS".			O V			
~		T VV —						
The special com	manding here defines	s the ALIGN/APER command to apply to	o the PSA aperture a	nd override the nominal o	defaults.			
		the *original* aperture position, so nee	ed to set					
The XAPER loca qesiparm APER	ations are relative to to TURE=PSA_O.	ine *originai* aperiure position, so nee						
The XAPER loca qesiparm APER 3	ations are relative to a TURE=PSA_O. NONE	COS, ALIGN/APER		XAPER=127		Sequence 1-4 Non-In	0.0 Secs	
<i>gesiparm APER</i> 3	TURE=PSA_O. NONE	COS, ALIGN/APER				t in Visit 10	[==>]	
qesiparm APER 3 Comments: To p	TURE=PSA_O. NONE blace a WAVE cal exp	COS, ALIGN/APER			low Lifetime Position 2	t in Visit 10	[==>]	
qesiparm APER 3 Comments: To p	TURE=PSA_O. NONE	COS, ALIGN/APER			low Lifetime Position 2	t in Visit 10), we need to set the dej Sequence 1-4 Non-In	[==>] fault PSA aperture location to 2.5	[15 mm lower
qesiparm APER 3 Comments: To p	TURE=PSA_O. NONE place a WAVE cal exp ove this requires XAF	COS, ALIGN/APER oosure using the calibration lamp through the PER=127.	gh the WCA on the de	etector at Y=510 (just bei	low Lifetime Position 2	t in Visit 10	[==>] fault PSA aperture location to 2.5	5 mm lower
qesiparm APER 3 Comments: To p As described ab 4	TURE=PSA_O. NONE blace a WAVE cal exp ove this requires XAF WAVE	COS, ALIGN/APER cosure using the calibration lamp through PER=127. COS/FUV, TIME-TAG, WCA	gh the WCA on the de	etector at Y=510 (just bei		t in Visit 10), we need to set the def Sequence 1-4 Non-In t in Visit 10	[==>] fault PSA aperture location to 2.2 220 Secs $[==>]$	5 mm lower
qesiparm APER 3 Comments: To p	TURE=PSA_O. NONE place a WAVE cal exp ove this requires XAF	COS, ALIGN/APER oosure using the calibration lamp through the PER=127.	gh the WCA on the de	FP-POS=3; LIFETIME-POS=O	SAA CONTOUR 31;	t in Visit 10), we need to set the dep Sequence 1-4 Non-In t in Visit 10 Sequence 5-6 Non-In	[==>] fault PSA aperture location to 2.5 $[==>]$ 220 Secs $[==>]$ 358 Secs	mm lower
qesiparm APER 3 Comments: To p As described ab 4	TURE=PSA_O. NONE blace a WAVE cal exp ove this requires XAF WAVE	COS, ALIGN/APER cosure using the calibration lamp through PER=127. COS/FUV, TIME-TAG, WCA	gh the WCA on the de	FP-POS=3; LIFETIME-POS=O	SAA CONTOUR 31; SPEC COM INSTR	t in Visit 10), we need to set the def Sequence 1-4 Non-In t in Visit 10	[==>] fault PSA aperture location to 2.2 220 Secs $[==>]$	5 mm lower
qesiparm APER 3 Comments: To p As described ab 4	TURE=PSA_O. NONE blace a WAVE cal exp ove this requires XAF WAVE	COS, ALIGN/APER cosure using the calibration lamp through PER=127. COS/FUV, TIME-TAG, WCA	gh the WCA on the de	FP-POS=3; LIFETIME-POS=O	SAA CONTOUR 31; SPEC COM INSTR ELHLTHVF; QASISTATES COS	t in Visit 10), we need to set the dep Sequence 1-4 Non-In t in Visit 10 Sequence 5-6 Non-In	[==>] fault PSA aperture location to 2.5 $[==>]$ 220 Secs $[==>]$ 358 Secs	5 mm lower
qesiparm APER 3 Comments: To p As described ab 4	TURE=PSA_O. NONE blace a WAVE cal exp ove this requires XAF WAVE	COS, ALIGN/APER cosure using the calibration lamp through PER=127. COS/FUV, TIME-TAG, WCA	gh the WCA on the de	FP-POS=3; LIFETIME-POS=O	SAA CONTOUR 31; SPEC COM INSTR ELHLTHVF; QASISTATES COS FUV HVLOW HVN	t in Visit 10), we need to set the dep Sequence 1-4 Non-In t in Visit 10 Sequence 5-6 Non-In	[==>] fault PSA aperture location to 2.5 $[==>]$ 220 Secs $[==>]$ 358 Secs	5 mm lower
qesiparm APER 3 Comments: To p As described ab 4	TURE=PSA_O. NONE blace a WAVE cal exp ove this requires XAF WAVE	COS, ALIGN/APER cosure using the calibration lamp through PER=127. COS/FUV, TIME-TAG, WCA	gh the WCA on the de	FP-POS=3; LIFETIME-POS=O	SAA CONTOUR 31; SPEC COM INSTR ELHLTHVF; QASISTATES COS FUV HVLOW HVN OM;	t in Visit 10), we need to set the dep Sequence 1-4 Non-In t in Visit 10 Sequence 5-6 Non-In	[==>] fault PSA aperture location to 2.5 $[==>]$ 220 Secs $[==>]$ 358 Secs	5 mm lower
qesiparm APER 3 Comments: To p As described ab 4	TURE=PSA_O. NONE blace a WAVE cal exp ove this requires XAF WAVE	COS, ALIGN/APER cosure using the calibration lamp through PER=127. COS/FUV, TIME-TAG, WCA	gh the WCA on the de	FP-POS=3; LIFETIME-POS=O	SAA CONTOUR 31; SPEC COM INSTR ELHLTHVF; QASISTATES COS FUV HVLOW HVN	t in Visit 10), we need to set the dep Sequence 1-4 Non-In t in Visit 10 Sequence 5-6 Non-In	[==>] fault PSA aperture location to 2.5 $[==>]$ 220 Secs $[==>]$ 358 Secs	5 mm lower
qesiparm APER 3 Comments: To p As described ab 4	TURE=PSA_O. NONE blace a WAVE cal exp ove this requires XAF WAVE	COS, ALIGN/APER cosure using the calibration lamp through PER=127. COS/FUV, TIME-TAG, WCA	gh the WCA on the de	FP-POS=3; LIFETIME-POS=O	SAA CONTOUR 31; SPEC COM INSTR ELHLTHVF; QASISTATES COS FUV HVLOW HVN OM; QESIPARM ENDC TSA 147; QESIPARM ENDC	t in Visit 10), we need to set the dep Sequence 1-4 Non-In t in Visit 10 Sequence 5-6 Non-In	[==>] fault PSA aperture location to 2.5 $[==>]$ 220 Secs $[==>]$ 358 Secs	5 mm lower
qesiparm APER 3 Comments: To p As described ab 4	TURE=PSA_O. NONE blace a WAVE cal expove this requires XAF WAVE DARK	COS, ALIGN/APER cosure using the calibration lamp through PER=127. COS/FUV, TIME-TAG, WCA S/C, DATA, NONE	gh the WCA on the de	FP-POS=3; LIFETIME-POS=O	SAA CONTOUR 31; SPEC COM INSTR ELHLTHVF; QASISTATES COS FUV HVLOW HVN OM; QESIPARM ENDC TSA 147;	t in Visit 10), we need to set the dep Sequence 1-4 Non-In t in Visit 10 Sequence 5-6 Non-In	[==>] fault PSA aperture location to 2.5 $[==>]$ 220 Secs $[==>]$ 358 Secs	5 mm lower
qesiparm APER 3 Comments: To p As described ab 4 5 Comments: SQL	TURE=PSA_O. NONE place a WAVE cal expove this requires XAF WAVE DARK	COS, ALIGN/APER bosure using the calibration lamp through the si_used = "COS".	gh the WCA on the do	FP-POS=3; LIFETIME-POS=O RIGINAL	SAA CONTOUR 31; SPEC COM INSTR ELHLTHVF; QASISTATES COS FUV HVLOW HVN OM; QESIPARM ENDC TSA 147; QESIPARM ENDC TSB 144	t in Visit 10), we need to set the dep Sequence 1-4 Non-In t in Visit 10 Sequence 5-6 Non-In t in Visit 10	[==>] fault PSA aperture location to 2.5 220 Secs [==>] 358 Secs [==>]	5 mm lower
qesiparm APER 3 Comments: To p As described ab 4 5 Comments: SQL The special com	TURE=PSA_O. NONE blace a WAVE cal expove this requires XAF WAVE DARK the required for qexpossum and ing here sets the	COS, ALIGN/APER bosure using the calibration lamp through PER=127. COS/FUV, TIME-TAG, WCA S/C, DATA, NONE sure to specify the si_used = "COS". the nominal high voltage for this visit	gh the WCA on the de G160M 1600 A	FP-POS=3; LIFETIME-POS=O RIGINAL	SAA CONTOUR 31; SPEC COM INSTR ELHLTHVF; QASISTATES COS FUV HVLOW HVN OM; QESIPARM ENDC TSA 147; QESIPARM ENDC TSB 144	t in Visit 10), we need to set the dep Sequence 1-4 Non-In t in Visit 10 Sequence 5-6 Non-In t in Visit 10	[==>] fault PSA aperture location to 2.5 220 Secs [==>] 358 Secs [==>]	5 mm lower
qesiparm APER 3 Comments: To p As described ab 4 5 Comments: SQL	TURE=PSA_O. NONE place a WAVE cal expove this requires XAF WAVE DARK	COS, ALIGN/APER bosure using the calibration lamp through the si_used = "COS".	gh the WCA on the de G160M 1600 A (HVNOM) for segme G160M	FP-POS=3; LIFETIME-POS=O RIGINAL ents A and B (ENDCTSA) FP-POS=3;	SAA CONTOUR 31; SPEC COM INSTR ELHLTHVF; QASISTATES COS FUV HVLOW HVN OM; QESIPARM ENDC TSA 147; QESIPARM ENDC TSB 144	t in Visit 10), we need to set the dep Sequence 1-4 Non-In t in Visit 10 Sequence 5-6 Non-In t in Visit 10	[==>] fault PSA aperture location to 2.5 220 Secs [==>] 358 Secs [==>]	5 mm lower
qesiparm APER 3 Comments: To p As described ab 4 5 Comments: SQL The special com	TURE=PSA_O. NONE blace a WAVE cal expove this requires XAF WAVE DARK the required for qexpossum and ing here sets the	COS, ALIGN/APER bosure using the calibration lamp through PER=127. COS/FUV, TIME-TAG, WCA S/C, DATA, NONE sure to specify the si_used = "COS". the nominal high voltage for this visit	gh the WCA on the de G160M 1600 A	FP-POS=3; LIFETIME-POS=O RIGINAL	SAA CONTOUR 31; SPEC COM INSTR ELHLTHVF; QASISTATES COS FUV HVLOW HVN OM; QESIPARM ENDC TSA 147; QESIPARM ENDC TSB 144	t in Visit 10), we need to set the dep Sequence 1-4 Non-In t in Visit 10 Sequence 5-6 Non-In t in Visit 10	[==>] fault PSA aperture location to 2.5 220 Secs [==>] 358 Secs [==>]	5 mm lower
qesiparm APER 3 Comments: To p As described ab 4 5 Comments: SQL The special com	TURE=PSA_O. NONE blace a WAVE cal expove this requires XAF WAVE DARK the required for qexpossum and ing here sets the	COS, ALIGN/APER bosure using the calibration lamp through PER=127. COS/FUV, TIME-TAG, WCA S/C, DATA, NONE sure to specify the si_used = "COS". the nominal high voltage for this visit	gh the WCA on the de G160M 1600 A (HVNOM) for segme G160M	FP-POS=3; LIFETIME-POS=O RIGINAL FP-POS=3; LIFETIME-POS=O	SAA CONTOUR 31; SPEC COM INSTR ELHLTHVF; QASISTATES COS FUV HVLOW HVN OM; QESIPARM ENDC TSA 147; QESIPARM ENDC TSB 144	t in Visit 10), we need to set the dep Sequence 1-4 Non-In t in Visit 10 Sequence 5-6 Non-In t in Visit 10	[==>] fault PSA aperture location to 2.5 220 Secs [==>] 358 Secs [==>]	5 mm lower
qesiparm APER 3 Comments: To p As described ab 4 5 Comments: SQL The special com	TURE=PSA_O. NONE blace a WAVE cal expove this requires XAF WAVE DARK the required for qexpossum and ing here sets the	COS, ALIGN/APER bosure using the calibration lamp through PER=127. COS/FUV, TIME-TAG, WCA S/C, DATA, NONE sure to specify the si_used = "COS". the nominal high voltage for this visit	gh the WCA on the de G160M 1600 A (HVNOM) for segme G160M	FP-POS=3; LIFETIME-POS=O RIGINAL FP-POS=3; LIFETIME-POS=O	SAA CONTOUR 31; SPEC COM INSTR ELHLTHVF; QASISTATES COS FUV HVLOW HVN OM; QESIPARM ENDC TSA 147; QESIPARM ENDC TSB 144	t in Visit 10), we need to set the dep Sequence 1-4 Non-In t in Visit 10 Sequence 5-6 Non-In t in Visit 10	[==>] fault PSA aperture location to 2.5 220 Secs [==>] 358 Secs [==>]	
qesiparm APER 3 Comments: To p As described ab 4 5 Comments: SQL The special com	TURE=PSA_O. NONE blace a WAVE cal expove this requires XAF WAVE DARK the required for qexpossum and ing here sets the	COS, ALIGN/APER bosure using the calibration lamp through PER=127. COS/FUV, TIME-TAG, WCA S/C, DATA, NONE sure to specify the si_used = "COS". the nominal high voltage for this visit	gh the WCA on the de G160M 1600 A (HVNOM) for segme G160M	FP-POS=3; LIFETIME-POS=O RIGINAL FP-POS=3; LIFETIME-POS=O	SAA CONTOUR 31; SPEC COM INSTR ELHLTHVF; QASISTATES COS FUV HVLOW HVN OM; QESIPARM ENDC TSA 147; QESIPARM ENDC TSB 144	t in Visit 10), we need to set the dep Sequence 1-4 Non-In t in Visit 10 Sequence 5-6 Non-In t in Visit 10	[==>] fault PSA aperture location to 2.5 220 Secs [==>] 358 Secs [==>]	5 mm lower

7	DARK	S/C, DATA, NONE			SAA CONTOUR 31:	Sequence 7-8 Non-In	376 Secs	
		,			SPEC COM INSTR ELHLTHVF;	t in Visit 10	[==>]	
					QASISTATES COS FUV HVLOW HVN OM;			
					QESIPARM ENDC TSA 152;			
					QESIPARM ENDC TSB 153			
		osure to specify the si_used = "COS".						
The special o	commanding here sets WAVE	the the nominal high voltage for this visit (COS/FUV, TIME-TAG, WCA	(<i>HVNOM</i>) for segr G160M	ments A and B (ENDCTSA) FP-POS=3;	and ENDCTS B) to 152	2 and 153, respectively. Sequence 7-8 Non-In		
o	WAVL	COS/TOV, TIME-TAG, WCA	1600 A	LIFETIME-POS=O RIGINAL		t in Visit 10	[==>]	
9	DARK	S/C, DATA, NONE			SAA CONTOUR 31	Sequence 9-10 Non-I	403 Secs	
					SPEC COM INSTR ELHLTHVF;	nt in Visit 10	[==>]	
					QASISTATES COS FUV HVLOW HVN OM:			
					QESIPARM ENDC TSA 157;			
					QESIPARM ENDC			
Comments: S	SQL required for qexpo	osure to specify the si_used = "COS".			*			
The special o	commanding here sets	the the nominal high voltage for this visit	(HVNOM) for segi		QESIPARM ENDC TSB 162			
The special o	2 1 3 1 1	1 33 =	G160M	FP-POS=3;	QESIPARM ENDC TSB 162	Sequence 9-10 Non-I	220 Secs	
The special o	commanding here sets	the the nominal high voltage for this visit			QESIPARM ENDC TSB 162			
The special o	commanding here sets	the the nominal high voltage for this visit	G160M	FP-POS=3; LIFETIME-POS=O	QESIPARM ENDC TSB 162 and ENDCTS B) to 15	Sequence 9-10 Non-I nt in Visit 10	220 Secs [==>] 424 Secs	
	commanding here sets WAVE	the the nominal high voltage for this visit of COS/FUV, TIME-TAG, WCA	G160M	FP-POS=3; LIFETIME-POS=O	QESIPARM ENDC TSB 162 and ENDCTS B) to 15 SAA CONTOUR 31: SPEC COM INSTR ELHLTHVF;	Sequence 9-10 Non-I nt in Visit 10	220 Secs [==>]	
The special o	commanding here sets WAVE	the the nominal high voltage for this visit of COS/FUV, TIME-TAG, WCA	G160M	FP-POS=3; LIFETIME-POS=O	QESIPARM ENDC TSB 162 and ENDCTS B) to 15 SAA CONTOUR 31: SPEC COM INSTR	Sequence 9-10 Non-I nt in Visit 10 Sequence 11-12 Non -Int in Visit 10	220 Secs [==>] 424 Secs	
The special o	commanding here sets WAVE	the the nominal high voltage for this visit of COS/FUV, TIME-TAG, WCA	G160M	FP-POS=3; LIFETIME-POS=O	QESIPARM ENDC TSB 162 and ENDCTS B) to 15 SAA CONTOUR 31: SPEC COM INSTR ELHLTHVF; QASISTATES COS FUV HVLOW HVN	Sequence 9-10 Non-I nt in Visit 10 Sequence 11-12 Non -Int in Visit 10	220 Secs [==>] 424 Secs	
<i>The special o</i> 10	commanding here sets WAVE	the the nominal high voltage for this visit of COS/FUV, TIME-TAG, WCA	G160M	FP-POS=3; LIFETIME-POS=O	QESIPARM ENDC TSB 162 and ENDCTS B) to 15 SAA CONTOUR 31: SPEC COM INSTR ELHLTHVF; QASISTATES COS FUV HVLOW HVN OM; QESIPARM ENDC	Sequence 9-10 Non-I nt in Visit 10 Sequence 11-12 Non -Int in Visit 10	220 Secs [==>] 424 Secs	
The special of	commanding here sets WAVE DARK	the the nominal high voltage for this visit of COS/FUV, TIME-TAG, WCA	G160M	FP-POS=3; LIFETIME-POS=O	QESIPARM ENDC TSB 162 and ENDCTS B) to 15 SAA CONTOUR 31: SPEC COM INSTR ELHLTHVF; QASISTATES COS FUV HVLOW HVN OM; QESIPARM ENDC TSA 169; QESIPARM ENDC	Sequence 9-10 Non-I nt in Visit 10 Sequence 11-12 Non -Int in Visit 10	220 Secs [==>] 424 Secs	
The special of 10 11 Comments: S The special of The exposur.	commanding here sets WAVE DARK SQL required for qexperite commanding here sets the time allows for overhead to the commanding the sets the time allows for overhead to the commanding the sets the time allows for overhead to the commanding the sets the time allows for overhead to the commanding the sets the set the sets th	the the nominal high voltage for this visit to COS/FUV, TIME-TAG, WCA S/C, DATA, NONE osure to specify the si_used = "COS". the the nominal high voltage for this visit to the not included in APT of 35 s for the high voltage in the high voltage	G160M 1600 A (HVNOM) for segn gh voltage to ramp	FP-POS=3; LIFETIME-POS=O RIGINAL ments A and B (ENDCTSA of down to its lowest setting,	QESIPARM ENDC TSB 162 and ENDCTS B) to 15 SAA CONTOUR 31: SPEC COM INSTR ELHLTHVF; QASISTATES COS FUV HVLOW HVN OM; QESIPARM ENDC TSA 169; QESIPARM ENDC TSB 168 and ENDCTS B) to 16	Sequence 9-10 Non-Int in Visit 10 Sequence 11-12 Non-Int in Visit 10	220 Secs [==>] 424 Secs [==>]	
The special of 10 11 Comments: S The special of The exposur.	commanding here sets WAVE DARK SQL required for qexperite commanding here sets the time allows for overhead to the commanding the sets the time allows for overhead to the commanding the sets the time allows for overhead to the commanding the sets the time allows for overhead to the commanding the sets the set the sets th	the the nominal high voltage for this visit to COS/FUV, TIME-TAG, WCA S/C, DATA, NONE osure to specify the si_used = "COS". the the nominal high voltage for this visit to the the nominal high voltage for the nominal high voltage	G160M 1600 A (HVNOM) for segn gh voltage to ramp	FP-POS=3; LIFETIME-POS=O RIGINAL ments A and B (ENDCTSA of down to its lowest setting,	QESIPARM ENDC TSB 162 and ENDCTS B) to 15 SAA CONTOUR 31: SPEC COM INSTR ELHLTHVF; QASISTATES COS FUV HVLOW HVN OM; QESIPARM ENDC TSA 169; QESIPARM ENDC TSB 168 and ENDCTS B) to 16	Sequence 9-10 Non-Int in Visit 10 Sequence 11-12 Non-Int in Visit 10	220 Secs [==>] 424 Secs [==>]	
The special of 10 11 Comments: S The special of The exposure 2/8/12: Remains of the 10 to 10 t	commanding here sets WAVE DARK SQL required for qexponence commanding here sets the time allows for overhoved this artifical additional content of the con	the the nominal high voltage for this visit to COS/FUV, TIME-TAG, WCA S/C, DATA, NONE Soure to specify the si_used = "COS". the the nominal high voltage for this visit to the the not included in APT of 35 s for the high to (which is only for APTs benefit) to use	G160M 1600 A (HVNOM) for segr gh voltage to ramp e the actual time n	FP-POS=3; LIFETIME-POS=O RIGINAL ments A and B (ENDCTSA of down to its lowest setting, eeded.	QESIPARM ENDC TSB 162 and ENDCTS B) to 15 SAA CONTOUR 31: SPEC COM INSTR ELHLTHVF; QASISTATES COS FUV HVLOW HVN OM; QESIPARM ENDC TSA 169; QESIPARM ENDC TSB 168 and ENDCTS B) to 16	Sequence 9-10 Non-Int in Visit 10 Sequence 11-12 Non-Int in Visit 10 9 and 168, respectively. 5 up to values less than	220 Secs [==>] 424 Secs [==>]	

Proposal 12793 - Visit 10 - Second COS FUV Lifetime Position: FUV Detector High Voltage Sweep (FENA1) DARK S/C, DATA, NONE SAA CONTOUR 31; Sequence 13-15 Non 442 Secs -Int in Visit 10 SPEC COM INSTR *[==>1* ELHLTHVF; **QASISTATES COS** FUV HVLOW HVN OM; [1] **OESIPARM ENDC** TSA 175; **QESIPARM ENDC** TSB 172 Comments: SQL required for qexposure to specify the si_used = "COS". The special commanding here sets the the nominal high voltage for this visit (HVNOM) for segments A and B (ENDCTSA and ENDCTS B) to 175 and 172, respectively. 14 COS/FUV. TIME-TAG. WCA WAVE G160M FP-POS=3: Sequence 13-15 Non 220 Secs -Int in Visit 10 1600 A LIFETIME-POS=O I = = > 1[1] RIGINAL 15 DARK S/C, DATA, NONE NEW OBSET; Sequence 13-15 Non 1 Secs -Int in Visit 10 QASISTATES COS f = = > 1**FUV HVLOW HVL** OW; [1] QASISTATES COS SI OBSERVE OBSE **RVE** Comments: 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: 20120802 Orbit 1 Exp. 1 Unused Visibility = 3229 Exp. 11 Exp. 2 **Orbit Structure** Decultation Exp. 3 Exp. 5 Exp. 6 Exp. 7 Exp. 8 Exp. 9 Exp. 10 Exp. 12 Exp. 13 Exp. 14 Home Exp. 15 Exp. 4 1500 2500 3000 3500 5000 5500 sec 500 1000 2000 4000 4500

Proposal 12793 - Visit 11 - Second COS FUV Lifetime Position: FUV Detector High Voltage Sweep (FENA1)

Proposal 12793, Visit 11, implementation Sat Aug 18 01:10:42 GMT 2012

Diagnostic Status: Warning

Scientific Instruments: S/C, COS/FUV, COS

Special Requirements: BEFORE 03-SEP-2012:00:00:00; PARALLEL

Comments: This is the second contingency visit, approved by the HST Mission Office on 7/31/12, to enable additional wavecal measurements over a range of high voltages extending to the highest available pulse heights, at Y location on segment A of Y=510. In combination with contingency visits 10 and 12, this will allow us to calibrate X and Y walk corrections over the full range of available pulse heights at Y positions that bracket the new lifetime position.

Diagnostics

(Visit 11) Warning (Orbit Planner): MAXIMUM DURATION EXCEEDED FOR INTERNAL OR EARTH CALIB SU

(Exposure 3 (Sequence 1-4 Non-Int in Visit 11)) Warning (Form): This ALIGN/APER exposure should be preceded by a science exposure to define the starting position for the scan.

Proposal 12793 - Visit 11 - Second COS FUV Lifetime Position: FUV Detector High Voltage Sweep (FENA1)

# Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Regs.	Groups	Exp. Time/[Actual Dur.]	Ort
1	DARK	S/C, DATA, NONE			SAA CONTOUR 31;	Sequence 1-4 Non-In	388 Secs	
					SPEC COM INSTR ELHLTHVF;	t in Visit 11	[==>]	
					QASISTATES COS FUV HVLOW HVN OM;			[1]
					QESIPARM ENDC TSA 157;			
					QESIPARM ENDC TSB 153			
Comments: SQL	. required for qexposu	re to specify the si_used = "COS".						•
The special com	manding here sets the	e the nominal high voltage for this visit	(HVNOM) for segme	ents A and B (ENDCTSA	and ENDCTS B) to 152	7 and 153, respectively.		
2	DARK	S/C, DATA, NONE	(11717011) jor segme			Sequence 1-4 Non-In	10 Secs	
		, , , , ,			ELAPERSET;	t in Visit 11	[==>]	
					QESIPARM APERT URE PSA_O;			
					QESIPARM DET F UV			
Comments: SOI	required for aexposu	ure to specify the si_used = "COS".			O V			
~		_						
The special com	manding here defines	the ALIGN/APER command to apply to	o the PSA aperture a	nd override the nominal o	defaults.			
		.1 4 14	d to set					
The XAPER loca qesiparm APER	ations are relative to t TURE=PSA_O.	the *original* aperture position, so nee	a to set					
The XAPER loca gesiparm APER 3	ations are relative to t TURE=PSA_O. NONE	COS, ALIGN/APER	a to set	XAPER=127		Sequence 1-4 Non-In		
<i>gesiparm APER</i> 3	TURE=PSA_O. NONE	COS, ALIGN/APER				t in Visit 11	[==>]	
qesiparm APER 3 Comments: To p	TURE=PSA_O. NONE blace a WAVE cal exp.	COS, ALIGN/APER			low Lifetime Position 2	t in Visit 11	[==>]	[15 mm lower
qesiparm APER 3 Comments: To p	TURE=PSA_O. NONE	COS, ALIGN/APER cosure using the calibration lamp through PER=127.			low Lifetime Position 2	t in Visit 11), we need to set the dej	[==>] fault PSA aperture location to 2.5	
qesiparm APER 3 Comments: To p	TURE=PSA_O. NONE place a WAVE cal expove this requires XAP	COS, ALIGN/APER	gh the WCA on the de	FP-POS=3; LIFETIME-POS=O	low Lifetime Position 2	t in Visit 11	[==>] fault PSA aperture location to 2.5	5 mm lower
qesiparm APER 3 Comments: To p As described ab 4	TURE=PSA_O. NONE blace a WAVE cal expove this requires XAP WAVE	COS, ALIGN/APER osure using the calibration lamp through PER=127. COS/FUV, TIME-TAG, WCA	gh the WCA on the de	etector at Y=510 (just bei		t in Visit 11), we need to set the dep Sequence 1-4 Non-In t in Visit 11	[==>] fault PSA aperture location to 2.5 220 Secs $[==>]$	5 mm lower
qesiparm APER 3 Comments: To p	TURE=PSA_O. NONE place a WAVE cal expove this requires XAP	COS, ALIGN/APER cosure using the calibration lamp through PER=127.	gh the WCA on the de	FP-POS=3; LIFETIME-POS=O	SAA CONTOUR 31;	t in Visit 11), we need to set the dep Sequence 1-4 Non-In t in Visit 11 Sequence 5-6 Non-In	[==>] fault PSA aperture location to 2.5 220 Secs $[==>]$ 418 Secs	5 mm lower
qesiparm APER 3 Comments: To p As described ab 4	TURE=PSA_O. NONE blace a WAVE cal expove this requires XAP WAVE	COS, ALIGN/APER osure using the calibration lamp through PER=127. COS/FUV, TIME-TAG, WCA	gh the WCA on the de	FP-POS=3; LIFETIME-POS=O		t in Visit 11), we need to set the dep Sequence 1-4 Non-In t in Visit 11	[==>] fault PSA aperture location to 2.5 220 Secs $[==>]$	5 mm lower
qesiparm APER 3 Comments: To p As described ab 4	TURE=PSA_O. NONE blace a WAVE cal expove this requires XAP WAVE	COS, ALIGN/APER osure using the calibration lamp through PER=127. COS/FUV, TIME-TAG, WCA	gh the WCA on the de	FP-POS=3; LIFETIME-POS=O	SAA CONTOUR 31; SPEC COM INSTR ELHLTHVF; QASISTATES COS	t in Visit 11), we need to set the dep Sequence 1-4 Non-In t in Visit 11 Sequence 5-6 Non-In	[==>] fault PSA aperture location to 2.5 220 Secs $[==>]$ 418 Secs	5 mm lower
qesiparm APER 3 Comments: To p As described ab 4	TURE=PSA_O. NONE blace a WAVE cal expove this requires XAP WAVE	COS, ALIGN/APER osure using the calibration lamp through the calibration lamp through the cost of the	gh the WCA on the de	FP-POS=3; LIFETIME-POS=O	SAA CONTOUR 31; SPEC COM INSTR ELHLTHVF; QASISTATES COS FUV HVLOW HVN	t in Visit 11), we need to set the dep Sequence 1-4 Non-In t in Visit 11 Sequence 5-6 Non-In	[==>] fault PSA aperture location to 2.5 220 Secs $[==>]$ 418 Secs	5 mm lower
qesiparm APER 3 Comments: To p As described ab 4	TURE=PSA_O. NONE blace a WAVE cal expove this requires XAP WAVE	COS, ALIGN/APER osure using the calibration lamp through the calibration lamp through the cost of the	gh the WCA on the de	FP-POS=3; LIFETIME-POS=O	SAA CONTOUR 31; SPEC COM INSTR ELHLTHVF; QASISTATES COS FUV HVLOW HVN OM;	t in Visit 11), we need to set the dep Sequence 1-4 Non-In t in Visit 11 Sequence 5-6 Non-In	[==>] fault PSA aperture location to 2.5 220 Secs $[==>]$ 418 Secs	5 mm lower
qesiparm APER 3 Comments: To p As described ab 4	TURE=PSA_O. NONE blace a WAVE cal expove this requires XAP WAVE	COS, ALIGN/APER osure using the calibration lamp through the calibration lamp through the cost of the	gh the WCA on the de	FP-POS=3; LIFETIME-POS=O	SAA CONTOUR 31; SPEC COM INSTR ELHLTHVF; QASISTATES COS FUV HVLOW HVN	t in Visit 11), we need to set the dep Sequence 1-4 Non-In t in Visit 11 Sequence 5-6 Non-In	[==>] fault PSA aperture location to 2.5 220 Secs $[==>]$ 418 Secs	5 mm lower
qesiparm APER 3 Comments: To p As described ab 4	TURE=PSA_O. NONE blace a WAVE cal expove this requires XAP WAVE	COS, ALIGN/APER osure using the calibration lamp through the calibration lamp through the cost of the	gh the WCA on the de	FP-POS=3; LIFETIME-POS=O	SAA CONTOUR 31; SPEC COM INSTR ELHLTHVF; QASISTATES COS FUV HVLOW HVN OM; QESIPARM ENDC TSA 167; QESIPARM ENDC	t in Visit 11), we need to set the dep Sequence 1-4 Non-In t in Visit 11 Sequence 5-6 Non-In	[==>] fault PSA aperture location to 2.5 220 Secs $[==>]$ 418 Secs	5 mm lower
qesiparm APER 3 Comments: To p As described ab 4	TURE=PSA_O. NONE blace a WAVE cal expove this requires XAP WAVE DARK	COS, ALIGN/APER cosure using the calibration lamp through PER=127. COS/FUV, TIME-TAG, WCA S/C, DATA, NONE	gh the WCA on the de	FP-POS=3; LIFETIME-POS=O	SAA CONTOUR 31; SPEC COM INSTR ELHLTHVF; QASISTATES COS FUV HVLOW HVN OM; QESIPARM ENDC TSA 167;	t in Visit 11), we need to set the dep Sequence 1-4 Non-In t in Visit 11 Sequence 5-6 Non-In	[==>] fault PSA aperture location to 2.5 220 Secs $[==>]$ 418 Secs	5 mm lower
qesiparm APER 3 Comments: To p As described ab 4 5 Comments: SQL	TURE=PSA_O. NONE blace a WAVE cal expove this requires XAP WAVE DARK	COS, ALIGN/APER sosure using the calibration lamp through the si_used = "COS".	gh the WCA on the do	FP-POS=3; LIFETIME-POS=O RIGINAL	SAA CONTOUR 31; SPEC COM INSTR ELHLTHVF; QASISTATES COS FUV HVLOW HVN OM; QESIPARM ENDC TSA 167; QESIPARM ENDC TSB 163	t in Visit 11), we need to set the dep Sequence 1-4 Non-In t in Visit 11 Sequence 5-6 Non-In t in Visit 11	[==>] fault PSA aperture location to 2.5 220 Secs $[==>]$ 418 Secs $[==>]$	5 mm lower
qesiparm APER 3 Comments: To p As described ab 4 5 Comments: SQL The special com	TURE=PSA_O. NONE blace a WAVE cal expove this requires XAP WAVE DARK required for qexposus manding here sets the	COS, ALIGN/APER sosure using the calibration lamp through the construction of the con	gh the WCA on the de G160M 1600 A	FP-POS=3; LIFETIME-POS=O RIGINAL	SAA CONTOUR 31; SPEC COM INSTR ELHLTHVF; QASISTATES COS FUV HVLOW HVN OM; QESIPARM ENDC TSA 167; QESIPARM ENDC TSB 163	t in Visit 11), we need to set the dep Sequence 1-4 Non-In t in Visit 11 Sequence 5-6 Non-In t in Visit 11	[==>] fault PSA aperture location to 2.5 220 Secs [==>] 418 Secs [==>]	5 mm lower
qesiparm APER 3 Comments: To p As described ab 4 5 Comments: SQL	TURE=PSA_O. NONE blace a WAVE cal expove this requires XAP WAVE DARK	COS, ALIGN/APER sosure using the calibration lamp through the si_used = "COS".	gh the WCA on the de G160M 1600 A (HVNOM) for segme G160M	FP-POS=3; LIFETIME-POS=O RIGINAL ents A and B (ENDCTSA) FP-POS=3;	SAA CONTOUR 31; SPEC COM INSTR ELHLTHVF; QASISTATES COS FUV HVLOW HVN OM; QESIPARM ENDC TSA 167; QESIPARM ENDC TSB 163	t in Visit 11), we need to set the dep Sequence 1-4 Non-In t in Visit 11 Sequence 5-6 Non-In t in Visit 11	[==>] fault PSA aperture location to 2.5 220 Secs [==>] 418 Secs [==>]	5 mm lower
qesiparm APER 3 Comments: To p As described ab 4 5 Comments: SQL The special com	TURE=PSA_O. NONE blace a WAVE cal expove this requires XAP WAVE DARK required for qexposus manding here sets the	COS, ALIGN/APER sosure using the calibration lamp through the construction of the con	gh the WCA on the de G160M 1600 A	FP-POS=3; LIFETIME-POS=O RIGINAL	SAA CONTOUR 31; SPEC COM INSTR ELHLTHVF; QASISTATES COS FUV HVLOW HVN OM; QESIPARM ENDC TSA 167; QESIPARM ENDC TSB 163	t in Visit 11), we need to set the dep Sequence 1-4 Non-In t in Visit 11 Sequence 5-6 Non-In t in Visit 11	[==>] fault PSA aperture location to 2.5 220 Secs [==>] 418 Secs [==>]	5 mm lower
qesiparm APER 3 Comments: To p As described ab 4 5 Comments: SQL The special com	TURE=PSA_O. NONE blace a WAVE cal expove this requires XAP WAVE DARK required for qexposus manding here sets the	COS, ALIGN/APER sosure using the calibration lamp through the construction of the con	gh the WCA on the de G160M 1600 A (HVNOM) for segme G160M	FP-POS=3; LIFETIME-POS=O RIGINAL FP-POS=3; LIFETIME-POS=O	SAA CONTOUR 31; SPEC COM INSTR ELHLTHVF; QASISTATES COS FUV HVLOW HVN OM; QESIPARM ENDC TSA 167; QESIPARM ENDC TSB 163	t in Visit 11), we need to set the dep Sequence 1-4 Non-In t in Visit 11 Sequence 5-6 Non-In t in Visit 11	[==>] fault PSA aperture location to 2.5 220 Secs [==>] 418 Secs [==>]	5 mm lower
qesiparm APER 3 Comments: To p As described ab 4 5 Comments: SQL The special com	TURE=PSA_O. NONE blace a WAVE cal expove this requires XAP WAVE DARK required for qexposus manding here sets the	COS, ALIGN/APER sosure using the calibration lamp through the construction of the con	gh the WCA on the de G160M 1600 A (HVNOM) for segme G160M	FP-POS=3; LIFETIME-POS=O RIGINAL FP-POS=3; LIFETIME-POS=O	SAA CONTOUR 31; SPEC COM INSTR ELHLTHVF; QASISTATES COS FUV HVLOW HVN OM; QESIPARM ENDC TSA 167; QESIPARM ENDC TSB 163	t in Visit 11), we need to set the dep Sequence 1-4 Non-In t in Visit 11 Sequence 5-6 Non-In t in Visit 11	[==>] fault PSA aperture location to 2.5 220 Secs [==>] 418 Secs [==>]	
qesiparm APER 3 Comments: To p As described ab 4 5 Comments: SQL The special com	TURE=PSA_O. NONE blace a WAVE cal expove this requires XAP WAVE DARK required for qexposus manding here sets the	COS, ALIGN/APER sosure using the calibration lamp through the construction of the con	gh the WCA on the de G160M 1600 A (HVNOM) for segme G160M	FP-POS=3; LIFETIME-POS=O RIGINAL FP-POS=3; LIFETIME-POS=O	SAA CONTOUR 31; SPEC COM INSTR ELHLTHVF; QASISTATES COS FUV HVLOW HVN OM; QESIPARM ENDC TSA 167; QESIPARM ENDC TSB 163	t in Visit 11), we need to set the dep Sequence 1-4 Non-In t in Visit 11 Sequence 5-6 Non-In t in Visit 11	[==>] fault PSA aperture location to 2.5 220 Secs [==>] 418 Secs [==>]	5 mm lower

Proposal 12793 - Visit 11 - Second COS FUV Lifetime Position: FUV Detector High Voltage Sweep (FENA1) DARK S/C. DATA, NONE SAA CONTOUR 31; Sequence 7-8 Non-In 424 Secs SPEC COM INSTR t in Visit 11 *[==>1* ELHLTHVF: OASISTATES COS **FUV HVLOW HVN** OM; [1] **OESIPARM ENDC** TSA 169; **QESIPARM ENDC** TSB 168 Comments: SQL required for qexposure to specify the si_used = "COS". The special commanding here sets the the nominal high voltage for this visit (HVNOM) for segments A and B (ENDCTSA and ENDCTS B) to 169 and 168, respectively. WAVE COS/FUV. TIME-TAG. WCA G160M FP-POS=3: Sequence 7-8 Non-In 220 Secs t in Visit 11 LIFETIME-POS=O 1600 A I = = > 1[1] RIGINAL DARK S/C, DATA, NONE SAA CONTOUR 31; Sequence 9-10 Non-I | 433 Secs nt in Visit 11 SPEC COM INSTR I = = > 1ELHLTHVF; **QASISTATES COS** FUV HVLOW HVN OM: [1] **OESIPARM ENDC** TSA 172; **OESIPARM ENDC** TSB 169 Comments: SQL required for qexposure to specify the si_used = "COS". The special commanding here sets the the nominal high voltage for this visit (HVNOM) for segments A and B (ENDCTSA and ENDCTS B) to 172 and 169, respectively. 10 FP-POS=3; Sequence 9-10 Non-I 220 Secs WAVE COS/FUV, TIME-TAG, WCA G160M nt in Visit 11 1600 A LIFETIME-POS=O [==>] [1] RIGINAL 11 SAA CONTOUR 31; Sequence 11-12 Non 442 Secs DARK S/C, DATA, NONE -Int in Visit 11 SPEC COM INSTR *[==>1* ELHLTHVF; **OASISTATES COS FUV HVLOW HVN** OM: [1] **QESIPARM ENDC** TSA 175; **QESIPARM ENDC** TSB 172 Comments: SQL required for qexposure to specify the si_used = "COS". The special commanding here sets the the nominal high voltage for this visit (HVNOM) for segments A and B (ENDCTSA and ENDCTS B) to 175 and 172, respectively. COS/FUV, TIME-TAG, WCA Sequence 11-12 Non 220 Secs 12 WAVE G160M FP-POS=3; -Int in Visit 11 1600 A LIFETIME-POS=O *[==>1* RIGINAL [1] Proposal 12793 - Visit 11 - Second COS FUV Lifetime Position: FUV Detector High Voltage Sweep (FENA1) DARK S/C, DATA, NONE SAA CONTOUR 31; Sequence 13-15 Non 451 Secs -Int in Visit 11 SPEC COM INSTR *[==>1* ELHLTHVF; **QASISTATES COS** FUV HVLOW HVN OM; [1] **OESIPARM ENDC** TSA 178; **QESIPARM ENDC** TSB 175 Comments: SQL required for qexposure to specify the si_used = "COS". The special commanding here sets the the nominal high voltage for this visit (HVNOM) for segments A and B (ENDCTSA and ENDCTS B) to 178 and 175, respectively. 14 COS/FUV. TIME-TAG. WCA WAVE G160M FP-POS=3: Sequence 13-15 Non 220 Secs -Int in Visit 11 1600 A LIFETIME-POS=O I = = > 1[1] RIGINAL 15 DARK S/C, DATA, NONE NEW OBSET; Sequence 13-15 Non 1 Secs -Int in Visit 11 QASISTATES COS f = = > 1**FUV HVLOW HVL** OW; [1] QASISTATES COS SI OBSERVE OBSE RVE Comments: 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: 20120802 Orbit 1 Unused Visibility = 3229 Exp. 10 Exp. 2 Occultation. Exp. 3. **Orbit Structure** Exp. 5 Exp. 6 Exp. 7 Exp. 1 Exp. 4 Exp. 8 Exp. 9 Exp. 11 Exp. 12 Exp. 13 Exp. 14 Home Exp. 15 500 1000 1500 2000 25003000 3500 4000 4500 5000 5500 sec

Proposal 12793 - Visit 12 - Second COS FUV Lifetime Position: FUV Detector High Voltage Sweep (FENA1)

Proposal 12793, Visit 12, implementation Sat Aug 18 01:10:43 GMT 2012

Diagnostic Status: Warning

Caiantifia Instrumental S/G

Scientific Instruments: S/C, COS/FUV, COS

Special Requirements: BEFORE 03-SEP-2012:00:00:00; PARALLEL

Comments: This is the third contingency visit, approved by the HST Mission Office on 7/31/12, to enable additional wavecal measurements over a range of high voltages extending to the highest available pulse heights, at Y location on segment A of Y=545. In combination with contingency visits 10 and 11, this will allow us to calibrate X and Y walk corrections over the full range of available pulse heights at Y positions that bracket the new lifetime position.

Diagnostics

(Visit 12) Warning (Orbit Planner): MAXIMUM DURATION EXCEEDED FOR INTERNAL OR EARTH CALIB SU

(Exposure 3 (Sequence 1-4 Non-Int in Visit 12)) Warning (Form): This ALIGN/APER exposure should be preceded by a science exposure to define the starting position for the scan.

Proposal 12793 - Visit 12 - Second COS FUV Lifetime Position: FUV Detector High Voltage Sweep (FENA1)

# Lab			Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Regs.	Groups	Exp. Time/[Actual Dur.]	Orbit
1	DAI	RK	S/C, DATA, NONE			SAA CONTOUR 31;	Sequence 1-4 Non-In	370 Secs	
						SPEC COM INSTR ELHLTHVF;	t in Visit 12	[==>]	
						QASISTATES COS FUV HVLOW HVN OM;			[1]
						QESIPARM ENDC TSA 147;			
						QESIPARM ENDC TSB 144			
Comment	s: SQL require	ed for qexposu	re to specify the si_used = "COS".						
The speci	al commandin	g here sets the	the nominal high voltage for this visit	(HVNOM) for segme	ents A and B (ENDCTSA	and ENDCTS B) to 147	7 and 144. respectively.		
2	DA		S/C, DATA, NONE	/ 5	,		Sequence 1-4 Non-In	10 Secs	
						ELAPERSET;	t in Visit 12	[==>]	
						QESIPARM APERT URE PSA_O;			[1]
						QESIPARM DET F UV			
Comment	s: SOI require	ed for aevnosu	ere to specify the si_used = "COS".			U V			
			• • • •						
The speci	al commandin	g here defines	the ALIGN/APER command to apply to	o the PSA aperture a	nd override the nominal	defaults.			
The XAPI gesiparm 3	APERTURE=	PSA_O.	he *original* aperture position, so nee	d to set					
3	NO	NE	COS, ALIGN/APER		XAPER=63		Sequence 1-4 Non-In t in Visit 12		
								[==>]	[1]
Comment			osure using the calibration lamp throug			ed to set XAPER=63 as			
4	WA	VE	COS/FUV, TIME-TAG, WCA	G160M	FP-POS=3;		Sequence 1-4 Non-In t in Visit 12		
				1600 A	LIFETIME-POS=O RIGINAL			[==>]	[1]
5	DAI	RK	S/C, DATA, NONE				Sequence 5-6 Non-In	388 Secs	
						SPEC COM INSTR ELHLTHVF;	t in Visit 12	[==>]	
						QASISTATES COS			
						FUV HVLOW HVN OM;			[1]
						QESIPARM ENDC TSA 157;			123
						QESIPARM ENDC TSB 153			
Comment	ts: SQL require	ed for qexposu	ere to specify the si_used = "COS".						<u> </u>
The speci	ial commandin	a hara sats the	the nominal high voltage for this visit	(HVNOM) for soom	ents A and B (ENDCTSA	and ENDCTS R) to 150	7 and 153 respectively		
6	WA		COS/FUV, TIME-TAG, WCA	G160M	FP-POS=3;	una ENDETS B) to 157	Sequence 5-6 Non-In	220 Secs	
	****	· • •		1600 A	LIFETIME-POS=O		t in Visit 12	[==>]	
				· -	RIGINAL			,	
									[1]

7	DARK	S/C, DATA, NONE			SAA CONTOUR 31;	Sequence 7-8 Non-In	418 Secs	
					SPEC COM INSTR ELHLTHVF;	t in Visit 12	[==>]	
					QASISTATES COS FUV HVLOW HVN OM:			
					QESIPARM ENDC TSA 167;			
					QESIPARM ENDC TSB 163			
		osure to specify the si_used = "COS".						
The special o	wave	the the nominal high voltage for this visit COS/FUV, TIME-TAG, WCA	(HVNOM) for seg G160M	FP-POS=3;	and ENDCTS B) to 16.	/ and 163, respectively. Sequence 7-8 Non-In		
o	WAVE	COS/TOV, TIME-TAG, WCA	1600 A	LIFETIME-POS=O RIGINAL		t in Visit 12	[==>]	
9	DARK	S/C, DATA, NONE			SAA CONTOUR 31:	Sequence 9-10 Non-I	433 Secs	
					SPEC COM INSTR ELHLTHVF;	nt in Visit 12	[==>]	
					QASISTATES COS FUV HVLOW HVN OM;			
					QESIPARM ENDC			
					TSA 172;			
					TSA 172; QESIPARM ENDC			
Comments: S	SQL required for qexpo	osure to specify the si_used = "COS".			TSA 172;			
The special o	commanding here sets	the the nominal high voltage for this visit			TSA 172; QESIPARM ENDC TSB 169			
The special o			G160M	FP-POS=3;	TSA 172; QESIPARM ENDC TSB 169	2 and 169, respectively. Sequence 9-10 Non-I nt in Visit 12	220 Secs	
The special o	commanding here sets	the the nominal high voltage for this visit			TSA 172; QESIPARM ENDC TSB 169	Sequence 9-10 Non-I		
<i>The special o</i> 10	commanding here sets	the the nominal high voltage for this visit	G160M	FP-POS=3; LIFETIME-POS=O	TSA 172; QESIPARM ENDC TSB 169 and ENDCTS B) to 17. SAA CONTOUR 31;	Sequence 9-10 Non-I nt in Visit 12 Sequence 11-12 Non	220 Secs [==>]	
<i>The special o</i> 10	commanding here sets WAVE	the the nominal high voltage for this visit COS/FUV, TIME-TAG, WCA	G160M	FP-POS=3; LIFETIME-POS=O	TSA 172; QESIPARM ENDC TSB 169 and ENDCTS B) to 172 SAA CONTOUR 31; SPEC COM INSTR ELHLTHVF;	Sequence 9-10 Non-I nt in Visit 12	220 Secs [==>]	
The special o	commanding here sets WAVE	the the nominal high voltage for this visit COS/FUV, TIME-TAG, WCA	G160M	FP-POS=3; LIFETIME-POS=O	TSA 172; QESIPARM ENDC TSB 169 and ENDCTS B) to 17: SAA CONTOUR 31: SPEC COM INSTR	Sequence 9-10 Non-I nt in Visit 12 Sequence 11-12 Non	220 Secs [==>] 442 Secs	
	commanding here sets WAVE	the the nominal high voltage for this visit COS/FUV, TIME-TAG, WCA	G160M	FP-POS=3; LIFETIME-POS=O	SAA CONTOUR 31: SPEC COM INSTR ELHLTHVF; QASISTATES COS FUV HVLOW HVN OM; QESIPARM ENDC TSA 175;	Sequence 9-10 Non-I nt in Visit 12 Sequence 11-12 Non	220 Secs [==>] 442 Secs	
The special o	WAVE DARK	the the nominal high voltage for this visit COS/FUV, TIME-TAG, WCA S/C, DATA, NONE	G160M	FP-POS=3; LIFETIME-POS=O	TSA 172; QESIPARM ENDC TSB 169 and ENDCTS B) to 173 SAA CONTOUR 31; SPEC COM INSTR ELHLTHVF; QASISTATES COS FUV HVLOW HVN OM; QESIPARM ENDC	Sequence 9-10 Non-I nt in Visit 12 Sequence 11-12 Non	220 Secs [==>] 442 Secs	
The special of 10 11 11 Comments: S	Commanding here sets WAVE DARK SQL required for qexpe	the the nominal high voltage for this visit COS/FUV, TIME-TAG, WCA S/C, DATA, NONE sosure to specify the si_used = "COS".	G160M 1600 A	FP-POS=3; LIFETIME-POS=O RIGINAL	TSA 172; QESIPARM ENDC TSB 169 and ENDCTS B) to 172 SAA CONTOUR 31; SPEC COM INSTR ELHLTHVF; QASISTATES COS FUV HVLOW HVN OM; QESIPARM ENDC TSA 175; QESIPARM ENDC TSB 172	Sequence 9-10 Non-I nt in Visit 12 Sequence 11-12 Non -Int in Visit 12	220 Secs [==>] 442 Secs [==>]	
The special of 10 11 Comments: S The special of	WAVE DARK SQL required for qexpo	the the nominal high voltage for this visit COS/FUV, TIME-TAG, WCA S/C, DATA, NONE osure to specify the si_used = "COS". the the nominal high voltage for this visit	G160M 1600 A	FP-POS=3; LIFETIME-POS=O RIGINAL	TSA 172; QESIPARM ENDC TSB 169 and ENDCTS B) to 172 SAA CONTOUR 31; SPEC COM INSTR ELHLTHVF; QASISTATES COS FUV HVLOW HVN OM; QESIPARM ENDC TSA 175; QESIPARM ENDC TSB 172	Sequence 9-10 Non-Int in Visit 12 Sequence 11-12 Non-Int in Visit 12 5 and 172, respectively.	220 Secs [==>] 442 Secs [==>]	
The special of 10 11 Comments: S	Commanding here sets WAVE DARK SQL required for qexpe	the the nominal high voltage for this visit COS/FUV, TIME-TAG, WCA S/C, DATA, NONE sosure to specify the si_used = "COS".	G160M 1600 A	FP-POS=3; LIFETIME-POS=O RIGINAL	TSA 172; QESIPARM ENDC TSB 169 and ENDCTS B) to 172 SAA CONTOUR 31; SPEC COM INSTR ELHLTHVF; QASISTATES COS FUV HVLOW HVN OM; QESIPARM ENDC TSA 175; QESIPARM ENDC TSB 172	Sequence 9-10 Non-I nt in Visit 12 Sequence 11-12 Non -Int in Visit 12	220 Secs [==>] 442 Secs [==>]	
The special of 10 11 Comments: S	WAVE DARK SQL required for qexpo	the the nominal high voltage for this visit COS/FUV, TIME-TAG, WCA S/C, DATA, NONE osure to specify the si_used = "COS". the the nominal high voltage for this visit	G160M 1600 A (HVNOM) for seg G160M	FP-POS=3; LIFETIME-POS=O RIGINAL ments A and B (ENDCTSA) FP-POS=3; LIFETIME-POS=O	TSA 172; QESIPARM ENDC TSB 169 and ENDCTS B) to 172 SAA CONTOUR 31; SPEC COM INSTR ELHLTHVF; QASISTATES COS FUV HVLOW HVN OM; QESIPARM ENDC TSA 175; QESIPARM ENDC TSB 172	Sequence 9-10 Non-Int in Visit 12 Sequence 11-12 Non-Int in Visit 12 Sequence 11-12 Non-Int in Visit 12	220 Secs ==> 442 Secs ==>	

Proposal 12793 - Visit 12 - Second COS FUV Lifetime Position: FUV Detector High Voltage Sweep (FENA1) DARK S/C, DATA, NONE SAA CONTOUR 31; Sequence 13-15 Non 451 Secs -Int in Visit 12 SPEC COM INSTR *[==>1* ELHLTHVF; **QASISTATES COS** FUV HVLOW HVN OM; [1] **OESIPARM ENDC** TSA 178; **QESIPARM ENDC** TSB 175 Comments: SQL required for qexposure to specify the si_used = "COS". The special commanding here sets the the nominal high voltage for this visit (HVNOM) for segments A and B (ENDCTSA and ENDCTS B) to 178 and 175, respectively. 14 COS/FUV. TIME-TAG. WCA WAVE G160M FP-POS=3: Sequence 13-15 Non 220 Secs -Int in Visit 12 1600 A LIFETIME-POS=O I = = > 1[1] RIGINAL 15 DARK S/C, DATA, NONE NEW OBSET; Sequence 13-15 Non 1 Secs -Int in Visit 12 QASISTATES COS f = = > 1**FUV HVLOW HVL** OW; [1] QASISTATES COS SI OBSERVE OBSE **RVE** Comments: 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: 20120802 Orbit 1 Exp. 1 Unused Visibility = 3229 Exp. 10 Exp. 2 **Orbit Structure** Exp. 3 Occultation. Exp. 4 Exp. 5 Exp. 6 Exp. 7 Exp. 8 Exp. 9 Exp. 12 Exp. 13 Exp. 14 Home Exp. 15 Exp. 11 1000 1500 2500 3500 5000 5500 sec 500 2000 3000 4000 4500