

17322 - Cycle 31 COS FUV Detector Recovery After Anomalous Shutdown

Cycle: 31, 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	S/C	1	29-Jun-2023 13:00:19.0	yes
02	DARK	S/C	1	29-Jun-2023 13:00:20.0	yes
03	DARK	COS/FUV S/C	1	29-Jun-2023 13:00:20.0	yes
04	DARK	S/C	1	29-Jun-2023 13:00:20.0	yes
05	DARK	S/C	1	29-Jun-2023 13:00:21.0	yes
06	DARK	COS/FUV S/C	1	29-Jun-2023 13:00:21.0	yes

Visit	Targets used in Visit	Configurations used in Visit	Orbits Used	Last Orbit Planner Run	OP Current with Visit?
07	DARK	S/C	1	29-Jun-2023 13:00:21.0	yes
08	DARK WAVE	COS/FUV S/C	1	29-Jun-2023 13:00:22.0	yes
09	DARK	S/C	1	29-Jun-2023 13:00:22.0	yes
10	DARK WAVE	COS/FUV S/C	1	29-Jun-2023 13:00:23.0	yes
11	DARK	S/C	1	29-Jun-2023 13:00:23.0	yes
12	DARK WAVE	COS/FUV S/C	1	29-Jun-2023 13:00:23.0	yes
13	DARK	S/C	1	29-Jun-2023 13:00:24.0	yes
14	DARK WAVE	COS/FUV S/C	1	29-Jun-2023 13:00:24.0	yes
15	DARK	S/C	1	29-Jun-2023 13:00:25.0	yes
16	DARK WAVE	COS/FUV S/C	1	29-Jun-2023 13:00:25.0	yes
17	DARK	S/C	1	29-Jun-2023 13:00:25.0	yes

17 Total Orbits Used

ABSTRACT

This proposal consists of the steps for turning on and ramping up the COS FUV high voltage in a safe and conservative manner after a HV anomalous shutdown. The nature of the shutdown, i.e., over-light, HV current transient ("crackle"), ion feedback (induced by a high energy particle), or field emission (possibly caused by dust or other particulate on the QE grid or other close-by structure or hardware), and the value of the commanded HV at the time of the shutdown will determine what visits are executed. Because of gain sag and the selected Lifetime Position, commanded HV settings updates may be required.

First, prior to execution of this proposal or selected visits from this proposal, all preliminary steps should be exercised to gather the necessary diagnostic data, e.g., science data evaluation (if a science exposure was in progress and the science data is available), memory dumps (DCE, EXEC

Proposal 17322 (STScI Edit Number: 0, Created: Thursday, June 29, 2023 at 12:00:26 PM Eastern Standard Time) - Overview RAM, and possibly the CS BUFFER), engineering telemetry, or other information that might provide insight as to the nature of the shutdown and estimated count rate.

The complete step-by-step procedure is detailed in the Observing Description, but in summary, the following is done:

Day 01 activities, visits 01-07, contain both QE grid off and on HV ramping to HVLow (100/100) with diagnostics (DCE dumps) and darks to exclude QE grid involvement in the shutdown. Subsequent to day 01, all HV ramping will be with the QE grid on with the same diagnostics and exposures. All days end with the setting of COS event flag 3 to prevent any FUV HV commanding.

Time is allotted for COS instrument scientist and engineers to examine data dumps, science exposures, and engineering telemetry. If all is well, the go-ahead will be given to clear flag 3 for the next day's visits.

This proposal is modeled after the Cycle 30, Proposal 16940.

OBSERVING DESCRIPTION

This proposal consists of necessary steps for turning on and ramping up the COS FUV high voltage in a conservative manner after an anomalous shutdown. It is intended to be used for the on-orbit turn-on of the detector after such a shutdown.

Prior to execution of this proposal or selected visits from this proposal, all preliminary steps to collect diagnostic data should be exercised.

- 1. Gather the needed data
 - Do DCE dump as soon as possible
- 2. Circular buffer with 10 s of events and histograms of currents and voltages
 - Dump EXEC RAM for CVT (Current Value Table) telemetry and error logs
 - Examine exposure (if any) occurring during the anomaly
- 3. If instrument not suspended, normal readout of exposure in CS BUFFER should occur
 - CS BUFFER memory dump as may be appropriate
 - Examine engineering telemetry (including snapshots)
- 4. If event is determined to be similar to a previous event that did not damage the detector, and there does not appear to be evidence for more

Proposal 17322 (STScI Edit Number: 0, Created: Thursday, June 29, 2023 at 12:00:26 PM Eastern Standard Time) - Overview extended damage, we may decide on an accelerated recovery, e.g.,

- Will first go to HVLOW both without and then with the QE grid on
- If HVLOW data look normal, will consider proceeding directly to HVNOM and QE grid on
- Under some circumstances (i.e., a well understood event with essentially no risk of damage), we may consider returning directly to operations without additional testing
- 5. If event shows new or poorly understood behavior, will consult with appropriate experts prior to deciding which visits in the anomalous recovery proposal are required.
- 6. Primary criteria for deciding if event is the "same" as the 30 April event will be the temporal and spatial structure of the counts and gain
 - Sudden drop in gain followed by extended field emission
 - Primary emission localized to regions previously seen to have slightly enhanced dark rate
 - May have less information than before if shutdown occurs outside a time-tag exposure
- 7. Event will also be compared to FUSE like "crackles" that produced current transients
- 8. Shutdowns due to external or internal lamp over-light will be evaluated based on estimated level of violation to decide if damage is a concern

The sequence day, visits numbers, exposures, and rough "after by" times (end to start) are listed. Number listed in parentheses, e.g., (100/100), or 154/151 are the HV command counts for Segment A and B, respectively.

Throughout the proposal, different "after by" times, sequence containers, and new alignments are used to optimize flow, schedulability, telemetry and science data analyses, and the clearing of flag 3. When "after by" times are listed as 0.0 to 1.0 hr., this means that this step should be scheduled and executed as soon as possible after the previous visit. If scheduling determines that a longer time is required for the sequence to schedule properly, then scheduling has the right to adjust this time as they deem appropriate. The proposal is designed such that the selected visits and exposures MUST be executed in order.

Additionally, all visits are compliant with CARD 3.4.12.8 - COS FUV Mandatory Dwell Time at HVLow (1 hour dwell at HVLow before ramping to a more negative voltage) and CARD 3.4.12.9 -- COS FUV High Voltage QE Grid Operation (HV must be less negative or equal to the HVLow to switch grid on or off).

All dark exposures will be 3600 sec. with STIMS set to 30. All wave exposures will be 60 sec. with STIMs set to 2000.

Day 1

V01 Uninhibit the DCE - Flag 3 must be clear to execute.

- 1. FUV Inhibit to Boot
- 2. DCE RAM Dump to capture the cause of the shutdown
- 3. FUV Boot to Operate

V02 QE off - Turn HV on - After Visit 01 by 0.0 to 1.0hr

- 1. QE off Turn HV on (0/0 do not ramp)
- 2. DCE RAM dump

V03 QE off - Ramp to HVLow - After V02 by 0.0 to 1.0hr

- 1. Ramp to HVLow (100/100)
- 2. DCE RAM dump
- 3. Dark exposure

V04 Return to Operate - After V03 by 0.0 to 1.0hr

- 1. Return to Operate (HV off)
- 2. DCE RAM dump

V05 QE on - Turn HV on - After V04 by 0.0 to 1.0hr

- 1. QE on Turn HV on (0/0 do not ramp)
- 2. DCE RAM dump

 $V06\ QE$ on - Ramp to $HVLow\ (100/100)$ - After $V05\ by\ 0.0$ to 1.0hr

- 1. Ramp to HVLow (100/100)
- 2. DCE RAM Dump
- 3. Dark exposure

V07 Return to Operate - After V06 by 0.0 to 1.0hr

- 1. Return to Operate (HV off)
- 2. DCE RAM dump
- 3. Set flag 3

Day 2

V08 QE on - Ramp to 154/151 - After V01 by 1D to 2D for analysis. Flag 3 must be clear to execute.

Qasi_States will auto-schedule the normal Operate to HVLow transition

- 1. Install memory monitors
- 2. Ramp HV to 154/151
- 3. DCE RAM dump
- 4. Dark exposure
- 5. Wave exposure

V09 Return to Operate - After V08 by 0.0 to 1.0hr

- 1. Return to HVLow (100/100)
- 2. DCE RAM dump
- 3. Set flag 3

Day 3

V10 QE on - Ramp to 160/157 - After V08 by 1D to 2D for analysis. Flag 3 must be clear to execute.

Qasi_States will auto-schedule the normal Operate to HVLow transition

- 1. Ramp HV to 160/157
- 2. DCE RAM dump
- 3. Dark exposure
- 4. Wave exposure

V11 Return to Operate - After V10 by 0.0 to 1.0hr

- 1. Return to HVLow
- 2. DCE RAM dump
- 3. Set flag 3

Day 4

V12 QE on - Ramp to 167/163 - After V10 by 1D to 2D for analysis. Flag 3 must be clear to execute.

Qasi_States will auto-schedule the normal Operate to HVLow transition

- 1. Ramp to HV to 167/163
- 2. DCE RAM dump
- 3. Dark exposure

4. Wave exposure

V13 Return to Operate - After by V12 by 0.0 to 1.0hr

- 1. Return to HVLow (100/100)
- 2. DCE RAM dump
- 3. Set flag 3

Day 5

V14 QE on - Ramp to 172/169 - After V12 by 1D to 2D for analysis. Flag 3 must be clear to execute.

Qasi_States will auto-schedule the normal Operate to HVLow transition

- 1. Ramp to HV to 172/169
- 2. DCE RAM dump
- 3. Dark exposure
- 4. Wave exposure

V15 Return to Operate - After V14 by 0.0 to 1.0hr

- 1. Return to HVLow (100/100)
- 2. DCE RAM dump
- 3. Set flag 3

Day 06

V16 QE on - Ramp to HVNom (178/175) - After V14 by 1D to 2D for analysis. Flag 3 must be clear to execute.

Qasi_States will auto-schedule the normal Operate to HVLow transition

- 1. Ramp to HV to HVNom (178/175)
- 2. DCE RAM dump
- 3. Dark exposure
- 4. Wave exposure

V17 Return to HVOperate -- After V26 by 1.5hr to 2.1

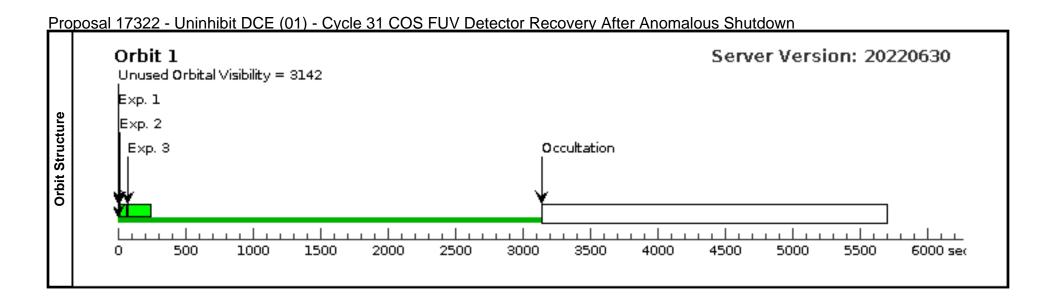
- 1. Return to HVLow (100/100)
- 2. DCE RAM dump
- 3. Set flag 3

Proposal 17322 (STScI Edit Number: 0, Created: Thursday, June 29, 2023 at 12:00:26 PM Eastern Standard Time) - Overview Day 07 Clear flag 3 (Real-time) - After V16 1D for analysis. Flag 3 must be clear to continue science operations. ----- Realtime Justification ------Real-time commanding is required to clear NSSC-1 COS event flag 3 prior to visit 01 and to go ahead with the selected visits. Flag 3 must also be cleared to go ahead with science observations after the last selected visit. ----- Additional Comments -----This is a recovery from a HV anomalous shutdown. No regular or calibration FUV science exposures are allowed during recovery. This is not a requirement but it is desirable to have real-time engineering telemetry (MA return) during the execution of this proposal. A contingency Operations Request to place to command the FUV detector into its Inhibit mode must be in place in case a significant anomaly occurs.

ISQL is required to Id S/C exposures as COS, to set the SI interleave flag properly, to adjust SI states on DUMP and HOME alignments, and to

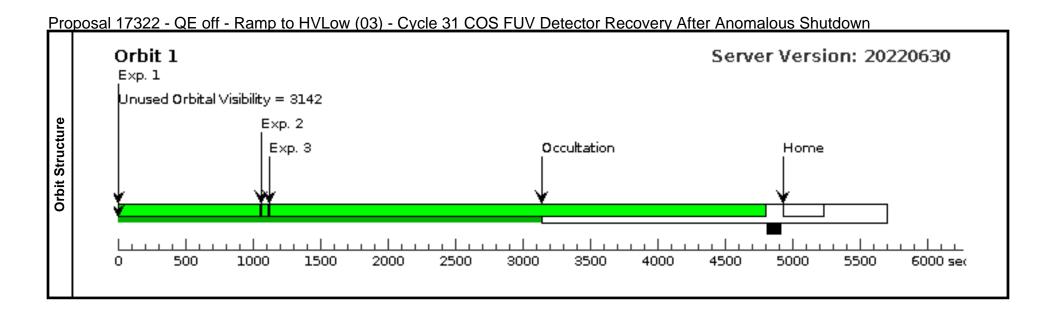
model readouts for the DCE dump exposures. See visits/exposures for detail.

<u>Prc</u>	<u> posal 17322 - Uninhibit</u>	DCE (01) - Cycle 31 (COS FUV Dete	<u>ector Recovei</u>	<u>ry After Anomal</u>	<u>ous Shutdown</u>	1	
	Proposal 17322, Uninhibit DCE (01)	, implementation					Thu Jun 29 17:00:26	GMT 2023
	Diagnostic Status: No Diagnostics							
	Scientific Instruments: S/C							
	Special Requirements: ON HOLD; PA	ARALLEL						
Visit	Comments: Uninhibit the DCE							
>	This visit uninhibits the DCE (sets dce detector from Boot to Operate. Special							FUV
	Prior to the beginning of this visit, Flagrecovery.	, ,		ng. This can be done a	s soon as the anomalous	HV shutdown is unders	tood an the go-ahead is given to proce	eed with the
	On Hold Comments: To be used only a			O 4 P	G. J.ID.	G	E TE TO THE A DEAT A LIB A	0.14
	# Label Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Regs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1 FUV Inhibit DARK to Boot	S/C, DATA, NONE			SPEC COM INSTR ELRECOVERF;	Sequence 1-3 Non-In t in Uninhibit DCE ($\int_{-\infty}^{\infty} I \otimes Secs $	
					QASISTATES COS SI OBSERVE OBSE RVE;	01)	[==>]	[1]
					QASISTATES COS FUV HVLOW OPE RATE			[2]
	Comments: Unhibit the DCE for comm	nanding by setting dce_FUVInhibitM	Mode == FALSE in the	CS FSW. Several othe	r houskeeping tasks are a	lso cleaned up.		
	It is assumed that this will be the first I	EUV activity on an SMS and that th	CS is in Operate state	Therefore the starting	a FIIV state is set to HVI	OW which is the nomi	inal SMS houndary state	
	in is assumed that this will be the first I	OV activity on an SMS and that the	e CS is in Operale state	. Therefore, the startin	ig FOV state is set to HVI	20 w, which is the homi	nai SM3 bounaary state.	
	SQL: tag as COS (si_used and si_intrl	,					T	
	2 DCE RAM DARK dump	S/C, DATA, NONE			SPEC COM INSTR ELCOPYDCE;	Sequence 1-3 Non-In t in Uninhibit DCE (· · · · · · · · · · · · · · · · · · ·	
	dump				NEW ALIGNMENT;	01)	[==>]	
nres					QASISTATES COS SI OBSERVE OBSE RVE;			[1]
Exposures					QASISTATES COS FUV OPERATE OP ERATE			
Ш	Comments: Copy and dump DCE RAM	f.						1
	From Jason McPhate (Berkeley FUV of "[I'm after] the procedure to get a melling (looping through, overwriting the	mory dump of the FUV HV and AUX	K power current monito	rs (HVIA, HVIB, AUX	I). Each of these has a 10 would be a buffer of 256	000 (possibly 1024) san values for each monito	nple buffer that monitors the current a r)." This information is in a DCE RAM	t 1ms samp I dump.
	SQL: setup readout entry for the DCE	dump (qalignment, qexposure, qrea	dout), tag as COS (si_u	used and si_intrlv)				
	3 FUV Boot t DARK	S/C, DATA, NONE			SPEC COM INSTR	Sequence 1-3 Non-In	180 Secs (180 Secs)	
	o Operate				RLBTTOPF; NEW ALIGNMENT ;	t in Uninhibit DCE (01)	[==>]	
					QASISTATES COS SI OBSERVE OBSE RVE;			[1]
					QASISTATES COS FUV OPERATE OP ERATE			
	Comments: Transition the DCE from E	Boot to Operate. Use standard recor	ı.					
	SQL: tag as COS (si_used and si_intrl	v)						



<u>Pro</u>	posa	al 17322	2 - QE off	- Turn HV on (02) - Cycl	e 31 COS FU	V Detector Re	ecovery After Ar	nomalous Shu	tdown	
	Propo	sal 17322, (QE off - Turn I	HV on (02), implementation					Thu Jun 29 17:00:26	6 GMT 2023
	Diagn	ostic Status	: No Diagnosti	cs						
I∺	Scient	tific Instrume	ents: S/C							
Visit	Specia	al Requireme	ents: AFTER 0	1 BY 0.1 H TO 1.5 H; PARALLEL						
	Comm	nents: QE gri	id off, Turn-on I	HV						
	Specia	al commandi	ng will be used	to execute the FUV Operate to HV On (0,	/0 or approximately ~	-2500V) reconfigurati	on and will stop there. Di	agnostics are taken (D	CE RAM dumps) after each transition	.
		Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
		QE off - Tur	DARK	S/C, DATA, NONE				Sequence 1-2 Non-In		
		n HV on (0/ 0)					SPEC COM INSTR ELOPTNQF;	t in QE off - Turn H V on (02)	[==>]	
							QASISTATES COS SI OBSERVE OBSE RVE;			[1]
							QASISTATES COS FUV OPERATE HV LOW			
Exposures	Comm	nents: Turn o	n the FUV HV	without the QE grid. Do not ramp up.						
l is		DCE RAM		S/C, DATA, NONE			SAA CONTOUR 31;	Sequence 1-2 Non-In	60.0 Secs (60 Secs)	
lä	(dump					SPEC COM INSTR	t in QE off - Turn H V on (02)	[==>]	
ΙÄ							ELCOPYDCE;	` '		
							NEW ALIGNMENT .			
							, QASISTATES COS			[1]
							SI OBSERVE OBSE RVE;			[1]
							OASISTATES COS			
							FUV HVLOW HVL OW			
	Comm	ients: DCE R	RAM copy and a	lump. See Visit 1, Exposure 2 for a compl	ete description of the d	lump.				
-	SQL: s	setup readou	it entry for the I	DCE dump (galignment, gexposure, gread	lout), tag as COS (si_t	used and si_intrlv)				
		Orbi	t 1					Server V	ersion: 20220630	
		Exp. :	1							
		House	ed Orbital	Visibility = 3142						
1 5		- 1		·		- "				
Orbit Structure		Exp.	2			Occulta	ation			
Ιž										
1 5		بالل				1				
Ιξ		Vi₁				<u> </u>				
ľ				1 1 1	1		1	1		. 1
1		0	500	1000 1500 200	0 2500	3000 35	500 4000	4500 50	00 5500 6000 s	Er
1		ŭ	200	2000 2000	2200	5555 0.	1000	.500	2200 0000 2	-

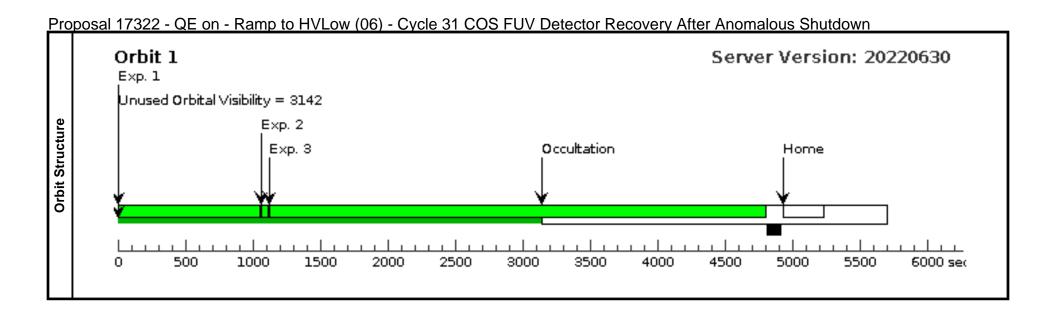
Pro	odo	sal 1732	2 - QE off -	Ramp to HVLow (03) - (Cycle 31 CC	S FUV Detector	Recovery Aft	er Anomalous	Shutdown	
Visit	Pro Dia Scie Spe Con	oposal 17322, on agnostic Status entific Instrumerial Requirements: Follow	QE off - Ramp to s: Warning ents: S/C, COS/FU ents: AFTER 02 E wing visit 02, conti	HVLow (03), implementation				9. 7 m 9 m 9 m	Thu Jun 29 17:00:26	GMT 2023
Diagnostics	(QE	E off - Ramp to	HVLow (03)) Wa	arning (Orbit Planner): MAXIMUM DU	RATION EXCEED	ED FOR INTERNAL OR	EARTH CALIB SU			
	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1	Ramp to HV Low (100/10 0)		S/C, DATA, NONE			SAA CONTOUR 31; SPEC COM INSTR ELHOTHLF; QASISTATES COS SI OBSERVE OBSE RVE; QASISTATES COS FUV HVLOW HVL OW	Sequence 1-3 Non-In t in QE off - Ramp to HVLow (03)	1060 Secs (1060 Secs) [==>]	[1]
	Cor	mments: Ramp	the FUV HV to H	VLow. The commanding assumes the HV	is already on.					Т
Exposures	2	DCE RAM dump	DARK	S/C, DATA, NONE			SAA CONTOUR 31; SPEC COM INSTR ELCOPYDCE; NEW ALIGNMENT; QASISTATES COS SI OBSERVE OBSE RVE; QASISTATES COS FUV HVLOW HVL	Sequence 1-3 Non-In t in QE off - Ramp to HVLow (03)		[1]
	Cor	mmanta: DCE	PAM come and dur	np. See Visit 1, Exposure 2 for a comple	to description of the	dum	OW OW			
			* -			•				
	3	<i>L: setup readoi</i> Dark	ut entry for the DC DARK	EE dump (qalignment, qexposure, qreado COS/FUV, TIME-TAG, DEF	DEF	_used and si_intrlv) BUFFER-TIME=36	NEW ALIGNMENT	Sequence 1-3 Non-In	3600.0 Secs (3600 Secs)	
						00; STIM-RATE=30	; QASISTATES COS FUV HVLOW HVL OW	t in QE off - Ramp to HVLow (03)	[==>]	[1]



Proposal 17322 - Return to Operate (04) - Cycle 31 COS FUV Detector Recovery After Anomalous Shutdown Proposal 17322, Return to Operate (04), implementation Thu Jun 29 17:00:26 GMT 2023 Diagnostic Status: No Diagnostics Scientific Instruments: S/C Special Requirements: AFTER 03 BY 1.4 H TO 3.5 H; PARALLEL Comments: Return to Operate Return to Operate, and dump DCE memory. Label Target Config, Mode, Aperture Spectral Els. Opt. Params. Special Regs. Groups Exp. Time (Total)/[Actual Dur.] Orbit Return to O DARK S/C, DATA, NONE SAA CONTOUR 31; Sequence 1-2 Non-In 50 Secs (50 Secs) SPEC COM INSTR t in Return to Operat perate (HV I = = > 1off) RLHLTOPF; **OASISTATES COS** SI OBSERVE OBSE [1] RVE; **OASISTATES COS FUV HVLOW OPE** RATE Exposures Comments: Turn off the FUV high voltage DCE RAM DARK S/C, DATA, NONE SAA CONTOUR 31; Sequence 1-2 Non-In 60.0 Secs (60 Secs) dump t in Return to Operat SPEC COM INSTR *[==>1* ELCOPYDCE: NEW ALIGNMENT **OASISTATES COS** [1] SI OBSERVE OBSE RVE; **QASISTATES COS FUV OPERATE OP ERATE** Comments: DCE RAM copy and dump. See Visit 1, Exposure 2 for a complete description of the dump. SQL: setup readout entry for the DCE dump (qalignment, qexposure, qreadout), tag as COS (si_used and si_intrly) Server Version: 20220630 Orbit 1 Unused Orbital Visibility = 3142 Exp. 1 Orbit Structure Occultation Exp. 2 0 500 1000 1500 2000 2500 3000 3500 4000 4500 5000 5500 6000 sec

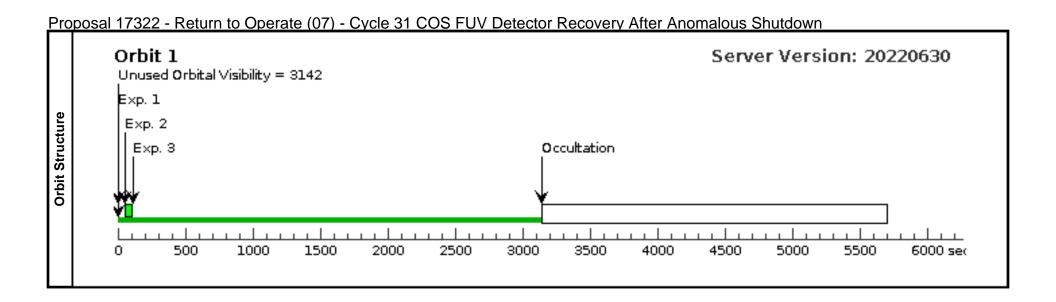
Proposal 17322 - QE on - Turn HV on (05) - Cycle 31 COS FUV Detector Recovery After Anomalous Shutdown Proposal 17322, QE on - Turn HV on (05), implementation Thu Jun 29 17:00:26 GMT 2023 Diagnostic Status: No Diagnostics Scientific Instruments: S/C Special Requirements: AFTER 04 BY 0.1 H TO 1.5 H; PARALLEL Comments: QE grid on, HV on Special commanding will be used to execute the FUV Operate to HV On (0/0 or approximately ~ -2500V) reconfiguration and will stop there. Label Target Config, Mode, Aperture Spectral Els. Opt. Params. Special Reqs. Groups Exp. Time (Total)/[Actual Dur.] Orbit OE on - Tur DARK S/C, DATA, NONE SAA CONTOUR 31; Sequence 1-2 Non-In 50 Secs (50 Secs) SPEC COM INSTR t in QE on - Turn HV = -1n HV on (0/ on (05) ELOPTHOF; **OASISTATES COS** SI OBSERVE OBSE [1] RVE; **OASISTATES COS FUV OPERATE HV** LOW Exposures Comments: Turn on the FUV HV, including the QE grid. Do not ramp up. SAA CONTOUR 31; Sequence 1-2 Non-In 60.0 Secs (60 Secs) DCE RAM DARK S/C, DATA, NONE SPEC COM INSTR t in QE on - Turn HV dump I = = > 1ELCOPYDCE: NEW ALIGNMENT **OASISTATES COS** [1] SI OBSERVE OBSE RVE; **QASISTATES COS FUV HVLOW HVL** OW Comments: DCE RAM copy and dump. See Visit 1, Exposure 2 for a complete description of the dump. SQL: setup readout entry for the DCE dump (qalignment, qexposure, qreadout), tag as COS (si_used and si_intrly) Server Version: 20220630 Orbit 1 Exp. 1 Unused Orbital Visibility = 3142 Orbit Structure Occultation Exp. 2 0 500 1000 1500 2000 2500 3000 3500 4000 4500 5000 5500 6000 sec

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	_			HVLow (06), implementation	Jycie 31 COC	DI OV Detector	Necovery Air	ei Anomaious	Thu Jun 29 17:00:26	GMT 2023
		agnostic Status		11 v Low (00), implementation					Thu Juli 25 17.00.20 V	GW11 2023
پر ا		U	ents: S/C, COS/FU	JV						
Visit				BY 0.1 H TO 1.5 H; PARALLEL						
ľ	Con	mments: Turn Q	QE on and Ramp t	the FUV high voltage up to HVLow.						
	The	• HOME alionn	nent is not needed	and may be deleted via SQL.						
S	_	''		arning (Orbit Planner): MAXIMUM DUF	RATION EXCEEDED	D FOR INTERNAL OR	EARTH CALIB SU			
Diagnostics		·	. ,,							
	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1	QE on - Ra		S/C, DATA, NONE			<i>'</i>		1060 Secs (1060 Secs)	
		mp to HVLo w (100/100)					SPEC COM INSTR RLOPTHLF;	t in QE on - Ramp to HVLow (06)	[==>]	
							QASISTATES COS SI OBSERVE OBSE RVE;			[1]
							QASISTATES COS FUV OPERATE HV LOW			
	2	DCE RAM	DARK	S/C, DATA, NONE			SAA CONTOUR 31;	Sequence 1-3 Non-In	60.0 Secs (60 Secs)	
Exposures		dump					SPEC COM INSTR ELCOPYDCE;	t in QE on - Ramp to HVLow (06)	[==>]	
l so							NEW ALIGNMENT :			
Exp							QASISTATES COS SI OBSERVE OBSE RVE;			[1]
							QASISTATES COS FUV HVLOW HVL OW			
	Con	mments: DCE I	RAM copy and du	mp. See Visit 1, Exposure 2 for a complet	te description of the d	lump.				
	SQ	L: setup readoi	it entry for the DC	CE dump (qalignment, qexposure, qreado	ut), tag as COS (si_u	sed and si_intrlv)				
	3	Dark	DARK	COS/FUV, TIME-TAG, DEF	DEF	BUFFER-TIME=36	NEW ALIGNMENT		3600.0 Secs (3600 Secs)	
						00; STIM-RATE=30	; QASISTATES COS	t in QE on - Ramp to HVLow (06)	[==>]	
						5 HWI-KATE-30	FUV HVLOW HVL OW			[1]



Proposal 17322 - Return to Operate (07) - Cycle 31 COS FUV Detector Recovery After Anomalous Shutdown

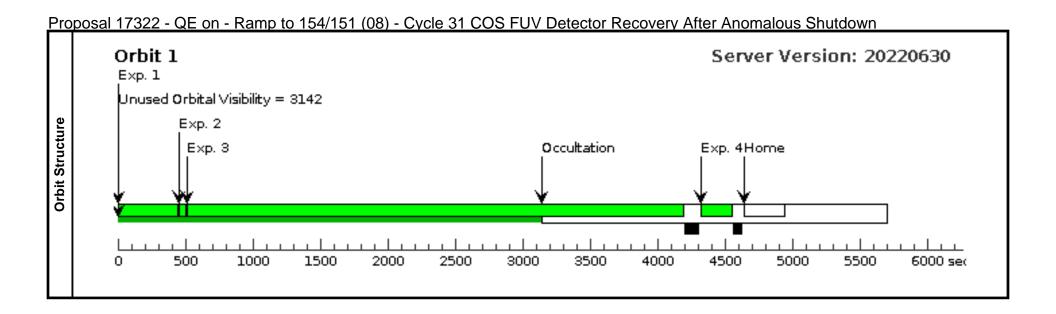
<u> </u>	pus	<u>ai 17322</u>	<u>- Netuin to C</u>	<u> Jperale (07) - Cycle 31</u>	CO31011	Detector Neco	very Aiter Airo	maious Shutu	OWII	
	Prop	osal 17322, R	eturn to Operate (07), implementation					Thu Jun 29 17:00:26	GMT 2023
±Ξ	Diag	nostic Status:	No Diagnostics							
Visit	Scien	ntific Instrume	nts: S/C							
_	Speci	ial Requireme	nts: AFTER 06 BY 1	.4 H TO 3.5 H; PARALLEL						
	Com	ments: Return	to Operate, dump DC	E memory, and set flag 3.						
	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Regs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
			DARK	S/C, DATA, NONE			SAA CONTOUR 31;	Sequence 1-3 Non-In	50 Secs (50 Secs)	
		perate (HV off)					SPEC COM INSTR RLHLTOPF;	t in Return to Operat e (07)	[==>]	
							QASISTATES COS SI OBSERVE OBSE RVE;			[1]
							QASISTATES COS FUV HVLOW OPE RATE			
	Com	ments: Turn oj	ff the FUV high voltag	ge						
۱,,		DCE RAM	DARK	S/C, DATA, NONE			SAA CONTOUR 31;	Sequence 1-3 Non-In	60.0 Secs (60 Secs)	
Exposures		dump					SPEC COM INSTR ELCOPYDCE;	t in Return to Operat e (07)	[==>]	
							NEW ALIGNMENT			
Ι×							;			
"							QASISTATES COS SI OBSERVE OBSE RVE;			[1]
							QASISTATES COS FUV OPERATE OP ERATE			
	Com	ments: DCE R	AM copy and dump. S	See Visit 1, Exposure 2 for a complete	description of the di	ımp.				
	SOL:	setup readou	t entry for the DCE du	ump (qalignment, qexposure, qreadout	t), tag as COS (si_us	ed and si intrly)				
		Set flag 3	DARK	S/C, DATA, NONE	//g (SPEC COM INSTR	Sequence 1-3 Non-In	1.0 Secs (1 Secs)	
							ELFLAG3;	t in Return to Operat	[==>1	
							NEW ALIGNMENT	e (07)		[1]
	Com	ments: Set NS	SC-1 COS event flag 3	3. This will prevent subsequent FUV co	ommanding unless it	is cleared first.				



<u>Pro</u>	<u> oposal 17322 - QE on - Ramp to 154/151 (08) - Cycle 31 COS FUV Detector Recovery After Anomalous Shutdo</u>	wn
	Proposal 17322, QE on - Ramp to 154/151 (08), implementation	Thu Jun 29 17:00:26 GMT 2023
	Diagnostic Status: Warning	
Si	Scientific Instruments: S/C, COS/FUV	
	Special Requirements: AFTER 01 BY 1.0 D TO 2.0 D; PARALLEL	
	Comments: Ramp the FUV high voltage up to a specified value (well below HVNom).	
	No SAA Passage between Visits 08 and 09.	
Diagnostics	(QE on - Ramp to 154/151 (08)) Warning (Orbit Planner): MAXIMUM DURATION EXCEEDED FOR INTERNAL OR EARTH CALIB SU	

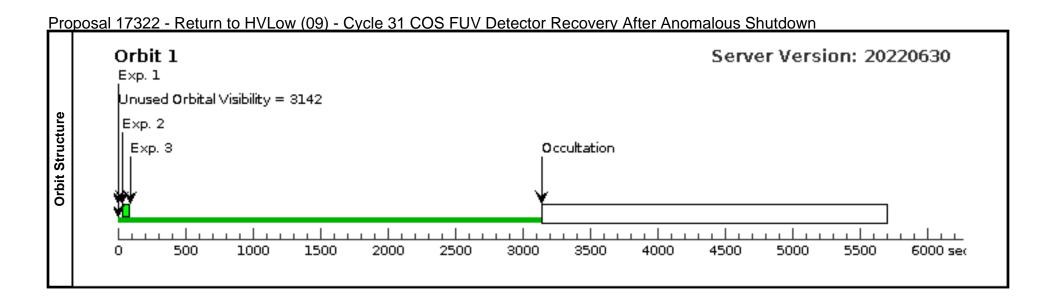
Proposal 17322 - QE on - Ramp to 154/151 (08) - Cycle 31 COS FUV Detector Recovery After Anomalous Shutdown

#	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Regs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1		Ramp to 15 /151	4 DARK	S/C, DATA, NONE			SAA CONTOUR 31; SPEC COM INSTR ELHLTHVF;	Sequence 1-4 Non-In t in QE on - Ramp to 154/151 (08)	451 Secs (451 Secs) [==>]	
							QASISTATES COS SI OBSERVE OBSE RVE;			
							QASISTATES COS FUV HVLOW HVN OM;			[1]
							QESIPARM ENDC TSA 154;			
							QESIPARM SECPE RCT 3;			
							QESIPARM ENDC TSB 151			
4	Comi	nents: Ramp	the FUV HV to	154/151 counts (A/B).						T
es 2		DCE RAM	DARK	S/C, DATA, NONE				Sequence 1-4 Non-In	·	
Exposures		dump					SPEC COM INSTR ELCOPYDCE;	t in QE on - Ramp to 154/151 (08)	[==>]	
od X							NEW ALIGNMENT ;			
							QASISTATES COS SI OBSERVE OBSE RVE;			[1]
							QASISTATES COS FUV HVNOM HVN OM			
- 1	Com	nents: DCE	RAM copy and d	ump. See Visit 1, Exposure 2 for a compl	ete description of the a	lump.				
	SQL:	setup reado	out entry for the L	OCE dump (qalignment, qexposure, qread	lout), tag as COS (si_u	sed and si_intrlv)				
3	3	Dark	DARK	COS/FUV, TIME-TAG, DEF	DEF	BUFFER-TIME=36	NEW ALIGNMENT	Sequence 1-4 Non-In	3600.0 Secs (3600 Secs)	
						00; STIM-RATE=30		t in QE on - Ramp to 154/151 (08)	[==>]	[1]
4	4	Wave	WAVE	COS/FUV, TIME-TAG, WCA	G160M	CURRENT=MEDIU		Sequence 1-4 Non-In	60 Secs (60 Secs)	
					1600 A	M;		t in QE on - Ramp to 154/151 (08)	[==>]	
						FP-POS=3;		15 1/151 (00)		
						STIM-RATE=2000;				[1]
						LIFETIME-POS=L P4				



Proposal 17322 - Return to HVLow (09) - Cycle 31 COS FUV Detector Recovery After Anomalous Shutdown

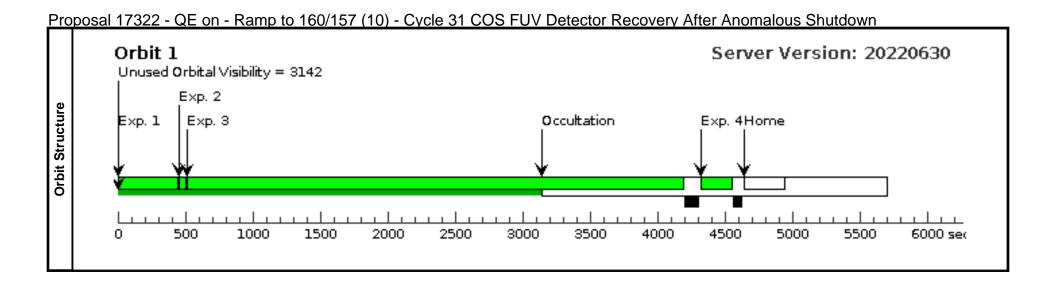
<u> </u>	DO:	<u>sai 17322</u>	2 - Return to	<u> HVLow (09) - Cycle 3</u>	I COS FOV L	relector Reco	very Arter Arion	naious Snutuc	PVVII	
	Pro	posal 17322, R	Return to HVLow (09	9), implementation					Thu Jun 29 17:00:26	GMT 2023
별	Diag	gnostic Status	: No Diagnostics							
Visit	Scie	entific Instrume	ents: S/C							
	Spec	cial Requireme	nts: AFTER 08 BY	1.2 H TO 3.5 H; PARALLEL						
	Con	ıments: Return	to HVLow, dump DC	CE memory, and set flag 3.						
	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Regs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1	Return to H	DARK	S/C, DATA, NONE			SAA CONTOUR 31;	Sequence 1-3 Non-In	35 Secs (35 Secs)	
		VLow					SPEC COM INSTR RLHNTHLF;	t in Return to HVLo w (09)	[==>]	
							NEW OBSET;			
							QASISTATES COS SI OBSERVE OBSE RVE;			[1]
							QASISTATES COS FUV HVNOM HVL OW			
	Con	ıments: SQL: E	Enforce the seq non-in	nt across the obsets						
Se	2	DCE RAM	DARK	S/C, DATA, NONE			SAA CONTOUR 31;	Sequence 1-3 Non-In	60.0 Secs (60 Secs)	
Exposures		dump					SPEC COM INSTR ELCOPYDCE;	t in Return to HVLo w (09)	[==>]	
ď×							NEW ALIGNMENT			
Ш							;			
							QASISTATES COS SI OBSERVE OBSE RVE;			[1]
							QASISTATES COS FUV HVLOW HVL OW			
	Con	nments: DCE R	AM copy and dump.	See Visit 1, Exposure 2 for a compl	ete description of the d	итр.				
	SOL	: setun readou	t entry for the DCE d	lump (qalignment, qexposure, qread	out) tag as COS (si u	sed and si_intrly)				
	3	Set flag 3	DARK	S/C, DATA, NONE	,, , , , , , , , , , , , , , , , , ,		SPEC COM INSTR	Sequence 1-3 Non-In	1.0 Secs (1 Secs)	
				* ***			ELFLAG3;	t in Return to HVLo	[==>]	
							NEW ALIGNMENT	w (09)	,	[1]
	Con	nments: Set NS	SC-1 COS event flag	3. This will prevent subsequent FU	V commanding unless i	t is cleared first.				



<u>Pro</u>	<u> oposal 17322 - QE on - Ramp to 160/157 (10) - Cycle 31 COS FUV Detector Recovery After Anomalous Shutdov</u>	<u>wn</u>
	Proposal 17322, QE on - Ramp to 160/157 (10), implementation	Thu Jun 29 17:00:26 GMT 2023
	Diagnostic Status: Warning	
sit	Scientific Instruments: S/C, COS/FUV	
۱Ë	Special Requirements: AFTER 08 BY 1.0 D TO 2.0 D; PARALLEL	
	Comments: Ramp the FUV high voltage up to a specified value (higher than V08, lower than HVNom).	
	No SAA Passage between Visits 10 and 11.	
S	(QE on - Ramp to 160/157 (10)) Warning (Orbit Planner): MAXIMUM DURATION EXCEEDED FOR INTERNAL OR EARTH CALIB SU	
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iagn		
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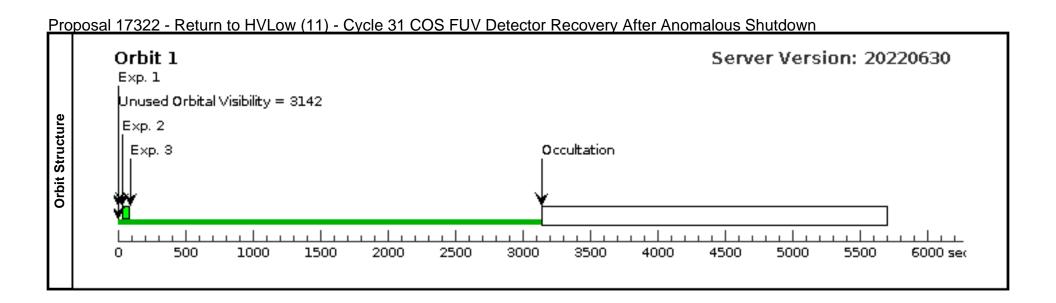
Proposal 17322 - QE on - Ramp to 160/157 (10) - Cycle 31 COS FUV Detector Recovery After Anomalous Shutdown

#	Label	Target	Co	onfig,Mode,Aperture	Spectral Els.	Opt. Params.	Special Regs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit	
1		o 160 DARK	S/e	C, DATA, NONE			SAA CONTOUR 31;	Sequence 1-4 Non-In	451 Secs (451 Secs)		
	/157						SPEC COM INSTR ELHLTHVF;	t in QE on - Ramp to 160/157 (10)	[==>]		
							QASISTATES COS SI OBSERVE OBSE RVE;				
							QASISTATES COS FUV HVLOW HVN OM;			[1]	
							QESIPARM ENDC TSA 160;				
							QESIPARM SECPE RCT 3;				
							QESIPARM ENDC TSB 157				
$C\epsilon$	omments: R	Ramp the FUV	HV to 160/157 co	ounts (A/B).							
2		AM DARK	S/C	C, DATA, NONE			SAA CONTOUR 31;	Sequence 1-4 Non-In	60.0 Secs (60 Secs)		
	dump						SPEC COM INSTR ELCOPYDCE;	t in QE on - Ramp to 160/157 (10)	[==>]		
3							NEW ALIGNMENT ;				
•							QASISTATES COS SI OBSERVE OBSE RVE;			[1]	
							QASISTATES COS FUV HVNOM HVN OM				
C	omments: L	OCE RAM cop	y and dump. See V	isit 1, Exposure 2 for a complete o	description of the du	mp.					
S	QL: setup re	eadout entry f	or the DCE dump	(qalignment, qexposure, qreadout), tag as COS (si_use	ed and si_intrlv)					
3		DARK		OS/FUV, TIME-TAG, DEF	DEF	BUFFER-TIME=36	NEW ALIGNMENT		3600.0 Secs (3600 Secs)		
						00;		t in QE on - Ramp to 160/157 (10)	[==>]	[1]	
-		*** . * * *			G1 (0) (STIM-RATE=30		. ,	50.0	[1]	
4	Wave	WAVI	i CC	OS/FUV, TIME-TAG, WCA	G160M	CURRENT=MEDIU M;		Sequence 1-4 Non-In t in QE on - Ramp to			
					1600 A	FP-POS=3;		160/157 (10)	[==>]		
						STIM-RATE=2000;				[1]	
						LIFETIME-POS=L					
						P4					



Proposal 17322 - Return to HVLow (11) - Cycle 31 COS FUV Detector Recovery After Anomalous Shutdown

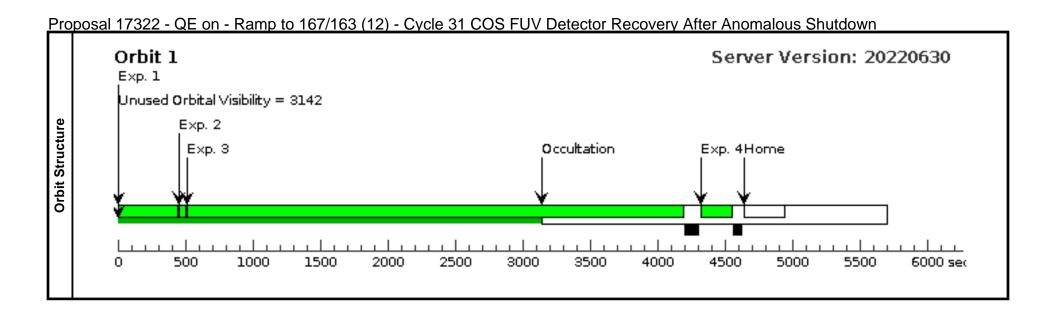
<u> </u>	po:	<u>Sai 17322</u>	<u> 2 - Return to</u>	<u> HVLow (11) - Cycle 3</u>	T COS FOV L	relector Reco	very Arter Arior	naious Shuldo	INVI	
l	Pro	posal 17322, R	Return to HVLow ((11), implementation					Thu Jun 29 17:00:26	GMT 2023
يدا	Dia	gnostic Status:	: No Diagnostics							
Visit	Scie									
_	Spe	cial Requireme	ents: AFTER 10 BY	Y 1.2 H TO 3.5 H; PARALLEL						
	Con	nments: Return	to HVLow, dump L	OCE memory, and set flag 3.						
	#	Label	Target	Config, Mode, Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1	Return to H	DARK	S/C, DATA, NONE			SAA CONTOUR 31;	Sequence 1-3 Non-In	35 Secs (35 Secs)	
		VLow					SPEC COM INSTR RLHNTHLF;	t in Return to HVLo w (11)	[==>]	
							NEW OBSET;			
							QASISTATES COS SI OBSERVE OBSE RVE;			[1]
							QASISTATES COS FUV HVNOM HVL OW			
	Con	nments: SQL:	Enforce the seq non	n-int across the obsets						
Se	2	DCE RAM	DARK	S/C, DATA, NONE			SAA CONTOUR 31;	Sequence 1-3 Non-In	60.0 Secs (60 Secs)	
Exposures		dump					SPEC COM INSTR ELCOPYDCE;	t in Return to HVLo w (11)	[==>]	
۱ĕ							NEW ALIGNMENT			
ш							;			
							QASISTATES COS SI OBSERVE OBSE RVE;			[1]
							QASISTATES COS FUV HVLOW HVL OW			
	Con	nments: DCE R	AM copy and dump	o. See Visit 1, Exposure 2 for a comp	lete description of the d	lump.				
	SOI	· setun readou	t entry for the DCF	E dump (qalignment, qexposure, qrea	dout) tag as COS (si u	sed and si intrly)				
	3	Set flag 3	DARK	S/C, DATA, NONE	ioni, ing as cos (si_a	sea ana si_miriv)	SPEC COM INSTR	Sequence 1-3 Non-In	1 O Secs (1 Secs)	
	5	Set mag 3	DAINIX	S,C, DATA, NONE			ELELAC2. tin Datum to HVI o	[==>]		
						NEW ALIGNM		(11)	[/]	[1]
	Con	nments: Set NS	SC-1 COS event fla	g 3. This will prevent subsequent FU	V commanding unless	it is cleared first.				



<u>Pr</u>	<u>oposal 17322 - QE on - Ramp to 167/163 (12) - Cycle 31 COS FUV Detector Recovery After Anomalous Shutdo</u>	<u>wn</u>							
	Proposal 17322, QE on - Ramp to 167/163 (12), implementation	Thu Jun 29 17:00:26 GMT 2023							
	Diagnostic Status: Warning								
sit	Scientific Instruments: S/C, COS/FUV								
ΙË	Special Requirements: AFTER 10 BY 1.0 D TO 2.0 D; PARALLEL								
	Comments: Ramp the FUV high voltage up to a specified value (higher than V10).								
	No SAA Passage between Visits 12 and 13.								
tics	(QE on - Ramp to 167/163 (12)) Warning (Orbit Planner): MAXIMUM DURATION EXCEEDED FOR INTERNAL OR EARTH CALIB SU								
nost									
Jagn									
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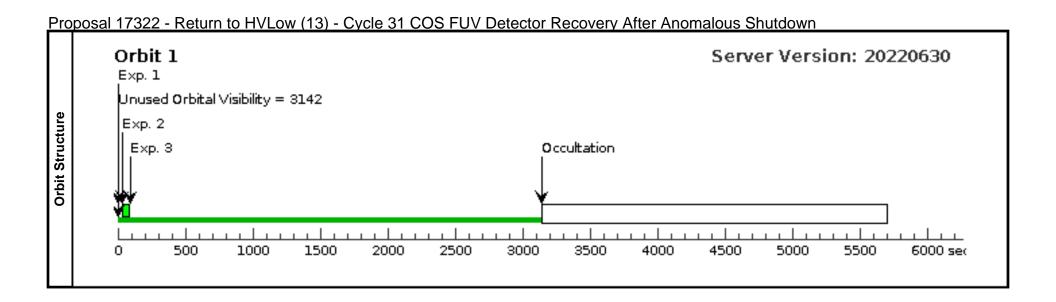
Proposal 17322 - QE on - Ramp to 167/163 (12) - Cycle 31 COS FUV Detector Recovery After Anomalous Shutdown

#	# Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Regs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	Ramp to 3 /163	67 DARK	S/C, DATA, NONE			SAA CONTOUR 31; SPEC COM INSTR ELHLTHVF;	Sequence 1-4 Non-In t in QE on - Ramp to 167/163 (12)	451 Secs (451 Secs) [==>]	
						QASISTATES COS SI OBSERVE OBSE RVE;			
						QASISTATES COS FUV HVLOW HVN OM;	N		[1]
						QESIPARM ENDC TSA 167;			
						QESIPARM SECPE RCT 3;			
						QESIPARM ENDC TSB 163			
(Comments: Rai	np the FUV HV to	167/163 counts (A/B).						
S		M DARK	S/C, DATA, NONE				Sequence 1-4 Non-In	60.0 Secs (60 Secs)	
Exposures	dump					SPEC COM INSTR ELCOPYDCE;	t in QE on - Ramp to 167/163 (12)	[==>]	
od						NEW ALIGNMENT ;			
"						QASISTATES COS SI OPERATE OPER ATE;			[1]
						QASISTATES COS FUV HVNOM HVN OM			
(Comments: DC	E RAM copy and a	dump. See Visit 1, Exposure 2 for a complet	te description of the a	lump.				
5	SQL: setup rea	dout entry for the l	DCE dump (qalignment, qexposure, qreado	out), tag as COS (si_u	sed and si_intrlv)				
3		DARK	COS/FUV, TIME-TAG, DEF	DEF	BUFFER-TIME=36	NEW ALIGNMENT	Sequence 1-4 Non-In	3600.0 Secs (3600 Secs)	
					00;		t in QE on - Ramp to 167/163 (12)	[==>]	[1]
	1 117	WAVE	COC/ELIV TIME TAC WICA	G160M	STIM-RATE=30 CURRENT=MEDIU		. ,	(0, 5 (0, 5)	1-3
	4 Wave	WAVE	COS/FUV, TIME-TAG, WCA	1600 A	M;		Sequence 1-4 Non-In t in QE on - Ramp to		+
				1000 A	FP-POS=3;		167/163 (12)	[>]	
					STIM-RATE=2000;				[1]
					LIFETIME-POS=L P4	· ·			



Proposal 17322 - Return to HVLow (13) - Cycle 31 COS FUV Detector Recovery After Anomalous Shutdown

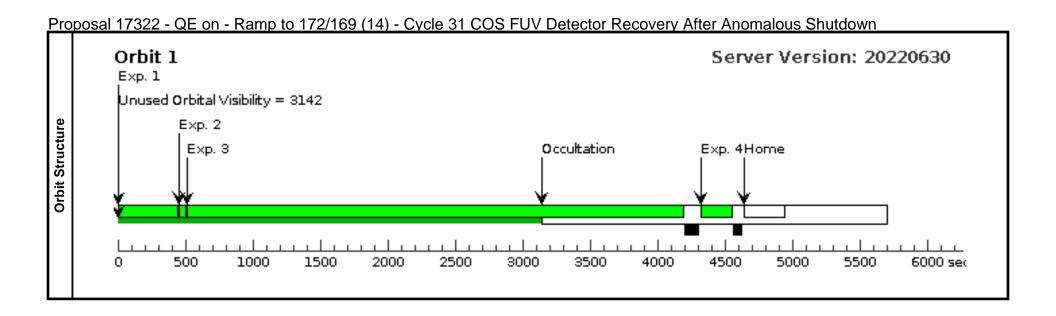
<u> </u>	po:	<u>Sai 17322</u>	<u> - Return to</u>	HVLow (13) - Cycle 3	I COS FOV L	relector Reco	very Arter Arior	naious Snutuc	PVVII		
	Pro	posal 17322, R	Return to HVLow (1	3), implementation					Thu Jun 29 17:00:26	GMT 2023	
별	Diagnostic Status: No Diagnostics										
Visit	Scie	entific Instrume	ents: S/C								
	Spec	cial Requireme	nts: AFTER 12 BY	1.2 H TO 3.5 H; PARALLEL							
	Con	nments: Return	to HVLow, dump Do	CE memory, and set flag 3.							
	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit	
	1	Return to H	DARK	S/C, DATA, NONE			SAA CONTOUR 31;	Sequence 1-3 Non-In	35 Secs (35 Secs)		
		VLow					SPEC COM INSTR RLHNTHLF;	t in Return to HVLo w (13)	[==>]		
							NEW OBSET;				
							QASISTATES COS SI OBSERVE OBSE RVE;			[1]	
							QASISTATES COS FUV HVNOM HVL OW				
	Con	nments: SQL: H	Enforce the seq non-i	int across the obsets							
Se	2	DCE RAM	DARK	S/C, DATA, NONE			SAA CONTOUR 31;	Sequence 1-3 Non-In	60.0 Secs (60 Secs)		
Exposures	dump				SPEC COM INSTR ELCOPYDCE;	t in Return to HVLo w (13)	[==>]				
xpc							NEW ALIGNMENT				
Ш							;				
							QASISTATES COS SI OBSERVE OBSE RVE;			[1]	
							QASISTATES COS FUV HVLOW HVL OW				
	Con	nments: DCE R	AM copy and dump.	See Visit 1, Exposure 2 for a comple	ete description of the d	lump.					
	SOI	· setun readou	t entry for the DCF	dump (qalignment, qexposure, qreac	lout) tag as COS (ci. u	sed and si_intrly)					
	3	Set flag 3	DARK	S/C, DATA, NONE	ioni, iug us cos (si_u	sea ana si_miriv)	SPEC COM INSTR	Sequence 1-3 Non-In	1.0 Secs (1 Secs)		
	5	SSC Hug S	2	5, 5, 5, 1111, 110112			ELFLAG3;	t in Return to HVLo	[==>]		
							NEW ALIGNMENT		11	[1]	
	Con	nments: Set NS	SC-1 COS event flag	3. This will prevent subsequent FU	V commanding unless	it is cleared first.					



<u>Pro</u>	<u> oposal 17322 - QE on - Ramp to 172/169 (14) - Cycle 31 COS FUV Detector Recovery After Anomalous Shutdo</u>	wn
	Proposal 17322, QE on - Ramp to 172/169 (14), implementation	Thu Jun 29 17:00:26 GMT 2023
	Diagnostic Status: Warning	
sit	Scientific Instruments: S/C, COS/FUV	
Ι <u>Ϋ</u>	Special Requirements: AFTER 12 BY 1.0 D TO 2.0 D; PARALLEL	
	Comments: Ramp the FUV high voltage up to a specified value (higher than V12).	
	No SAA Passage between Visits 14 and 15.	
Diagnostics	(QE on - Ramp to 172/169 (14)) Warning (Orbit Planner): MAXIMUM DURATION EXCEEDED FOR INTERNAL OR EARTH CALIB SU	

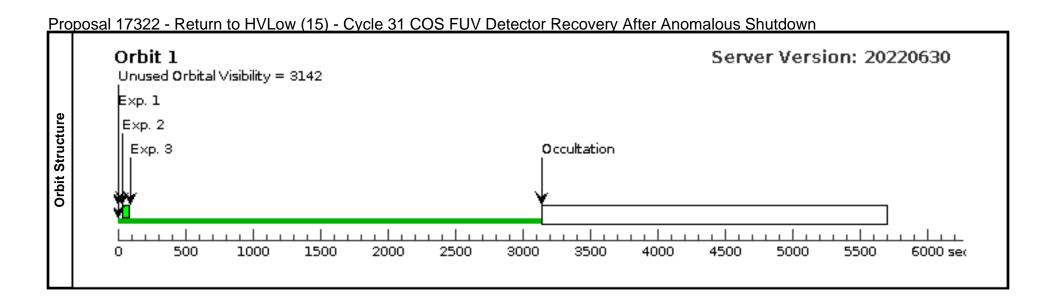
Proposal 17322 - QE on - Ramp to 172/169 (14) - Cycle 31 COS FUV Detector Recovery After Anomalous Shutdown

#	:	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Regs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1		Ramp to 17	72 DARK	S/C, DATA, NONE			SAA CONTOUR 31;	Sequence 1-4 Non-In	451 Secs (451 Secs)	
		/169					SPEC COM INSTR ELHLTHVF;	t in QE on - Ramp to 172/169 (14)	[==>]	
							QASISTATES COS SI OBSERVE OBSE RVE;			
							QASISTATES COS FUV HVLOW HVN OM;			[1]
							QESIPARM ENDC TSA 172;			
							QESIPARM SECPE RCT 3;			
							QESIPARM ENDC TSB 169			
C	Com	nents: Ram	p the FUV HV to	0 172/169 counts (A/B).						
2		DCE RAM	DARK	S/C, DATA, NONE				Sequence 1-4 Non-In	60.0 Secs (60 Secs)	
		dump					SPEC COM INSTR ELCOPYDCE;	t in QE on - Ramp to 172/169 (14)	[==>]	
4							NEW ALIGNMENT ;			
							QASISTATES COS SI OBSERVE OBSE RVE;			[1]
							QASISTATES COS FUV HVNOM HVN OM			
C	Comr	nents: DCE	RAM copy and	dump. See Visit 1, Exposure 2 for a complet	e description of the	dump.				•
S	OL:	setup read	out entry for the	DCE dump (qalignment, qexposure, qreado	ut), tag as COS (si-i	used and si intrly)				
3		Dark	DARK	COS/FUV, TIME-TAG, DEF	DEF		NEW ALIGNMENT		3600.0 Secs (3600 Secs)	
						00;		t in QE on - Ramp to 172/169 (14)	[==>]	[1]
H						STIM-RATE=30				[1]
4		Wave	WAVE	COS/FUV, TIME-TAG, WCA	G160M	CURRENT=MEDIU M;		Sequence 1-4 Non-In t in QE on - Ramp to		+
					1600 A	FP-POS=3;		172/169 (14)	[==>]	
						STIM-RATE=2000;				[1]
						LIFETIME-POS=L				
						P4				

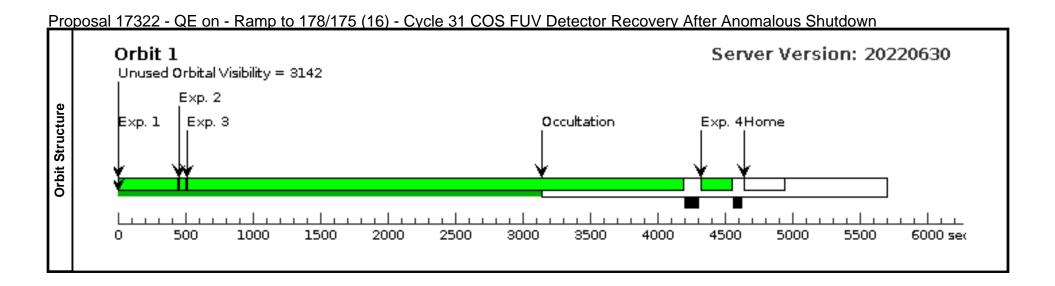


Proposal 17322 - Return to HVLow (15) - Cycle 31 COS FUV Detector Recovery After Anomalous Shutdown

<u> </u>	DO:	Sai 17322	<u> 2 - Return to</u>	HVLow (15) - Cycle 3	I COS FOV L	relector Reco	very Aiter Anon	naious Snutuc	DWH			
	Pro	posal 17322, R	Return to HVLow (1	15), implementation					Thu Jun 29 17:00:26	GMT 2023		
يدا	Dia	Diagnostic Status: No Diagnostics										
Visit	Scie	entific Instrume	ents: S/C									
[Spe	cial Requireme	nts: AFTER 14 BY	1.2 H TO 3.5 H; PARALLEL								
	Con	nments: Return	to HVLow, dump D	CE memory, and set flag 3.								
	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit		
l	1	Return to H	DARK	S/C, DATA, NONE			SAA CONTOUR 31;	Sequence 1-3 Non-In	35 Secs (35 Secs)			
		VLow					SPEC COM INSTR RLHNTHLF;	t in Return to HVLo w (15)	[==>]			
l							NEW OBSET;					
							QASISTATES COS SI OBSERVE OBSE RVE;			[1]		
							QASISTATES COS FUV HVNOM HVL OW					
l	Con	nments: SQL:	Enforce the seq non-	int across the obsets								
နှ	2	DCE RAM	DARK	S/C, DATA, NONE			SAA CONTOUR 31;	Sequence 1-3 Non-In	60.0 Secs (60 Secs)			
Exposures		dump					SPEC COM INSTR ELCOPYDCE;	t in Return to HVLo w (15)	[==>]			
ğ							NEW ALIGNMENT					
l"							, QASISTATES COS			[1]		
							SI OBSERVE OBSE RVE;			[1]		
							QASISTATES COS FUV HVLOW HVL OW					
	Con	nments: DCE R	PAM copy and dump.	See Visit 1, Exposure 2 for a comp	lete description of the d	lump.						
	SOI	: setup readou	t entry for the DCE	dump (qalignment, qexposure, qreac	dout), tag as COS (si u	sed and si intrly)						
	3	Set flag 3	DARK	S/C, DATA, NONE	,, <u>3</u> 2 2 2 2 (2.1 <u>2</u>)		SPEC COM INSTR	Sequence 1-3 Non-In	1.0 Secs (1 Secs)			
		Č		•			ELFLAG3;	t in Return to HVLo	[==>]	<i>[17]</i>		
							NEW ALIGNMENT	w (15)	-	[1]		
	Con	nments: Set NS	SC-1 COS event flag	3. This will prevent subsequent FU	V commanding unless i	t is cleared first.						



Pro	posal 173	322 - QE on	- Ramp to 178/175 (16) -	Cycle 31 CC	OS FUV Detecto	or Recovery A	fter Anomalou	s Shutdown	
			o 178/175 (16), implementation					Thu Jun 29 17:00:26	GMT 2023
	Diagnostic Sta	8							
Visit		uments: S/C, COS/I							
Ż	-		BY 1.0 D TO 2.0 D; PARALLEL						
	Comments: Ran	np the FUV high vo	oltage up to 178/175.						
	No SAA Passag	ge between Visits 16	6 and 17.						
Diagnostics	(QE on - Ramp	to 178/175 (16)) W	/arning (Orbit Planner): MAXIMUM DU	RATION EXCEEDE	ED FOR INTERNAL OR	EARTH CALIB SU			
	# Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Regs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
		178 DARK	S/C, DATA, NONE			SAA CONTOUR 31;	Sequence 1-4 Non-In	451 Secs (451 Secs)	
	/175					SPEC COM INSTR RLHLTHNF;	t in QE on - Ramp to 178/175 (16)	[==>]	
						QASISTATES COS SI OBSERVE OBSE RVE;			[1]
						QASISTATES COS FUV HVLOW HVN OM			
	Comments: Ran	np the FUV HV to	178/175 counts (A/B, the nominal HVNom	values).					•
		M DARK	S/C, DATA, NONE			SAA CONTOUR 31;	Sequence 1-4 Non-In	60.0 Secs (60 Secs)	
	dump					SPEC COM INSTR ELCOPYDCE;	t in QE on - Ramp to 178/175 (16)	[==>]	
es						NEW ALIGNMENT			
sur						;			
Exposures						QASISTATES COS SI OBSERVE OBSE RVE;			[1]
ш						QASISTATES COS FUV HVNOM HVN OM			
	Comments: DC	E RAM copy and d	ump. See Visit 1, Exposure 2 for a comple	te description of the	dump.				
	SOL: setup rea	dout entry for the L	OCE dump (qalignment, qexposure, qreado	out), tag as COS (si)	used and si intrly)				
	3 Dark	DARK	COS/FUV, TIME-TAG, DEF	DEF		NEW ALIGNMENT	Sequence 1-4 Non-In	3600.0 Secs (3600 Secs)	
			, , , , , , , , , , , , , , , , , , , ,		00; STIM-RATE=30		t in QE on - Ramp to 178/175 (16)	[==>]	[1]
	4 Wave	WAVE	COS/FUV, TIME-TAG, WCA	G160M	CURRENT=MEDIU		Sequence 1-4 Non-In	60 Secs (60 Secs)	
				1600 A	M;		t in QE on - Ramp to 178/175 (16)	[==>]	
					FP-POS=3;		1.0,110 (10)		
					STIM-RATE=2000;				[1]
					LIFETIME-POS=L				



Proposal 17322 - Return to HVLow (17) - Cycle 31 COS FUV Detector Recovery After Anomalous Shutdown

<u> </u>	pu;	<u>sai 17322</u>	<u> Netaili to i</u>	1VLOW (17) - Cycle 31	COSTOVD	elector (Vecov	ery Aiter Anon	iaious Silutuo	7 VV I I		
	Proj	posal 17322, R	eturn to HVLow (17)), implementation					Thu Jun 29 17:00:26	GMT 2023	
ביו	Diag	gnostic Status:	No Diagnostics								
Visit	Scientific Instruments: S/C										
_	Spec	cial Requireme	nts: AFTER 16 BY 1.	2 H TO 3.5 H; PARALLEL							
	Con	ments: Return	to HVLow, dump DCI	E memory, and set flag 3.							
	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Regs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit	
	1	Return to H	DARK	S/C, DATA, NONE			SAA CONTOUR 31;	Sequence 1-3 Non-In	35 Secs (35 Secs)		
		VLow					SPEC COM INSTR RLHNTHLF;	t in Return to HVLo w (17)	[==>]		
							NEW OBSET;				
							QASISTATES COS SI OBSERVE OBSE RVE;			[1]	
							QASISTATES COS FUV HVNOM HVL OW				
	Con	ments: SQL: 1	Enforce seq non-int ac	ross the obsets							
Se	2	DCE RAM	DARK	S/C, DATA, NONE			SAA CONTOUR 31;	Sequence 1-3 Non-In	60.0 Secs (60 Secs)		
Exposures		dump					SPEC COM INSTR ELCOPYDCE;	t in Return to HVLo w (17)	[==>]		
ă							NEW ALIGNMENT ;				
							QASISTATES COS SI OBSERVE OBSE RVE;			[1]	
							QASISTATES COS FUV HVLOW HVL OW				
	Con	ments: DCE R	AM copy and dump. S	ee Visit 1, Exposure 2 for a complete	description of the di	итр.					
	SQL: setup readout entry for the DCE dump (qalignment, qexposure, qreadout), tag as COS (si_used and si_intrly)										
	3	Set flag 3	DARK	S/C, DATA, NONE	.,,, 45 005 (51_45	ca and bi_mininj	SPEC COM INSTR	Sequence 1-3 Non-In	1.0 Secs (1 Secs)		
	_			2, 2, 2, 2, 2, 2, 2, 2, 2, 2, 2, 2, 2, 2			ELFLAG3;	t in Return to HVLo	[==>]		
							NEW ALIGNMENT	w (17)		[1]	
	Con	ıments: Set NSS	SC-1 COS event flag 3	. This will prevent subsequent FUV c	ommanding unless it	is cleared first.					

