

15781 - Cycle 27 COS FUV Detector Recovery After Anomalous Shutdown

Cycle: 27, 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	24-Jun-2019 16:00:28.0	yes
02	DARK	S/C	1	24-Jun-2019 16:00:28.0	yes
03	DARK	COS/FUV S/C	1	24-Jun-2019 16:00:29.0	yes
04	DARK	S/C	1	24-Jun-2019 16:00:29.0	yes
05	DARK	S/C	1	24-Jun-2019 16:00:29.0	yes
06	DARK	COS/FUV S/C	1	24-Jun-2019 16:00:30.0	yes
07	DARK	S/C	1	24-Jun-2019 16:00:30.0	yes

Visit	Targets used in Visit	Configurations used in Visit	Orbits Used	Last Orbit Planner Run	OP Current with Visit?
08	DARK WAVE	COS/FUV S/C	1	24-Jun-2019 16:00:31.0	yes
09	DARK	S/C	1	24-Jun-2019 16:00:31.0	yes
10	DARK WAVE	COS/FUV S/C	1	24-Jun-2019 16:00:32.0	yes
11	DARK	S/C	1	24-Jun-2019 16:00:32.0	yes
12	DARK WAVE	COS/FUV S/C	1	24-Jun-2019 16:00:33.0	yes
13	DARK	S/C	1	24-Jun-2019 16:00:33.0	yes
14	DARK WAVE	COS/FUV S/C	1	24-Jun-2019 16:00:34.0	yes
15	DARK	S/C	1	24-Jun-2019 16:00:34.0	yes
16	DARK WAVE	COS/FUV S/C	1	24-Jun-2019 16:00:35.0	yes
17	DARK	S/C	1	24-Jun-2019 16:00:35.0	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 RAM, and possibly the CS BUFFER), engineering telemetry, or other information that might provide insight as to the nature of the shutdown and

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 26, Proposal 15543.

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 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.

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

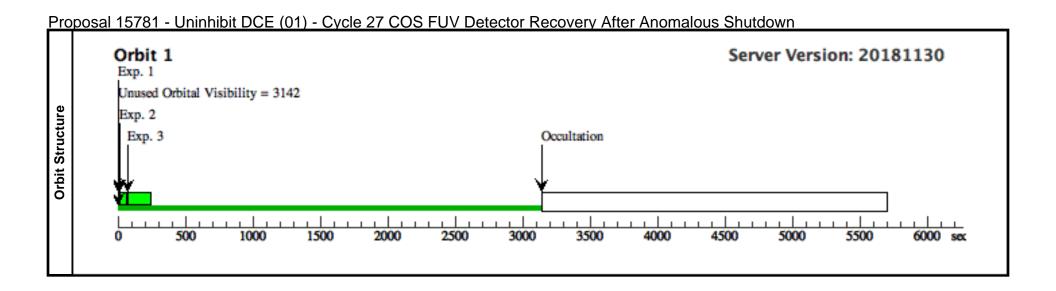
V17 Return to HVOperate -- After V26 by 1.5hr to 2.1

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

Proposal 15781 (STScI Edit Number: 0, Created: Monday, June 24, 2019 at 3:00:35 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.

This proposal requires Special Commanding.

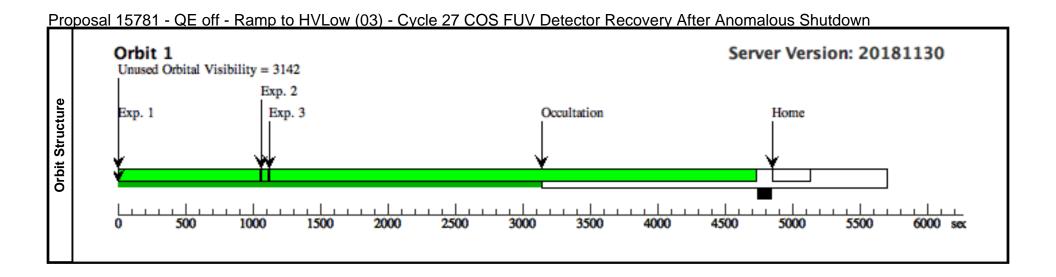
<u>orc</u>	<u> posal 15781 - Uninh</u>	<u> iibit DCE (01) - Cycle 27 (</u>	COS FUV Det	<u>ector Recove</u> i	<u>ry After Anomal</u>	<u>ous Shutdown</u>		
	Proposal 15781, Uninhibit DC	E (01)					Mon Jun 24 20:00:35	GMT 2019
	Diagnostic Status: No Diagnos	tics						
	Scientific Instruments: S/C							
	Special Requirements: ON HOL	.D ; PARALLEL						
Visit	Comments: Uninhibit the DCE							
>		ets dce_FUVInhibitMode == FALSE and c Special commanding is used to uninhibit th						FUV
	recovery.	it, Flag 3 must be cleared by the ground v		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
		only after an anomalous shutdown of the		0.48	G IID	G		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 (10 Secs (10 Secs)	
					QASISTATES COS SI OBSERVE OBSE RVE;	01)	[==>]	[1]
					QASISTATES COS FUV HVLOW OPE RATE			[-]
	Comments: Unhibit the DCE for	commanding by setting dce_FUVInhibitM	Node == FALSE in the	CS FSW. Several othe	r houskeeping tasks are a	lso cleaned up.		•
	It is assumed that this will be the	e first FUV activity on an SMS and that the	a CS is in Operate state	Therefore the starting	na FIIV state is set to HVI	OW which is the nom	inal SMS houndary state	
			e CS is in Operaie state	. Therejore, the startin	ig 1 0 v state is set to 11 v i	20 w, which is the homi	nai SM3 boundary state.	
	SQL: tag as COS (si_used and s						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)	[==>]	
res					QASISTATES COS SI OBSERVE OBSE RVE;			[1]
Exposures					QASISTATES COS FUV OPERATE OP			
Ж					ERATE			
	Comments: Copy and dump DC	E RAM.						
	"[I'm after] the procedure to ge	FUV detector expert, who defined the FU t a memory dump of the FUV HV and AU ng the data that is I second old), and a cu	X power current monito	ors (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 RAN	t 1ms samp I dump.
	SQL: setup readout entry for the	DCE dump (qalignment, qexposure, qrea	dout), tag as COS (si_i	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;	t in Uninhibit DCE (01)	[==>]	
					NEW ALIGNMENT	01)		
					, QASISTATES COS			
					SI OBSERVE OBSE			[1]
					RVE;			
					QASISTATES COS FUV OPERATE OP ERATE			
	Comments: Transition the DCE	from Boot to Operate. Use standard recor	ı.					
	SOL: tag as COS (si used and s	i intrly)						



Proposal 15781 - QE off - Turn HV on (02) - Cycle 27 COS FUV Detector Recovery After Anomalous Shutdown Proposal 15781, QE off - Turn HV on (02) Mon Jun 24 20:00:36 GMT 2019 Diagnostic Status: No Diagnostics Scientific Instruments: S/C Special Requirements: AFTER 01 BY 0.1 H TO 1.5 H; PARALLEL Comments: QE grid off, Turn-on HV Special commanding will be used to execute the FUV Operate to HV On (0/0 or approximately ~ -2500V) reconfiguration and will stop there. Diagnostics are taken (DCE RAM dumps) after each transition. Label Target Config, Mode, Aperture Spectral Els. Opt. Params. Special Regs. Exp. Time (Total)/[Actual Dur.] Orbit Groups OE off - Tur DARK S/C, DATA, NONE SAA CONTOUR 31; Sequence 1-2 Non-In 50 Secs (50 Secs) SPEC COM INSTR tin QE off - Turn H n HV on (0/ I==>1 V on (02) ELOPTNOF; **OASISTATES COS** SI OBSERVE OBSE [1] RVE; **OASISTATES COS FUV OPERATE HV** LOW Exposures Comments: Turn on the FUV HV without the QE grid. Do not ramp up. DCE RAM DARK S/C, DATA, NONE SAA CONTOUR 31; Sequence 1-2 Non-In 60.0 Secs (60 Secs) dump t in QE off - Turn H SPEC COM INSTR *[==>1* V on (02) ELCOPYDCE: 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: 20181130 Orbit 1 Exp. 1 Unused Orbital Visibility = 3142 Orbit Structure Exp. 2 Occultation 500 1000 1500 2000 2500 3000 3500 4000 4500 5000 5500 6000 sec

Pro	op	osal 1578	1 - QE off	- Ramp to HVLow (03) - 0	Cycle 27 COS	S FUV Detector	r Recovery Aft	er Anomalous	Shutdown	
	P	Proposal 15781, O	QE off - Ramp	to HVLow (03)					Mon Jun 24 20:00:36	GMT 2019
		Diagnostic Status	8							
Visit		scientific Instrum								
5				2 BY 0.1 H TO 1.5 H; PARALLEL						
	C	Comments: Follov	ving visit 02, co	ntinue with the FUV ramp-up with the QE	off to HVLow value ((100/100).				
<u> </u>	_	The HOME alignn	nent is not need	ed and may be deleted via SQL.						
Diagnostics)	QE off - Ramp to	HVLow (03)) \	Warning (Orbit Planner): MAXIMUM DU	RATION EXCEEDE	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		S/C, DATA, NONE			SAA CONTOUR 31;	Sequence 1-3 Non-In	1060 Secs (1060 Secs)	
		Low (100/10 0))				SPEC COM INSTR ELHOTHLF;	t in QE off - Ramp to HVLow (03)	[==>]	
							QASISTATES COS SI OBSERVE OBSE RVE;			[1]
							QASISTATES COS FUV HVLOW HVL OW			
	C			HVLow. The commanding assumes the HV	is already on.					1
l s	2	DCE RAM dump	DARK	S/C, DATA, NONE				Sequence 1-3 Non-In t in QE off - Ramp to	60.0 Secs (60 Secs)	
Exposures		uump					SPEC COM INSTR ELCOPYDCE;	HVLow (03)	[==>]	
Š							NEW ALIGNMENT;			
Ш́							QASISTATES COS SI OBSERVE OBSE RVE;			[1]
							QASISTATES COS FUV HVLOW HVL OW			
	C	Comments: DCE I	RAM copy and a	lump. See Visit 1, Exposure 2 for a complet	e description of the a	dump.				
	S	QL: setup readoi	ut entry for the I	OCE dump (qalignment, qexposure, qreado	ut), tag as COS (si_v	used and si_intrlv)				
1	3	Dark	DARK	COS/FUV, TIME-TAG, DEF	DEF	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]

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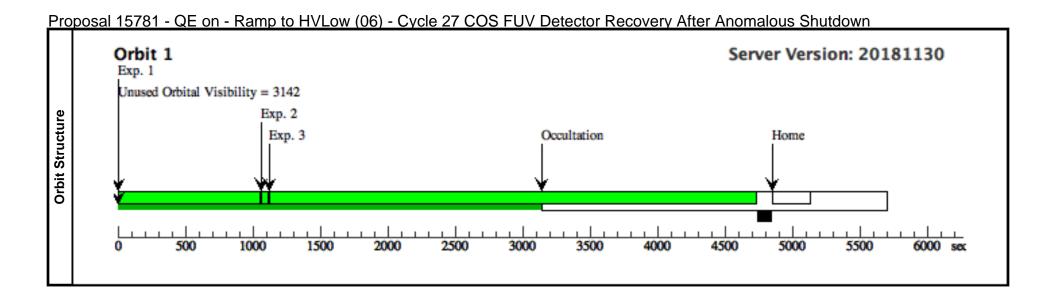


Proposal 15781 - Return to Operate (04) - Cycle 27 COS FUV Detector Recovery After Anomalous Shutdown Proposal 15781, Return to Operate (04) Mon Jun 24 20:00:36 GMT 2019 Diagnostic Status: No Diagnostics Scientific Instruments: S/C Special Requirements: AFTER 03 BY 1.4 H TO 3.5 H; PARALLEL Comments: 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) e(04)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: 20181130 Orbit 1 Unused Orbital Visibility = 3142 Exp. 1 Orbit Structure Exp. 2 Occultation 500 1000 1500 2000 2500 3000 3500 4000 4500 5000 5500 6000 sec

Proposal 15781 - QE on - Turn HV on (05) - Cycle 27 COS FUV Detector Recovery After Anomalous Shutdown Proposal 15781, QE on - Turn HV on (05) Mon Jun 24 20:00:36 GMT 2019 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: 20181130 Orbit 1 Exp. 1 Unused Orbital Visibility = 3142 Orbit Structure Exp. 2 Occultation 500 1000 1500 2000 2500 3000 3500 4000 4500 5000 5500 6000 sec

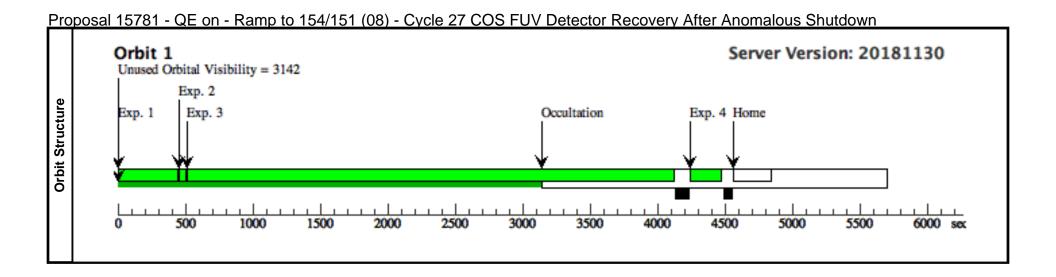
			E on - Ramp to	- Ramp to HVLow (06) - (o HVLow (06)	,		, , , , , , , , , , , , , , , , , , , ,		Mon Jun 24 20:00:36	GMT 2019
	Diag	nostic Status	: Warning							
Visit	Scien	ntific Instrume	ents: S/C, COS/F	FUV						
Ë	Spec	ial Requireme	ents: AFTER 05	BY 0.1 H TO 1.5 H; PARALLEL						
	Com	ments: Turn Q	DE on and Ramp	the FUV high voltage up to HVLow.						
	The I	HOME alignn	ient is not needed	d and may be deleted via SQL.						
Diagnostics	(QE	on - Ramp to	HVLow (06)) W	arning (Orbit Planner): MAXIMUM DUI	RATION EXCEEDE	D FOR INTERNAL OR	EARTH CALIB SU			
	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Regs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1	QE on - Ra		S/C, DATA, NONE			SAA CONTOUR 31;	Sequence 1-3 Non-In	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			,	Sequence 1-3 Non-In	60.0 Secs (60 Secs)	
Exposures		dump					SPEC COM INSTR ELCOPYDCE;	t in QE on - Ramp to HVLow (06)	[==>]	
OSI							NEW ALIGNMENT			
Exp							QASISTATES COS SI OBSERVE OBSE RVE;			[1]
							QASISTATES COS FUV HVLOW HVL OW			
	Com	ments: DCE R	RAM copy and du	ump. See Visit 1, Exposure 2 for a complet	te description of the a	lump.				
	SQL.	: setup readou	t entry for the D	CE dump (qalignment, qexposure, qreado	out), tag as COS (si_u	used and si_intrlv)				
	3	Dark	DARK	COS/FUV, TIME-TAG, DEF	DEF	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 on - Ramp to HVLow (06)	[==>]	[1]

OW



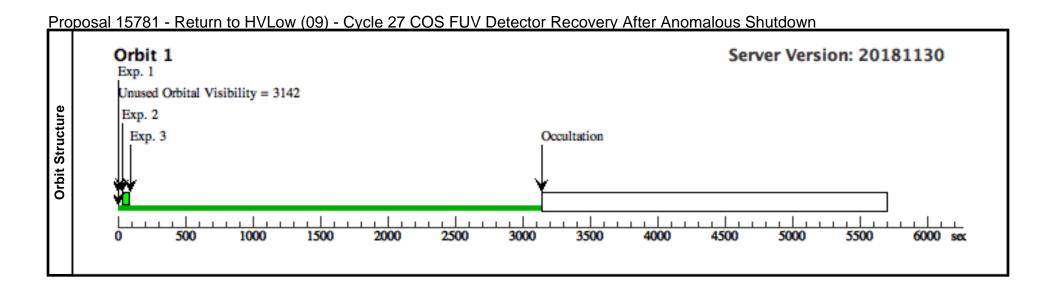
<u>Pro</u>	posal 1578	1 - Return	to Operate (07) - Cycle	27 COS FUV	Detector Rec	overy After Ano	malous Shutd	own	
	Proposal 15781, l							Mon Jun 24 20:00:36	GMT 2019
⊭	Diagnostic Status	s: No Diagnostic	es						
Visit	Scientific Instrum	ents: S/C							
_	Special Requireme	ents: AFTER 06	5 BY 1.4 H TO 3.5 H; PARALLEL						
	Comments: Return	n to Operate, dui	mp DCE 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 O perate (HV	DARK	S/C, DATA, NONE				Sequence 1-3 Non-In t in Return to Operat	·	
	off)					SPEC COM INSTR RLHLTOPF;	e (07)	[==>]	
						QASISTATES COS			
						SI OBSERVE OBSE RVE;			[1]
						QASISTATES COS FUV HVLOW OPE RATE			
	Comments: Turn o	off the FUV high	voltage						•
ß	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 Operat e (07)	[==>]	
OSI						NEW ALIGNMENT			
١×						;			
"						QASISTATES COS SI OBSERVE OBSE			[1]
						RVE;			
						QASISTATES COS FUV OPERATE OP ERATE			
	Comments: DCE	RAM copy and d	ump. See Visit 1, Exposure 2 for a comp	lete description of the a	lump.				!
	SOL: setup reado	ut entry for the L	OCE dump (qalignment, qexposure, qrea	dout) tag as COS (si_u	used and si_intrly)				
	3 Set flag 3		S/C, DATA, NONE	,,,,	,	SPEC COM INSTR	Sequence 1-3 Non-In	1.0 Secs (1 Secs)	
						ELFLAG3;	t in Return to Operat e (07)	[==>]	[1]
						NEW ALIGNMENT	C (07)		[1]
_	Comments: Set NS	SSC-1 COS eveni	t flag 3. This will prevent subsequent FU	V commanding unless	it is cleared first.				
	Orbit Exp. 1						Server V	/ersion: 20181130	
	1 1		sibility = 3142						
ē	Exp.		10111y - 5142						
cture	I II -				0 1				
2	Exp	5. 3			Occultat	ion			
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Orbit Stru	للطا				- ↓				
ō	l V¥				<u> </u>				
		1	1 1 1		_	1 1			
		500	1000 1500 200	0 2500	3000 3	500 4000	4500 50	00 5500 6000 8	L ex
		500	1500 200	2000	3000	4000	4500 50	VV 5500 0000 0	~

Pro	posa	al 1578	31 - QE on -	- Ramp to 154/151 (08)	- Cycle 27 CC	OS FUV Detecto	r Recovery At	ter Anomalou	s Shutdown	
sit	Diagno Scienti Specia	ostic Statu ific Instrur l Requiren			· HVNom).				Mon Jun 24 20:00:36	GMT 2019
	No SA	A Passage	between Visits 08	and 09.						
Diagnostics	(QE or	n - Ramp t	o 154/151 (08)) W	arning (Orbit Planner): MAXIMUM DU	JRATION EXCEEDE	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
		Ramp to 15 151	54 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; QESIPARM ENDC TSA 154; QESIPARM SECPE			[1]
							RCT 3; QESIPARM ENDC TSB 151			
es		•		54/151 counts (A/B).			GAA CONTOUR 21	C 1.4N I	(0,0,0, (60,0,)	
Exposure		OCE RAM lump	I DARK	S/C, DATA, NONE			SAA CONTOUR 31; SPEC COM INSTR ELCOPYDCE; NEW ALIGNMENT	Sequence 1-4 Non-In t in QE on - Ramp to 154/151 (08)		
ш							; QASISTATES COS SI OBSERVE OBSE RVE; QASISTATES COS			[1]
							FUV HVNOM HVN OM			
			• •	ump. See Visit 1, Exposure 2 for a compl CE dump (qalignment, qexposure, qreac	• •	•				
		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 V	Vave	WAVE	COS/FUV, TIME-TAG, WCA	G160M 1600 A	CURRENT=MEDIU M; FP-POS=3;		Sequence 1-4 Non-In t in QE on - Ramp to 154/151 (08)	60 Secs (60 Secs) [==>]	[11
						STIM-RATE=2000				[1]

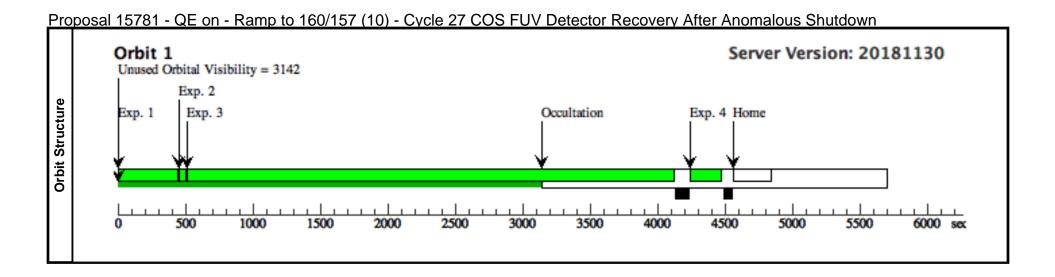


Proposal 15781 - Return to HVLow (09) - Cycle 27 COS FUV Detector Recovery After Anomalous Shutdown

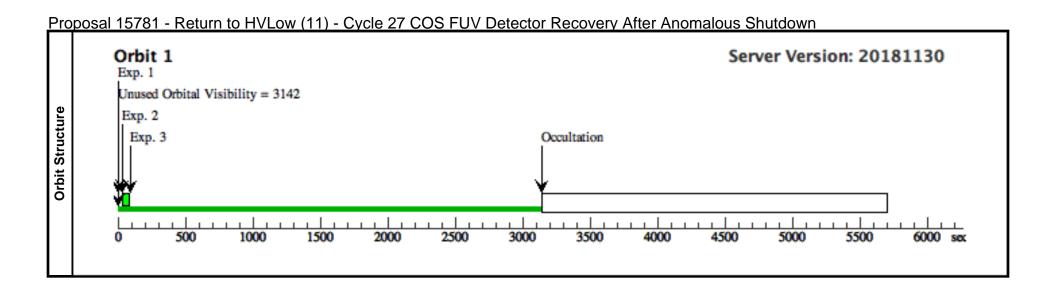
Pro	DO:	<u>sai 1578</u>	i - Return to	<u> HVLow (09) - Cycle 2</u>	7 COS FUV L	petector Reco	very after anon	naious Snutdo	wn	
	Pro	posal 15781, F	Return to HVLow (0	9)					Mon Jun 24 20:00:36	GMT 2019
±	Diag	gnostic Status	: No Diagnostics							
Visit	Scie	entific Instrume	ents: S/C							
-	Spec	cial Requireme	ents: AFTER 08 BY	1.2 H TO 3.5 H; PARALLEL						
	Con	nments: Return	to HVLow, dump DC	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 (09)	[==>]	
							NEW OBSET;			
							QASISTATES COS SI OBSERVE OBSE RVE;			[1]
							QASISTATES COS FUV HVNOM HVL OW			
	Con	nments: SQL: I	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)	[==>]	
χbα							NEW ALIGNMENT			
"							, QASISTATES COS			[1]
							SI OBSERVE OBSE RVE;			[1]
							QASISTATES COS FUV HVLOW HVL OW			
	Con	nments: DCE R	RAM copy and dump.	See Visit 1, Exposure 2 for a comple	ete description of the a	lump.				
	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	,,,,	<u> </u>	SPEC COM INSTR	Sequence 1-3 Non-In	1.0 Secs (1 Secs)	
		200		2, 2, 2, 2, 2, 2, 2, 2			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 FUV	V commanding unless	it is cleared first.				



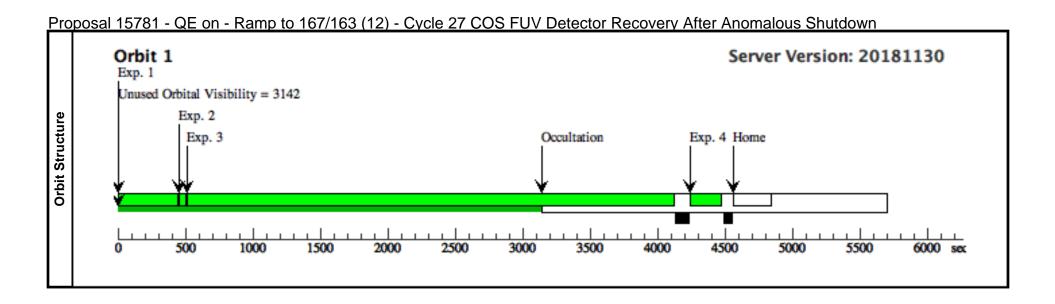
Pro	posal 15	781 - QE on	- Ramp to 160/157 (10)	- Cycle 27 CC	OS FUV Detecto	or Recovery A	fter Anomalou	s Shutdown	
Visit	Diagnostic St Scientific Inst Special Requi			n V08, lower than HV	(Nom).			Mon Jun 24 20:00:36	6 GMT 2019
		ge between Visits 10		,	,				
Diagnostics			Varning (Orbit Planner): MAXIMUM DU	JRATION 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
Se	1 Ramp to /157	160 DARK	S/C, DATA, NONE 160/157 counts (A/B).			SAA CONTOUR 31; SPEC COM INSTR ELHLTHVF; QASISTATES COS SI OBSERVE OBSE RVE; QASISTATES COS FUV HVLOW HVN OM; QESIPARM ENDC TSA 160; QESIPARM SECPE RCT 3; QESIPARM ENDC TSB 157	Sequence 1-4 Non-In t in QE on - Ramp to 160/157 (10)	451 Secs (451 Secs) [==>]	[1]
Exposures	dump	M DARK	S/C, DATA, NONE		,	SAA CONTOUR 31; SPEC COM INSTR ELCOPYDCE; NEW ALIGNMENT; QASISTATES COS SI OBSERVE OBSE RVE; QASISTATES COS FUV HVNOM HVN OM	Sequence 1-4 Non-In t in QE on - Ramp to 160/157 (10)	60.0 Secs (60 Secs) [==>]	[1]
			ump. See Visit 1, Exposure 2 for a compl	• •	Î				
			OCE dump (qalignment, qexposure, qread			NEW 117022	0 1137 -	2500.0 0 (2500.0	
	3 Dark	DARK	COS/FUV, TIME-TAG, DEF	DEF	BUFFER-TIME=36 00; STIM-RATE=30	NEW ALIGNMENT	Sequence 1-4 Non-In t in QE on - Ramp to 160/157 (10)	3600.0 Secs (3600 Secs) [==>]	[1]
	4 Wave	WAVE	COS/FUV, TIME-TAG, WCA	G160M 1600 A	CURRENT=MEDIU M; FP-POS=3; STIM-RATE=2000		Sequence 1-4 Non-In t in QE on - Ramp to 160/157 (10)	60 Secs (60 Secs) [==>]	[1]



<u>Pro</u>	<u> posal 1578</u>	<u>1 - Return to</u>	<u> HVLow (11) - Cycle 2</u>	<u> 7 COS FUV L</u>	<u> etector Reco</u>	<u>very After Anon</u>	<u>nalous Shutdo</u>	own	
	Proposal 15781, I	Return to HVLow (1	1)					Mon Jun 24 20:00:36	GMT 2019
ıΞ	Diagnostic Status	: No Diagnostics							
Visit	Scientific Instrume	ents: S/C							
-	Special Requireme	ents: AFTER 10 BY	1.2 H TO 3.5 H; PARALLEL						
	Comments: Return	ı to HVLow, dump DC	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 (11)	[==>]	
						NEW OBSET;			
						QASISTATES COS SI OBSERVE OBSE RVE;			[1]
						QASISTATES COS FUV HVNOM HVL OW			
	Comments: SQL:	Enforce the seq non-i	int across the obsets						
es	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)	[==>]	
Exp						NEW ALIGNMENT ;			
						QASISTATES COS SI OBSERVE OBSE RVE;			[1]
						QASISTATES COS FUV HVLOW HVL OW			
	Comments: DCE I	RAM copy and dump.	See Visit 1, Exposure 2 for a comple	ete description of the d	итр.				
	SOI · setup readou	it entry for the DCF d	lump (qalignment, qexposure, qread	out) tag as COS (si u	sed and si-intrly)				
	3 Set flag 3	DARK	S/C, DATA, NONE	our), rag as cos (si_ar	sea ana si_mirry	SPEC COM INSTR	Sequence 1-3 Non-In	1 () Secs (1 Secs)	
	5 Set Hag 5	2.1111	2, 2, 21111, 110112			ELFLAG3;	t in Return to HVLo	[==>]	
						NEW ALIGNMENT	w (11)	. ,	[1]
	Comments: Set NS	SSC-1 COS event flag	3. This will prevent subsequent FUV	V commanding unless i	t is cleared first.				

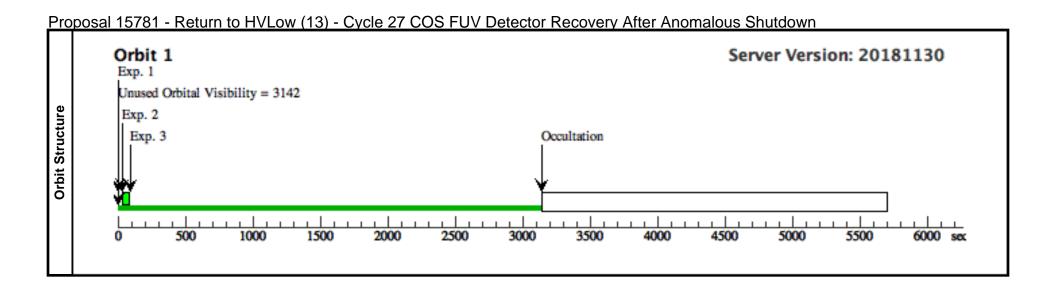


rop	osal 15	<u> 781 - QE</u>	<u>on - Ramp to 167/163 (12)</u>	- Cycle 27 CC	OS FUV Detecto	or Recovery A	<u>fter Anomalou</u>	s Shutdown	
	-	81, QE on - Ra tatus: Warning	mp to 167/163 (12)					Mon Jun 24 20:00:36	6 GMT 201
	O	ruments: S/C, C							
, ,			R 10 BY 1.0 D TO 2.0 D; PARALLEL						
	-		gh voltage up to a specified value (higher th	an V10).					
Λ	Vo SAA Pass	age between Vis	its 12 and 13.						
3	QE on - Ran	np to 167/163 (1	2)) Warning (Orbit Planner): MAXIMUM D	URATION EXCEEDI	ED FOR INTERNAL OR	EARTH CALIB SU			
<u> </u>									
#	# Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	Ramp to /163	167 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;			[1]
						QESIPARM ENDC TSA 167;			
						QESIPARM SECPE RCT 3; QESIPARM ENDC			
						TSB 163			
3			V to 167/163 counts (A/B).						1
2	2 DCE RA dump	AM DARK	S/C, DATA, NONE			SAA CONTOUR 31; SPEC COM INSTR	Sequence 1-4 Non-In t in QE on - Ramp to 167/163 (12)	[==>]	
<u> </u>	_					ELCOPYDCE;	167/163 (12)	[>]	
Ĺ						NEW ALIGNMENT ;			
						QASISTATES COS SI OPERATE OPER ATE;			[1]
						QASISTATES COS FUV HVNOM HVN OM			
			and dump. See Visit 1, Exposure 2 for a comp	• •	•				
3			the DCE dump (qalignment, qexposure, qred			NIEW ALICNIMENT	Caguanaa 1 4 N I	2600 0 Saas (2600 Saas)	
3	B Dark	DARK	COS/FUV, TIME-TAG, DEF	DEF	BUFFER-TIME=36 00; STIM-RATE=30	NEW ALIGNMENT	t in QE on - Ramp to 167/163 (12)	3600.0 Secs (3600 Secs) [==>]	[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; FP-POS=3;		t in QE on - Ramp to 167/163 (12)	[==>]	[1]
					STIM-RATE=2000				

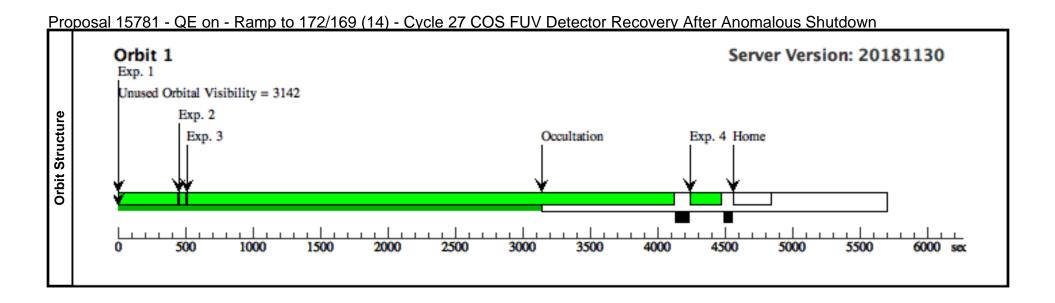


Proposal 15781 - Return to HVLow (13) - Cycle 27 COS FUV Detector Recovery After Anomalous Shutdown

<u> </u>	po:	<u>sai 1370</u>	- Return to	HVLow (13) - Cycle 2	1 603 FUV L	relector Reco	very Arter Arion	naious Shuldo	DVVII	
	Proposal 15781, Return to HVLow (13) Mon Jun 24 20:00:36 GMT 2019									
Ħ	Diag	gnostic Status	: No Diagnostics							
Visit	Scie	entific Instrume	nts: S/C							
	Spec	cial Requireme	nts: AFTER 12 BY	1.2 H TO 3.5 H; PARALLEL						
	Con	nments: Return	to HVLow, dump DC	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-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 (13)	[==>]	
χbα							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	lete description of the d	lump.				
	SOI	: setun readou	t entry for the DCF d	lump (qalignment, qexposure, qreac	dout) tag as COS (si u	sed and si intrly)				
	3	Set flag 3	DARK	S/C, DATA, NONE	ioni, iug us cos (si_ii	sea ana si_miriv)	SPEC COM INSTR	Sequence 1-3 Non-In	1.0 Secs (1 Secs)	
	5	SSC Hug S		5/C, DATA, NONE			ELFLAG3; t in Return to	t in Return to HVLo	[==>]	
							NEW ALIGNMENT	w (13)	11	[1]
	Con	nments: Set NS	SC-1 COS event flag	3. This will prevent subsequent FU	V commanding unless i	it is cleared first.				

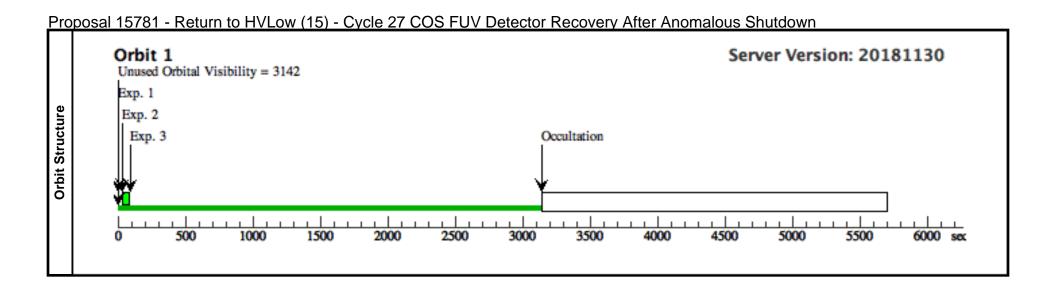


ro	<u>posal 157</u>	<u> 81 - QE on</u>	- Ramp to 172/169 (14) -	· Cycle 27 CC	OS FUV Detector	or Recovery At	<u>fter Anomalou</u>	s Shutdown			
	Proposal 1578	1, QE on - Ramp to	0 172/169 (14)					Mon Jun 24 20:00:36	GMT 2019		
	Diagnostic Status: Warning										
sit	Scientific Instru	ments: S/C, COS/F	FUV								
<u> </u>	Special Require	ements: AFTER 12	BY 1.0 D TO 2.0 D; PARALLEL								
	Comments: Ran	np the FUV high vo	ltage up to a specified value (higher than	ı V12).							
	No SAA Passag	e between Visits 14	and 15.								
Diagnostics	(QE on - Ramp	to 172/169 (14)) W	arning (Orbit Planner): MAXIMUM DU	IRATION EXCEED	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		
		172 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					
es		1	172/169 counts (A/B).			GAA CONTOUR 21	C 1.4N I	(0.0.0. (0.0.0.)	1		
μ̈́	dump	M DARK	S/C, DATA, NONE			SAA CONTOUR 31; SPEC COM INSTR	Sequence 1-4 Non-In t in QE on - Ramp to	` ′			
Exposures	ī					ELCOPYDCE;	172/169 (14)	[==>]			
ш						NEW ALIGNMENT ;					
						QASISTATES COS SI OBSERVE OBSE RVE;			[1]		
						QASISTATES COS FUV HVNOM HVN OM					
	Comments: DC	E RAM copy and di	ump. See Visit 1, Exposure 2 for a comple	ete description of the	dump.				!		
			CE dump (qalignment, qexposure, qread				<u> </u>		1		
	3 Dark	DARK	COS/FUV, TIME-TAG, DEF	DEF	BUFFER-TIME=36 00;	NEW ALIGNMENT	Sequence 1-4 Non-In t in QE on - Ramp to	3600.0 Secs (3600 Secs)			
					STIM-RATE=30		172/169 (14)	[==>]	[1]		
ľ	4 Wave	WAVE	COS/FUV, TIME-TAG, WCA	G160M 1600 A	CURRENT=MEDIU		Sequence 1-4 Non-In	60 Secs (60 Secs)			
					M;		t in QE on - Ramp to 172/169 (14)	[==>]			
					FP-POS=3;		1 / 2/ 109 (14)		[1]		
					STIM-RATE=2000						



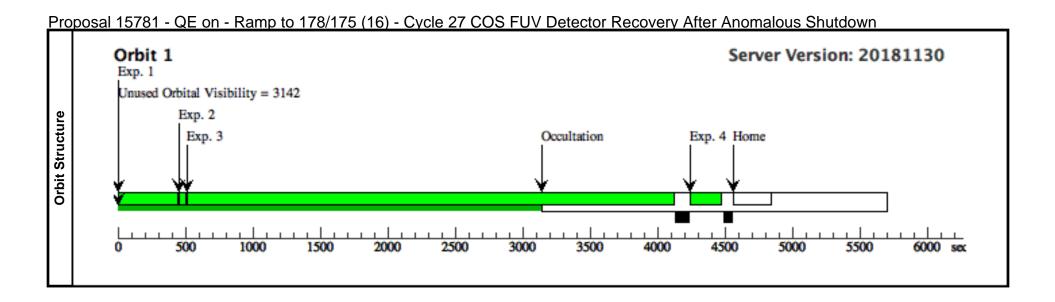
Proposal 15781 - Return to HVLow (15) - Cycle 27 COS FUV Detector Recovery After Anomalous Shutdown

<u> </u>	DO:	<u>sai 1370</u>	i - Retuin to	HVLow (15) - Cycle 2	1 603 FUV L	relector Reco	very Arter Arion	naious Shuldo	INVI			
	Proposal 15781, Return to HVLow (15) Mon Jun 24 20:00:36 GMT 2019											
⊭	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 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		
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-i	int across the obsets								
တ္ထ	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)	[==>]			
ĕ							NEW ALIGNMENT					
ш							;					
							QASISTATES COS 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 comple	ete description of the d	итр.						
	SOI	: setun readou	t entry for the DCE o	lump (qalignment, qexposure, qreac	dout) tag as COS (si u	sed and si_intrly)						
	3	Set flag 3	DARK	S/C, DATA, NONE	om,, mg us cos (si_useu um		SPEC COM INSTR	Sequence 1-3 Non-In	1.0 Secs (1 Secs)			
							ELFLAG3;	t in Return to HVLo	[==>]			
							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.						



			- Ramp to 178/175 (16) -	Oyole 21 OC	DO I O V Detecto	i Necovery A	tel Allomaiou	Mon Jun 24 20:00:36	CMT 2010						
	Proposal 15781, QE on - Ramp to 178/175 (16) Mon Jun 24 20:00:36 GMT 2019 Diagnostic Status: Warning														
	Scientific Instruments: S/C, COS/FUV														
Visit		,	BY 1.0 D TO 2.0 D; PARALLEL												
-		Comments: Ramp the FUV high voltage up to 178/175.													
		between Visits 16	•												
S			ana 17. [arning (Orbit Planner): MAXIMUM DUI	DATION EXCEEDS	D EOD INTEDNAL OD	EADTH CALIB SII									
Diagnostics	(QE on Rump t	0 170/1/3 (10)) W	anning (Oron Filamer). Whitehold Do	ANTION EXCELLER	D TOK IIVIEKIVIE OK	EARTH CALLED SC									
	# Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit						
	1 Ramp to 17	78 DARK	S/C, DATA, NONE				; 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: Ram	T	1												
	2 DCE RAM dump	I DARK	S/C, DATA, NONE			SAA CONTOUR 31;	Sequence 1-4 Non-In t in QE on - Ramp to 178/175 (16)	, ,							
es	damp					SPEC COM INSTR ELCOPYDCE;		[==>]							
sur						NEW ALIGNMENT									
Exposures						QASISTATES COS SI OBSERVE OBSE RVE:			[1]						
						QASISTATES COS FUV HVNOM HVN OM									
	Comments: DCE	E RAM copy and du	ump. See Visit 1, Exposure 2 for a complet	te description of the d	dump.										
	SOL: setup read	out entry for the D	CE dump (qalignment, qexposure, qreado	out) tag as COS (si	used and si_intrly)										
	3 Dark	DARK	COS/FUV, TIME-TAG, DEF	DEF BUFF 00;		=36 NEW ALIGNMENT	Sequence 1-4 Non-In t in QE on - Ramp to 178/175 (16)	3600.0 Secs (3600 Secs)							
	- "		200/101, 11112 1110, 1111					[==>]	[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	f==>1	1						

STIM-RATE=2000



Proposal 15781 - Return to HVLow (17) - Cycle 27 COS FUV Detector Recovery After Anomalous Shutdown

<u>Pro</u>	00:	<u>sai 15781</u>	- Return to i	HVLow (17) - Cycle 27	COS FUV L	retector Reco	<u>very Aiter Anon</u>	naious Snutdo	wn			
	Pro	posal 15781, R	eturn to HVLow (17	7)					Mon Jun 24 20:00:36	GMT 2019		
ıΞ	Diagnostic Status: No Diagnostics											
Visit	Scientific Instruments: S/C											
-	Spec	cial Requireme	nts: AFTER 16 BY 1	.2 H TO 3.5 H; PARALLEL								
	Con	nments: Return	to HVLow, dump DC	E 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 (17)	[==>]			
							NEW OBSET;					
							QASISTATES COS SI OBSERVE OBSE RVE;			[1]		
							QASISTATES COS FUV HVNOM HVL OW					
	Comments: SQL: Enforce seq non-int across the obsets											
es	2	DCE RAM DARK S/C, Dadump	DARK	RK S/C, DATA, NONE		SAA CONTOUR 31;	; Sequence 1-3 Non-In	60.0 Secs (60 Secs)				
Exposures						SPEC COM INSTR ELCOPYDCE;	t in Return to HVLo w (17)	[==>]				
ďx							NEW ALIGNMENT					
ш							, QASISTATES COS					
							SI OBSERVE OBSE RVE;			[1]		
							QASISTATES COS FUV HVLOW HVL OW					
	Con	nments: DCE R	AM copy and dump. S	See Visit 1, Exposure 2 for a complet	te description of the d	итр.						
	SOI	: setup readou	t entry for the DCE di	ump (qalignment, qexposure, qreado	out), tag as COS (si_u	sed and si_intrly)						
	3		DARK	S/C, DATA, NONE	om,, mg as COS (si_usea ana si_i	sea and st_mmtty	SPEC COM INSTR	Sequence 1-3 Non-In	1.0 Secs (1 Secs)			
				··· -, -,			ELFLAG3;	t in Return to HVLo	[==>1	617		
							NEW ALIGNMENT	w (17)		[1]		
	Con	nments: Set NS	SC-1 COS event flag 3	3. This will prevent subsequent FUV	commanding unless i	t is cleared first.						

