

16940 - Cycle 30 COS FUV Detector Recovery After Anomalous Shutdown

Cycle: 30, 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	15-Jul-2022 10:00:32.0	yes
02	DARK	S/C	1	15-Jul-2022 10:00:32.0	yes
03	DARK	COS/FUV S/C	1	15-Jul-2022 10:00:33.0	yes
04	DARK	S/C	1	15-Jul-2022 10:00:33.0	yes
05	DARK	S/C	1	15-Jul-2022 10:00:33.0	yes
06	DARK	COS/FUV S/C	1	15-Jul-2022 10:00:34.0	yes
07	DARK	S/C	1	15-Jul-2022 10:00:34.0	yes

	Targets used in Visit	Configurations used in Visit		Last Orbit Planner Run	OP Current with Visit?
08	DARK WAVE	COS/FUV S/C	1	15-Jul-2022 10:00:34.0	yes
09	DARK	S/C	1	15-Jul-2022 10:00:35.0	yes
10	DARK WAVE	COS/FUV S/C	1	15-Jul-2022 10:00:35.0	yes
11	DARK	S/C	1	15-Jul-2022 10:00:36.0	yes
12	DARK WAVE	COS/FUV S/C	1	15-Jul-2022 10:00:36.0	yes
13	DARK	S/C	1	15-Jul-2022 10:00:37.0	yes
14	DARK WAVE	COS/FUV S/C	1	15-Jul-2022 10:00:37.0	yes
15	DARK	S/C	1	15-Jul-2022 10:00:37.0	yes
16	DARK WAVE	COS/FUV S/C	1	15-Jul-2022 10:00:38.0	yes
17	DARK	S/C	1	15-Jul-2022 10:00:38.0	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 29, Proposal 16540.

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

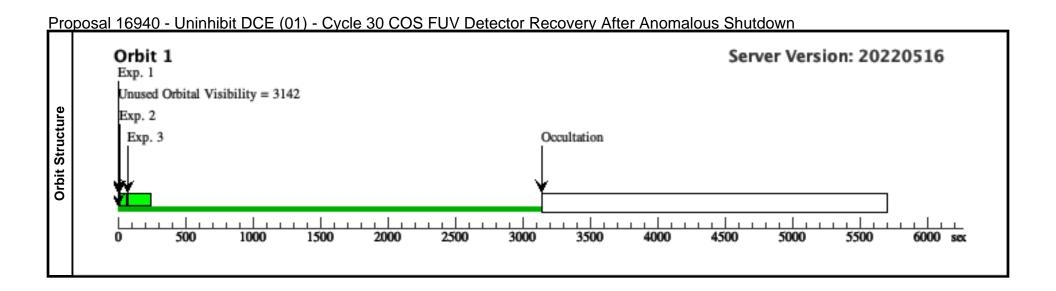
Proposal 16940 (STScI Edit Number: 0, Created: Friday, July 15, 2022 at 9:00:39 AM Eastern Standard Time) - Overview Day 07 Clear flag 3 (Real-time) - After V16 1D for analysis. Flag 3 must be clear to continue science operations. ----- Realtime Justification -----Real-time commanding is required to 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.

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

This proposal requires Special Commanding.

Prc	posal 16940 - Uninhibi	t DCE (01) - Cycle 30 (COS FUV Det	ector Recove	ry After Anomal	ous Shutdowr	1	
	Proposal 16940, Uninhibit DCE (0	1), implementation					Fri Jul 15 14:00:39	GMT 2022
	Diagnostic Status: No Diagnostics							
	Scientific Instruments: S/C							
	Special Requirements: ON HOLD;	PARALLEL						
Visit	Comments: Uninhibit the DCE							
>	This visit uninhibits the DCE (sets do detector from Boot to Operate. Speci	ce_FUVInhibitMode == FALSE and a ial commanding is used to uninhibit th	does other CS cleanup, ne DCE and to dump th	thus ensuring the DC te DCE RAM. Regular	E is in its nominal Boot store recon commanding is use	ate), takes diagnostics (d for the Boot to Opera	DCE RAM dump), and transitions the transition.	FUV
	Prior to the beginning of this visit, F recovery.	lag 3 must be cleared by the ground v	ia real-time commandi	ing. This can be done	as 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	after an anomalous shutdown of the	FUV high voltage.					
	# Label Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	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 (
					QASISTATES COS	01)	[==>]	
					SI OBSERVE OBSE RVE;			F11
					QASISTATES COS FUV HVLOW OPE			[1]
	Comments: Unhihit the DCF for con	nmanding by setting dce_FUVInhibitM	Mode == FAI SF in the	CS FSW Several oth	RATE er houskeening tasks are a	lso cleaned un		
	ľ	t FUV activity on an SMS and that the			1 0	•	in al CMC have damentate	
	, v	•	e CS is in Operate state	e. Inerejore, the starti	ng FUV state is set to HVI	LOW, which is the nom	inai SMS bounaary state.	
	SQL: tag as COS (si_used and si_int						T	1
	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)	[==>]	
G					QASISTATES COS			
Exposures					SI OBSERVE OBSE RVE;			[1]
00S					QASISTATES COS FUV OPERATE OP			
X					ERATE			
_	Comments: Copy and dump DCE RA	M.						
	From Jason McPhate (Berkeley FUV	detector expert, who defined the FU	V initial turn-on proced	dure):				
	"[I'm after] the procedure to get a n ling (looping through, overwriting the	nemory dump of the FUV HV and AUX ne data that is 1 second old), and a cui	X power current monito mulative histogram of 1	ors (HVIA, HVIB, AU) the current values (thi	XI). Each of these has a 10 s would be a buffer of 256	000 (possibly 1024) sar values for each monito	nple buffer that monitors the current a r)." This information is in a DCE RAN	it 1ms samp II dump.
	SOL: setup readout entry for the DC	E dump (qalignment, qexposure, qrea	dout), tag as COS (si	used and si_intrly)				·
	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 RVE;			[1]
					QASISTATES COS			
					FUV OPERATE OP ERATE			
	Comments: Transition the DCE from	Boot to Operate. Use standard recon	1.					

SQL: tag as COS (si_used and si_intrlv)

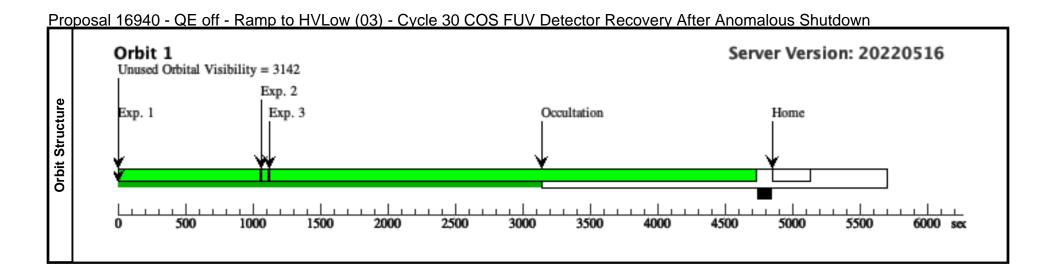


Proposal 16940 - QE off - Turn HV on (02) - Cycle 30 COS FUV Detector Recovery After Anomalous Shutdown Proposal 16940, QE off - Turn HV on (02), implementation Fri Jul 15 14:00:39 GMT 2022 Diagnostic Status: No Diagnostics Scientific Instruments: S/C Special Requirements: AFTER 01 BY 0.1 H TO 1.5 H; 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 t in 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. SAA CONTOUR 31; Sequence 1-2 Non-In 60.0 Secs (60 Secs) DCE RAM DARK S/C, DATA, NONE 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: 20220516 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

Visit	Diag Scien Spec Com	gnostic Status entific Instrume cial Requiremental ments: Follow	: Warning ents: S/C, COS/F ents: AFTER 02 ving visit 02, con	o HVLow (03), implementation FUV BY 0.1 H TO 1.5 H; PARALLEL tinue with the FUV ramp-up with the Q d and may be deleted via SQL.	E off to HVLow value (100/100).			Fri Jul 15 14:00:39	GMT 2022
Diagnostics				Varning (Orbit Planner): MAXIMUM D	URATION 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 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]
		- 1		HVLow. The commanding assumes the H	HV is already on.					T
Exposures	2	DCE RAM dump		S/C, DATA, NONE			SAA CONTOUR 31: SPEC COM INSTR ELCOPYDCE; NEW ALIGNMENT; QASISTATES COS SI OBSERVE OBSE RVE; QASISTATES COS FUV HVLOW HVL OW	t in QE off - Ramp to HVLow (03)	60.0 Secs (60 Secs) [==>]	[1]
	Com	ments: DCE R	RAM copy and di	ump. See Visit 1, Exposure 2 for a comp	lete description of the d	dump.				
1	1			OCE dump (aalionment aexposure area						

SQL: setup readout entry for the DCE dump (qalignment, qexposure, qreadout), tag as COS (si_used and si_intrly)

ſ	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; ; t in QE off - Ramp to $[l=>]$	
					STIM-RATE=30 QASISTATES COS	1]
					FOV HVLOW HVL	-,
					OW	

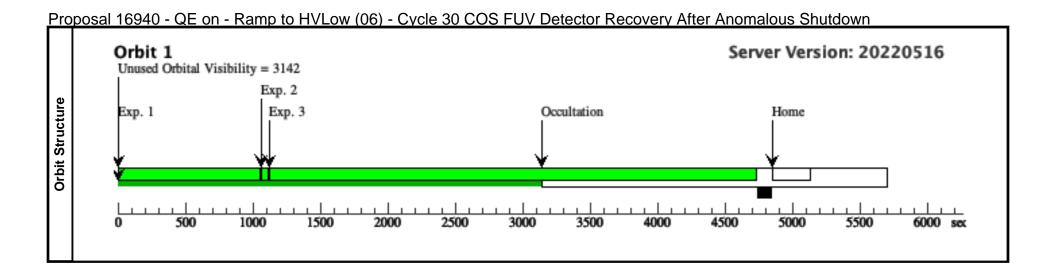


Proposal 16940 - Return to Operate (04) - Cycle 30 COS FUV Detector Recovery After Anomalous Shutdown Proposal 16940, Return to Operate (04), implementation Fri Jul 15 14:00:39 GMT 2022 Diagnostic Status: No Diagnostics Scientific Instruments: S/C Special Requirements: AFTER 03 BY 1.4 H TO 3.5 H; PARALLEL 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 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 Return to Operat dump *[==>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: 20220516 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

Proposal 16940 - QE on - Turn HV on (05) - Cycle 30 COS FUV Detector Recovery After Anomalous Shutdown Proposal 16940, QE on - Turn HV on (05), implementation Fri Jul 15 14:00:39 GMT 2022 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: 20220516 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

	Prop	osal 16940, Ç	E on - Ramp to	Ramp to HVLow (06) - (HVLow (06), implementation					Fri Jul 15 14:00:39	GMT 2022
۲.	_	gnostic Status:	: Warning ints: S/C, COS/FU	15.7						
Visit				BY 0.1 H TO 1.5 H; PARALLEL						
>	_ ^	•		he FUV high voltage up to HVLow.						
		~	•	and may be deleted via SQL.						
cs	_			rning (Orbit Planner): MAXIMUM DUI	RATION EXCEEDE	D FOR INTERNAL OR	EARTH CALIB SU			
Diagnostics										
agn										
直	,,	*	T		G (LE	0.48	g ilb			0.1%
	1	OE on - Ra	Target	Config,Mode,Aperture S/C, DATA, NONE	Spectral Els.	Opt. Params.	SAA CONTOUR 31:	Groups Sequence 1-3 Non-In	Exp. Time (Total)/[Actual Dur.] 1060 Secs (1060 Secs)	Orbit
	1	mp to HVLo	DAKK	S/C, DATA, NONE			SPEC COM INSTR	t in OE on - Ramp to	[==>]	
		w (100/100)					RLOPTHLF;	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)	[==>]	
ารด							NEW ALIGNMENT ;			
Exp							QASISTATES COS SI OBSERVE OBSE RVE;			[1]
							QASISTATES COS FUV HVLOW HVL OW			
	Com	ments: DCE R	AM copy and dun	np. See Visit 1, Exposure 2 for a complet	te description of the a	lump.				
	SQL	: setup readou	t entry for the DC	E dump (qalignment, qexposure, qreado	out), tag as COS (si_u	used and si_intrlv)				_
l	3	Dark	DARK	COS/FUV, TIME-TAG, DEF	DEF	BUFFER-TIME=36	NEW ALIGNMENT	Sequence 1-3 Non-In t in QE on - Ramp to	3600.0 Secs (3600 Secs)	
						00; STIM-RATE=30	QASISTATES COS FUV HVLOW HVL OW	HVLow (06)	[==>]	[1]

OW

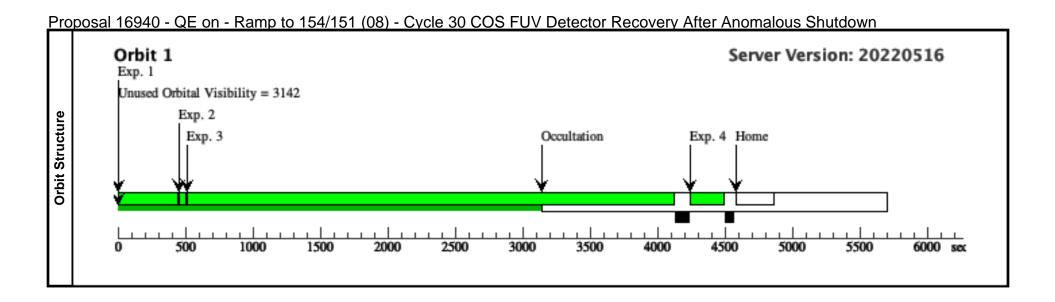


<u>Pro</u>	posal 1694	<u>0 - Return</u>	to Operate (07) - Cycle	30 COS FUV	Detector Rec	<u>overy After Ano</u>	malous Shutd	<u>own</u>	
	Proposal 16940, l	Return to Opera	ate (07), implementation					Fri Jul 15 14:00:39	GMT 2022
.±	Diagnostic Status	s: No Diagnostic	es						
Visit	Scientific Instrum	ents: S/C							
	-		BY 1.4 H TO 3.5 H; PARALLEL						
	Comments: Return	n to Operate, dur	np DCE 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 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			
	Commontes Turns	off the FIW bick	usland a			RATE			
	Comments: Turn of 2 DCE RAM	<i>DD</i>	S/C, DATA, NONE			SAA CONTOUR 31:	Sequence 1-3 Non-In	60.0 Secs (60 Secs)	
Exposures	dump	Dritte	S/C, DITIN, NOILE			SPEC COM INSTR	t in Return to Operat	[==>]	
l Is						ELCOPYDCE;	e (07)		
8						NEW ALIGNMENT			
ŭ						QASISTATES COS			677
						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 compl	lete description of the a	lump.				
	SQL: setup reador	ut entry for the D	OCE dump (qalignment, qexposure, qreac	dout), tag as COS (si_u	used and si_intrlv)				
	3 Set flag 3	DARK	S/C, DATA, NONE			SPEC COM INSTR ELFLAG3;	Sequence 1-3 Non-In	1.0 Secs (1 Secs)	
						NEW ALIGNMENT	t in Return to Operat e (07)	[==>]	[1]
	Comments: Set NS	SSC-1 COS eveni	flag 3. This will prevent subsequent FU	V commanding unless	it is cleared first	NEW ALIGNMENT			
	Comments. Bet IVS	ise i cos eveni	Jug 3. This will prevent subsequent I C	v communating unitess	ii is cicarea jirsi.				
	Orbi	t 1					Server \	ersion: 20220516	
	Exp. 1								
	Unuse	d Orbital Vis	ibility = 3142						
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cture	Exp.								
S	Exp). 3			Occultat	ion			
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Orbit Stru	7,4				₩				
	T								
	ـــــا ا	500	1000 1500 200	0 2500	2000	1000	4500	00 5500 5000	<u></u>
	U	500	1000 1500 200	0 2500	3000 3	500 4000	4500 50	00 5500 6000 s	SOL
1									
	1								

<u>Pro</u>	<u> oposal 16940 - QE on - Ramp to 154/151 (08) - Cycle 30 COS FUV Detector Recovery After Anomalous Shutdow</u>	<u>/n</u>
	Proposal 16940, QE on - Ramp to 154/151 (08), implementation	Fri Jul 15 14:00:39 GMT 2022
	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	

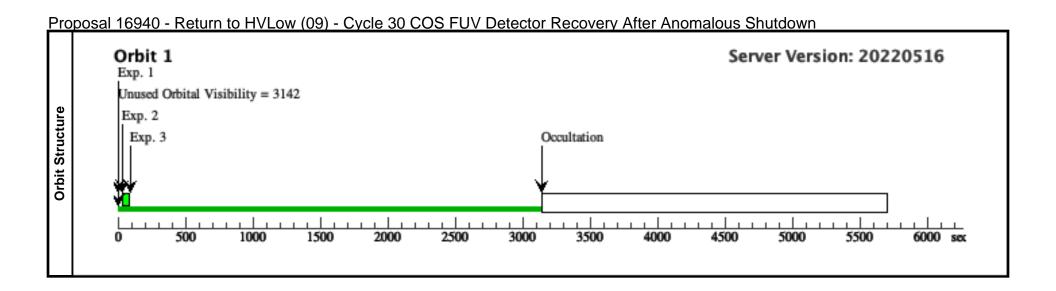
Proposal 16940 - QE on - Ramp to 154/151 (08) - Cycle 30 COS FUV Detector Recovery After Anomalous Shutdown

#	!	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Regs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1		Ramp to 15	54 DARK	S/C, DATA, NONE			SAA CONTOUR 31;	Sequence 1-4 Non-In	451 Secs (451 Secs)	
		/151					SPEC COM INSTR ELHLTHVF;	t in QE on - Ramp to 154/151 (08)	[==>]	
							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			
(Comn	nents: Ram	p the FUV HV to	0 154/151 counts (A/B).						
y 2		DCE RAM	DARK	S/C, DATA, NONE			SAA CONTOUR 31;	Sequence 1-4 Non-In	60.0 Secs (60 Secs)	
2 zposnres		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			
C	Comn	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	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 154/151 (08)	[==>]	[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;		154/151 (08)	[==>]	
						STIM-RATE=2000;				[1]
						LIFETIME-POS=L				
						P4				



Proposal 16940 - Return to HVLow (09) - Cycle 30 COS FUV Detector Recovery After Anomalous Shutdown

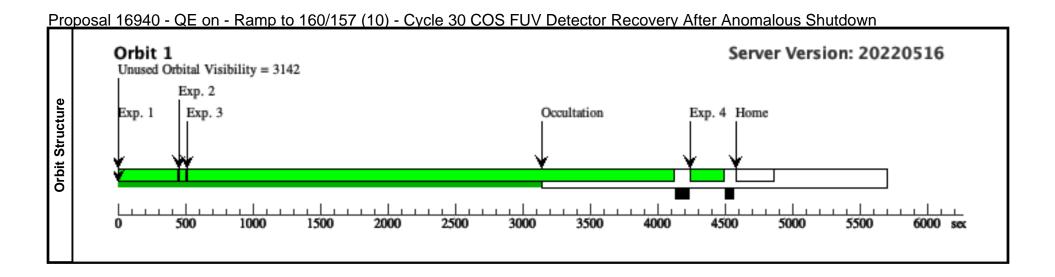
<u>Pro</u>	00:	<u>sai 16940</u>) - Return to i	<u> HVLow (09) - Cycle 30</u>	COS FUV L	retector Reco	<u>very Anter Anon</u>	naious Snutdo)WN	
	Pro	posal 16940, R	Return to HVLow (09), implementation					Fri Jul 15 14:00:39	GMT 2022
±	Diag	gnostic Status:	No Diagnostics							
Visit	Scie	entific Instrume	ents: S/C							
-	Spec	cial Requireme	nts: AFTER 08 BY 1	.2 H TO 3.5 H; PARALLEL						
	Con	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 (09)	[==>]	
							NEW OBSET;			
							QASISTATES COS SI OBSERVE OBSE RVE;			[1]
							QASISTATES COS FUV HVNOM HVL OW			
	Con	nments: SQL: E	Enforce the seq non-in	t 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)	[==>]	
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	e description of the d	итр.				
	SOI	: setup readou	t entry for the DCE di	ump (qalignment, qexposure, qreado	ut), tag as COS (si_u	sed and si_intrly)				
	3		DARK	S/C, DATA, NONE	,,	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 (09)		[1]
	Con	nments: Set NS	SC-1 COS event flag	3. This will prevent subsequent FUV	commanding unless i	t is cleared first.				



<u>Pro</u>	<u> oposal 16940 - QE on - Ramp to 160/157 (10) - Cycle 30 COS FUV Detector Recovery After Anomalous Shutdow</u>	<u>/n</u>
	Proposal 16940, QE on - Ramp to 160/157 (10), implementation	Fri Jul 15 14:00:39 GMT 2022
	Diagnostic Status: Warning	
sit	Scientific Instruments: S/C, COS/FUV	
ΙË	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.	
Diagnostics	(QE on - Ramp to 160/157 (10)) Warning (Orbit Planner): MAXIMUM DURATION EXCEEDED FOR INTERNAL OR EARTH CALIB SU	

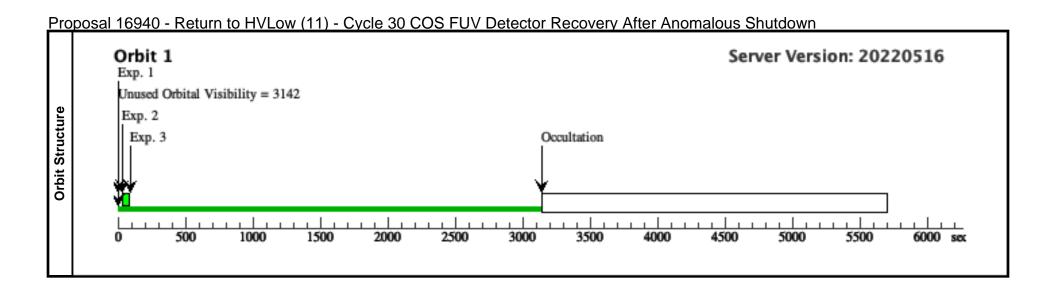
Proposal 16940 - QE on - Ramp to 160/157 (10) - Cycle 30 COS FUV Detector Recovery After Anomalous Shutdown

#	# Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Regs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	Ramp to 1 /157	60 DARK	S/C, DATA, NONE			SAA CONTOUR 31; SPEC COM INSTR ELHLTHVF;	Sequence 1-4 Non-In t in QE on - Ramp to 160/157 (10)	451 Secs (451 Secs) [==>]	
						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			
(Comments: Ran	np the FUV HV to	160/157 counts (A/B).						
တ္က 2		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 160/157 (10)	[==>]	
od k						NEW ALIGNMENT			
ш						QASISTATES COS SI OBSERVE OBSE RVE;	Ξ		[1]
						QASISTATES COS FUV HVNOM HVN OM			
(Comments: DC	E RAM copy and a	lump. See Visit 1, Exposure 2 for a complet	te description of the a	lump.				
	SQL: setup read	lout entry for the	DCE dump (qalignment, qexposure, qreado	out), tag as COS (si_u	sed and si_intrlv)				
3	B 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 160/157 (10)	[==>]	[1]
_	4 Wave	WAVE	COS/FUV, TIME-TAG, WCA	G160M	CURRENT=MEDIU		Sequence 1-4 Non-In	60 Sacs (60 Sacs)	1 7
ľ	r wave	WAVE	COS/FOY, TIME-TAG, WCA	1600 A	M;		t in OE on - Ramp to		+
				100011	FP-POS=3;		160/157 (10)		
					STIM-RATE=2000;			[1]	
					LIFETIME-POS=L P4				



Proposal 16940 - Return to HVLow (11) - Cycle 30 COS FUV Detector Recovery After Anomalous Shutdown

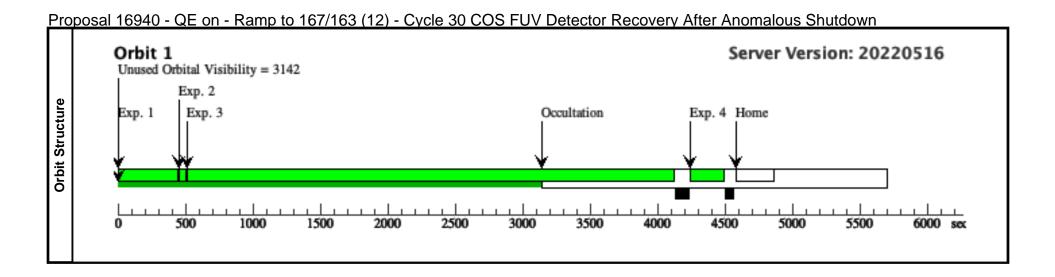
<u>Pro</u>	00:	<u>sai 16940</u>) - Return to i	<u> HVLow (11) - Cycle 30</u>	COS FUV L	etector Reco	<u>very Aiter Anon</u>	naious Snutdo)WN			
	Pro	posal 16940, R	eturn to HVLow (11), implementation					Fri Jul 15 14:00:39	GMT 2022		
ıΞ	Diagnostic Status: No Diagnostics											
Visit	Scientific Instruments: S/C											
-	Spec	cial Requireme	nts: AFTER 10 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 (11)	[==>]			
							NEW OBSET;					
							QASISTATES COS SI OBSERVE OBSE RVE;			[1]		
							QASISTATES COS FUV HVNOM HVL OW					
	Con	nments: SQL: 1	Enforce the seq non-ir	nt 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	2 DCE RAM DARK S/C, DATA, NONE dump				SPEC COM INSTR ELCOPYDCE;	t in Return to HVLo w (11)	[==>]					
١×							NEW ALIGNMENT					
ШÜ							;					
							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	e description of the d	итр.						
	SOI	· setun readou	t entry for the DCF di	ump (qalignment, qexposure, qreado	aut) tag as COS (si u	sed and si intrly)						
	3		DARK	S/C, DATA, NONE	,g us cos (st_u.	sea ana st_mmm)	SPEC COM INSTR	Sequence 1-3 Non-In	1.0 Secs. (1 Secs.)			
	5	221 1146 2	ux	2, 2, 2, 1111, 1,0112			ELFLAG3;	t in Return to HVLo	[==>]			
							NEW ALIGNMENT	w (11)	. ,	[1]		
	Con	nments: Set NSS	SC-1 COS event flag 3	3. This will prevent subsequent FUV	commanding unless i	t is cleared first.						



<u>Pro</u>	<u>oposal 16940 - QE on - Ramp to 167/163 (12) - Cycle 30 COS FUV Detector Recovery After Anomalous Shutdow</u>	<u>/n </u>						
	Proposal 16940, QE on - Ramp to 167/163 (12), implementation	Fri Jul 15 14:00:39 GMT 2022						
	Diagnostic Status: Warning							
Si	entific 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.							
Diagnostics	(QE on - Ramp to 167/163 (12)) Warning (Orbit Planner): MAXIMUM DURATION EXCEEDED FOR INTERNAL OR EARTH CALIB SU							

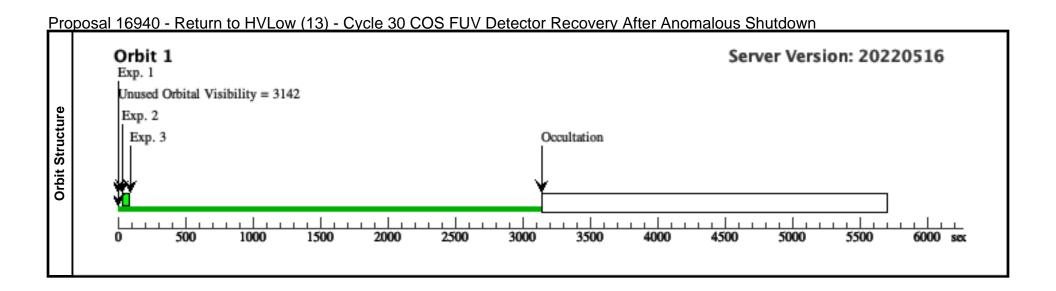
Proposal 16940 - QE on - Ramp to 167/163 (12) - Cycle 30 COS FUV Detector Recovery After Anomalous Shutdown

#		Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Regs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1		Ramp to 16	57 DARK	S/C, DATA, NONE			SAA CONTOUR 31;	Sequence 1-4 Non-In	451 Secs (451 Secs)	
		/163					SPEC COM INSTR ELHLTHVF;	t in QE on - Ramp to 167/163 (12)	[==>]	
							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			
C	Comr	nents: Ram	p the FUV HV to	0 167/163 counts (A/B).						
2		DCE RAM	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 167/163 (12)	[==>]	
3							NEW ALIGNMENT ;			
							QASISTATES COS SI OPERATE OPER ATE;			[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	QL:	setup reado	out entry for the	DCE dump (qalignment, qexposure, qreado	ut), tag as COS (si_i	used and si_intrlv)				
3		Dark	DARK	COS/FUV, TIME-TAG, DEF	DEF	BUFFER-TIME=36	NEW ALIGNMENT		3600.0 Secs (3600 Secs)	
						00;		t in QE on - Ramp to 167/163 (12)	[==>]	[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;		167/163 (12)	[==>]	
						STIM-RATE=2000;				[1]
						LIFETIME-POS=L				' '
						P4				



Proposal 16940 - Return to HVLow (13) - Cycle 30 COS FUV Detector Recovery After Anomalous Shutdown

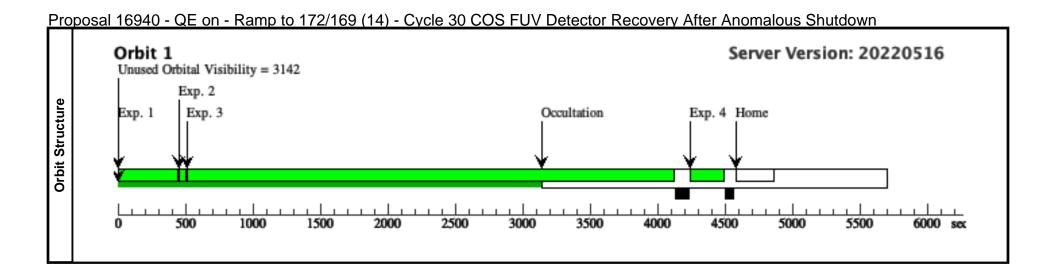
<u> </u>	μU,	<u>sai 10340</u>	<u> - Netuill to i</u>	1VLOW (13) - Cycle 30	COSTOVD	elector Necov	Tery Arter Arion	naious Siluiuu	VVII	
	Pro	posal 16940, R	eturn to HVLow (13)), implementation					Fri Jul 15 14:00:39	GMT 2022
生	Diag	gnostic Status:	No Diagnostics							
Visit	Scie	entific Instrume	nts: S/C							
_	Spec	cial Requiremen	nts: AFTER 12 BY 1.	.2 H TO 3.5 H; PARALLEL						
	Con	nments: 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 (13)	[==>]	
							NEW OBSET;			
							QASISTATES COS SI OBSERVE OBSE RVE;			[1]
							QASISTATES COS FUV HVNOM HVL OW			
	Con	nments: SQL: E	Inforce the seq non-int	t 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)	[==>]	
Exp							NEW ALIGNMENT ;			
							QASISTATES COS SI OBSERVE OBSE RVE;			[1]
							QASISTATES COS FUV HVLOW HVL OW			
	Con	nments: DCE R	AM copy and dump. S	Gee Visit 1, Exposure 2 for a complete	description of the di	итр.				
	SOI	· setun readou	t entry for the DCF du	ump (qalignment, qexposure, qreadou	t) tag as COS (ci us	eed and si intrly)				
	3 <u>0</u> 2		DARK	S/C. DATA. NONE	1,, 148 43 005 (31_43	ca ana si_mmi)	SPEC COM INSTR	Sequence 1-3 Non-In	1.0 Secs. (1 Secs.)	
	,	Dot Hug D	D. Har	o, c, brim, none			ELFLAG3;	t in Return to HVLo	[==>]	
							NEW ALIGNMENT	w (13)	11	[1]
	Con	nments: Set NSS	SC-1 COS event flag 3	$\it B$. This will prevent subsequent FUV $\it c$	ommanding unless i	is cleared first.				



<u>Pro</u>	<u> oposal 16940 - QE on - Ramp to 172/169 (14) - Cycle 30 COS FUV Detector Recovery After Anomalous Shutdow</u>	<u>/n</u>						
	Proposal 16940, QE on - Ramp to 172/169 (14), implementation	Fri Jul 15 14:00:39 GMT 2022						
	Diagnostic Status: Warning							
Si	entific Instruments: S/C, COS/FUV							
ΙË	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							

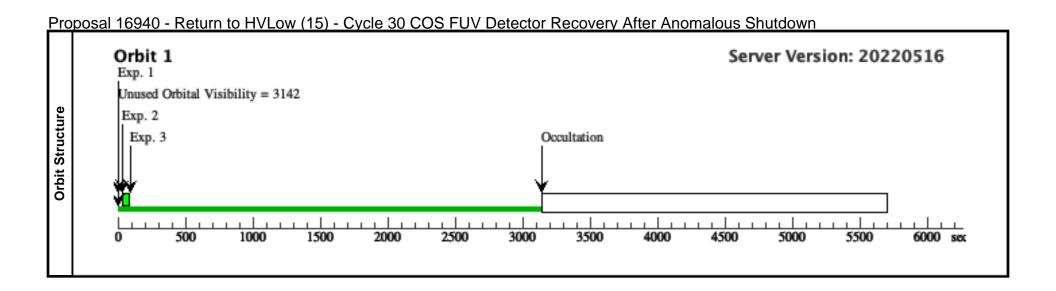
Proposal 16940 - QE on - Ramp to 172/169 (14) - Cycle 30 COS FUV Detector Recovery After Anomalous Shutdown

#		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	omn	nents: Ram	p the FUV HV to	o 172/169 counts (A/B).						
2		DCE RAM	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 172/169 (14)	[==>]	
<u> </u>							NEW ALIGNMENT ;			
-							QASISTATES COS SI OBSERVE OBSE RVE;			[1]
							QASISTATES COS FUV HVNOM HVN OM			
C	Comn	nents: DCE	RAM copy and	dump. See Visit 1, Exposure 2 for a complet	e description of the d	dump.				
S	OL:	setup read	out entry for the	DCE dump (qalignment, qexposure, qreado	ut), tag as COS (si 1	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		1
					1600 A	FP-POS=3;		172/169 (14)	[==>]	
						STIM-RATE=2000;				[1]
						LIFETIME-POS=L				
						P4				

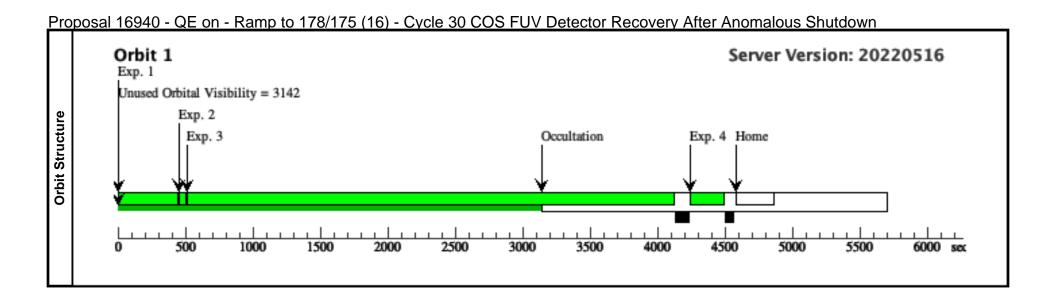


Proposal 16940 - Return to HVLow (15) - Cycle 30 COS FUV Detector Recovery After Anomalous Shutdown

<u>Pro</u>	00:	<u>sai 16940</u>) - Return to i	<u> 17 HVLow (15) - Cycle 30</u>	COS FUV L	etector Reco	<u>very Anter Anon</u>	naious Snutdo)WN			
	Pro	posal 16940, R	eturn to HVLow (15	i), implementation					Fri Jul 15 14:00:40	GMT 2022		
ıΞ	Diagnostic Status: No Diagnostics											
Visit	Scientific Instruments: S/C											
-	Spec	cial Requireme	nts: AFTER 14 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 (15)	[==>]			
							NEW OBSET;					
							QASISTATES COS SI OBSERVE OBSE RVE;			[1]		
							QASISTATES COS FUV HVNOM HVL OW					
	Con	nments: SQL: 1	Enforce the seq non-ir	nt 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 (15)	[==>]				
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. S	See Visit 1, Exposure 2 for a complet	e description of the d	итр.						
	SOL	: setun readou	t entry for the DCE di	ump (qalignment, qexposure, qreado	ut) tao as COS (si u	sed and si intrly)						
	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	[==>1	617		
							NEW ALIGNMENT	w (15)		[1]		
	Con	nments: Set NSS	SC-1 COS event flag 3	3. This will prevent subsequent FUV	commanding unless i	t is cleared first.						



P	ogo	sal 1694	0 - QE or	n - Ramp to 178/175 (16) -	Cvcle 30 CC	S FUV <u>Detecto</u>	r Reco <u>very At</u>	ter An <u>omalou</u>	s Shutdown_	
				to 178/175 (16), implementation			,		Fri Jul 15 14:00:40	GMT 2022
	Dia	gnostic Statu	s: Warning							
\ isiX	Scie	entific Instrum	ents: S/C, COS	/FUV						
5	Spe	ecial Requirem	ents: AFTER	14 BY 1.0 D TO 2.0 D; PARALLEL						
	Con	mments: Ramp	the FUV high	voltage up to 178/175.						
	No .	SAA Passage	between Visits .	16 and 17.						
Diagnostics	QE	E on - Ramp to	0 178/175 (16))	Warning (Orbit Planner): MAXIMUM DUR	ATION EXCEEDE	D FOR INTERNAL OR	EARTH CALIB SU			
ı	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Regs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
ı	1	Ramp to 178 /175	8 DARK	S/C, DATA, NONE				Sequence 1-4 Non-In t in QE on - Ramp to	` ′	
ı		/1/3					SPEC COM INSTR RLHLTHNF;	178/175 (16)	[==>]	
ı							OASISTATES COS			
ı							SI OBSERVE OBSE			[1]
ı							RVE;			. ,
ı							QASISTATES COS FUV HVLOW HVN			
ı							OM			
ı	Con			o 178/175 counts (A/B, the nominal HVNom	values).				T	
ı	2	DCE RAM dump	DARK	S/C, DATA, NONE			· · · · · · · · · · · · · · · · · · ·	Sequence 1-4 Non-In t in QE on - Ramp to		
ı		dump					SPEC COM INSTR ELCOPYDCE;	178/175 (16)	I ==> J	
ي	,						NEW ALIGNMENT			
Evnociiros	<u> </u>						;			
وَ	5						QASISTATES COS			[1]
3	<u> </u>						SI OBSERVE OBSE RVE;			
Įú	ì						QASISTATES COS			
ı							FUV HVNOM HVN			
ı	Cor	mmants: DCF	PAM conv and	dump. See Visit 1, Exposure 2 for a complete	a description of the	lump	OM			
ı			1.7			•				
ı			-	DCE dump (qalignment, qexposure, qreadou				<u> </u>	[a.co. o. g	
ı	3	Dark	DARK	COS/FUV, TIME-TAG, DEF	DEF	BUFFER-TIME=36 00;	NEW ALIGNMENT	t in OE on - Ramp to	` ′	
ı						STIM-RATE=30		178/175 (16)	[==>]	[1]
ı	4	Wave	WAVE	COS/FUV, TIME-TAG, WCA	G160M	CURRENT=MEDIU		Sequence 1-4 Non-In	60 Secs (60 Secs)	
ı					1600 A	M;		t in QE on - Ramp to 178/175 (16)	[==>]	
1						FP-POS=3;		170/173 (10)		
ı						STIM-RATE=2000;				[1]
ı						LIFETIME-POS=L				



Proposal 16940 - Return to HVLow (17) - Cycle 30 COS FUV Detector Recovery After Anomalous Shutdown

Pro	po:	<u>sai 16940</u>) - Return to	<u> HVLow (17) - Cycle 30</u>	J COS FUV L	petector Reco	very After Anon	naious Snutdo	wn			
	Proj	posal 16940, R	Return to HVLow (1'	7), implementation					Fri Jul 15 14:00:40	GMT 2022		
±	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	ıments: 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 (17)	[==>]			
							NEW OBSET;					
							QASISTATES COS SI OBSERVE OBSE RVE;			[1]		
							QASISTATES COS FUV HVNOM HVL OW					
	Con	ıments: SQL:	Enforce seq non-int a	cross 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 (17)	[==>]				
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 comple	te description of the d	lump.						
	SOL	· setun readou	t entry for the DCF d	lump (qalignment, qexposure, qreado	out) tag as COS (si u	sed and si intrly)						
	3	Set flag 3	DARK	S/C, DATA, NONE	741), 145 45 COS (St_4	sea ana si_miriv)	SPEC COM INSTR	Sequence 1-3 Non-In	1.0 Secs. (1 Secs.)			
		our mag o	2	5, 6, 51111, 1 (61)			ELFLAG3;	t in Return to HVLo	[==>]			
						NEW ALIGNMENT		IT w (17)		[1]		
	Con	ıments: Set NS	SC-1 COS event flag	3. This will prevent subsequent FUV	commanding unless	it is cleared first.						

