16540 - Cycle 29 COS FUV Detector Recovery After Anomalous Shutdown

Cycle: 29, 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	07-Jun-2021 10:00:31.0	yes
02	DARK	S/C	1	07-Jun-2021 10:00:32.0	yes
03	DARK	COS/FUV S/C	1	07-Jun-2021 10:00:32.0	yes
04	DARK	S/C	1	07-Jun-2021 10:00:32.0	yes
05	DARK	S/C	1	07-Jun-2021 10:00:33.0	yes
06	DARK	COS/FUV S/C	1	07-Jun-2021 10:00:33.0	yes
07	DARK	S/C	1	07-Jun-2021 10:00:33.0	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	07-Jun-2021 10:00:34.0	yes
09	DARK	S/C	1	07-Jun-2021 10:00:34.0	yes
10	DARK WAVE	COS/FUV S/C	1	07-Jun-2021 10:00:35.0	yes
11	DARK	S/C	1	07-Jun-2021 10:00:35.0	yes
12	DARK WAVE	COS/FUV S/C	1	07-Jun-2021 10:00:36.0	yes
13	DARK	S/C	1	07-Jun-2021 10:00:36.0	yes
14	DARK WAVE	COS/FUV S/C	1	07-Jun-2021 10:00:37.0	yes
15	DARK	S/C	1	07-Jun-2021 10:00:37.0	yes
16	DARK WAVE	COS/FUV S/C	1	07-Jun-2021 10:00:37.0	yes
17	DARK	S/C	1	07-Jun-2021 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

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 28, Proposal 16334.

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. 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

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.

Visit

Proposal 16540, Uninhibit DCE (01) Mon Jun 07 14:00:38 GMT 2021

Diagnostic Status: No Diagnostics

Scientific Instruments: S/C

Special Requirements: ON HOLD ; PARALLEL

Comments: Uninhibit the DCE

This visit uninhibits the DCE (sets dce_FUVInhibitMode == FALSE and does other CS cleanup, thus ensuring the DCE is in its nominal Boot state), takes diagnostics (DCE RAM dump), and transitions the FUV detector from Boot to Operate. Special commanding is used to uninhibit the DCE and to dump the DCE RAM. Regular recon commanding is used for the Boot to Operate transition.

Prior to the beginning of this visit, Flag 3 must be cleared by the ground via real-time commanding. This can be done as soon as the anomalous HV shutdown is understood an the go-ahead is given to proceed with the recovery.

On Hold Comments: To be used only after an anomalous shutdown of the FUV high voltage.

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	FUV Inhibit to Boot	DARK	S/C, DATA, NONE			SPEC COM INSTR ELRECOVERF; QASISTATES COS SI OBSERVE OBSE RVE; QASISTATES COS FUV HVLOW OPE RATE	Sequence 1-3 Non-In t in Uninhibit DCE (01)	10 Secs (10 Secs) *[==>]*	***[1]***

Comments: Unhibit the DCE for commanding by setting dce_FUVInhibitMode == FALSE in the CS FSW. Several other houskeeping tasks are also cleaned up.

It is assumed that this will be the first FUV activity on an SMS and that the CS is in Operate state. Therefore, the starting FUV state is set to HVLOW, which is the nominal SMS boundary state.

SQL: tag as COS (si_used and si_intrlv)

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
2	DCE RAM dump	DARK	S/C, DATA, NONE			SPEC COM INSTR ELCOPYDCE; NEW ALIGNMENT ; QASISTATES COS SI OBSERVE OBSE RVE; QASISTATES COS FUV OPERATE OP ERATE	Sequence 1-3 Non-In t in Uninhibit DCE (01)	60.0 Secs (60 Secs) *[==>]*	***[1]***

Comments: Copy and dump DCE RAM.

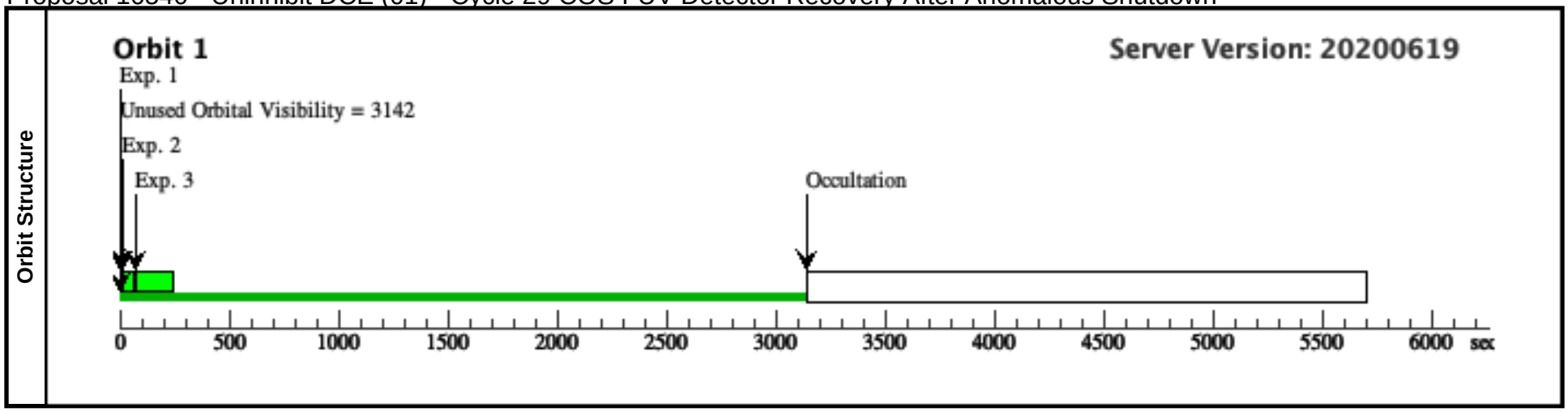
From Jason McPhate (Berkeley FUV detector expert, who defined the FUV initial turn-on procedure):
"[I'm after] the procedure to get a memory dump of the FUV HV and AUX power current monitors (HVIA, HVIB, AUXI). Each of these has a 1000 (possibly 1024) sample buffer that monitors the current at 1ms sampling (looping through, overwriting the data that is 1 second old), and a cumulative histogram of the current values (this would be a buffer of 256 values for each monitor)." This information is in a DCE RAM dump.

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

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
3	FUV Boot to Operate	DARK	S/C, DATA, NONE			SPEC COM INSTR RLBTTOPF; NEW ALIGNMENT ; QASISTATES COS SI OBSERVE OBSE RVE; QASISTATES COS FUV OPERATE OP ERATE	Sequence 1-3 Non-In t in Uninhibit DCE (01)	180 Secs (180 Secs) *[==>]*	***[1]***

Comments: Transition the DCE from Boot to Operate. Use standard recon.

SQL: tag as COS (si_used and si_intrlv)


Orbit Structure
Orbit 1
Server Version: 20200619
Exp. 1
Unused Orbital Visibility = 3142
Exp. 2
Exp. 3
Occultation
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
6000
sec

Visit

Proposal 16540, QE off - Turn HV on (02) Mon Jun 07 14:00:38 GMT 2021

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.

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	QE off - Turn HV on (0/0)	DARK	S/C, DATA, NONE			SAA CONTOUR 31; SPEC COM INSTR ELOPTNQF; QASISTATES COS SI OBSERVE OBSERVE; QASISTATES COS FUV OPERATE HV LOW	Sequence 1-2 Non-Int in QE off - Turn HV on (02)	50 Secs (50 Secs) [==>]	[1]

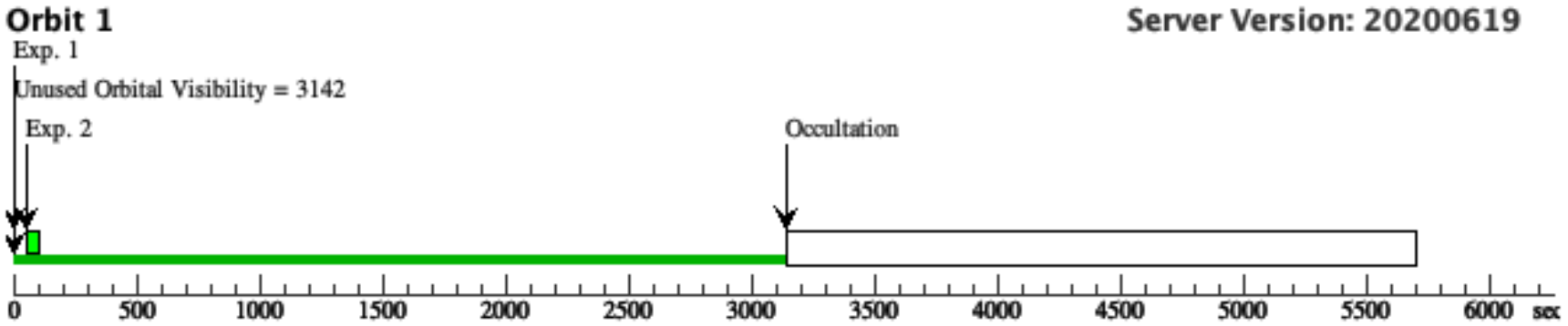
Comments: Turn on the FUV HV without the QE grid. Do not ramp up.

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
2	DCE RAM dump	DARK	S/C, DATA, NONE			SAA CONTOUR 31; SPEC COM INSTR ELCOPYDCE; NEW ALIGNMENT; QASISTATES COS SI OBSERVE OBSERVE; QASISTATES COS FUV HVLOW HVLOW	Sequence 1-2 Non-Int in QE off - Turn HV on (02)	60.0 Secs (60 Secs) [==>]	[1]

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_intrlv)

Orbit Structure



Visit

Proposal 16540, QE off - Ramp to HVLow (03) Mon Jun 07 14:00:38 GMT 2021

Diagnostic Status: Warning

Scientific Instruments: S/C, COS/FUV

Special Requirements: AFTER 02 BY 0.1 H TO 1.5 H; PARALLEL

Comments: Following visit 02, continue with the FUV ramp-up with the QE off to HVLow value (100/100).

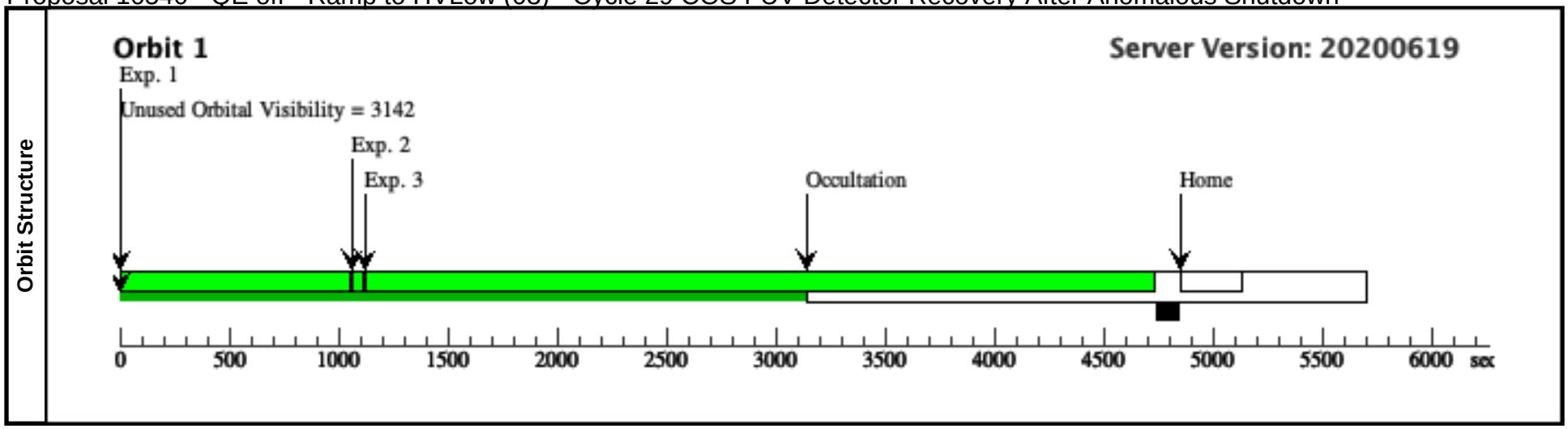
The HOME alignment is not needed and may be deleted via SQL.

Diagnostics

(QE off - Ramp to HVLow (03)) Warning (Orbit Planner): MAXIMUM DURATION EXCEEDED FOR INTERNAL OR EARTH CALIB SU

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	Ramp to HV Low (100/100)	DARK	S/C, DATA, NONE			SAA CONTOUR 31; SPEC COM INSTR ELHOTHLF; QASISTATES COS SI OBSERVE OBSERVE; QASISTATES COS FUV HVLOW HVLOW	Sequence 1-3 Non-Int in QE off - Ramp to HVLow (03)	1060 Secs (1060 Secs) *[==>]*	***[1]***
	Comments: Ramp the FUV HV to HVLow. The commanding assumes the HV is already on.								
2	DCE RAM dump	DARK	S/C, DATA, NONE			SAA CONTOUR 31; SPEC COM INSTR ELCOPYDCE; NEW ALIGNMENT; QASISTATES COS SI OBSERVE OBSERVE; QASISTATES COS FUV HVLOW HVLOW	Sequence 1-3 Non-Int in QE off - Ramp to HVLow (03)	60.0 Secs (60 Secs) *[==>]*	***[1]***
	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_intrlv)								
3	Dark	DARK	COS/FUV, TIME-TAG, DEF	DEF	BUFFER-TIME=3600; STIM-RATE=30	NEW ALIGNMENT; QASISTATES COS FUV HVLOW HVLOW	Sequence 1-3 Non-Int in QE off - Ramp to HVLow (03)	3600.0 Secs (3600 Secs) *[==>]*	***[1]***


Orbit Structure
Orbit 1
Server Version: 20200619
Exp. 1
Unused Orbital Visibility = 3142
Exp. 2
Exp. 3
Occultation
Home
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
6000
sec

Visit

Proposal 16540, Return to Operate (04)

Mon Jun 07 14:00:38 GMT 2021

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.

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	Return to Operate (HV off)	DARK	S/C, DATA, NONE			SAA CONTOUR 31; SPEC COM INSTR RLHLTOPF; QASISTATES COSI OBSERVE OBSERVE; QASISTATES COS FUV HVLOW OPERATE	Sequence 1-2 Non-Int in Return to Operate (04)	50 Secs (50 Secs) [==>]	[1]

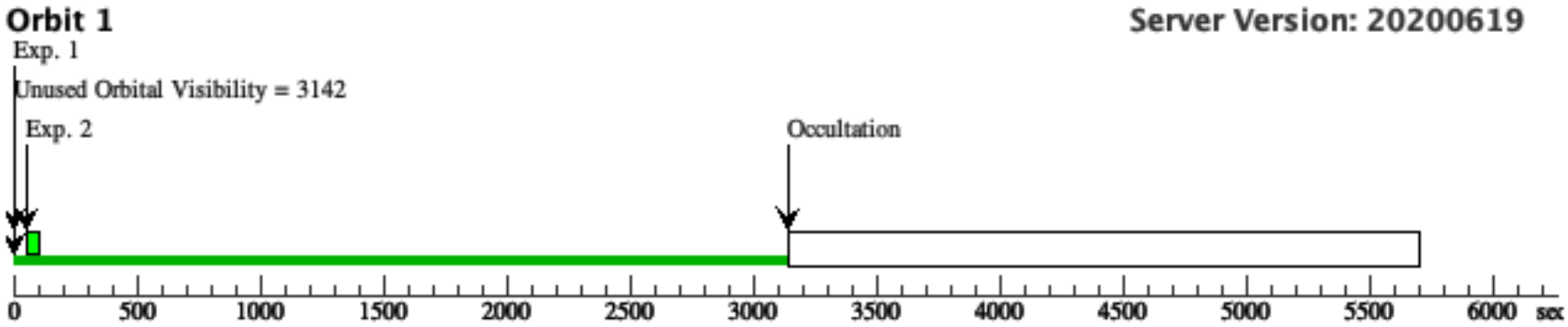
Comments: Turn off the FUV high voltage

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
2	DCE RAM dump	DARK	S/C, DATA, NONE			SAA CONTOUR 31; SPEC COM INSTR ELCOPYDCE; NEW ALIGNMENT; QASISTATES COSI OBSERVE OBSERVE; QASISTATES COS FUV OPERATE OPERATE	Sequence 1-2 Non-Int in Return to Operate (04)	60.0 Secs (60 Secs) [==>]	[1]

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_intrlv)

Orbit Structure



Visit

Proposal 16540, QE on - Turn HV on (05) Mon Jun 07 14:00:39 GMT 2021

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.

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	QE on - Turn HV on (0/0)	DARK	S/C, DATA, NONE			SAA CONTOUR 31; SPEC COM INSTR ELOPTHOF; QASISTATES COS SI OBSERVE OBSERVE; QASISTATES COS FUV OPERATE HV LOW	Sequence 1-2 Non-Int in QE on - Turn HV on (05)	50 Secs (50 Secs) [==>]	[1]

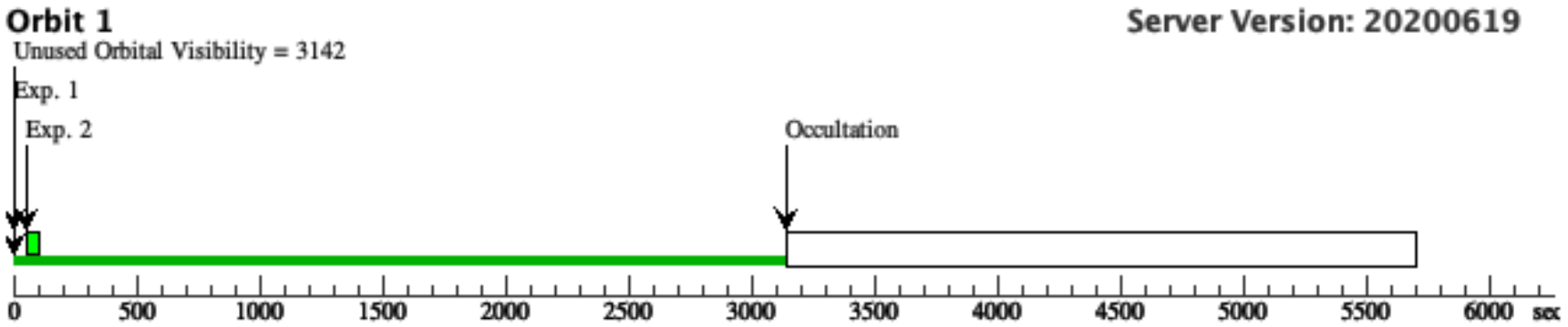
Comments: Turn on the FUV HV, including the QE grid. Do not ramp up.

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
2	DCE RAM dump	DARK	S/C, DATA, NONE			SAA CONTOUR 31; SPEC COM INSTR ELCOPYDCE; NEW ALIGNMENT; QASISTATES COS SI OBSERVE OBSERVE; QASISTATES COS FUV HVLOW HVLOW	Sequence 1-2 Non-Int in QE on - Turn HV on (05)	60.0 Secs (60 Secs) [==>]	[1]

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_intrlv)

Orbit Structure



Visit

Proposal 16540, QE on - Ramp to HVLow (06) Mon Jun 07 14:00:39 GMT 2021

Diagnostic Status: Warning

Scientific Instruments: S/C, COS/FUV

Special Requirements: AFTER 05 BY 0.1 H TO 1.5 H; PARALLEL

Comments: Turn QE on and Ramp the FUV high voltage up to HVLow.

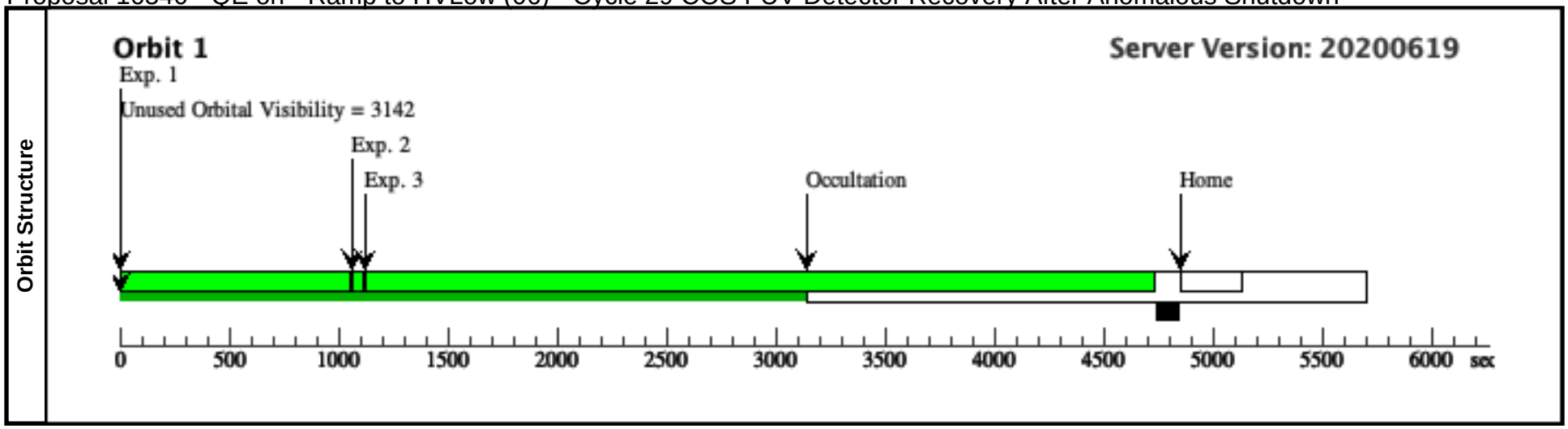
The HOME alignment is not needed and may be deleted via SQL.

Diagnostics

(QE on - Ramp to HVLow (06)) Warning (Orbit Planner): MAXIMUM DURATION EXCEEDED FOR INTERNAL OR EARTH CALIB SU

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	QE on - Ramp to HVLow (100/100)	DARK	S/C, DATA, NONE			SAA CONTOUR 31; SPEC COM INSTR RLOPTHLF; QASISTATES COSSI OBSERVE OBSERVE; QASISTATES COSFUV OPERATE HVLOW	Sequence 1-3 Non-Int in QE on - Ramp to HVLow (06)	1060 Secs (1060 Secs) *[==>]*	***[1]***
2	DCE RAM dump	DARK	S/C, DATA, NONE			SAA CONTOUR 31; SPEC COM INSTR ELCOPYDCE; NEW ALIGNMENT; QASISTATES COSSI OBSERVE OBSERVE; QASISTATES COSFUV HVLOW HVLOW	Sequence 1-3 Non-Int in QE on - Ramp to HVLow (06)	60.0 Secs (60 Secs) *[==>]*	***[1]***
	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_intrlv)								
3	Dark	DARK	COS/FUV, TIME-TAG, DEF	DEF	BUFFER-TIME=3600; STIM-RATE=30	NEW ALIGNMENT; QASISTATES COSFUV HVLOW HVLOW	Sequence 1-3 Non-Int in QE on - Ramp to HVLow (06)	3600.0 Secs (3600 Secs) *[==>]*	***[1]***


Orbit Structure
Orbit 1
Server Version: 20200619
Exp. 1
Unused Orbital Visibility = 3142
Exp. 2
Exp. 3
Occultation
Home
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
6000
sec

Visit

Proposal 16540, Return to Operate (07) Mon Jun 07 14:00:39 GMT 2021

Diagnostic Status: No Diagnostics

Scientific Instruments: S/C

Special Requirements: AFTER 06 BY 1.4 H TO 3.5 H; PARALLEL

Comments: Return to Operate, dump DCE memory, and set flag 3.

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	Return to Operate (HV off)	DARK	S/C, DATA, NONE			SAA CONTOUR 31; SPEC COM INSTR RLHLTOPF; QASISTATES COSSI OBSERVE OBSERVE; QASISTATES COS FUV HVLOW OPERATE	Sequence 1-3 Non-Int in Return to Operate (07)	50 Secs (50 Secs) [==>]	[1]

Comments: Turn off the FUV high voltage

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
2	DCE RAM dump	DARK	S/C, DATA, NONE			SAA CONTOUR 31; SPEC COM INSTR ELCOPYDCE; NEW ALIGNMENT; QASISTATES COSSI OBSERVE OBSERVE; QASISTATES COS FUV OPERATE OPERATE	Sequence 1-3 Non-Int in Return to Operate (07)	60.0 Secs (60 Secs) [==>]	[1]

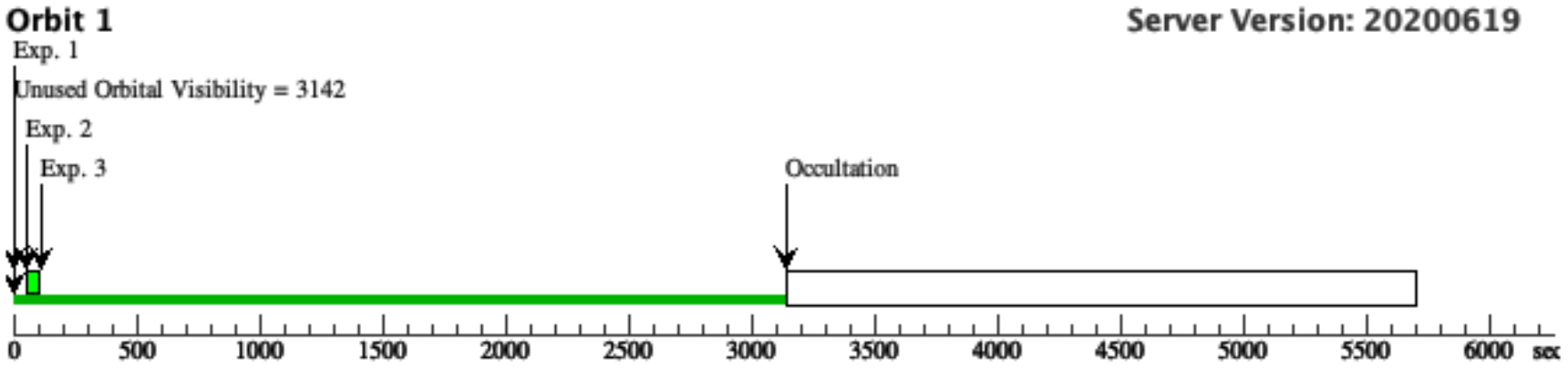
Comments: DCE RAM copy and dump. See Visit 1, Exposure 2 for a complete description of the dump.

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

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
3	Set flag 3	DARK	S/C, DATA, NONE			SPEC COM INSTR ELFLAG3; NEW ALIGNMENT	Sequence 1-3 Non-Int in Return to Operate (07)	1.0 Secs (1 Secs) [==>]	[1]

Comments: Set NSSC-1 COS event flag 3. This will prevent subsequent FUV commanding unless it is cleared first.

Orbit Structure



Visit

Proposal 16540, QE on - Ramp to 154/151 (08) Mon Jun 07 14:00:39 GMT 2021

Diagnostic Status: Warning

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).

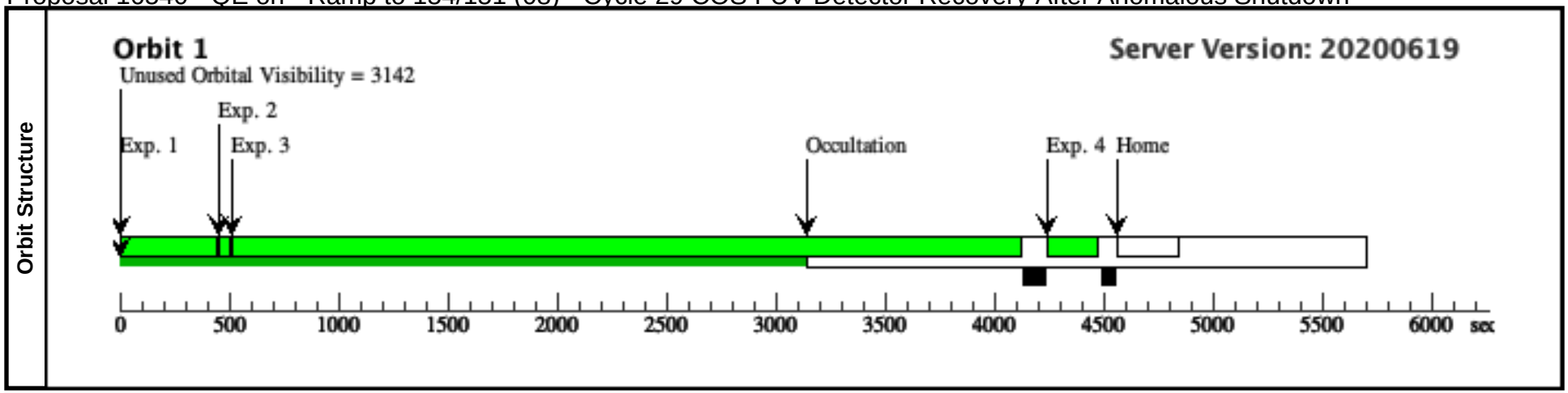
No SAA Passage between Visits 08 and 09.

Diagnostics

(QE on - Ramp to 154/151 (08)) Warning (Orbit Planner): MAXIMUM DURATION EXCEEDED FOR INTERNAL OR EARTH CALIB SU

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	Ramp to 154 /151	DARK	S/C, DATA, NONE			SAA CONTOUR 31; SPEC COM INSTR ELHLTHVF; QASISTATES COS SI OBSERVE OBSE RVE; QASISTATES COS FUV HVLOW HVN OM; QESIPARM ENDC TSA 154; QESIPARM SECPE RCT 3; QESIPARM ENDC TSB 151	Sequence 1-4 Non-Int in QE on - Ramp to 154/151 (08)	451 Secs (451 Secs) *[==>]*	***[1]***
Comments: Ramp the FUV HV to 154/151 counts (A/B).									
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 HVNOM HVN OM	Sequence 1-4 Non-Int in QE on - Ramp to 154/151 (08)	60.0 Secs (60 Secs) *[==>]*	***[1]***
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_intrlv)									
3	Dark	DARK	COS/FUV, TIME-TAG, DEF	DEF	BUFFER-TIME=3600; STIM-RATE=30	NEW ALIGNMENT	Sequence 1-4 Non-Int in QE on - Ramp to 154/151 (08)	3600.0 Secs (3600 Secs) *[==>]*	***[1]***
4	Wave	WAVE	COS/FUV, TIME-TAG, WCA	G160M 1600 A	CURRENT=MEDIUM; FP-POS=3; STIM-RATE=2000		Sequence 1-4 Non-Int in QE on - Ramp to 154/151 (08)	60 Secs (60 Secs) *[==>]*	***[1]***


Orbit Structure
Orbit 1
Server Version: 20200619
Unused Orbital Visibility = 3142
Exp. 1
Exp. 2
Exp. 3
Occultation
Exp. 4
Home
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
6000
sec

Visit

Proposal 16540, Return to HVLow (09) Mon Jun 07 14:00:39 GMT 2021

Diagnostic Status: No Diagnostics

Scientific Instruments: S/C

Special Requirements: AFTER 08 BY 1.2 H TO 3.5 H; PARALLEL

Comments: Return to HVLow, dump DCE memory, and set flag 3.

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	Return to HVLow	DARK	S/C, DATA, NONE			SAA CONTOUR 31; SPEC COM INSTRRLHNTHLF; NEW OBSET; QASISTATES COSSI OBSERVE OBSERVE; QASISTATES COSFUV HVNOM HVLOW	Sequence 1-3 Non-Int in Return to HVLow (09)	35 Secs (35 Secs) *[==>]*	*[1]*

Comments: SQL: Enforce the seq non-int across the obsets

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
2	DCE RAM dump	DARK	S/C, DATA, NONE			SAA CONTOUR 31; SPEC COM INSTRELCOPYDCE; NEW ALIGNMENT; QASISTATES COSSI OBSERVE OBSERVE; QASISTATES COSFUV HVLOW HVLOW	Sequence 1-3 Non-Int in Return to HVLow (09)	60.0 Secs (60 Secs) *[==>]*	*[1]*

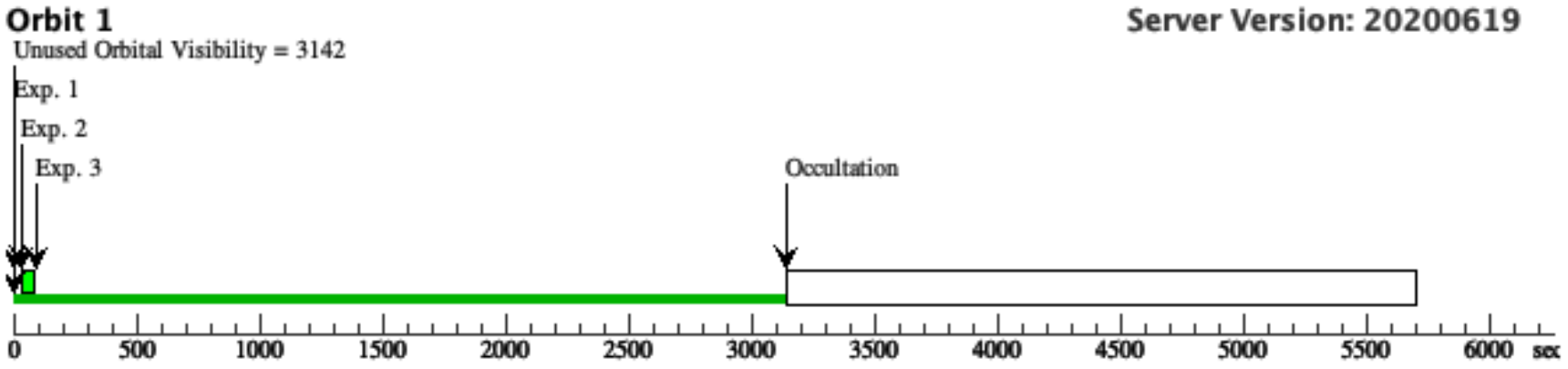
Comments: DCE RAM copy and dump. See Visit 1, Exposure 2 for a complete description of the dump.

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

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
3	Set flag 3	DARK	S/C, DATA, NONE			SPEC COM INSTRELFLAG3; NEW ALIGNMENT	Sequence 1-3 Non-Int in Return to HVLow (09)	1.0 Secs (1 Secs) *[==>]*	*[1]*

Comments: Set NSSC-1 COS event flag 3. This will prevent subsequent FUV commanding unless it is cleared first.

Orbit Structure



Visit

Proposal 16540, QE on - Ramp to 160/157 (10) Mon Jun 07 14:00:39 GMT 2021

Diagnostic Status: Warning

Scientific Instruments: S/C, COS/FUV

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).

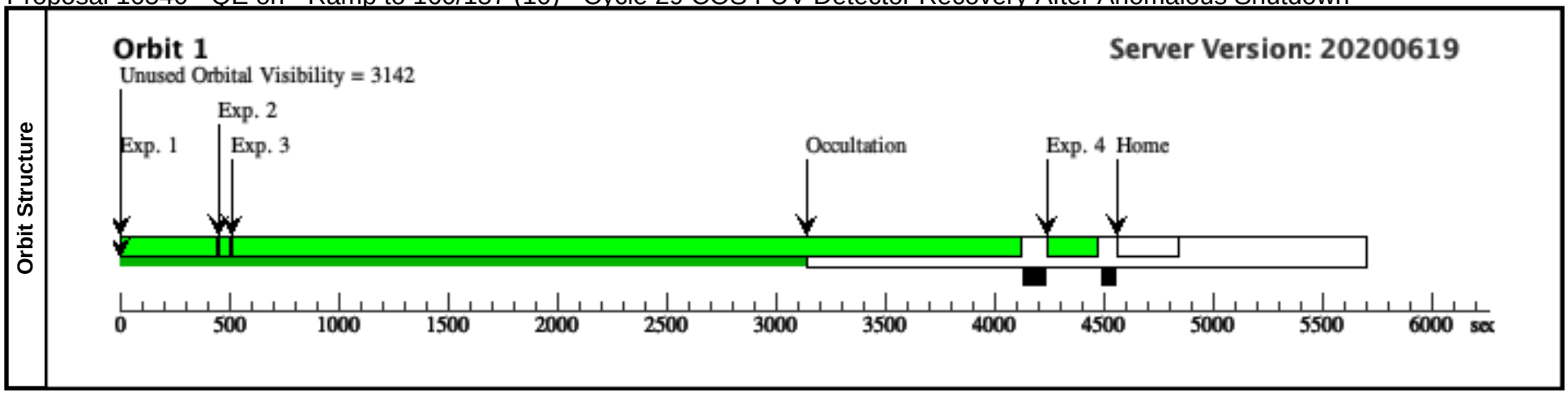
No SAA Passage between Visits 10 and 11.

Diagnostics

(QE on - Ramp to 160/157 (10)) Warning (Orbit Planner): MAXIMUM DURATION EXCEEDED FOR INTERNAL OR EARTH CALIB SU

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	Ramp to 160 /157	DARK	S/C, DATA, NONE			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]***
Comments: Ramp the FUV HV to 160/157 counts (A/B).									
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 HVNOM HVN OM	Sequence 1-4 Non-In t in QE on - Ramp to 160/157 (10)	60.0 Secs (60 Secs) *[==>]*	***[1]***
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_intrlv)									
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]***


Orbit Structure
Orbit 1
Server Version: 20200619
Unused Orbital Visibility = 3142
Exp. 1
Exp. 2
Exp. 3
Occultation
Exp. 4
Home
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
6000
sec

Visit

Proposal 16540, Return to HVLow (11) Mon Jun 07 14:00:39 GMT 2021

Diagnostic Status: No Diagnostics

Scientific Instruments: S/C

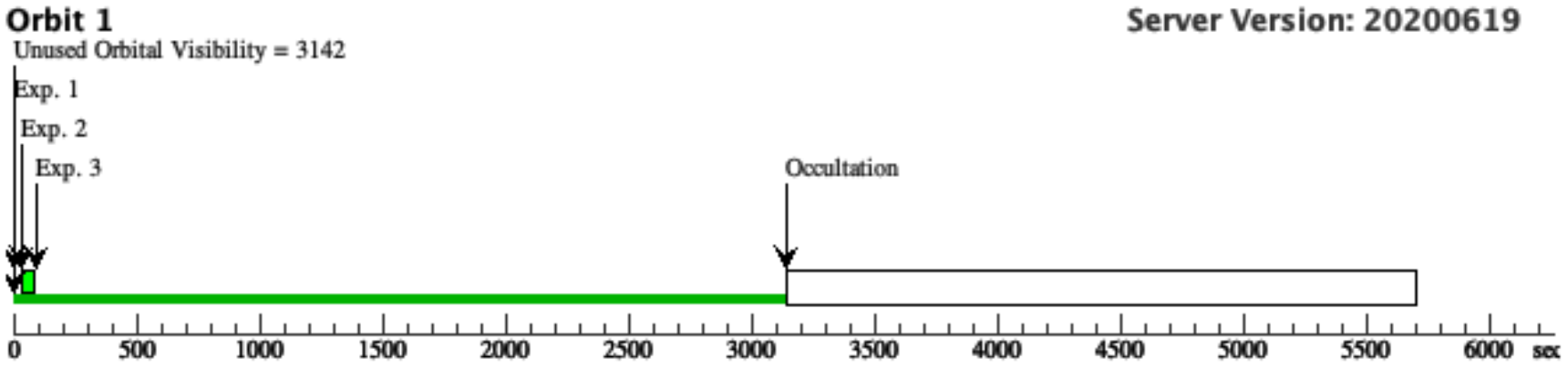
Special Requirements: AFTER 10 BY 1.2 H TO 3.5 H; PARALLEL

Comments: Return to HVLow, dump DCE memory, and set flag 3.

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	Return to HVLow	DARK	S/C, DATA, NONE			SAA CONTOUR 31; SPEC COM INSTRRLHNTHLF; NEW OBSET; QASISTATES COSSI OBSERVE OBSERVE; QASISTATES COSFUV HVNOM HVLOW	Sequence 1-3 Non-Int in Return to HVLow (11)	35 Secs (35 Secs) *[==>]*	*[1]*
	Comments: SQL: Enforce the seq non-int across the obsets								
2	DCE RAM dump	DARK	S/C, DATA, NONE			SAA CONTOUR 31; SPEC COM INSTRELCOPYDCE; NEW ALIGNMENT; QASISTATES COSSI OBSERVE OBSERVE; QASISTATES COSFUV HVLOW HVLOW	Sequence 1-3 Non-Int in Return to HVLow (11)	60.0 Secs (60 Secs) *[==>]*	*[1]*
	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_intrlv)								
3	Set flag 3	DARK	S/C, DATA, NONE			SPEC COM INSTRELFLAG3; NEW ALIGNMENT	Sequence 1-3 Non-Int in Return to HVLow (11)	1.0 Secs (1 Secs) *[==>]*	*[1]*
	Comments: Set NSSC-1 COS event flag 3. This will prevent subsequent FUV commanding unless it is cleared first.								

Orbit Structure



Visit

Proposal 16540, QE on - Ramp to 167/163 (12) Mon Jun 07 14:00:39 GMT 2021

Diagnostic Status: Warning

Scientific Instruments: S/C, COS/FUV

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.

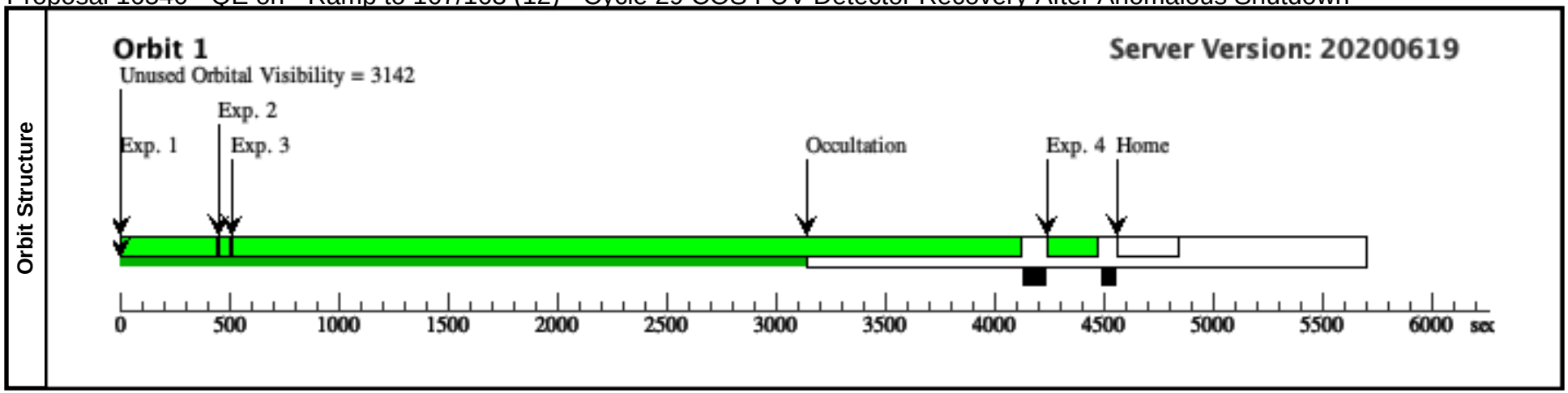
Diagnostics

(QE on - Ramp to 167/163 (12)) Warning (Orbit Planner): MAXIMUM DURATION EXCEEDED FOR INTERNAL OR EARTH CALIB SU

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	Ramp to 167 /163	DARK	S/C, DATA, NONE			SAA CONTOUR 31; SPEC COM INSTR ELHLTHVF; QASISTATES COS SI OBSERVE OBSE RVE; QASISTATES COS FUV HVLOW HVN OM; QESIPARM ENDC TSA 167; QESIPARM SECPE RCT 3; QESIPARM ENDC TSB 163	Sequence 1-4 Non-In t in QE on - Ramp to 167/163 (12)	451 Secs (451 Secs) *[==>]*	*[1]*
Comments: Ramp the FUV HV to 167/163 counts (A/B).									
2	DCE RAM dump	DARK	S/C, DATA, NONE			SAA CONTOUR 31; SPEC COM INSTR ELCOPYDCE; NEW ALIGNMENT ; QASISTATES COS SI OPERATE OPER ATE; QASISTATES COS FUV HVNOM HVN OM	Sequence 1-4 Non-In t in QE on - Ramp to 167/163 (12)	60.0 Secs (60 Secs) *[==>]*	*[1]*
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_intrlv)									
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 167/163 (12)	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 167/163 (12)	60 Secs (60 Secs) *[==>]*	*[1]*

Proposal 16540 - QE on - Ramp to 167/163 (12) - Cycle 29 COS FUV Detector Recovery After Anomalous Shutdown



Visit

Proposal 16540, Return to HVLow (13) Mon Jun 07 14:00:39 GMT 2021

Diagnostic Status: No Diagnostics

Scientific Instruments: S/C

Special Requirements: AFTER 12 BY 1.2 H TO 3.5 H; PARALLEL

Comments: Return to HVLow, dump DCE memory, and set flag 3.

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	Return to HVLow	DARK	S/C, DATA, NONE			SAA CONTOUR 31; SPEC COM INSTR RLHNTHLF; NEW OBSET; QASISTATES COSSI OBSERVE OBSERVE; QASISTATES COSFUV HVNOM HVLOW	Sequence 1-3 Non-Int in Return to HVLow (13)	35 Secs (35 Secs) [==>]	[1]

Comments: SQL: Enforce the seq non-int across the obsets

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
2	DCE RAM dump	DARK	S/C, DATA, NONE			SAA CONTOUR 31; SPEC COM INSTR ELCOPYDCE; NEW ALIGNMENT; QASISTATES COSSI OBSERVE OBSERVE; QASISTATES COSFUV HVLOW HVLOW	Sequence 1-3 Non-Int in Return to HVLow (13)	60.0 Secs (60 Secs) [==>]	[1]

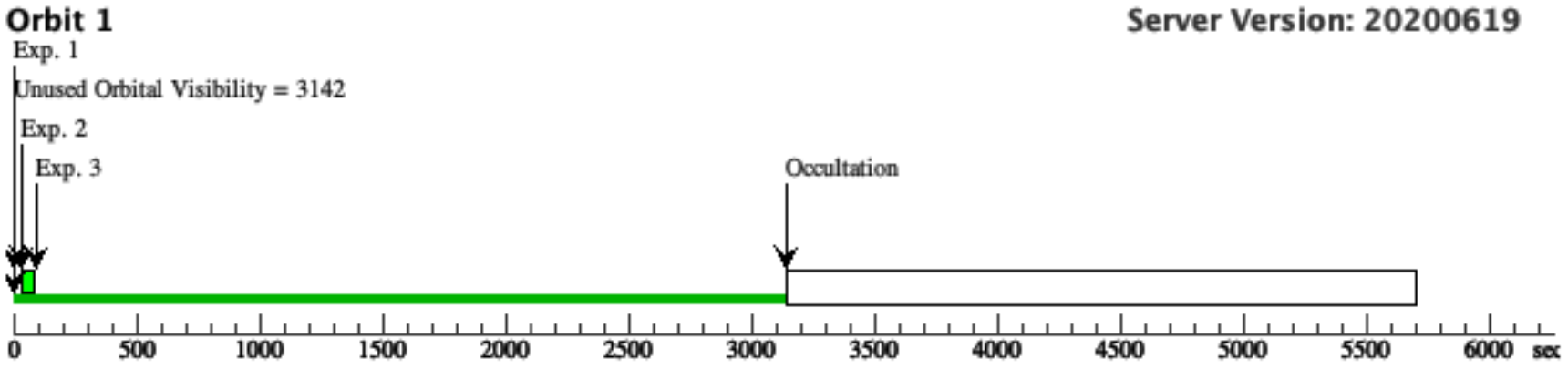
Comments: DCE RAM copy and dump. See Visit 1, Exposure 2 for a complete description of the dump.

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

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
3	Set flag 3	DARK	S/C, DATA, NONE			SPEC COM INSTR ELFLAG3; NEW ALIGNMENT	Sequence 1-3 Non-Int in Return to HVLow (13)	1.0 Secs (1 Secs) [==>]	[1]

Comments: Set NSSC-1 COS event flag 3. This will prevent subsequent FUV commanding unless it is cleared first.

Orbit Structure



Visit

Proposal 16540, QE on - Ramp to 172/169 (14) Mon Jun 07 14:00:39 GMT 2021

Diagnostic Status: Warning

Scientific Instruments: S/C, COS/FUV

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.

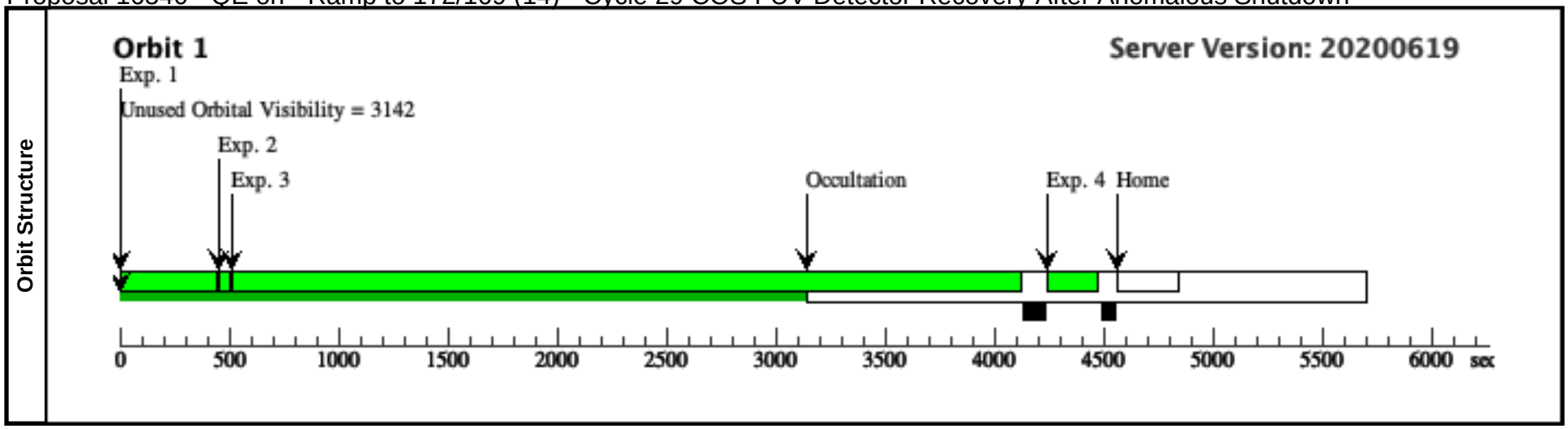
Diagnostics

(QE on - Ramp to 172/169 (14)) Warning (Orbit Planner): MAXIMUM DURATION EXCEEDED FOR INTERNAL OR EARTH CALIB SU

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	Ramp to 172 /169	DARK	S/C, DATA, NONE			SAA CONTOUR 31; SPEC COM INSTR ELHLTHVF; QASISTATES COS SI OBSERVE OBSE RVE; QASISTATES COS FUV HVLOW HVN OM; QESIPARM ENDC TSA 172; QESIPARM SECPE RCT 3; QESIPARM ENDC TSB 169	Sequence 1-4 Non-In t in QE on - Ramp to 172/169 (14)	451 Secs (451 Secs) *[==>]*	***[1]***
Comments: Ramp the FUV HV to 172/169 counts (A/B).									
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 HVNOM HVN OM	Sequence 1-4 Non-In t in QE on - Ramp to 172/169 (14)	60.0 Secs (60 Secs) *[==>]*	***[1]***
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_intrlv)									
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 172/169 (14)	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 172/169 (14)	60 Secs (60 Secs) *[==>]*	***[1]***

Proposal 16540 - QE on - Ramp to 172/169 (14) - Cycle 29 COS FUV Detector Recovery After Anomalous Shutdown



Visit

Proposal 16540, Return to HVLow (15) Mon Jun 07 14:00:39 GMT 2021

Diagnostic Status: No Diagnostics

Scientific Instruments: S/C

Special Requirements: AFTER 14 BY 1.2 H TO 3.5 H; PARALLEL

Comments: Return to HVLow, dump DCE memory, and set flag 3.

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	Return to HVLow	DARK	S/C, DATA, NONE			SAA CONTOUR 31; SPEC COM INSTRRLHNTHLF; NEW OBSET; QASISTATES COSSI OBSERVE OBSERVE; QASISTATES COSFUV HVNOM HVLOW	Sequence 1-3 Non-Int in Return to HVLow (15)	35 Secs (35 Secs) *[==>]*	*[1]*

Comments: SQL: Enforce the seq non-int across the obsets

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
2	DCE RAM dump	DARK	S/C, DATA, NONE			SAA CONTOUR 31; SPEC COM INSTRELCOPYDCE; NEW ALIGNMENT; QASISTATES COSSI OBSERVE OBSERVE; QASISTATES COSFUV HVLOW HVLOW	Sequence 1-3 Non-Int in Return to HVLow (15)	60.0 Secs (60 Secs) *[==>]*	*[1]*

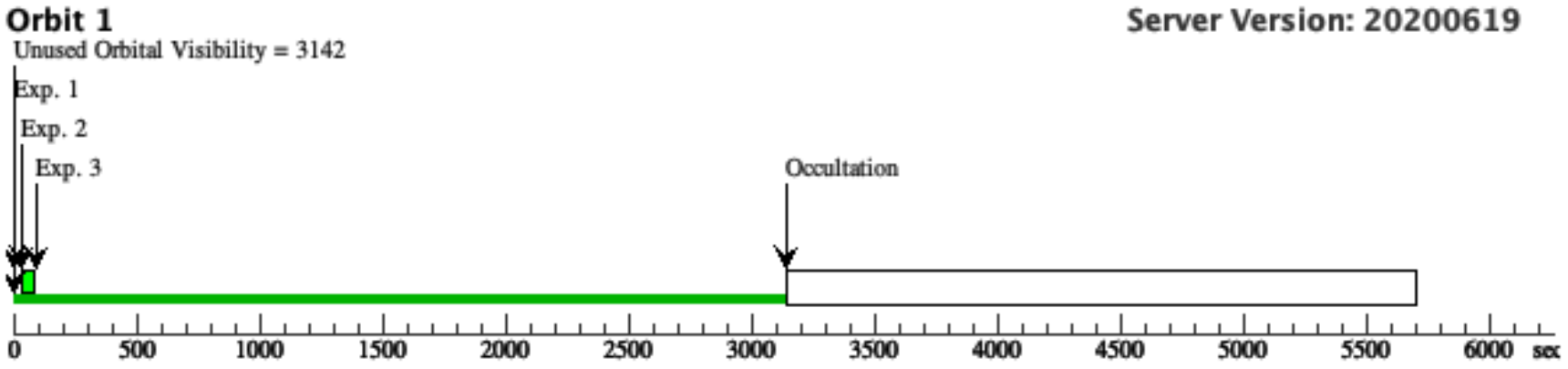
Comments: DCE RAM copy and dump. See Visit 1, Exposure 2 for a complete description of the dump.

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

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
3	Set flag 3	DARK	S/C, DATA, NONE			SPEC COM INSTRELFLAG3; NEW ALIGNMENT	Sequence 1-3 Non-Int in Return to HVLow (15)	1.0 Secs (1 Secs) *[==>]*	*[1]*

Comments: Set NSSC-1 COS event flag 3. This will prevent subsequent FUV commanding unless it is cleared first.

Orbit Structure



Visit

Proposal 16540, QE on - Ramp to 178/175 (16) Mon Jun 07 14:00:39 GMT 2021

Diagnostic Status: Warning

Scientific Instruments: S/C, COS/FUV

Special Requirements: AFTER 14 BY 1.0 D TO 2.0 D; PARALLEL

Comments: Ramp the FUV high voltage up to 178/175.

No SAA Passage between Visits 16 and 17.

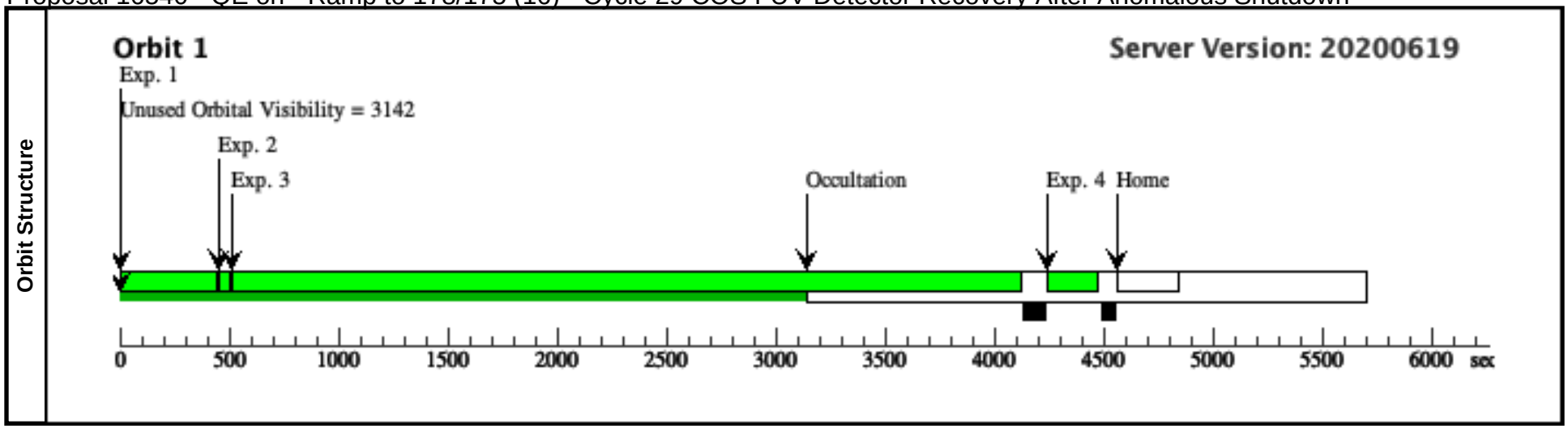
Diagnostics

(QE on - Ramp to 178/175 (16)) Warning (Orbit Planner): MAXIMUM DURATION EXCEEDED FOR INTERNAL OR EARTH CALIB SU

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	Ramp to 178 /175	DARK	S/C, DATA, NONE			SAA CONTOUR 31; SPEC COM INSTR RLHLTHNF; QASISTATES COS SI OBSERVE OBSE RVE; QASISTATES COS FUV HVLOW HVN OM	Sequence 1-4 Non-Int in QE on - Ramp to 178/175 (16)	451 Secs (451 Secs) *[==>]*	***[1]***
	Comments: Ramp the FUV HV to 178/175 counts (A/B, the nominal HVNom values).								
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 HVNOM HVN OM	Sequence 1-4 Non-Int in QE on - Ramp to 178/175 (16)	60.0 Secs (60 Secs) *[==>]*	***[1]***
	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_intrlv)*								
3	Dark	DARK	COS/FUV, TIME-TAG, DEF	DEF	BUFFER-TIME=3600; STIM-RATE=30	NEW ALIGNMENT	Sequence 1-4 Non-Int in QE on - Ramp to 178/175 (16)	3600.0 Secs (3600 Secs) *[==>]*	***[1]***
4	Wave	WAVE	COS/FUV, TIME-TAG, WCA	G160M 1600 A	CURRENT=MEDIUM; FP-POS=3; STIM-RATE=2000		Sequence 1-4 Non-Int in QE on - Ramp to 178/175 (16)	60 Secs (60 Secs) *[==>]*	***[1]***

Proposal 16540 - QE on - Ramp to 178/175 (16) - Cycle 29 COS FUV Detector Recovery After Anomalous Shutdown



Visit

Proposal 16540, Return to HVLow (17) Mon Jun 07 14:00:39 GMT 2021

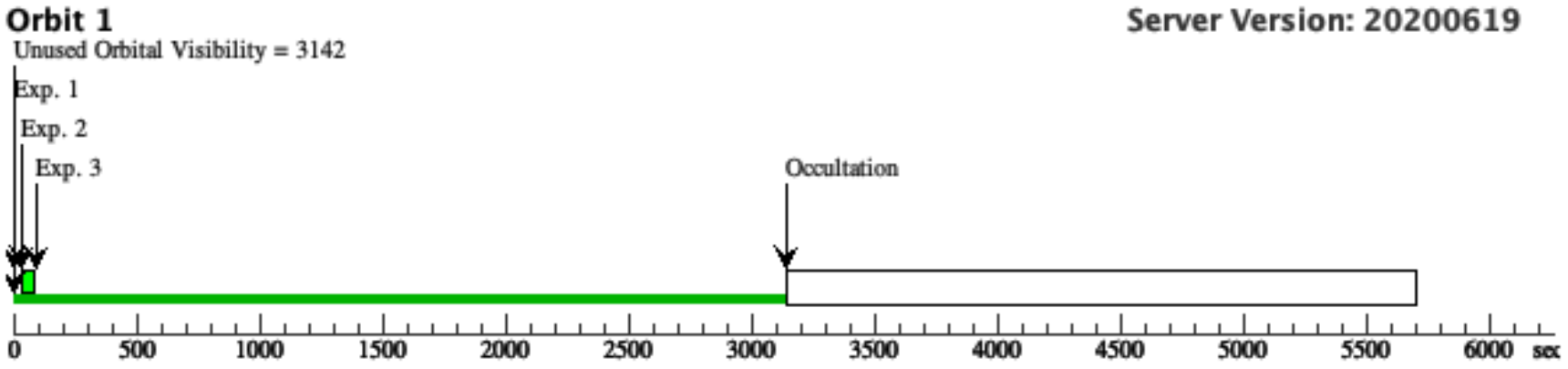
Diagnostic Status: No Diagnostics

Scientific Instruments: S/C

Special Requirements: AFTER 16 BY 1.2 H TO 3.5 H; PARALLEL

Comments: Return to HVLow, dump DCE memory, and set flag 3.

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	Return to HVLow	DARK	S/C, DATA, NONE			SAA CONTOUR 31; SPEC COM INSTR RLHNTHLF; NEW OBSET; QASISTATES COS SI OBSERVE OBSERVE; QASISTATES COS FUV HVNOM HVLOW	Sequence 1-3 Non-Int in Return to HVLow (17)	35 Secs (35 Secs) [==>]	[1]
Comments: SQL: Enforce seq non-int across the obsets									
2	DCE RAM dump	DARK	S/C, DATA, NONE			SAA CONTOUR 31; SPEC COM INSTR ELCOPYDCE; NEW ALIGNMENT; QASISTATES COS SI OBSERVE OBSERVE; QASISTATES COS FUV HVLOW HVLOW	Sequence 1-3 Non-Int in Return to HVLow (17)	60.0 Secs (60 Secs) [==>]	[1]
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_intrlv)									
3	Set flag 3	DARK	S/C, DATA, NONE			SPEC COM INSTR ELFLAG3; NEW ALIGNMENT	Sequence 1-3 Non-Int in Return to HVLow (17)	1.0 Secs (1 Secs) [==>]	[1]
Comments: Set NSSC-1 COS event flag 3. This will prevent subsequent FUV commanding unless it is cleared first.									

Orbit Structure