12676 - COS/FUV Characterization of Detector Effects

Cycle: 18, 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 DEUTERIUM NONE	COS COS/FUV S/C	1	20-Jul-2011 01:32:46.0	yes
02	DARK DEUTERIUM NONE	COS COS/FUV S/C	1	20-Jul-2011 01:32:54.0	yes
03	DARK DEUTERIUM NONE	COS COS/FUV S/C	1	20-Jul-2011 01:33:01.0	yes
04	DARK DEUTERIUM NONE	COS COS/FUV S/C	1	20-Jul-2011 01:33:09.0	yes

Visit	*Targets used in Visit*	*Configurations used in Visit*	*Orbits Used*	*Last Orbit Planner Run*	*OP Current with Visit?*
05	DARK DEUTERIUM NONE	COS COS/FUV S/C	1	20-Jul-2011 01:33:16.0	yes
06	DARK DEUTERIUM NONE	COS COS/FUV S/C	1	20-Jul-2011 01:33:22.0	yes
07	DARK DEUTERIUM NONE	COS COS/FUV S/C	1	20-Jul-2011 01:33:28.0	yes
08	DARK DEUTERIUM NONE	COS COS/FUV S/C	1	20-Jul-2011 01:33:35.0	yes
09	DARK DEUTERIUM NONE	COS COS/FUV S/C	1	20-Jul-2011 01:33:43.0	yes
10	DARK DEUTERIUM NONE	COS COS/FUV S/C	1	20-Jul-2011 01:33:50.0	yes
11	DARK DEUTERIUM NONE	COS COS/FUV S/C	1	20-Jul-2011 01:33:56.0	yes
12	DARK DEUTERIUM NONE	COS COS/FUV S/C	1	20-Jul-2011 01:34:02.0	yes

12 Total Orbits Used

ABSTRACT

This is a one time only program to survey the COS FUV detectors to determine the best locations for science operations. We use the deuterium lamp for two reasons: 1) it only requires internal orbits, and; 2) it is bright and fills the aperture, requiring fewer cross-dispersion locations than an external

target. Because the SED of the lamp is strongly peaked between 1300 and 1600 A, we use the G130M for the FUVA, and the G160M for the FUVB.

OBSERVING DESCRIPTION

This program examines the two COS FUV detectors in order to find the best lifetime locations for the first change in lifetime position and all subsequent moves. The objective is to determine which regions of the detector are least affected by dead spots and fixed pattern noise. We intend to determine this by exposing the active area which can be used for science (and accessed by the deuterium lamp) to the deuterium lamp through the FCA. This requires moving the FCA in Y to locations that will expose as much of the detectors as possible. Because the energy distribution of the deuterium lamp is strongly peaked at intermediate wavelengths, to uniformly illuminate an entire detector segment it is necessary to use the G130M for the FUVA and the G160M for the FUVB.

Exposure Times:

Our analysis plan is to use the FPPOS algorithm to extract 1-D flats and lamp spectra at several Y locations, so we must use all 4 FPPOS settings at each off-set location. For the FPPOS algorithm to produce useful results, a S/N of about 10 is required at each FPPOS for a strip 10 pixels tall in Y, which corresponds to the narrowest cross dispersion profile of the medium resolution gratings (the G160M). Thus, the requirement of a S/N of 10 in a 10 pixel high Y strip determines our exposure times. These were determined by scaling previous deuterium lamp exposures obtained during SMOV (programs 1143 and 11488). The expected count rates were assumed to be 15% less due to the time dependence of the sensitivity since SMOV. The SMOV data have minimum count rates of about 0.015/pixel, or 0.15 over a 10 pixel slit. To obtain a S/N = 10 requires an exposure time of 100/0.15 = 666 sec, and allowing for a 15% reduction in count rate is 784 s. The individual exposures are set to 900 s which should be adequate, including an additional 15% fading of the lamp due to use throughout the program.

Positioning the spectra:

When XAPER = 0, the PSA and FCA spectra are centered at about Y = 540 for the FUVB. Since 21 XAPER steps is 1" and 1 FUVB Y pixel is 0.1", the Y location of the spectrum is related to XAPER as follows:

XAPER = -2.1*(Y-540)

The range of XAPER is set by soft stops at +/-275 in LAPXSTP, which is related to XAPER as follows:

LAPXSTP = XAPER +126.1 for the PSA and

LAPXSTP = XAPER -153.1 for the FCA

Prog. 12096 showed that values of LAPXSTP < 0 for the PSA allowed light from the wavecal onto the detector. So the useful region of the PSA (for normal operations) is defined by 0 < LAPXSTP < 275, which corresponds to 126 < XAPER < 401, or 469 < Y < 600.

For the FCA, -275 < LAPXSTP < 275, corresponds to -122 < XAPER < 153, or 336 < Y < 598. Because the region below Y = 469 is inaccessible to the PSA and the region above Y = 600 results in light leaks (and is inaccessable to the FCA), we will use the FCA to explore the region 465 < Y < 595. This can be done by covering the range -273 < LAPXSTP < 0 with 6 positions (5 would just work, but 6 insures good Y coverage). The selected positions are:

LAPXSTP = 0.0, -54.6, -109.2, -163.8, -218.4, -273.0

Y = 467, 493, 519, 545, 571, 597

XAPER = 153.1, 98.5, 43.9, -10.7, -65.3, -119.9

offsets = -7.3, -4.7, -2.1, +0.5, +3.1, +5.7 arc sec

Notes on special commands:
S/C Observations using the special command ELAPERSET along with QUESIPARM APERTURE FCA and QUESIPARM DET FUV that preseeds ever XAPER command the sets the value for the aperture location as the default location for the FCA so that the subsequent XAPER command will move from the appropriate location.

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

Finally, observations 7 - 12 begin with a set of commands that changes the HV setting to the low value.

CALIBRATION JUSTIFICATION

We must perform a survey of the FUV detectors to determine their on orbit properties in order to select the best locations to move for new lifetime positions.

Visit

Proposal 12676, Visit 01, scheduled Wed Jul 20 05:34:07 GMT 2011

Diagnostic Status: Warning

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

Special Requirements: AFTER 12 BY 0 S TO 5 D; PARALLEL

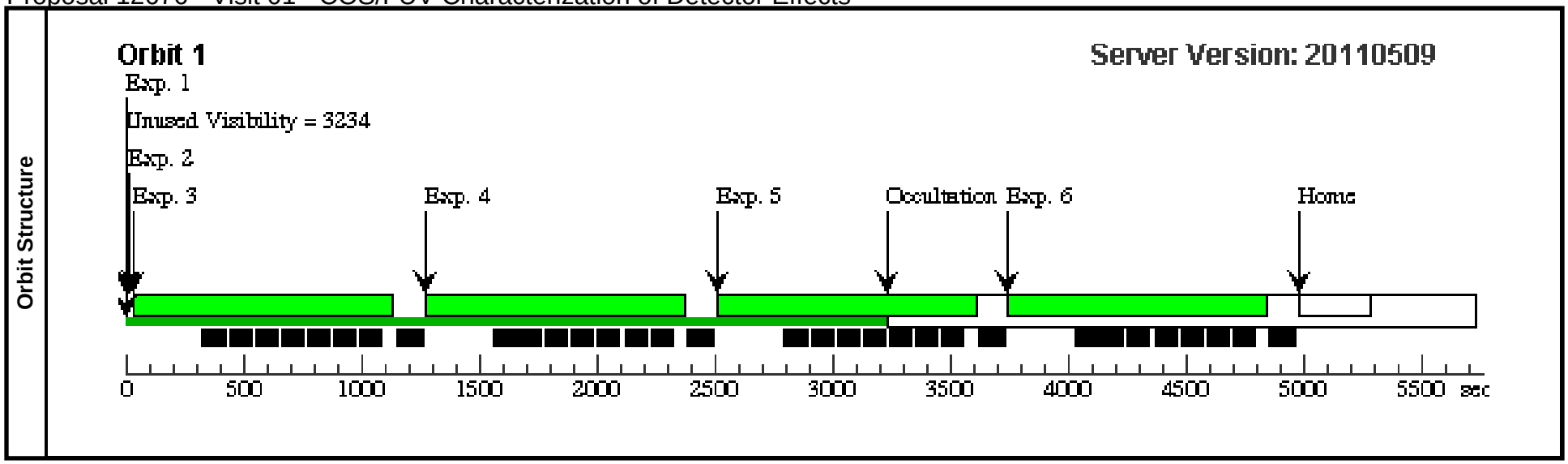
Comments: Mapping FUVA, leaving FUVB HV at the higher setting
Corresponds to an offset of -7.3"

Diagnostics

(Visit 01) 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/[Actual Dur.]	Orbit
1		DARK	S/C, DATA, NONE			SPEC COM INSTR ELAPERSET; QESIPARM APERTURE FCA; QESIPARM DET FUV		10 Secs *[==>]*	***[1]***
2		NONE	COS, ALIGN/APER		XAPER=153			0.0 Secs *[==>]*	***[1]***
3		DEUTERIUM	COS/FUV, TIME-TAG, FCA	G130M 1309 A	CURRENT=MEDIUM; FP-POS=1; BUFFER-TIME=111	SPEC COM INSTR ELNOAPMAIN		900 Secs *[==>]*	***[1]***
4		DEUTERIUM	COS/FUV, TIME-TAG, FCA	G130M 1309 A	BUFFER-TIME=111; CURRENT=MEDIUM; FP-POS=2	SPEC COM INSTR ELNOAPMAIN		900 Secs *[==>]*	***[1]***
5		DEUTERIUM	COS/FUV, TIME-TAG, FCA	G130M 1309 A	BUFFER-TIME=111; CURRENT=MEDIUM; FP-POS=3	SPEC COM INSTR ELNOAPMAIN		900 Secs *[==>]*	***[1]***
6		DEUTERIUM	COS/FUV, TIME-TAG, FCA	G130M 1309 A	BUFFER-TIME=111; CURRENT=MEDIUM; FP-POS=4	SPEC COM INSTR ELNOAPMAIN		900 Secs *[==>]*	***[1]***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Unused Visibility = 3234
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Exp. 3
Exp. 4
Exp. 5
Occultation
Exp. 6
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Visit

Proposal 12676, Visit 02, scheduled Wed Jul 20 05:34:08 GMT 2011

Diagnostic Status: Warning

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

Special Requirements: AFTER 11 BY 0 S TO 5 D; PARALLEL

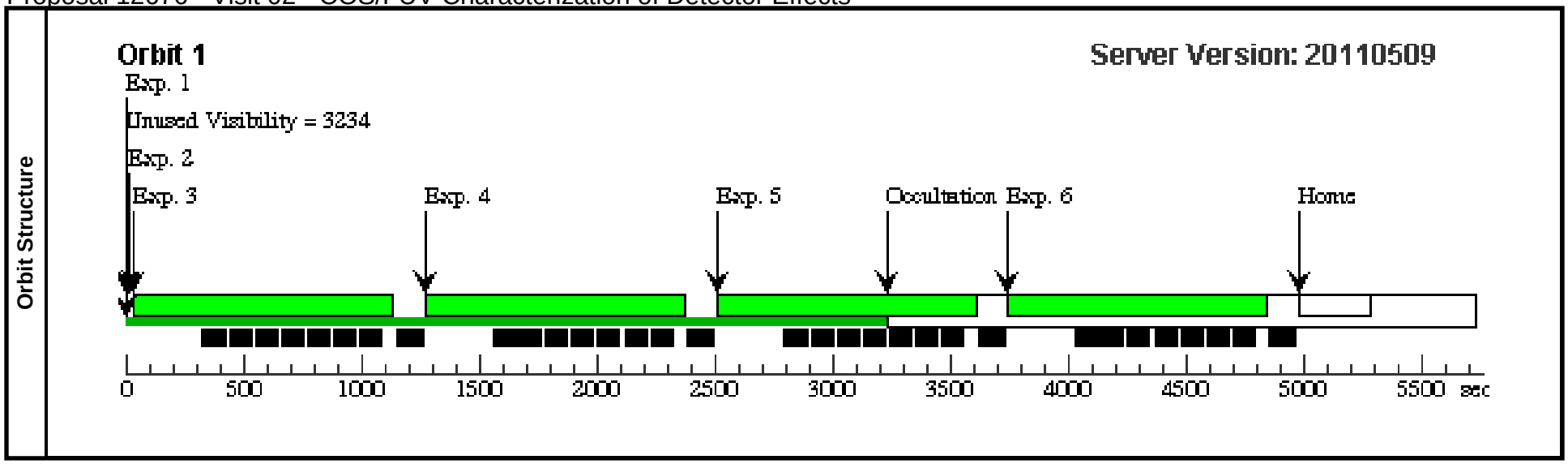
Comments: Mapping FUVA, leaving FUVB HV at the higher setting
Corresponds to an offset of -4.7"

Diagnostics

(Visit 02) 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/[Actual Dur.]	Orbit
1		DARK	S/C, DATA, NONE			SPEC COM INSTR ELAPERSET; QESIPARM APERTURE FCA; QESIPARM DET FUV		10 Secs *[==>]*	***[1]***
2		NONE	COS, ALIGN/APER		XAPER=98			0.0 Secs *[==>]*	***[1]***
3		DEUTERIUM	COS/FUV, TIME-TAG, FCA	G130M 1309 A	BUFFER-TIME=111; CURRENT=MEDIUM; FP-POS=1	SPEC COM INSTR ELNOAPMAIN		900 Secs *[==>]*	***[1]***
4		DEUTERIUM	COS/FUV, TIME-TAG, FCA	G130M 1309 A	BUFFER-TIME=111; CURRENT=MEDIUM; FP-POS=2	SPEC COM INSTR ELNOAPMAIN		900 Secs *[==>]*	***[1]***
5		DEUTERIUM	COS/FUV, TIME-TAG, FCA	G130M 1309 A	BUFFER-TIME=111; CURRENT=MEDIUM; FP-POS=3	SPEC COM INSTR ELNOAPMAIN		900 Secs *[==>]*	***[1]***
6		DEUTERIUM	COS/FUV, TIME-TAG, FCA	G130M 1309 A	BUFFER-TIME=111; CURRENT=MEDIUM; FP-POS=4	SPEC COM INSTR ELNOAPMAIN		900 Secs *[==>]*	***[1]***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Exp. 5
Occultation
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Visit

Proposal 12676, Visit 03, scheduled Wed Jul 20 05:34:09 GMT 2011

Diagnostic Status: Warning

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

Special Requirements: AFTER 10 BY 0 S TO 5 D; PARALLEL

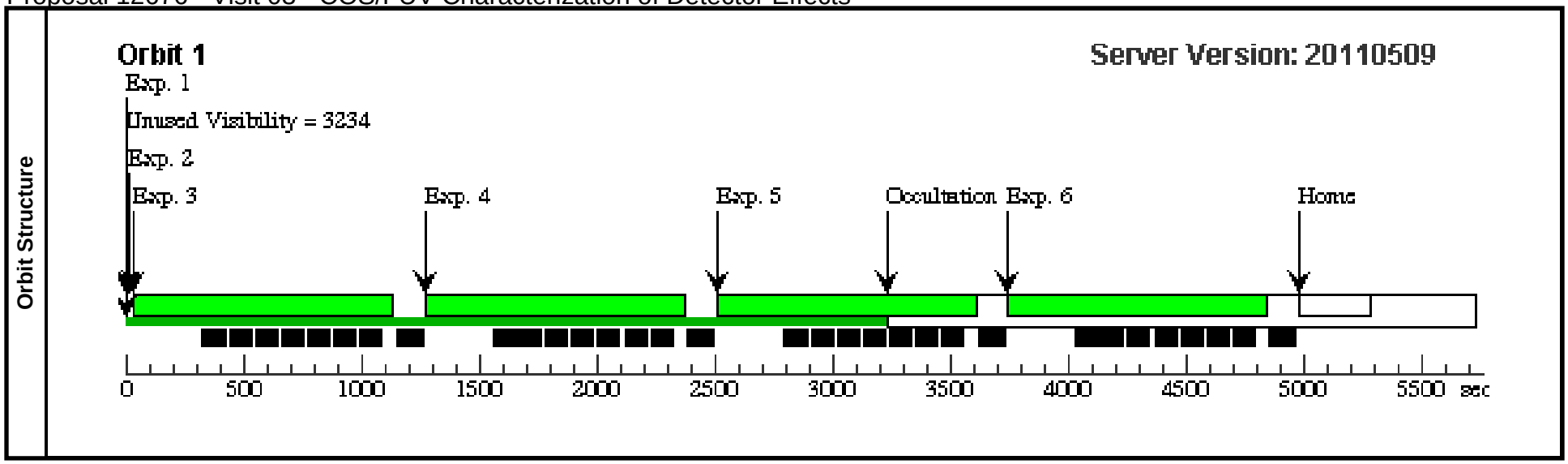
Comments: Mapping FUVA, leaving FUVB HV at the higher setting
Corresponds to an offset of -2.1"

Diagnostics

(Visit 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/[Actual Dur.]	Orbit
1		DARK	S/C, DATA, NONE			SPEC COM INSTR ELAPERSET; QESIPARM APERTURE FCA; QESIPARM DET FUV		10 Secs *[==>]*	***[1]***
2		NONE	COS, ALIGN/APER		XAPER=44			0.0 Secs *[==>]*	***[1]***
3		DEUTERIUM	COS/FUV, TIME-TAG, FCA	G130M 1309 A	BUFFER-TIME=111; CURRENT=MEDIUM; FP-POS=1	SPEC COM INSTR ELNOAPMAIN		900 Secs *[==>]*	***[1]***
4		DEUTERIUM	COS/FUV, TIME-TAG, FCA	G130M 1309 A	BUFFER-TIME=111; CURRENT=MEDIUM; FP-POS=2	SPEC COM INSTR ELNOAPMAIN		900 Secs *[==>]*	***[1]***
5		DEUTERIUM	COS/FUV, TIME-TAG, FCA	G130M 1309 A	BUFFER-TIME=111; CURRENT=MEDIUM; FP-POS=3	SPEC COM INSTR ELNOAPMAIN		900 Secs *[==>]*	***[1]***
6		DEUTERIUM	COS/FUV, TIME-TAG, FCA	G130M 1309 A	BUFFER-TIME=111; CURRENT=MEDIUM; FP-POS=4	SPEC COM INSTR ELNOAPMAIN		900 Secs *[==>]*	***[1]***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Exp. 4
Exp. 5
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Visit

Proposal 12676, Visit 04, scheduled Wed Jul 20 05:34:09 GMT 2011

Diagnostic Status: Warning

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

Special Requirements: PARALLEL

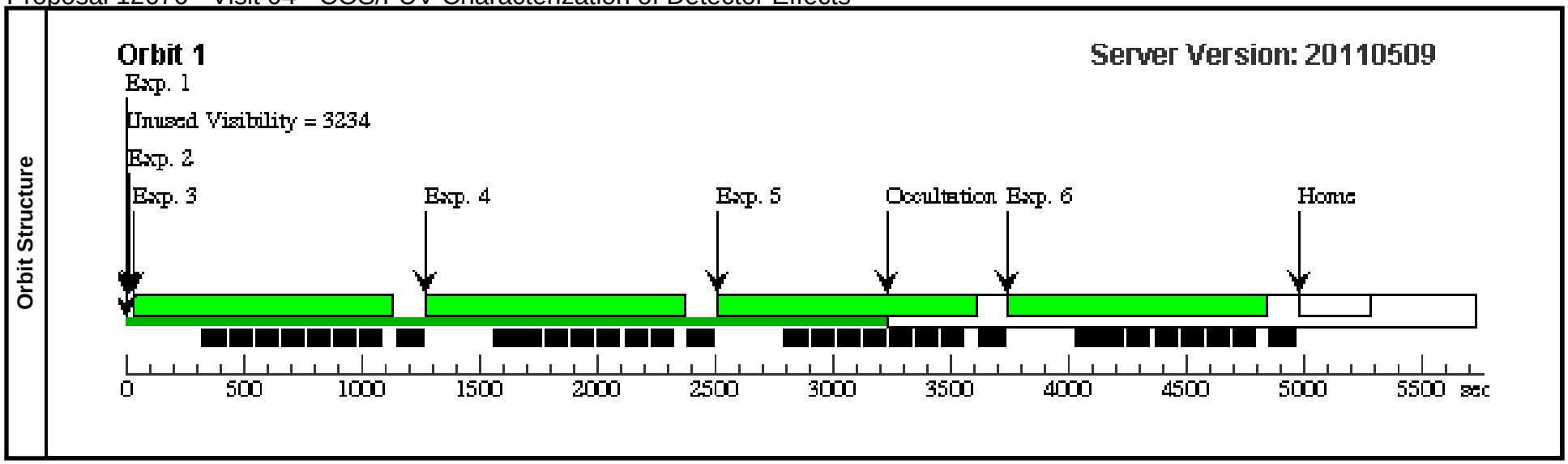
Comments: Mapping FUVA, leaving FUVB HV at the higher setting
Corresponds to an offset of +0.5"

Diagnostics

(Visit 04) 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/[Actual Dur.]	Orbit
1		DARK	S/C, DATA, NONE			SPEC COM INSTR ELAPERSET; QESIPARM APERTURE FCA; QESIPARM DET FUV		10 Secs *[==>]*	***[1]***
2		NONE	COS, ALIGN/APER		XAPER=-11			0.0 Secs *[==>]*	***[1]***
3		DEUTERIUM	COS/FUV, TIME-TAG, FCA	G130M 1309 A	BUFFER-TIME=111; CURRENT=MEDIUM; FP-POS=1	SPEC COM INSTR ELNOAPMAIN		900 Secs *[==>]*	***[1]***
4		DEUTERIUM	COS/FUV, TIME-TAG, FCA	G130M 1309 A	BUFFER-TIME=111; CURRENT=MEDIUM; FP-POS=2	SPEC COM INSTR ELNOAPMAIN		900 Secs *[==>]*	***[1]***
5		DEUTERIUM	COS/FUV, TIME-TAG, FCA	G130M 1309 A	BUFFER-TIME=111; CURRENT=MEDIUM; FP-POS=3	SPEC COM INSTR ELNOAPMAIN		900 Secs *[==>]*	***[1]***
6		DEUTERIUM	COS/FUV, TIME-TAG, FCA	G130M 1309 A	BUFFER-TIME=111; CURRENT=MEDIUM; FP-POS=4	SPEC COM INSTR ELNOAPMAIN		900 Secs *[==>]*	***[1]***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Visit

Proposal 12676, Visit 05, scheduled Wed Jul 20 05:34:10 GMT 2011

Diagnostic Status: Warning

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

Special Requirements: AFTER 09 BY 0 S TO 5 D; PARALLEL

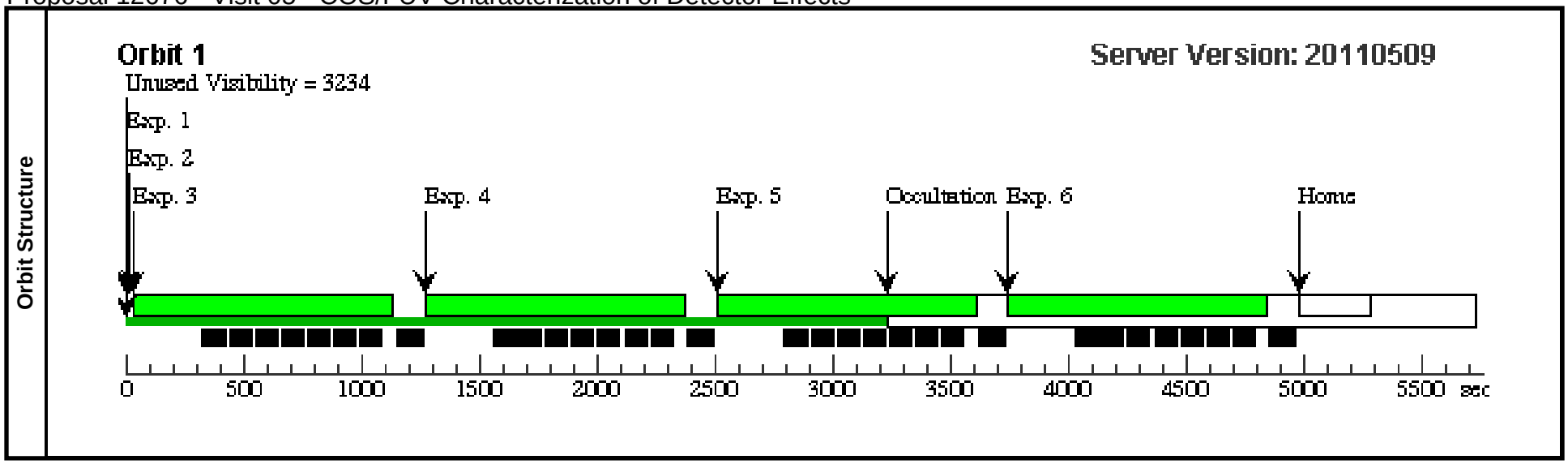
Comments: Mapping FUVA, leaving FUVB HV at the higher setting
Corresponds to an offset of +3.1"

Diagnostics

(Visit 05) 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/[Actual Dur.]	Orbit
1		DARK	S/C, DATA, NONE			SPEC COM INSTR ELAPERSET; QESIPARM APERTURE FCA; QESIPARM DET FUV		10 Secs *[==>]*	***[1]***
2		NONE	COS, ALIGN/APER		XAPER=-65			0.0 Secs *[==>]*	***[1]***
3		DEUTERIUM	COS/FUV, TIME-TAG, FCA	G130M 1309 A	BUFFER-TIME=1111; CURRENT=MEDIUM; FP-POS=1	SPEC COM INSTR ELNOAPMAIN		900 Secs *[==>]*	***[1]***
4		DEUTERIUM	COS/FUV, TIME-TAG, FCA	G130M 1309 A	BUFFER-TIME=1111; CURRENT=MEDIUM; FP-POS=2	SPEC COM INSTR ELNOAPMAIN		900 Secs *[==>]*	***[1]***
5		DEUTERIUM	COS/FUV, TIME-TAG, FCA	G130M 1309 A	BUFFER-TIME=1111; CURRENT=MEDIUM; FP-POS=3	SPEC COM INSTR ELNOAPMAIN		900 Secs *[==>]*	***[1]***
6		DEUTERIUM	COS/FUV, TIME-TAG, FCA	G130M 1309 A	BUFFER-TIME=1111; CURRENT=MEDIUM; FP-POS=4	SPEC COM INSTR ELNOAPMAIN		900 Secs *[==>]*	***[1]***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Visit

Proposal 12676, Visit 06, scheduling Wed Jul 20 05:34:10 GMT 2011

Diagnostic Status: Warning

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

Special Requirements: AFTER 08 BY 0 S TO 5 D; PARALLEL

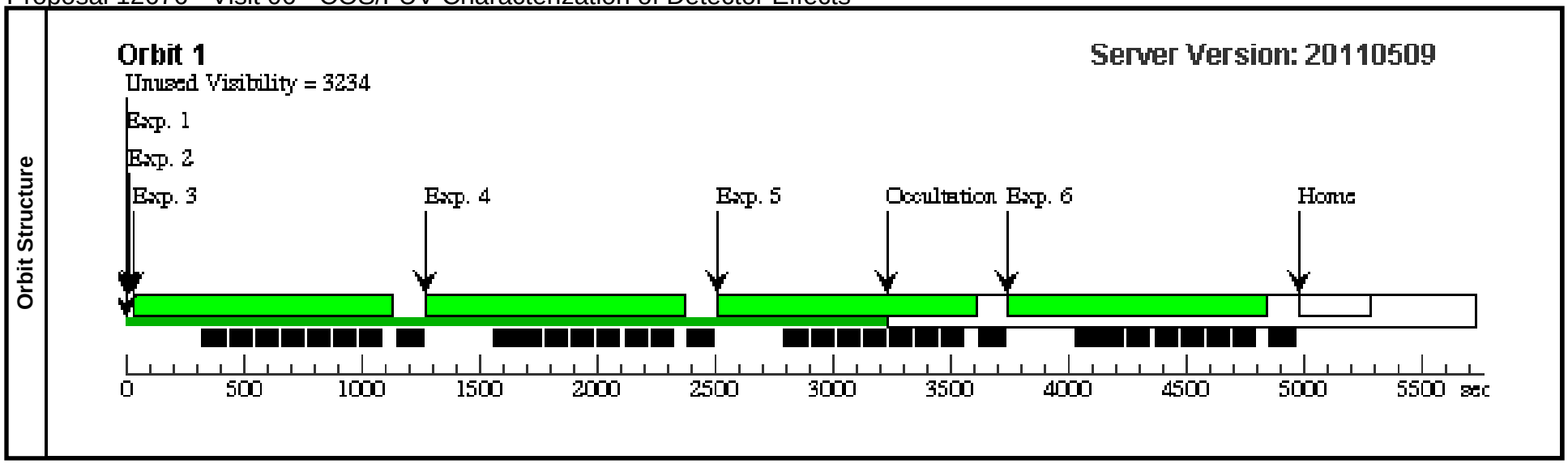
Comments: Mapping FUVA, leaving FUVB HV at the higher setting
Corresponds to an offset of +5.7"

Diagnostics

(Visit 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/[Actual Dur.]	Orbit
1		DARK	S/C, DATA, NONE			SPEC COM INSTR ELAPERSET; QESIPARM APERTURE FCA; QESIPARM DET FUV		10 Secs *[==>]*	***[1]***
2		NONE	COS, ALIGN/APER		XAPER=-115			0.0 Secs *[==>]*	***[1]***
3		DEUTERIUM	COS/FUV, TIME-TAG, FCA	G130M 1309 A	BUFFER-TIME=111; CURRENT=MEDIUM; FP-POS=1	SPEC COM INSTR ELNOAPMAIN		900 Secs *[==>]*	***[1]***
4		DEUTERIUM	COS/FUV, TIME-TAG, FCA	G130M 1309 A	BUFFER-TIME=111; CURRENT=MEDIUM; FP-POS=2	SPEC COM INSTR ELNOAPMAIN		900 Secs *[==>]*	***[1]***
5		DEUTERIUM	COS/FUV, TIME-TAG, FCA	G130M 1309 A	BUFFER-TIME=111; CURRENT=MEDIUM; FP-POS=3	SPEC COM INSTR ELNOAPMAIN		900 Secs *[==>]*	***[1]***
6		DEUTERIUM	COS/FUV, TIME-TAG, FCA	G130M 1309 A	BUFFER-TIME=111; CURRENT=MEDIUM; FP-POS=4	SPEC COM INSTR ELNOAPMAIN		900 Secs *[==>]*	***[1]***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Proposal 12676 - Visit 07 - COS/FUV Characterization of Detector Effects

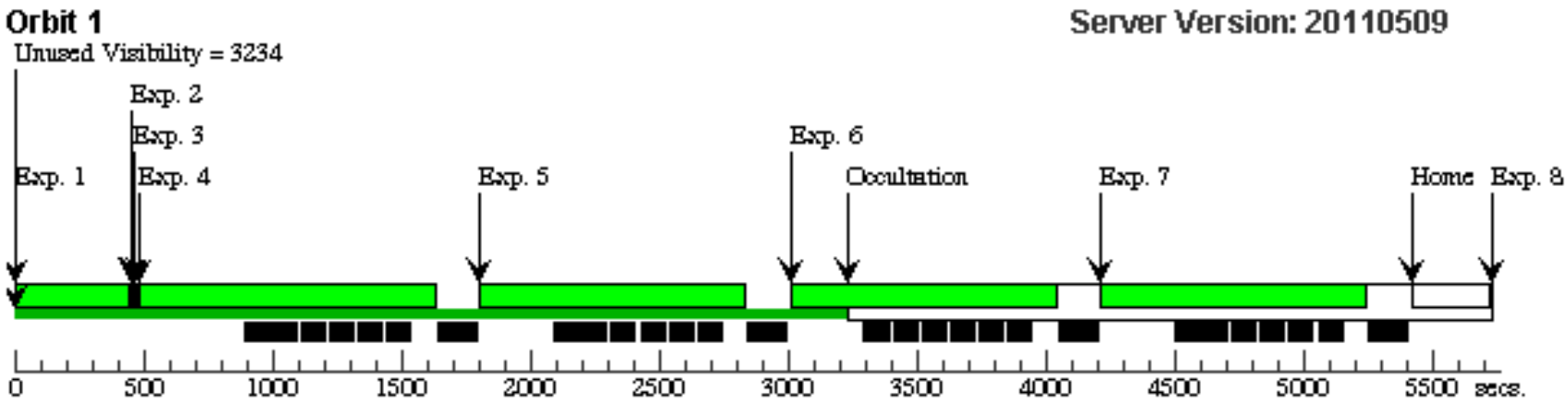
Visit	**Proposal 12676, Visit 07, scheduled** Wed Jul 20 05:34:10 GMT 2011 **Diagnostic Status: Warning** Scientific Instruments: S/C, COS/FUV, COS Special Requirements: AFTER 01 BY 0 S TO 5 D; PARALLEL *Comments: Mapping FUVB at the lower HV setting* *Corresponds to an offset of -7.3"*
Diagnostics	(Visit 07) 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/[Actual Dur.]	Orbit
1		DARK	S/C, DATA, NONE			SAA CONTOUR 31; SPEC COM INSTR ELHLTHVF; QASISTATES COS FUV HVLOW HVNOM; QESIPARM ENDC TSB 167		450 Secs *[==>]*	 ***[1]***
2		DARK	S/C, DATA, NONE			SPEC COM INSTR ELAPERSET; QESIPARM APERTURE FCA; QESIPARM DET FUV		10 Secs *[==>]*	 ***[1]***
3		NONE	COS, ALIGN/APER		XAPER=153			0.0 Secs *[==>]*	 ***[1]***
4		DEUTERIUM	COS/FUV, TIME-TAG, FCA	G160M 1600 A	BUFFER-TIME=1111; CURRENT=MEDIUM; FP-POS=1	SPEC COM INSTR ELNOAPMAIN		830 Secs *[==>]*	 ***[1]***
5		DEUTERIUM	COS/FUV, TIME-TAG, FCA	G160M 1600 A	BUFFER-TIME=1111; CURRENT=MEDIUM; FP-POS=2	SPEC COM INSTR ELNOAPMAIN		830 Secs *[==>]*	 ***[1]***
6		DEUTERIUM	COS/FUV, TIME-TAG, FCA	G160M 1600 A	BUFFER-TIME=1111; CURRENT=MEDIUM; FP-POS=3	SPEC COM INSTR ELNOAPMAIN		830 Secs *[==>]*	 ***[1]***
7		DEUTERIUM	COS/FUV, TIME-TAG, FCA	G160M 1600 A	BUFFER-TIME=1111; CURRENT=MEDIUM; FP-POS=4	SPEC COM INSTR ELNOAPMAIN		830 Secs *[==>]*	 ***[1]***
8		DARK	S/C, DATA, NONE			NEW OBSET; QASISTATES COS FUV HVLOW HVLOW; QASISTATES COS SI OBSERVE OBSERVE		1 Secs *[==>]*	 ***[1]***

Comments: New obset SR necessary to force this exposure to be the very last exposure after Home.

Orbit Structure



Proposal 12676 - Visit 08 - COS/FUV Characterization of Detector Effects

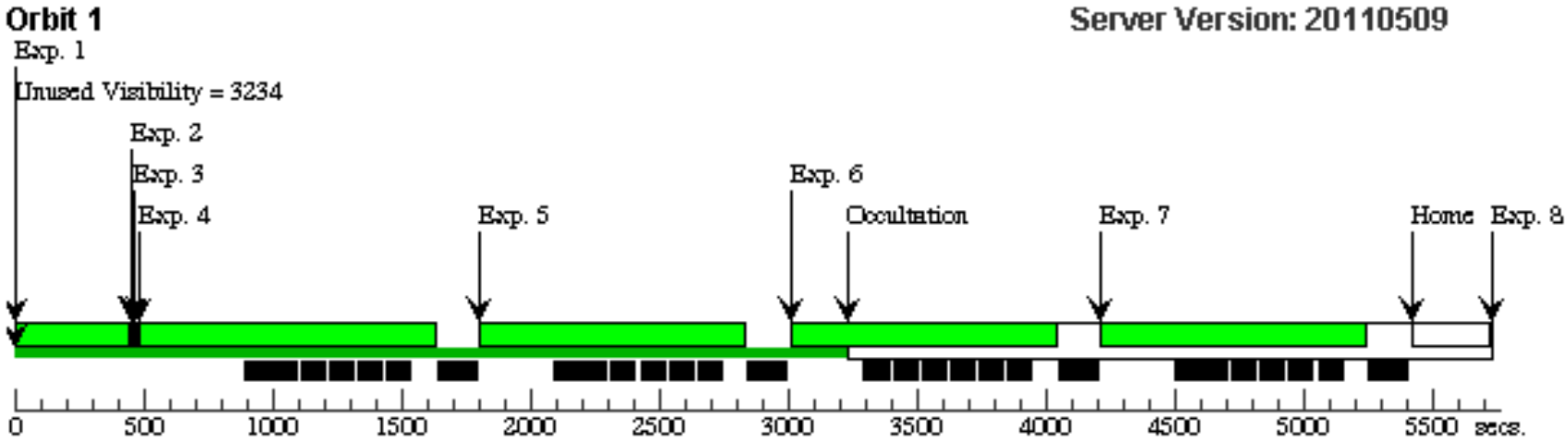
Visit	**Proposal 12676, Visit 08, scheduled** Wed Jul 20 05:34:11 GMT 2011 **Diagnostic Status: Warning** Scientific Instruments: S/C, COS/FUV, COS Special Requirements: AFTER 02 BY 0 S TO 5 D; PARALLEL *Comments: Mapping FUVB at the lower HV setting* *Corresponds to an offset of -4.7"*
Diagnostics	(Visit 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/[Actual Dur.]	Orbit
1		DARK	S/C, DATA, NONE			SAA CONTOUR 31; SPEC COM INSTR ELHLTHVF; QASISTATES COS FUV HVLOW HVNOM; QESIPARM ENDC TSB 167		450 Secs *[==>]*	 ***[1]***
2		DARK	S/C, DATA, NONE			SPEC COM INSTR ELAPERSET; QESIPARM APERTURE FCA; QESIPARM DET FUV		10 Secs *[==>]*	 ***[1]***
3		NONE	COS, ALIGN/APER		XAPER=98			0.0 Secs *[==>]*	 ***[1]***
4		DEUTERIUM	COS/FUV, TIME-TAG, FCA	G160M 1600 A	BUFFER-TIME=1111; CURRENT=MEDIUM; FP-POS=1	SPEC COM INSTR ELNOAPMAIN		830 Secs *[==>]*	 ***[1]***
5		DEUTERIUM	COS/FUV, TIME-TAG, FCA	G160M 1600 A	BUFFER-TIME=1111; CURRENT=MEDIUM; FP-POS=2	SPEC COM INSTR ELNOAPMAIN		830 Secs *[==>]*	 ***[1]***
6		DEUTERIUM	COS/FUV, TIME-TAG, FCA	G160M 1600 A	BUFFER-TIME=1111; CURRENT=MEDIUM; FP-POS=3	SPEC COM INSTR ELNOAPMAIN		830 Secs *[==>]*	 ***[1]***
7		DEUTERIUM	COS/FUV, TIME-TAG, FCA	G160M 1600 A	BUFFER-TIME=1111; CURRENT=MEDIUM; FP-POS=4	SPEC COM INSTR ELNOAPMAIN		830 Secs *[==>]*	 ***[1]***
8		DARK	S/C, DATA, NONE			NEW OBSET; QASISTATES COS FUV HVLOW HVLOW; QASISTATES COSI OBSERVE OBSERVE		1 Secs *[==>]*	 ***[1]***

Comments: New obset SR necessary to force this exposure to be the very last exposure after Home.

Orbit Structure



Proposal 12676 - Visit 09 - COS/FUV Characterization of Detector Effects

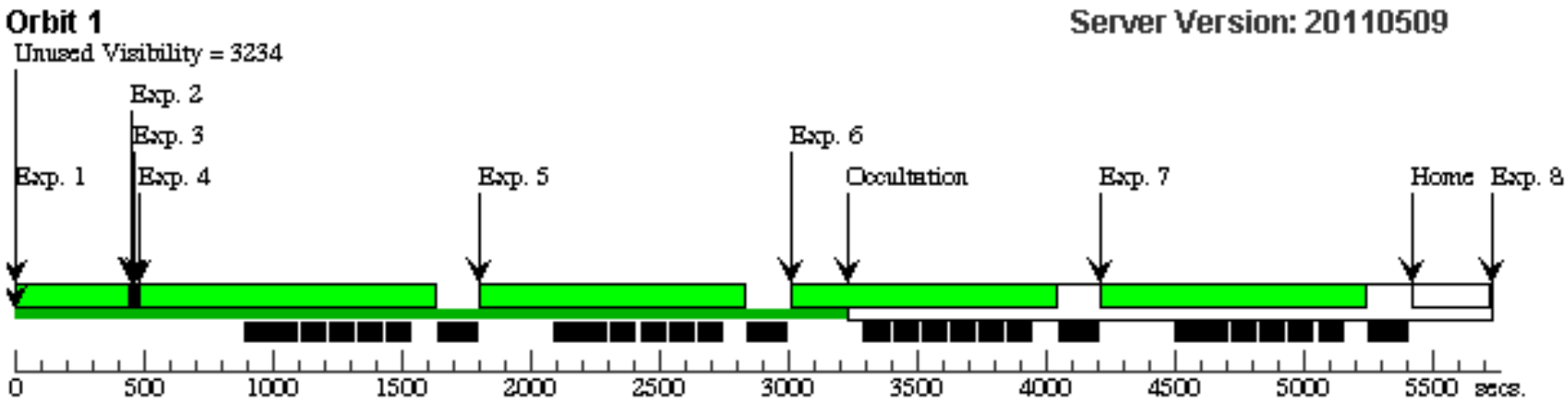
Visit	**Proposal 12676, Visit 09, scheduled** Wed Jul 20 05:34:11 GMT 2011 **Diagnostic Status: Warning** Scientific Instruments: S/C, COS/FUV, COS Special Requirements: AFTER 03 BY 0 S TO 5 D; PARALLEL *Comments: Mapping FUVB at the lower HV setting* *Corresponds to an offset of -2.1"*
Diagnostics	(Visit 09) 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/[Actual Dur.]	Orbit
1		DARK	S/C, DATA, NONE			SAA CONTOUR 31; SPEC COM INSTR ELHLTHVF; QASISTATES COS FUV HVLOW HVNOM; QESIPARM ENDC TSB 167		450 Secs *[==>]*	 ***[1]***
2		DARK	S/C, DATA, NONE			SPEC COM INSTR ELAPERSET; QESIPARM APERTURE FCA; QESIPARM DET FUV		10 Secs *[==>]*	 ***[1]***
3		NONE	COS, ALIGN/APER		XAPER=44			0.0 Secs *[==>]*	 ***[1]***
4		DEUTERIUM	COS/FUV, TIME-TAG, FCA	G160M 1600 A	BUFFER-TIME=1111; CURRENT=MEDIUM; FP-POS=1	SPEC COM INSTR ELNOAPMAIN		830 Secs *[==>]*	 ***[1]***
5		DEUTERIUM	COS/FUV, TIME-TAG, FCA	G160M 1600 A	BUFFER-TIME=1111; CURRENT=MEDIUM; FP-POS=2	SPEC COM INSTR ELNOAPMAIN		830 Secs *[==>]*	 ***[1]***
6		DEUTERIUM	COS/FUV, TIME-TAG, FCA	G160M 1600 A	BUFFER-TIME=1111; CURRENT=MEDIUM; FP-POS=3	SPEC COM INSTR ELNOAPMAIN		830 Secs *[==>]*	 ***[1]***
7		DEUTERIUM	COS/FUV, TIME-TAG, FCA	G160M 1600 A	BUFFER-TIME=1111; CURRENT=MEDIUM; FP-POS=4	SPEC COM INSTR ELNOAPMAIN		830 Secs *[==>]*	 ***[1]***
8		DARK	S/C, DATA, NONE			NEW OBSET; QASISTATES COS FUV HVLOW HVLOW; QASISTATES COSI OBSERVE OBSERVE		1 Secs *[==>]*	 ***[1]***

Comments: New obset SR necessary to force this exposure to be the very last exposure after Home.

Orbit Structure



Proposal 12676 - Visit 10 - COS/FUV Characterization of Detector Effects

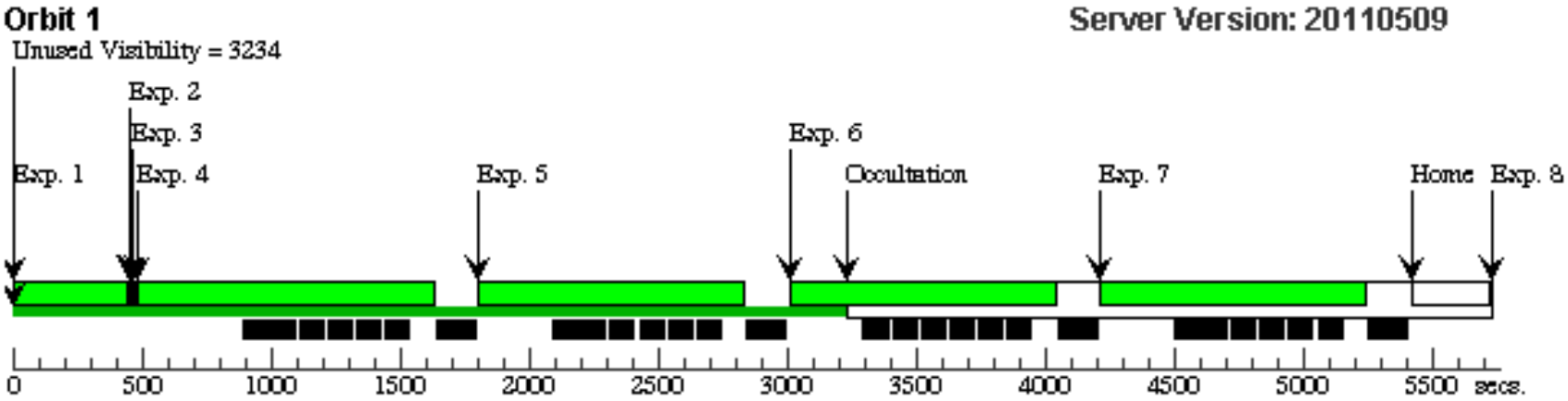
Visit	**Proposal 12676, Visit 10, scheduled** Wed Jul 20 05:34:11 GMT 2011 **Diagnostic Status: Warning** Scientific Instruments: S/C, COS/FUV, COS Special Requirements: AFTER 04 BY 0 S TO 5 D; PARALLEL *Comments: Mapping FUVB at the lower HV setting* *Corresponds to an offset of +0.5"*
Diagnostics	(Visit 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/[Actual Dur.]	Orbit
1		DARK	S/C, DATA, NONE			SAA CONTOUR 31; SPEC COM INSTR ELHLTHVF; QASISTATES COS FUV HVLOW HVNOM; QESIPARM ENDC TSB 167		450 Secs *[==>]*	 ***[1]***
2		DARK	S/C, DATA, NONE			SPEC COM INSTR ELAPERSET; QESIPARM APERTURE FCA; QESIPARM DET FUV		10 Secs *[==>]*	 ***[1]***
3		NONE	COS, ALIGN/APER		XAPER=-11			0.0 Secs *[==>]*	 ***[1]***
4		DEUTERIUM	COS/FUV, TIME-TAG, FCA	G160M 1600 A	BUFFER-TIME=1111; CURRENT=MEDIUM; FP-POS=1	SPEC COM INSTR ELNOAPMAIN		830 Secs *[==>]*	 ***[1]***
5		DEUTERIUM	COS/FUV, TIME-TAG, FCA	G160M 1600 A	BUFFER-TIME=1111; CURRENT=MEDIUM; FP-POS=2	SPEC COM INSTR ELNOAPMAIN		830 Secs *[==>]*	 ***[1]***
6		DEUTERIUM	COS/FUV, TIME-TAG, FCA	G160M 1600 A	BUFFER-TIME=1111; CURRENT=MEDIUM; FP-POS=3	SPEC COM INSTR ELNOAPMAIN		830 Secs *[==>]*	 ***[1]***
7		DEUTERIUM	COS/FUV, TIME-TAG, FCA	G160M 1600 A	BUFFER-TIME=1111; CURRENT=MEDIUM; FP-POS=4	SPEC COM INSTR ELNOAPMAIN		830 Secs *[==>]*	 ***[1]***
8		DARK	S/C, DATA, NONE			NEW OBSET; QASISTATES COS FUV HVLOW HVLOW; QASISTATES COSI OBSERVE OBSERVE		1 Secs *[==>]*	 ***[1]***

Comments: New obset SR necessary to force this exposure to be the very last exposure after Home.

Orbit Structure



Proposal 12676 - Visit 11 - COS/FUV Characterization of Detector Effects

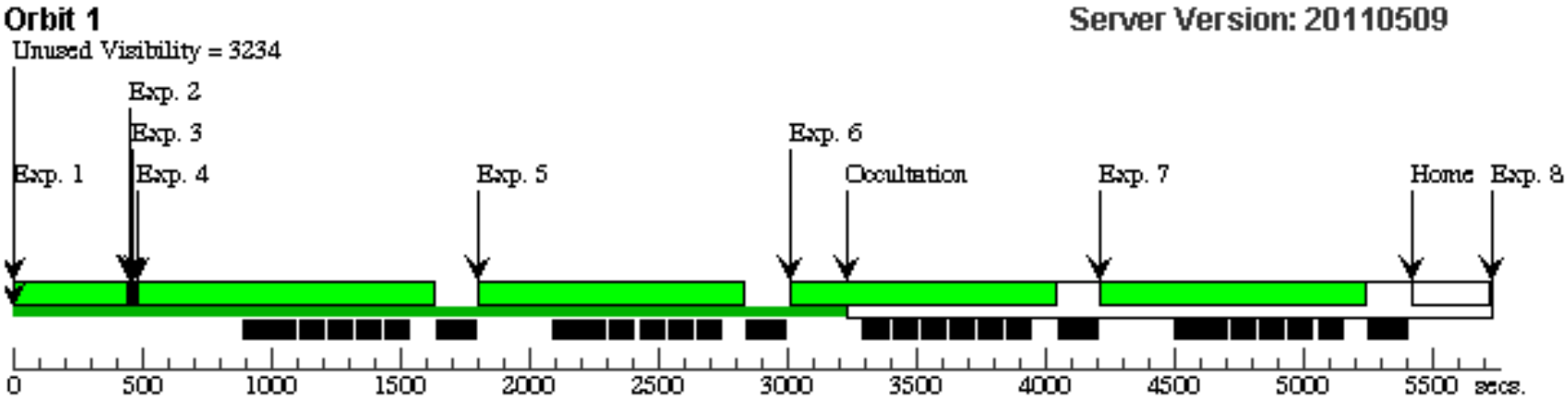
Visit	**Proposal 12676, Visit 11, scheduled** Wed Jul 20 05:34:12 GMT 2011 **Diagnostic Status: Warning** Scientific Instruments: S/C, COS/FUV, COS Special Requirements: AFTER 05 BY 0 S TO 5 D; PARALLEL *Comments: Mapping FUVB at the lower HV setting* *Corresponds to an offset of +3.1"*
Diagnostics	(Visit 11) 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/[Actual Dur.]	Orbit
1		DARK	S/C, DATA, NONE			SAA CONTOUR 31; SPEC COM INSTR ELHLTHVF; QASISTATES COS FUV HVLOW HVNOM; QESIPARM ENDC TSB 167		450 Secs *[==>]*	 ***[1]***
2		DARK	S/C, DATA, NONE			SPEC COM INSTR ELAPERSET; QESIPARM APERTURE FCA; QESIPARM DET FUV		10 Secs *[==>]*	 ***[1]***
3		NONE	COS, ALIGN/APER		XAPER=-65			0.0 Secs *[==>]*	 ***[1]***
4		DEUTERIUM	COS/FUV, TIME-TAG, FCA	G160M 1600 A	BUFFER-TIME=1111; CURRENT=MEDIUM; FP-POS=1	SPEC COM INSTR ELNOAPMAIN		830 Secs *[==>]*	 ***[1]***
5		DEUTERIUM	COS/FUV, TIME-TAG, FCA	G160M 1600 A	BUFFER-TIME=1111; CURRENT=MEDIUM; FP-POS=2	SPEC COM INSTR ELNOAPMAIN		830 Secs *[==>]*	 ***[1]***
6		DEUTERIUM	COS/FUV, TIME-TAG, FCA	G160M 1600 A	BUFFER-TIME=1111; CURRENT=MEDIUM; FP-POS=3	SPEC COM INSTR ELNOAPMAIN		830 Secs *[==>]*	 ***[1]***
7		DEUTERIUM	COS/FUV, TIME-TAG, FCA	G160M 1600 A	BUFFER-TIME=1111; CURRENT=MEDIUM; FP-POS=4	SPEC COM INSTR ELNOAPMAIN		830 Secs *[==>]*	 ***[1]***
8		DARK	S/C, DATA, NONE			NEW OBSET; QASISTATES COS FUV HVLOW HVLOW; QASISTATES COSI OBSERVE OBSERVE		1 Secs *[==>]*	 ***[1]***

Comments: New obset SR necessary to force this exposure to be the very last exposure after Home.

Orbit Structure

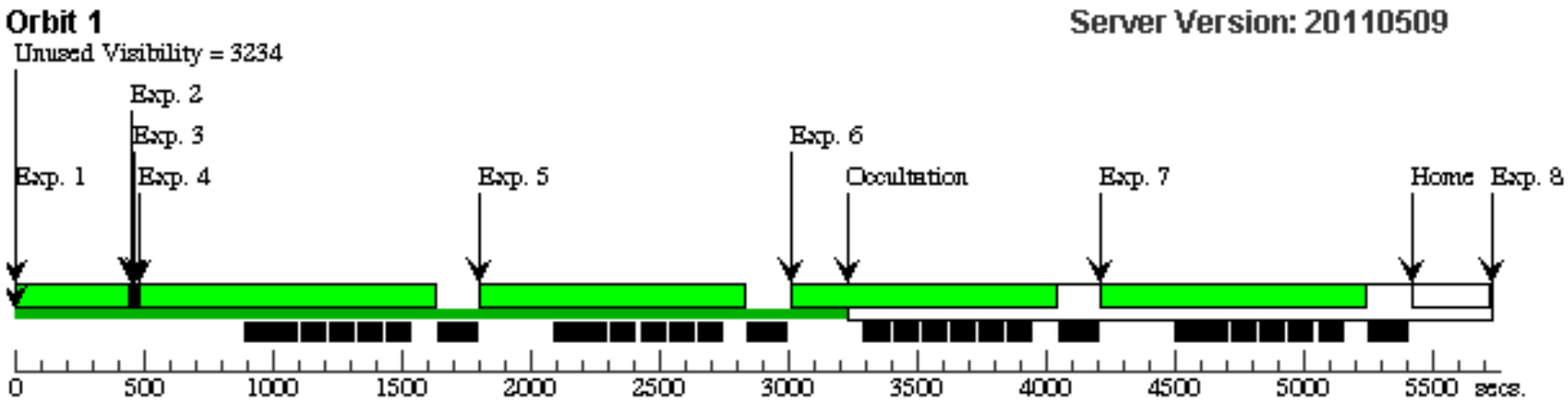


Proposal 12676 - Visit 12 - COS/FUV Characterization of Detector Effects

Visit	**Proposal 12676, Visit 12, scheduling** Wed Jul 20 05:34:12 GMT 2011 **Diagnostic Status: Warning** Scientific Instruments: S/C, COS/FUV, COS Special Requirements: AFTER 06 BY 0 S TO 5 D; PARALLEL *Comments: Mapping FUVB at the lower HV setting* *Corresponds to an offset of +5.7"*
Diagnostics	(Visit 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/[Actual Dur.]	Orbit
1		DARK	S/C, DATA, NONE			SAA CONTOUR 31; SPEC COM INSTR ELHLTHVF; QASISTATES COS FUV HVLOW HVNOM; QESIPARM ENDC TSB 167		450 Secs *[==>]*	 ***[1]***
2		DARK	S/C, DATA, NONE			SPEC COM INSTR ELAPERSET; QESIPARM APERTURE FCA; QESIPARM DET FUV		10 Secs *[==>]*	 ***[1]***
3		NONE	COS, ALIGN/APER		XAPER=-115			0.0 Secs *[==>]*	 ***[1]***
4		DEUTERIUM	COS/FUV, TIME-TAG, FCA	G160M 1600 A	BUFFER-TIME=111; CURRENT=MEDIUM; FP-POS=1	SPEC COM INSTR ELNOAPMAIN		830 Secs *[==>]*	 ***[1]***
5		DEUTERIUM	COS/FUV, TIME-TAG, FCA	G160M 1600 A	BUFFER-TIME=111; CURRENT=MEDIUM; FP-POS=2	SPEC COM INSTR ELNOAPMAIN		830 Secs *[==>]*	 ***[1]***
6		DEUTERIUM	COS/FUV, TIME-TAG, FCA	G160M 1600 A	BUFFER-TIME=111; CURRENT=MEDIUM; FP-POS=3	SPEC COM INSTR ELNOAPMAIN		830 Secs *[==>]*	 ***[1]***
7		DEUTERIUM	COS/FUV, TIME-TAG, FCA	G160M 1600 A	BUFFER-TIME=111; CURRENT=MEDIUM; FP-POS=4	SPEC COM INSTR ELNOAPMAIN		830 Secs *[==>]*	 ***[1]***
8		DARK	S/C, DATA, NONE			NEW OBSET; QASISTATES COS FUV HVLOW HVLOW; QASISTATES COS SI OBSERVE OBSERVE		1 Secs *[==>]*	 ***[1]***

Comments: New obset SR necessary to force this exposure to be the very last exposure after Home.

Orbit Structure