



12721 - COS NUV Flat Fields

Cycle: 19, Proposal Category: CAL/COS

(Availability Mode: RESTRICTED)

INVESTIGATORS

<i>Name</i>	<i>Institution</i>	<i>E-Mail</i>
Dr. Elena Mason (PI) (ESA Member)	Space Telescope Science Institute - ESA	emason@stsci.edu
Dr. Charles R. Proffitt (CoI)	Computer Sciences Corporation	proffitt@stsci.edu
Dr. David J. Sahnou (CoI)	The Johns Hopkins University	sahnou@pha.jhu.edu

VISITS

<i>Visit</i>	<i>Targets used in Visit</i>	<i>Configurations used in Visit</i>	<i>Orbits Used</i>	<i>Last Orbit Planner Run</i>	<i>OP Current with Visit?</i>
01	DEUTERIUM	COS/NUV	1	26-Aug-2011 21:05:52.0	yes
02	DEUTERIUM	COS/NUV	1	26-Aug-2011 21:05:55.0	yes
03	DEUTERIUM	COS/NUV	1	26-Aug-2011 21:05:56.0	yes
04	DEUTERIUM	COS/NUV	1	26-Aug-2011 21:05:58.0	yes
05	DEUTERIUM	COS/NUV	1	26-Aug-2011 21:06:00.0	yes
06	DEUTERIUM	COS/NUV	1	26-Aug-2011 21:06:01.0	yes
07	DEUTERIUM	COS/NUV	1	26-Aug-2011 21:06:03.0	yes
08	DEUTERIUM	COS/NUV	1	26-Aug-2011 21:06:04.0	yes
09	DEUTERIUM	COS/NUV	1	26-Aug-2011 21:06:05.0	yes
10	DEUTERIUM	COS/NUV	1	26-Aug-2011 21:06:07.0	yes

10 Total Orbits Used

ABSTRACT

This program aims at obtaining COS NUV-MAMA flat-field observations for monitoring purpose only.

The program uses the internal deuterium lamp and the MR grism G185M (at the central wavelengths 1835, 1850 and 1864 Å), as during thermal vacuum testing and SMOV4.

The estimated SNR reached at the end of the program (13 hr integration during 10 orbits) is ~20-25 per 3x3 pixel.

OBSERVING DESCRIPTION

The primary plan is to take the data as 1800 second exposures, with 12 exposures at each of the 3 central wavelengths. This is structured as 36 visits of 1 exposure each. There are no requirements on the sequencing of the exposures. Because of uncertainty in the lamp output and the S/N that can be achieved with the primary plan, a second sequence of 36 exposures has been added to ensure enough time is allocated in the SMOV4 long range plan up front. The NUV Optics Alignment and Focus program (COS-09, proposal 11469) will end with a deuterium exposure to determine the location and intensity of the in-orbit flats, which will tell us whether the added exposures will be necessary.

CALIBRATION JUSTIFICATION

This activity will create a large number of science exposures which must be combined on the ground in order to create a deep flat field image with a signal-to-noise ratio high enough to allow flat fielding of science exposures to a level of 30:1 per resolution element. A comparison will be made with the NUV ground flat file to decide if it can be used for pipeline processing. The experience with STIS was that there was no change between the ground and in-orbit flats.

ADDITIONAL COMMENTS

This program cannot be run until the NUV Optics Alignment and Focus (COS-09, proposal 11469) is complete.

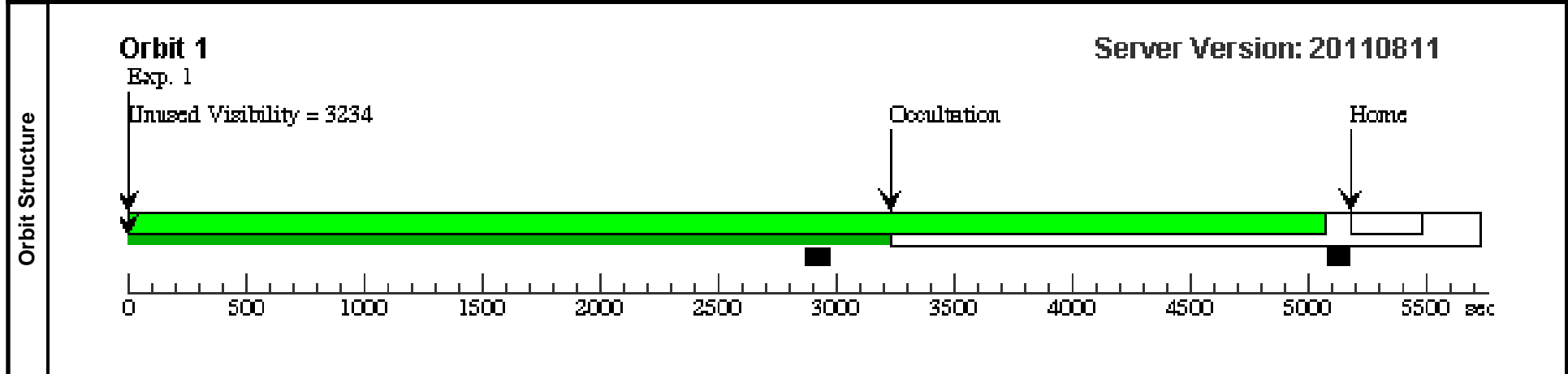
Proposal 12721 - Visit 01 - COS NUV Flat Fields

Sat Aug 27 01:06:10 GMT 2011

Visit	Proposal 12721, Visit 01 Diagnostic Status: Warning Scientific Instruments: COS/NUV Special Requirements: GYRO MODE 3GOBAD									
	(Visit 01) Warning (Orbit Planner): MAXIMUM DURATION EXCEEDED FOR INTERNAL OR EARTH CALIB SU									

Diagnosics										

Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
		1		DEUTERIUM	COS/NUV, TIME-TAG, FCA	G185M 1835 A	CURRENT=HIGH; BUFFER-TIME=25 00			4680. Secs [==>]



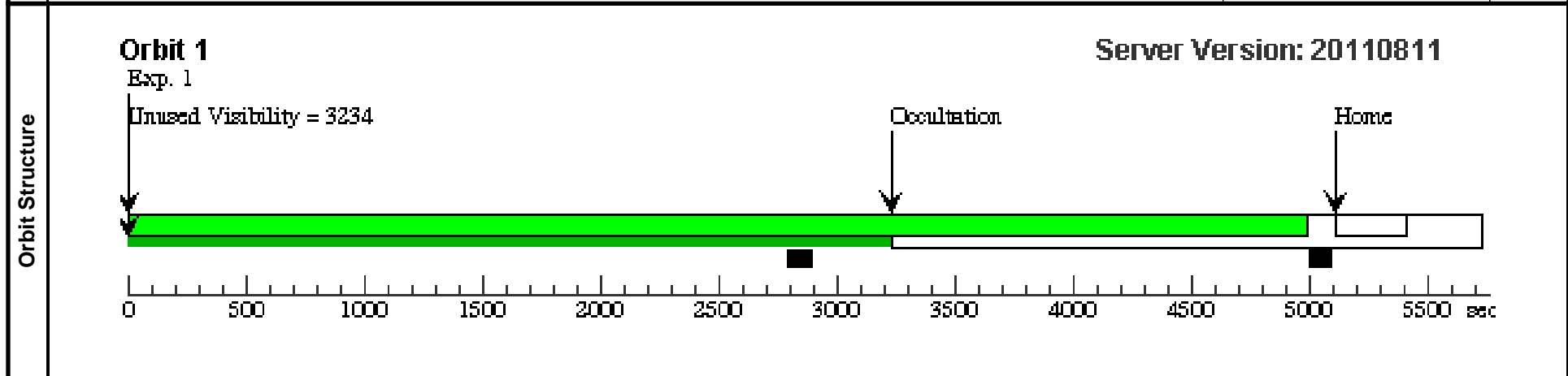
Proposal 12721 - Visit 02 - COS NUV Flat Fields

Sat Aug 27 01:06:11 GMT 2011

Visit	Proposal 12721, Visit 02 Diagnostic Status: Warning Scientific Instruments: COS/NUV Special Requirements: GYRO MODE 3GOBAD; AFTER 01
--------------	------------------------------------------------------------------------------------------------------------------------------------------------------

Diagnostics	(Visit 02) Warning (Orbit Planner): MAXIMUM DURATION EXCEEDED FOR INTERNAL OR EARTH CALIB SU
--------------------	----------------------------------------------------------------------------------------------

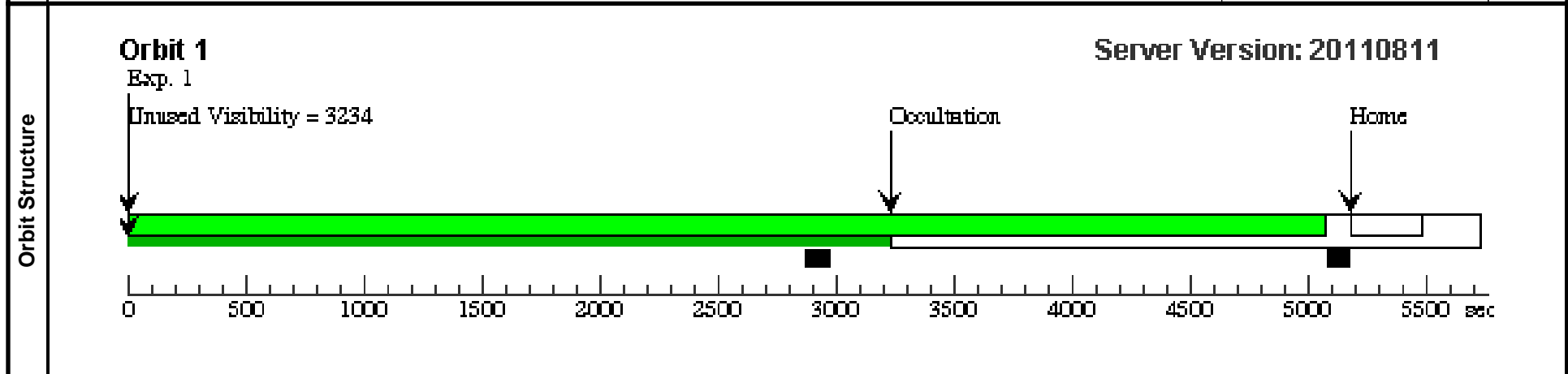
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
	1		DEUTERIUM	COS/NUV, TIME-TAG, FCA	G185M 1850 A	CURRENT=HIGH; BUFFER-TIME=25 00			4680.0 Secs [==>]	[1]



Visit	Proposal 12721, Visit 03 Diagnostic Status: Warning Scientific Instruments: COS/NUV Special Requirements: GYRO MODE 3GOBAD; AFTER 02
--------------	------------------------------------------------------------------------------------------------------------------------------------------------------

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		DEUTERIUM	COS/NUV, TIME-TAG, FCA	G185M 1864 A	CURRENT=HIGH; BUFFER-TIME=25 00			4680.0 Secs [==>]	[1]



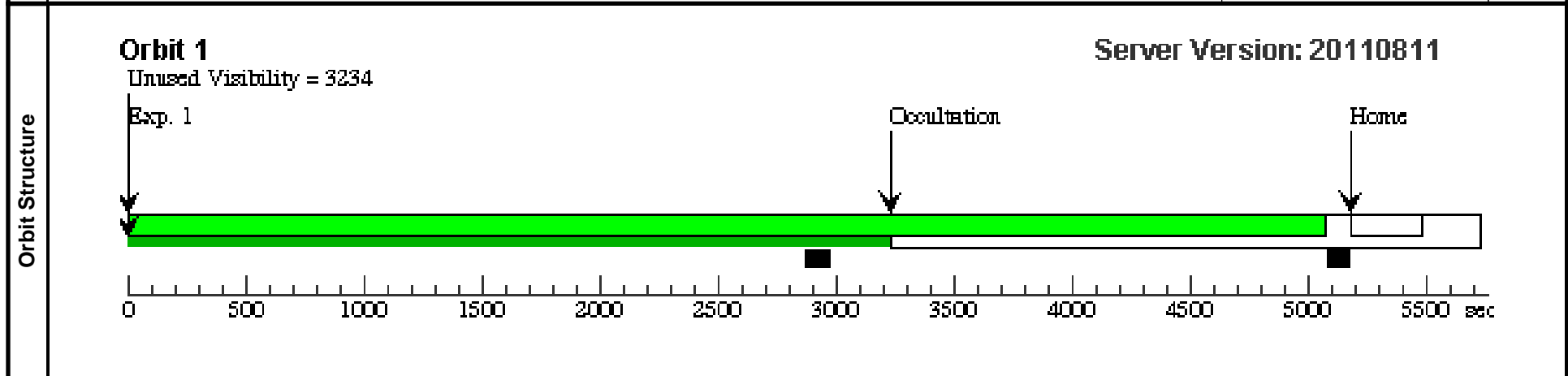
Proposal 12721 - Visit 04 - COS NUV Flat Fields

Sat Aug 27 01:06:12 GMT 2011

Visit	Proposal 12721, Visit 04 Diagnostic Status: Warning Scientific Instruments: COS/NUV Special Requirements: GYRO MODE 3GOBAD; AFTER 03									
--------------	-------------------------------------------------------------------------------------------------------------------------------------------------------------	--	--	--	--	--	--	--	--	--

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		DEUTERIUM	COS/NUV, TIME-TAG, FCA	G185M 1835 A	CURRENT=HIGH; BUFFER-TIME=25 00			4680.0 Secs [==>]	[1]



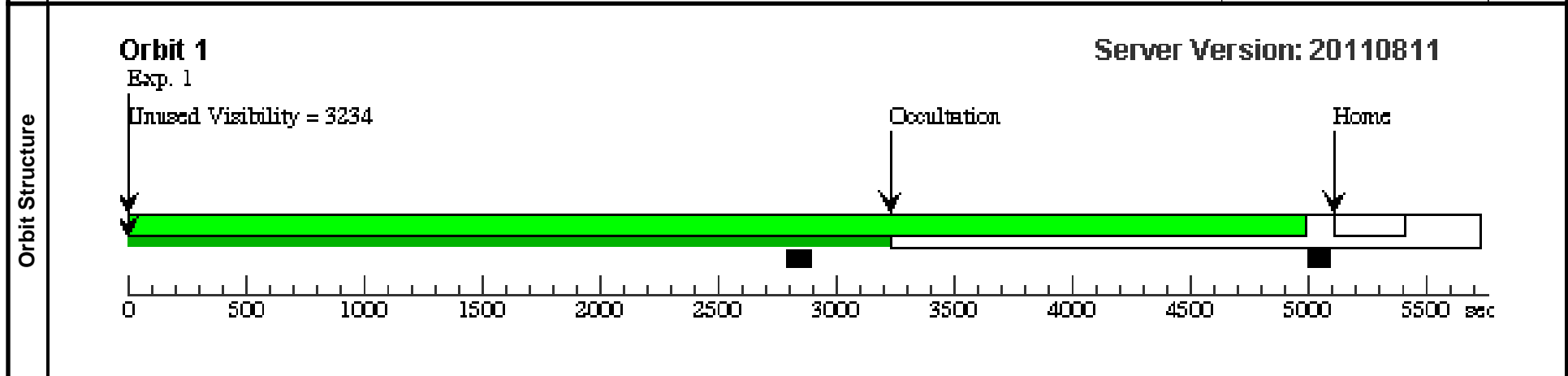
Proposal 12721 - Visit 05 - COS NUV Flat Fields

Sat Aug 27 01:06:12 GMT 2011

Visit	Proposal 12721, Visit 05 Diagnostic Status: Warning Scientific Instruments: COS/NUV Special Requirements: GYRO MODE 3GOBAD; AFTER 04
--------------	------------------------------------------------------------------------------------------------------------------------------------------------------

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		DEUTERIUM		COS/NUV, TIME-TAG, FCA	G185M 1850 A	CURRENT=HIGH; BUFFER-TIME=25 00			4680.0 Secs [==>]



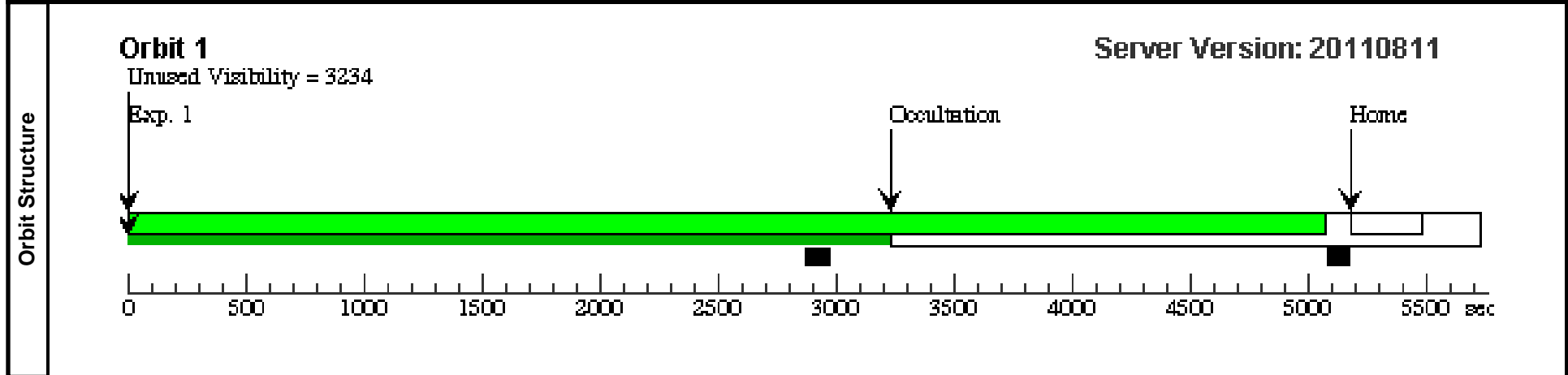
Proposal 12721 - Visit 06 - COS NUV Flat Fields

Sat Aug 27 01:06:13 GMT 2011

Visit	Proposal 12721, Visit 06 Diagnostic Status: Warning Scientific Instruments: COS/NUV Special Requirements: GYRO MODE 3GOBAD; AFTER 05									
--------------	------------------------------------------------------------------------------------------------------------------------------------------------------	--	--	--	--	--	--	--	--	--

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		DEUTERIUM		COS/NUV, TIME-TAG, FCA	G185M 1864 A	CURRENT=HIGH; BUFFER-TIME=25 00			4680.0 Secs [==>]



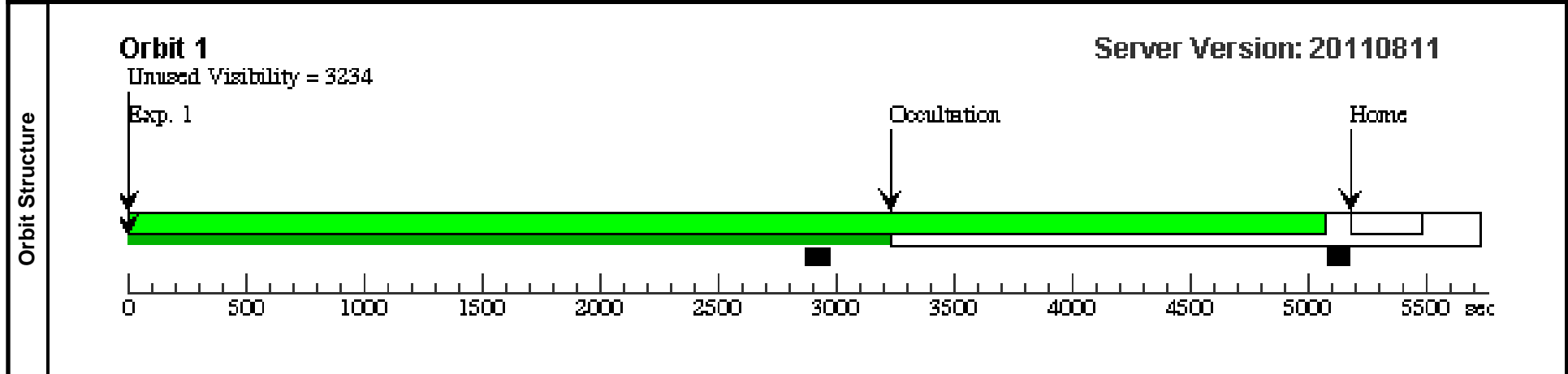
Proposal 12721 - Visit 07 - COS NUV Flat Fields

Sat Aug 27 01:06:13 GMT 2011

Visit	Proposal 12721, Visit 07 Diagnostic Status: Warning Scientific Instruments: COS/NUV Special Requirements: GYRO MODE 3GOBAD; AFTER 06
	(Visit 07) Warning (Orbit Planner): MAXIMUM DURATION EXCEEDED FOR INTERNAL OR EARTH CALIB SU

Diagnostics	(Visit 07) Warning (Orbit Planner): MAXIMUM DURATION EXCEEDED FOR INTERNAL OR EARTH CALIB SU
--------------------	----------------------------------------------------------------------------------------------

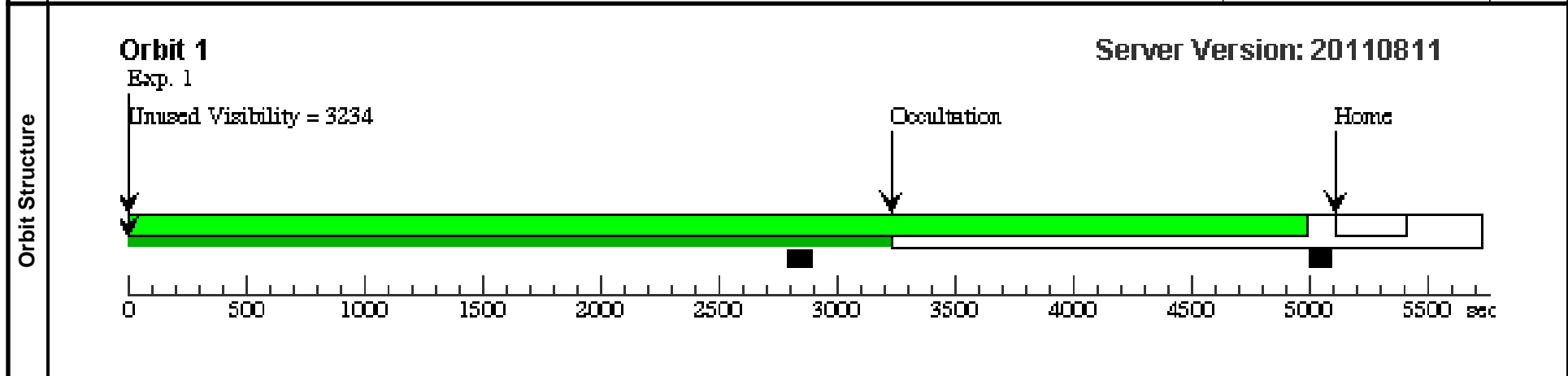
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
	1		DEUTERIUM	COS/NUV, TIME-TAG, FCA	G185M 1835 A	CURRENT=HIGH; BUFFER-TIME=25 00			4680.0 Secs [==>]	[1]



Visit	Proposal 12721, Visit 08 Diagnostic Status: Warning Scientific Instruments: COS/NUV Special Requirements: GYRO MODE 3GOBAD; AFTER 07
	(Visit 08) Warning (Orbit Planner): MAXIMUM DURATION EXCEEDED FOR INTERNAL OR EARTH CALIB SU

Diagnostics	(Visit 08) Warning (Orbit Planner): MAXIMUM DURATION EXCEEDED FOR INTERNAL OR EARTH CALIB SU
--------------------	----------------------------------------------------------------------------------------------

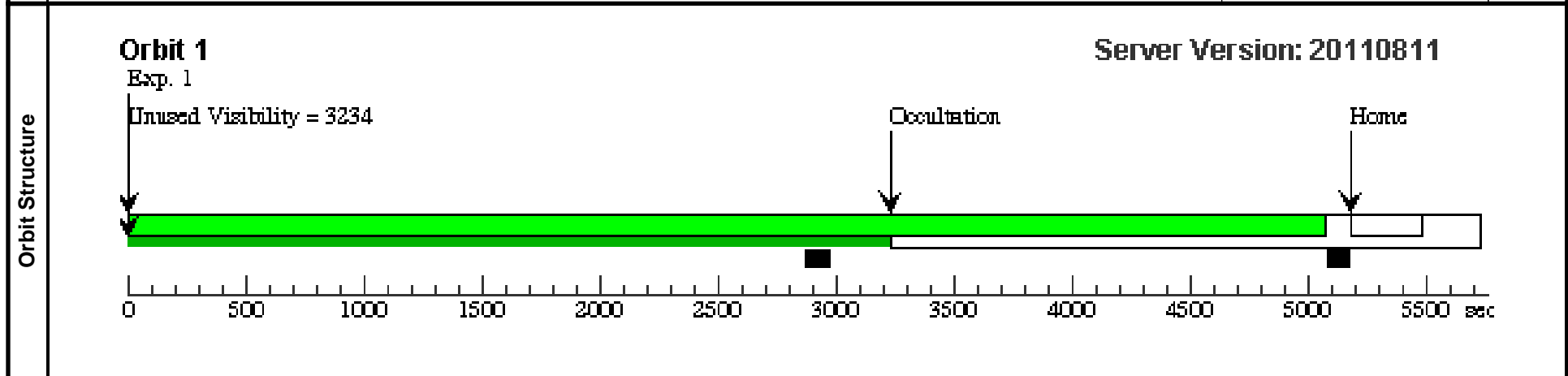
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
	1		DEUTERIUM	COS/NUV, TIME-TAG, FCA	G185M 1850 A	CURRENT=HIGH; BUFFER-TIME=25 00			4680.0 Secs [==>]	[1]



Visit	Proposal 12721, Visit 09 Diagnostic Status: Warning Scientific Instruments: COS/NUV Special Requirements: GYRO MODE 3GOBAD; AFTER 08

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		DEUTERIUM	COS/NUV, TIME-TAG, FCA	G185M 1864 A	CURRENT=HIGH; BUFFER-TIME=25 00			4680.0 Secs [==>]	[1]



Proposal 12721 - Visit 10 - COS NUV Flat Fields

Sat Aug 27 01:06:14 GMT 2011

Visit	Proposal 12721, Visit 10 Diagnostic Status: Warning Scientific Instruments: COS/NUV Special Requirements: GYRO MODE 3GOBAD; AFTER 09
	(Visit 10) Warning (Orbit Planner): MAXIMUM DURATION EXCEEDED FOR INTERNAL OR EARTH CALIB SU

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		DEUTERIUM	COS/NUV, TIME-TAG, FCA	G185M 1835 A	CURRENT=HIGH; BUFFER-TIME=25 00			4680.0 Secs [==>]	[1]

